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Missing the Process for the Product: Tension Between Instructor Goals and Student Perceptions of ePortfolios as Personalized Action Research

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The creation of ePortfolios as a capstone project for school counselors-in-training has many benefits for the students, instructors, and program. However, there can be tension due to misalignments in goals and lived experiences of the ePortfolio even when the students find ePortfolios useful. This paper explores this tension between instructor goals and student perceptions of the purposes and values of ePortfolios created as part of a capstone in a graduate school counseling program. While the school counseling instructor conceptualized the ePortfolio process and product as a form of personalized action research focusing on aspirational goals, the school counselors-in-training experienced the ePortfolio as a useful product for reflection and job preparation but did not grasp the process as a form of personalized action research. Reflections on this disconnect suggest recommendations for better alignment of instructor goals and student experiences in order to use ePortfolios as a form of personalized action research.

There are a variety of reasons to create and use ePortfolios in graduate education and a growing body of research shows that they are useful for students and instructors in terms of professional growth, critical thinking, reflection, assessment, and evaluation (Cordie, Sailors, Barlow, & Kush, 2019; Scholz, Tse, & Lithgow, 2017). ePortfolios can be considered a high impact practice (Batson, 2011) and have many positive benefits for students, instructors, and programmatic level assessment (Harring & Luo, 2016; Kahn, 2014; Wakimoto & Lewis, 2014). However, there are challenges and issues to overcome in using ePortfolios to their full potential and aligning instructor hopes and goals with students' lived experiences of the ePortfolio process and product. These tensions and potentials for misalignment in the process and product of ePortfolios form the reflections and basis for this paper.

The practical advantages of ePortfolios are well-documented in the literature at both the individual and programmatic levels (Harring & Luo, 2016; Roberts, Maor, & Herrington, 2016; Yu, 2011). As a finished product, the ePortfolio serves to document how students meet program, institutional, and state requirements for evaluation purposes. At the individual level, the ePortfolio can help graduates in their job searches by giving them a competitive edge showcasing their work in a digital format, as well as improving their preparation and confidence for interviews (Harring & Luo, 2016; Yu, 2011).

However, ePortfolios can also be viewed as embodiments and processes to reach aspirational goals. Research shows ePortfolios provide space to document professional agency, action, and reflections (Boulton, 2014). They can actively invite students and professionals to create personalized identities as learners and people, recognize their own agency as engaged learners, see themselves as participants in creating their own world, and even see themselves in the global environment (Rhodes, 2018). Viewing ePortfolios within the framework of situated learning has ePortfolio as a high impact practice that can be transformational for the students (Batson, 2011). Research has shown that ePortfolios are valuable reflective tools for graduate and counselor education students completing their programs (Chen, 2009; Cheng & Chau, 2013). ePortfolios can also document the changing values in an evolving counselor education program (Luther & Barnes, 2015).

Because of these twin aspects of ePortfolios—aspirational values as processes and practical values as products—there exists the potential for tension and misalignment of instructor and student goals and perceptions. This misalignment can be viewed as a difference in understanding the goals and values of the ePortfolio process and product by instructors and students (Scholz et al., 2017). While misalignment does not necessarily mean that the ePortfolio process will not be valuable, it can create tensions and frustration for both parties. Some of this tension can come from the difference in the instructor's intended goals for a project, such as an ePortfolio, versus how the students experience the enacted lesson and process (Maybee, 2015). Scholz et al. (2017) noted that best practices, including grading the ePortfolio, can help with creating a positive experience and alignment, but that further research is needed to tease apart the factors that facilitate the alignment of goals. It is unsurprising then that the tension that is inherent in learning appears in the study of ePortfolios and the many, sometimes competing, reasons for creating them for student, instructor, and programmatic goals.

While there is research showing the benefits of ePortfolios—and the portfolio process more generally—for professions allied to school counselors,

such as teacher education (Rhyne-Winkler & Wooten, 1996), there has been little research focus on ePortfolios in school counselor training. While the literature on ePortfolios is growing (Boes, VanZile-Tamsen, & Jackson, 2001; Cheng & Chau, 2013; Roberts et al., 2016; Wakimoto & Lewis 2014; Yu, 2011), there is a lack of studies on ePortfolios used in school counselors-in-training programs (Carlson & Yohon, 2008; Luther & Barnes, 2015; Rhodes et al., 2014). This paper partially fills this gap by exploring how school counselors-in-training conceptualize the ePortfolio process and if this aligns with the goals of the instructor. This paper is both a cautionary tale and a case study of how ePortfolios can be conceptualized and experienced in very different ways by the instructor and the students. However, it is also a hopeful tale of how, even with tension and some misalignment in realized goals, students still found benefit in the ePortfolio process.

This study explored how school counselors-in-training view ePortfolios, especially in terms of the tension between process and product, via the following questions:

1. How do school counselors-in-training reflect on and conceptualize the process of creating ePortfolios?
2. Do school counselors-in-training see ePortfolios as a form of personalized action research? If so, in what ways?
3. What similarities and differences are seen in the way that school counselors-in-training conceptualize the ePortfolio creation process?
4. What might school counselor educators learn from understanding school counselors-in-training conceptualizations and uses of the ePortfolio creation process?

Method

Background and Context

California State University, East Bay is one of the most diverse campuses in the United States with an enrollment over 14,000 students in undergraduate and graduate programs. The School Counseling and Marriage and Family Therapy program has a social justice and advocacy orientation woven throughout the action-oriented and strengths-based curriculum. Graduate students are grounded in the ASCA National Model, systems, families, and relational practices. The action-oriented, strengths-based perspective fosters an aspirational ethic concerned with using one's knowledge skills and practices to improve the place where you work or live (Rønnestad & Skovholt, 2003). From an aspirational ethical perspective, counseling and education are understood as developmental processes that foster human liberation and autonomy.

In 2010, the faculty coordinator of the school counseling program, which is part of the Educational Psychology Department, invited a faculty member from the Library Department to collaborate in moving the Professional Practice Portfolios online. During the nine-year collaboration, the two faculty members conducted research and maintained a continuing conversation between each other and their graduate students about the power of ePortfolios (Wakimoto & Lewis, 2014, 2019). Relationships were key. Both faculty members fostered the graduate students' formative development and aspirational process in constructing ePortfolios. The library faculty member assisted the students with the technical and design aspects of the ePortfolios whereas the counseling faculty was responsible for summative assessment and judgment regarding how the ePortfolios were evaluated. During the current study, due to taking Faculty Early Retirement Program (FERP) at the university, the school counselor educator was no longer program coordinator and in a continuous mentoring relationship to graduate students as he had been for six of the nine years of the research collaboration.

As part of the process of guiding and supporting reflective practitioners in the program, the school counselors-in-training have been developing electronic Professional Practice Portfolios (ePPP or ePortfolios) for nine years. The ePortfolios and the rubrics designed to assess the portfolios were structured to address the School Counseling Standards defined by the California Commission on Teacher Credentialing, which are informed by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) and the California Standards for the School Counseling Profession (California Association of School Counselors, 2009).

During the ePortfolio creation process, the school counselors-in-training were encouraged to form their own communities of practice to provide mutual support for one another as they reviewed previous ePortfolios and became familiar with the assessment rubric. Because ePortfolio construction has been part of the school counselor curriculum since 2010, subsequent cohorts have been able to view previous cohort members' ePortfolios after securing permission to view the ePortfolio from the owner. Previous ePortfolios serve both as models and inspiration for the following cohorts to build upon. Also, the completed ePortfolios provide proof of the faculty members' assertions that everyone in the program creates a professional, reflective ePortfolio. The community of practice has informal and formal qualities: informal in that they are encouraged to share their ePortfolios with each other during the process and formal through required

formative peer reviews of the ePortfolios using the ePortfolio rubric to guide their assessment.

For the past 12 years, graduate students have been required to complete a capstone action research project involving classroom, counseling department, school-wide, or even district public school level interventions concerned with including K-12 students' voices in "making one thing better." The action research project is designed to orient school counselors toward aspirational values inherent in systems change and relational practices. Graduate students share their action research process and results with their school and the entire professional community (e.g., Tanaka, 2018; Williams, 2017). Graduate students are invited to author chapters regarding their action research practice and articles as co-authors exploring the lifescaping action research pedagogy and the importance of engaging with K-12 students in improving their school community (e.g., Lewis, Herb, Mundy-McCook, & Capps-Jenner, 2018).

Such experiences led the counselor educator to view ePortfolio development as a form of personalized action research enabling school counselors-in-training to reflect as action researchers concerned with themselves as subjects and authors of their own career development. This led him to wonder if simply framing the ePortfolio as personalized action research might disrupt graduate students' view that the ePortfolio is merely a product used to meet bureaucratic requirements defined by the program and state.

Research Design

This study was inspired by action research, and the two faculty members wanted to include as many voices from the school counselors-in-training as possible. Action research is defined as radically different from research that is designed to describe the world "as is" (Gillies, 1993; Luck & Webb, 2009; Young, Gonzales, Owen, & Heltzer, 2014). Lifescaping action research is defined as research designed with others to transform the world in a more desirable direction (Gergen, 2015; Lewis & Winkelman, 2017). In this study of ePortfolios, lifescaping action research was applied with the intent to engage individuals developing their ePortfolios in a liberating process where they could reflect upon and give direction to their own careers. This was in contrast to framing the ePortfolios as merely created to comply with bureaucratic requirements defined by the institution, accrediting bodies, or the state (Bradbury, Lewis, & Embury, 2019; Lewis, in press).

To engage school counselors-in-training with this research, the faculty members solicited participation from the students in two ways: (a) through writing reflections based on prompts throughout the last year of the program when they were creating their ePortfolios, and (b) through participating as co-authors in reviewing and adding their reflections to the paper. This aligns the need in education to prepare students for a life and profession of change that leads to the need for students and instructors to be co-researchers to deal with these changes (Batson, 2011). The counselor educator and library faculty member were also able to share their personal reflections through this study.

Participants

The school counseling cohort graduating in 2018 consisted of 12 graduate students. All were sent invitations and consent forms inviting them to participate as survey respondents and co-authors. Five cohort members returned forms to become survey respondents, and four of these also returned forms to join the faculty as co-authors. All five research participants were women. Two were Latinx, two were European-American, and one was Asian-Pacific Islander. As cohort member and co-author Rush stated:

> I was excited when I was given the opportunity to collaborate as a co-author. I had the opportunity to contribute my insight and perspective on the ePPP [ePortfolio], which is an opportunity that participants are not typically offered. On the same token, collaborating as a co-author was overwhelming at times based on the time of the year, and the timing heavily impacted my responses that were sometimes brief. Job interviews became a priority considering I had not worked for two years being in the master's program; school work and this study were put lower on my priorities list.

Data Collection

In order to collect the reflections and perspectives of school counselors during the time period the ePortfolios were being developed, five online surveys were designed to be answered at different times during the 2017-18 academic year: (1) one at the end of fall term, (2) one during winter term, and (3) three during spring term. The online surveys asked the school counselors to reflect on their experience of creating their ePortfolios. All the survey questions were in the form of open-ended writing prompts (see Appendix).

Data Analysis

The resulting qualitative data were analyzed in an iterative process. This qualitative content analysis uncovered overarching themes that emerged from the open-ended question responses (Saldaña, 2009).

Reliability of coding of data was ensured by having faculty co-researchers review and categorize the responses into themes and compare them. Any discrepancies were resolved through discussion. Each quotation is numbered to link it to a specific student response while retaining the confidentiality of the student respondent. No identifying information was collected via the written prompts. The student co-authors, Rush and Nogueiro, offered their perspectives and voices as participants in the ePortfolio process and checked the faculty members' analyses by reviewing the article manuscript.

Results

The school counselors-in-training who agreed to participate in this study completed five sets of prompts, as noted previously. All five participants completed the first survey and four completed the subsequent four surveys. ePortfolios were seen as showcases for the work completed in the school counseling program, with much support coming from cohort members, while challenges noted are those that face most intense projects: time management, realistic expectations, and collecting documentation. The ePortfolios were conceptualized in an instrumental, practical manner that has implications, discussed in a later section, for those instructors who hope to facilitate an ePortfolio creation process conducted as a personalized action research supporting aspirational goals.

Survey Responses

As the first set of survey prompts was completed at the end of the fall term and the ePortfolio had just been introduced, the responses focus on the beginning of the journey of ePortfolio creation. The themes of support, especially from cohort members, usefulness of model ePortfolios from past cohorts, as well as hopes and concerns were found in the reflections. As one respondent reflected on reviewing past ePortfolios, "They are very helpful for the most part. It seems a little daunting, but exciting to create an artifact that reflects my experiences in graduate school" (Participant 3). Concerns focused on having time to complete the requirements and creating an ePortfolio that was presentable. Hopes for the ePortfolio focused on showcasing and marketing oneself and that it would boost confidence as a new school counselor: "helping me see my worth as a school counselor and show the progress I have made" (Participant 4).

On the second set of survey responses at the end of winter term, the challenges were defined more concretely than in the first survey responses. These responses focus on the structure of the ePortfolio and following the grading rubric, while maintaining a sense of self and pride in their work in the program. One respondent noted their greatest challenge was "following the rubric because I section information and language differently in my head" (Participant 4). This difference in the instructor's language versus language that resonated with the school counselors-in-training is discussed in a later section. The cohort members continued to provide support to one another in the process. There was the sense that the ePortfolio was helping to foster reflection on personal philosophy and competency as a school counselor: "I do appreciate the push to write a professional philosophy" (Participant 4). Only when prompted did the reflections show engagement with the idea that the ePortfolio could be a form of personalized action research, but these reflections were grounded in the very practical aspects creating and completing their ePortfolios.

In the third set of survey responses at the midpoint of the spring term, there was more reflection on the work completed in the program as a whole as the school counselors-in-training had worked much more intensely with their ePortfolios by this point in the program. The focus of the ePortfolio continued to be a showcase of evidence of how the school counselors-in-training had completed course and standard requirements and how their work reflected their own goals as school counselors. The ePortfolio also helped graduate students reflect on the program, both what was done and what they wish they could have completed: "I wish I would have saved more of my pre and post test data because it would have shown my effectiveness in implementing guidance lessons" (Participant 2). The question that frames much of the school counseling program for the school counseling faculty member, "How do you make a difference in the lives of the students you serve?" divided respondents on whether such a question framed their work in a positive or negative manner. One respondent stated, "The question 'how do you make a difference in the lives of the students' seems at odds with the ambiguous nature of counseling" (Participant 1) as not all change can be quantified.

The fourth set of survey responses at the end of the spring term came at the end of the program as the school counselors-in-training had finished and submitted their ePortfolios. The mutual support of cohort members was still seen as important to the process, with this term having seen the school counselors-in-training providing peer reviews of their ePortfolios. The majority of the experiences with the peer review process was positive, "Helping others did evoke a sense of confidence and competence for me. I also felt challenged to produce a higher quality ePPP [ePortfolio] by seeing my cohort members' ePPP and looking at previous years' work" (Participant 2). One reflection voiced that instructor grading of a cohort

member's action research project in another course negatively impacted their perception of the ePortfolio process. There was a greater focus and appreciation for the ePortfolio being useful for preparing for job interviews: "it helped me prepare answers with evidence for different domains of counseling" (Participant 4). The ePortfolio was not seen as personalized action research as students focused on meeting each of the standards spelled out in the ePortfolio rubric.

The fifth and final set of survey responses were also collected at the end of spring term. The school counselors-in-training reflected on the ePortfolio process and product as a whole. Similar themes about completing the ePortfolio requirements were seen in these responses. The ePortfolio itself was seen as a showcase of work completed in the program: "A compilation of my work, philosophy, and growth as a school counselor" (Participant 4). It served as job interview preparation and locating evidence in one place, "having something to always reference to in the future and to use in interviews" (Participant 3). Reflections on challenges did not reveal new issues but reiterated the constraints of time, templates, and locating their own documents to upload to the ePortfolios. The ePortfolio process was seen as producing a product, rather than as an example of personalized action research that cultivated an aspirational ethic: "I had the frame of mind that creating the ePPP [ePortfolio] is a set practice used to fulfill CTC and CSUEB school counseling program requirements by illustrating competence of the standards" (Participant 2). Another wrote that the ePortfolio was "kind of not really. More of a reflection" (Participant 3) in response to the question of viewing the ePortfolio as personalized action research. However, ePortfolios were seen as valuable. One school counselor-in-training suggested that there should be an entire course on marketing oneself in digital space, with the ePortfolio being part of the course. Another school counselor-in-training hoped to continue to add to their ePortfolio as a professional.

Discussion

After reviewing the responses and resulting themes in the preceding section, it was possible to see the possibilities, misalignments, and ideas for future refinement in the ePortfolio process. This allowed for answering the posed research questions along with making recommendations to improve the ePortfolio process to make explicit the connections with personalized action research and larger aspirational goals.

The school counselors-in-training conceptualized and experienced their ePortfolios as products rather than a process, although their responses did show some variations. Overall, the school counselors-in training saw ePortfolios as most beneficial for preparation for job interviews and for reflection on the work completed in the program. One student noted that the ePortfolio was "beneficial in reflection and to showcase your best work" (Participant 2) while another simply found it was a "digital version of a binder of completed work from graduate school" (Participant 1). ePortfolios did support aspirational goals of building confidence and community, especially through working with other cohort members in supporting each other and through the peer review process. Interestingly, while one of the respondents found the ePortfolio to just be a digital binder, the same student also wanted the project to be expanded into a course for students to be able to "market themselves as professionals via technology" (Participant 1). This deserves further exploration as a way to meet the needs of students in professional graduate programs.

ePortfolios as Personalized Action Research (or Not)

As shown from the responses, ePortfolios were not seen as a form of personalized action research. As a student wrote, "It doesn't feel like a form of my own personalized [action research]" (Participant 1). Another wrote it was not personalized action research because creating the ePortfolio was "a set practice used to fulfill CTC and school counseling program requirements by illustrating competence of the standards" (Participant 2). Even when asked to define personalized action research, one wrote "no idea" (Participant 1) and two declined to answer this question but wrote that they did not consider it personalized action research in response to a later question on the final survey connecting ePortfolios with personalized action research. Personalized action research was never addressed without prompting from a specific question in the responses to the survey questions. This was the main source of tension and misalignment between instructor and student goals, as well as the valuation of the ePortfolio process and product. This followed the finding of Habron (2015) that students focus on course requirements unless specifically, explicitly told to focus on other aspects such as framing the ePortfolio as a form of personalized action research and using it as a vehicle for aspirational goals.

While the ePortfolios were not seen as personalized action research, they were viewed more favorably as vehicles for reflection. As students noted, "I had to reflect on my growth and experiences throughout the program" (Participant 4) and "[reflection] showed me where I have an opportunity to grow as well as what I prioritized during my time in graduate school" (Participant 1). This finding aligns with previous research demonstrating the value of ePortfolios for

reflection on development and completed work (Harring & Luo, 2016). As some students have found value in the ePortfolio for reflection on their work and growth as professionals, this may provide one avenue to focus on in order to achieve the goal of using ePortfolios as a form of personalized action research.

A Reflection by Lewis, School Counselor Educator

Many faculty dream of bringing about a better world. I envisioned the ePortfolio as a place where professionals-in-training would be able to navigate their way between ubiquitous bureaucratic rocks and their professional dreams. These findings point to the need that if instructors want students to interact with ePortfolios in a more aspirational, personalized action research vein, then the ePortfolios need to be integrated throughout the graduate program, from the very beginning and even as part of the entrance into the program. The way faculty approached teaching ePortfolios in this study by orienting graduate students during the second year in the program was not getting translated into fostering students' aspirational values or framing professional development as a continuous personalized action research project.

Even though the ePortfolio is designed to help students show the work they are most proud of, it is crucial to help them see the ePortfolio as a space to reflect on ways to enhance their own professional development and guide their professional story. Change is necessary to integrate the ePortfolio throughout the program. Integrating the ePortfolio throughout the program would involve coordinating and defining with program faculty, both tenured and adjunct, when and where in the graduate program the ePortfolio would be introduced, advanced, and assessed. Such a shift is necessary if we are truly going to nurture both aspirational values and professional development as a continuous personalized action research project. Otherwise, we are faced with recognizing that we are training professionals to merely survive meeting external bureaucratic demands, rather than developing communities of practice where one's work as a school counselor can be shared, developed, and guided by aspirational values grounded in wisdom and compassion. After all, the key goal is to help school counselors focus on making a difference in the lives of K-12 students and their families.

A Reflection by Wakimoto, Library Faculty

It has been rewarding to work with the school counselors-in-training on their ePortfolios and see the increase in their confidence and sense of accomplishment as they reflect on all the work they have done throughout the program. However, reviewing the responses through this research has made clear to me the need to revise and reframe the ePortfolio if we would like to emphasize the aspirational goals and personalized action research process within the constraints of evaluation and assessment. The tension is always inherent but through clearer discussion about the goals of the ePortfolio, and really the aspirations of the entire program, there may be a change in how the school counselors-in-training interact with and use their ePortfolios. As my part of the process is focused on the technical and ensuring the school counselors-in-training can have their ePortfolios look and work the way they want to, I am less involved with setting the aspirations or inspiring students in this way. However, I am reflecting on how—if the new coordinator of the school counselor program desires collaboration—I, too, can help make clear the aspirational goals of the ePortfolios and their potential as so much more beyond the end of the program and beyond preparing for the first set of job interviews.

A Reflection by Two School Counselors-In-Training

Two of the four school counselors-in-training who indicated interest in being co-authors returned feedback and reflections on the draft of this article in Fall 2018 after they had begun work as professional school counselors. Their reflections follow and provide a counterpoint to the reflections of the faculty members, providing insight for instructors who want to make the ePortfolio process more valuable both to graduate students and to early career school counseling professionals.

Rush's reflection. The time given to complete the ePortfolio was ample enough, and we received support throughout the process from Dr. Lewis, Dr. Wakimoto, and our peers in the cohort. The finished ePortfolio aided me in gaining confidence in my skills as a professional. As a project that seemed to align with CTC standards, I viewed the project as more of a requirement to demonstrate competence in the profession to the school program and to the state. After reading through a draft of this article, however, I became more aware of what the study was trying to measure. I think more time, examples, and explicit instruction were needed for the participants in the study to better understand the concept of personal action research. For many of us, action research was a new concept, or at least unfamiliar, so diving into our own personal action research connected to the ePortfolio was not a goal or thought at that point-in-time.

Nogueiro's reflection. When thinking back to constructing my ePortfolio, at times it did feel like we were scrambling to gather evidence to show that we were competent school counselors in terms of meeting and exceeding the standards laid out by the rubric and

the state. If I had the opportunity to alter the ePortfolio process, I wish more information could have been front-loaded at the beginning of the program about what would be expected in terms of including evidence and such. I also agree that having a grade attached to the assignment shifts things so that we approached the project as students do rather than as young professionals. Now that I am a practicing school counselor, having completed the ePortfolio, demonstrating my abilities in a clear, concise manner allowed me to feel confident when interviewing for jobs and when being evaluated by my district now that I am a professional school counselor.

Additionally, I have taken on the responsibility of building a website for my department to highlight the work we do, and also to help our students and their families have easily accessible information. The ePortfolio helped me conceptualize the importance of collecting data and left me with a trajectory of what I needed to do in order to be an effective educator. In this way, the ePortfolio did leave me asking, "How do I enrich the lives of students?" and I do feel that I entered the workforce with the different school counseling domains in mind.

Takeaways for School Counselor Educators

There are ways of aligning instructors' aspirational goals with the students' needs to complete the ePortfolio as a capstone project; however, these require explicit discussion and reinforcement. The tension and misalignment of the aspirational goals of the ePortfolios found in this study is similar to that found by Scholz et al. (2017): students still had an overall positive experience but there were clear misalignments in the goal of having the ePortfolio act as a form of personalized action research. Baston (2011) noted that ePortfolios, along with other curriculum, can be used to encourage student agency and responsibility that will mirror work after graduation. Best practices in using ePortfolios such as including reflective writing assignments, personal mission statements, personalization through evidence chosen, and scaffolded use of technology (Cordie et al., 2019) also apply to using ePortfolios in school counseling education. Specifically, having explicit reflection on the ePortfolios with discussion on how they can serve as personalized action research projects may better align goals and alleviate tension seen in this study. Furthermore, the technical aspects of creating the ePortfolio might be well-served by integrating them into the curriculum at an earlier point. Also, having the school counselors-in-training add to their ePortfolios as a graded part of all of their courses instead of in the last term may also provide the necessary time for reflection and understanding of the integration of the ePortfolio as part of their developmental process instead of only a capstone project (Lowenthal, White, & Cooley, 2011).

Limitations and Future Research

While this study provides some interesting insights into exploring ePortfolios, there are of course limitations. The sample size was small and self-selected, only using one year's cohort to reflect on the use of ePortfolios. Therefore, we cannot state that all viewpoints were represented. This could be ameliorated by collecting additional viewpoints and running a longitudinal study across cohorts, similar to previous studies on ePortfolios and school counselors-in-training (Wakimoto & Lewis, 2014, 2019). There are many avenues for future research on school counselors-in-training, school counseling professionals, and ePortfolios. Interviews with school counselors-in-training might illuminate more fully how ePortfolios are used and perceived. Having students involved in "talk aloud" methodologies while working on their ePortfolios might be similarly useful in understanding more fully the selection process for evidence showcased in the ePortfolios. Also, having instructors and students come together to determine rubrics for ePortfolio assessment and evaluation, along with how to use ePortfolios throughout the program could be especially useful for instructors who want to infuse action research and reflective practices more fully into the ePortfolio process. One way to accomplish this may be to investigate how the ePortfolio experience changes when the ePortfolios are introduced at the beginning of the graduate program.

Conclusion

While the school counselors-in-training perceived ePortfolios more as a product than a personalized action research process, ePortfolios still had value for reflection, preparation for job interviewing, and professional development. Through a refinement of the ePortfolio process, along with further research, we can begin to assess if what is conceptualized by the instructors—an ePortfolio process with emphasis on aspirational, personalized action research process that also produces a practical product—is what is enacted in the classroom as meaningful to the school counselors-in-training. ePortfolios show promise in many aspects of learning and development, but there needs to be better integration from the beginning of the program. If the aspirational and liberatory potential of ePortfolios is to be achieved and valued by the school counselors-in-training, then more dialogue and student involvement in framing the process as personalized action research is required.

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Appendix
Writing Prompts from Surveys

End of Fall Term Writing Prompts

1. Who are the people you talk to about developing your ePortfolio?
2. How helpful have the model ePortfolios been that are posted on East Bay Helping Professionals?
3. What is your greatest challenge to developing your ePortfolio?
4. What gives you the greatest hope in being able to complete your ePortfolio?
5. How is the ePortfolio process influencing the way you think about yourself as a professional school counselor?

End of Winter Term Writing Prompts

1. Given the four phases of lifescaping action research described by Lewis and Winkelman (2017), what phase are you in if you view your ePPP as a form of personalized action research?
2. What is your greatest challenge to developing your ePortfolio?
3. What gives you the greatest hope in being able to complete your ePortfolio?
4. How is the ePortfolio process influencing the way you think about yourself as a professional school counselor?

Mid-Term Spring Term Writing Prompts

1. How has your work shown your professional response to the key question: "How you make a difference in the lives of the students you serve?"
2. Has that question influenced how you view your work? Has the question helped you to see yourself as a professional? If so, how?
3. Are you seeing things in your ePortfolio where you wish you might have done something differently earlier in the program? Would you be willing to share?
4. Has the ePortfolio process given you direction or goals for after your graduation?

End of Spring Term Writing Prompts

1. What is your greatest challenge to developing your ePortfolio?
2. Did you coach fellow cohort members in helping them improve their ePortfolio? If so, did the process evoke a greater sense of confidence and competence for you? Any other thoughts/feelings that bubbled up from this process of reviewing fellow cohort members' ePortfolios?
3. Did the peer review process deepen your reflection about your own ePortfolio and ways you might improve your own ePortfolio? Did the peer review process deepen your own sense of pride, confidence, and competence in your own professional development?
4. Now that you have completed your ePortfolio, what is the most significant learning you have been able to document? Is there any aspect of your professional development that has not been captured that you would like to share?
5. How has the ePortfolio process influenced your confidence applying for professional positions?
6. Using the Participatory Inquiry Process (PIP) phases, please describe how you might see the process of developing your ePortfolio development during each of the four phases: Phase one: Initiating Conversations and Identifying Challenges; Phase two: Engaged Inquiry; Phase three: Collaborative Action; Phase four: Community Assessment and Reflection.

Final Survey Questions at End of Program

1. How would you describe an ePortfolio for Professional Practice if asked?
2. What were some of the challenges in creating your ePortfolio?
3. What were some of the benefits of creating your ePortfolio?
4. How did/didn't reflection play a part in the creation of your ePortfolio?
5. How did you determine the structure of your ePortfolio?
6. How did you determine what evidence to include in your ePortfolio?
7. How do you define personalized action research?
8. How does/doesn't the creation of your ePortfolio fit as a form of personalized action research?
9. Did you consider personalized action research as you created your ePortfolio? Please explain.
10. Any other thoughts about your ePortfolio that you'd like to share?

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A Pedagogy for Reflective Practice: Art and Design Thinking Made Visible Using an Online Learning Portfolio

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While it is commonly accepted that being a reflective practitioner is important, teaching students how to do this is less often addressed. As part of larger curricular revisions, Parsons School of Design made the decision to embed the use of an online learning portfolio (LP) at the core of the first-year experience. The addition of the LP was intended to be an integral component in supporting students as they develop the reflective skills of discovering themes and patterns in their own work, analyzing their experiences, and making connections across courses and contexts. Curricular shifts emphasized reflection on the process of making in order to foreground "thinking" embedded in practice. This article chronicles a two-year pilot in which we tested strategies and refined assignment prompts using the LP, looking at both the student work and faculty development that paralleled the adoption of the LP.

Institutional Context

While it is commonly accepted that being a reflective practitioner is important, teaching students how to do this is less often addressed. As part of larger curricular revisions, Parsons School of Design decided to embed the use of an online learning portfolio (LP), developed as a WordPress platform, in revisions of the first-year curriculum. The addition of the LP was intended to be an integral component to support students as they developed the reflective skills of discovering themes and patterns in their own work, analyzing their experiences, and making connections across courses and contexts (Matthews-DeNatale, 2013).

In 2013, Parsons launched new curriculum across all 11 of its undergraduate majors. There was a decision to completely redesign the shared first-year, which currently includes approximately 1,100 students. Our array of majors spans very different disciplinary approaches, so there was much debate, discussion, and workshopping about what this shared first-year experience would include. What we found was all majors had in common—embedded in the school's mission—an emphasis on the link between making, thinking, research, collaboration, and social engagement. The changes made to the first-year curriculum represented a shift away from discrete skill building or Bauhaus-centric ideals about form (de Duve, 2005), and instead a focus on the process of making and designing. What emerged in the first-year was a set of courses with learning outcomes that expected students to demonstrate process-knowledge like iteration, risk taking, integrative thinking, and collaboration. Central to teaching these "soft skills" is developing students' capacity to contextualize new thinking and learning, which was at the core of our design for the first-year experience.

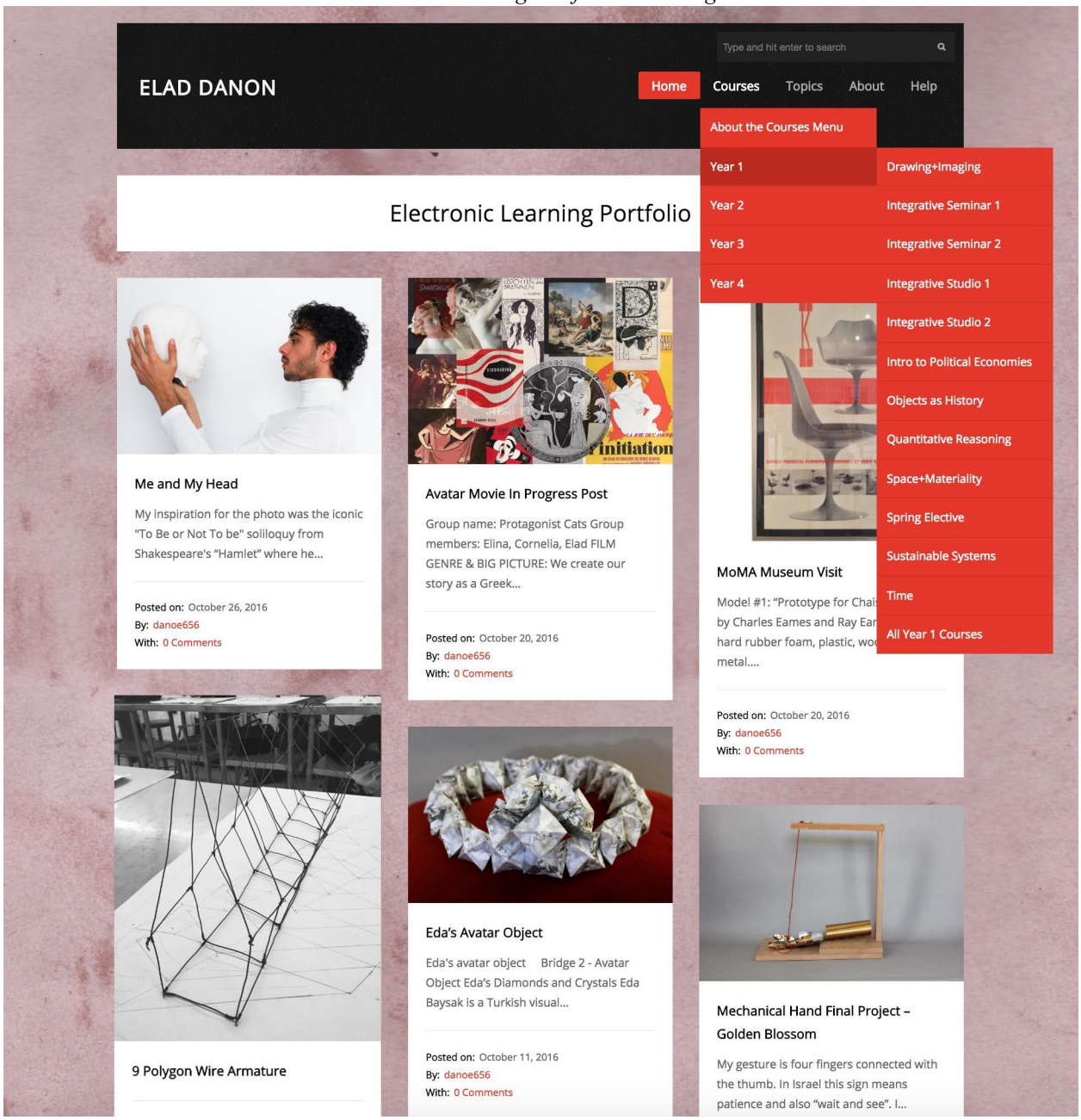
As part of the first-year curriculum, the LP was made available to all students (Figure 1). We quickly realized that the learning portfolio pedagogy was foreign to many of our faculty and further refinement was needed. We decided to test ideas, strategies, and assignment prompts through a pilot in Anette Millington's studio courses. There were two sections per semester over two years, and the goal was to learn from the successes and challenges of her group of approximately 140 students. We were interested in both refining approaches to effective learning for students and creating professional development approaches for faculty teaching with this tool. This article chronicles the work of Anette Millington, in whose classroom the pilot was conducted, and Mariah Doren, whose role as Assistant Dean of Curriculum and Learning situated her at the center of the implementation of new curriculum.

Our focus during the two-year pilot was to develop a series of assignments, prompts, and approaches, using the LP as a place for students to explore, to address the often unspoken sets of decisions artists and designers make along the way to creating finished work. We wanted to use the learning portfolio to help students build strong habits of thinking about and developing their practice, shifting emphasis away from discussions of finished work to writing, organizing and thinking about the hard to articulate goals of process. We looked for ways to teach students to actively use reflection on their own work as a critical component of their practice. We discovered three useful touch points—inquiry, curation, and intra- and extra-curricular connections—that guided our communication with faculty and the refinement of assignment prompts using this tool. At the end of the pilot, we developed a set of generalized, teachable guidelines that could then be shared with the larger group of faculty using the learning portfolio.

Reflection: The Educational Context

One of the foundational qualities of art and design practice is innovation and generative thinking. Because

Figure 1
A Student Learning Portfolio Front Page



we ask our students to make something new, the finished products of their work often cannot be predetermined. There is no singular "correct" answer to a studio assignment prompt. We specifically value and celebrate outcomes that surprise us or are unanticipated. In this environment, it makes sense to focus our teaching on the process of making, the methods used to discover an idea, set a problem, learn from failure, take risks, develop research, and etc. While focusing attention on these aspects is important, if we want students to understand how to build a sustainable practice, these process-oriented methods are often not visible in the finished studio projects. We decided to ask students to reflect on the work during planning, in process, and after the work was completed as a way to make visible the methods used to make each project, and to value this as real knowledge (Kottkamp, 1990). We learned that in order to engage students in

meaningful learning from reflection, we had to create separation between the process of working and the finished product. Art is a discipline with a long history of maintaining a binary between "embodied experience" and the linguistic expression required for reflective practice. Traditional theories about art making describe the process as a "frenzy . . . full of intuitions, impressions and fantasy" (Wolf, 1988, p. 144), when in fact "the genesis of an artwork arises from a complex context of art making, thinking, and ongoing experience" (Mace & Ward, 2002). In the Parsons' curriculum, we require that students write about exploration–as they are working–and have found that the framing and structuring process–the work they do along the way–is integral to understanding and developing their studio work.

This focus on the process of making is a messy way to approach student work. Embedded in iteration and productive failure are half completed notes, abandoned sketches, and seemingly similar prototypes. Using the learning portfolio as a virtual studio, we asked our students to organize material in a way that was to be legible to others. The process started with thinking about the work they had completed and writing about the process—their plans, decisions, choices, and responses. Reflection is a method for turning experiences into knowledge that starts with looking back and describing what was done and why (Brooks & Brooks, 2001). Students had to frame their understanding in words, learning what an experience meant as it was integrated into the web of things they already know. This expression and explanation through writing is never a direct mirror of what happened; as they were working, students made choices about how to represent their own thinking. In this way, they shaped and modeled content as they articulated the influences and confluences involved in each decision. The process involved sorting pieces of information, ideas, and feelings to identify themes that emerged through repetition. Students used analysis of their reflective writing to develop metacognitive awareness of how they "usually" behaved and responded in their studio practice (Brooks & Brooks, 2001), which promoted awareness and sensitivity to the situations where they were most likely to succeed (Eynon, Gambino, & Török, 2014).

As students developed the ability to articulat—through writing—how a project developed, they also increased their ability to give and receive feedback from others. The critique of studio projects, which is a discussion around the purpose and meaning of the work produced, lies at the core of art and design school pedagogy and is a central aspect of studio culture more broadly. The learning portfolio helped prepare students for this expectation. Writing about process was used as a way to represent their visual work. The communication skills they developed prepared them for more dynamic interactions with others when they discussed the work (Bhika, Francis, & Miller, 2013).

We ask students to reflect because we want them to become reflective practitioners. The goal is to develop internal mechanisms for understanding the way you work, focusing on assessment of actions taken in the midst of making. When Stephen Brookfield (1995) wrote about critical reflection, he described a process where "we identify and scrutinize the assumptions that undergird how we work" (p. xii). Reflective practice includes the thoughtful consideration of one's own experiences, which is a method for checking and monitoring as we move toward a finished product. The approach is cyclical—examining assumptions and practices as a way of acting and reflecting in order to act again. Being reflective challenges students "to identify which aspects of performance need improvement, it also challenges them to elucidate and clarify…[as] we develop an ability to articulate that knowledge" (Osterman, 1990, p. 138).

Establishing Reflective Studio Practice at Parsons School of Design: The Learning Portfolio Mandate and Anette's Pilot

The learning portfolio at Parsons is a blog platform. Students make "posts," which are entries that include writing, image galleries, and keyword tags. All of the post prompts were assignments developed by Anette, specifically for the learning portfolio and used exclusively in sections of integrative studio that she taught as part of the pilot. The results, tested, adapted, and refined over two years, were guided both by Anette's approach, insights and values as an instructor, and by our desire to discover the best practice for using an LP to teach process-based learning outcomes that are central to the goals of Parsons' curriculum.

Anette assigned posts to the learning portfolio in ways that supported student development. She asked students to use the blog like an actual studio space: to test ideas, to play, to assemble things and leave them behind, and to take unused ideas and bring them into new projects. Most importantly, she asked them to develop the habit of using reflection to understand their own practice. As art and design practice has both a visible process and a tangible product, one of the major goals has been to foreground the thinking embedded in the design process. In the words of a first-year student, "Critique is where I learn what other people think about my work. The learning portfolio is where I learn what I think about my work."

In the first year of the pilot, Anette used a strategy of dividing assignments into categories that represented the sequence of project development: research, process, and presentation. Posts were assigned at the beginning, middle, and end of each project. As the pilot progressed,

the prompts were refined, shifting away from narrating the temporal progression through a project to something more directed and specific. Asking students questions that related to curation, inquiry, and cross-course connections helped build reflective capacity and took better advantage of the visual, textual, and networked container of an electronic portfolio.

The learning portfolio was introduced on the first day of class and used consistently across the semester as a component of long-term projects and as a site for short assignments. Students were instructed in the technical use of the LP by the instructor who was already familiar with the CampusPress/WordPress platform. Additionally, students responded to prompts in weekly homework assignments. We found that the most thoughtful work was produced when students were given specific, directed prompts instead of asking for open-ended descriptions. We started asking them to interrogate their own choice-making—to explain why, to what end, and then what else—as they worked on projects. As this process became a habit, we began to see more dynamic responses across the range of student aptitudes in each section.

From the beginning, the LP was meant to be an exploratory space, so the assignments and grades students received were low stakes. The focus was on their habits of work: Does the post respond to the prompt? Does it consider the prompt deeply as evidenced in thoughtful writing? Does it use visuals, titles, and tags to tell a story related to the prompt? Meaningful evaluation of student work happened at the end of the project. LP posts were one part of a larger rubric where assessment is based on the art or design work produced. Because the details a post contained helped inform feedback and in-process teacher-student dialogues, LP posts might also be reviewed in weekly student-teacher meetings. A reflection on process might inform new strategies, or a curation of inspirations might spark a concept. In this sense Anette's approach was to model of how reflection can help frame next steps in a project. This regular engagement with articulating choices and forcing art and design students to bring into language the thinking they do in the studio also improved the level of dialogue that happened between peers during class critiques.

Anette also observed that the learning portfolio allowed her to respond and give feedback in a more individualized way. The evolution of student thinking about a particular project over the course of the semester could be easily accessed through the learning portfolio, so her responses to the work could be tailored and specific. Because a student's reflective writing is a subjective summary of experience, including it in the understanding of their studio work allowed her to evaluate the development of individual ways of working as part of the project. Reflection involves a kind of "cognitive housekeeping" (Moon, 2004, p. 185) that lies at the center of learning. Often, sorting things out in your head and representing them on paper prompts the "a-ha" moments. Students recognize on their own what the next step should be, that they have learned something new, that they have more work to do, that they need more information. Because new experiences are filtered and framed through past ones, each student's experience of learning is unique. Using the LP gives the instructor better access to their thinking about process.

The assignment prompts used during the pilot asked students to post documentation of the inspirations that led to their initial investigations. Often these inspirations were materials-based and the posts were evidence of the course learning outcome, which was "Explore visual representations of abstract ideas (using 2-D, 3-D and/or 4-D media)." Student M wrote about abstracting ideas into material form:

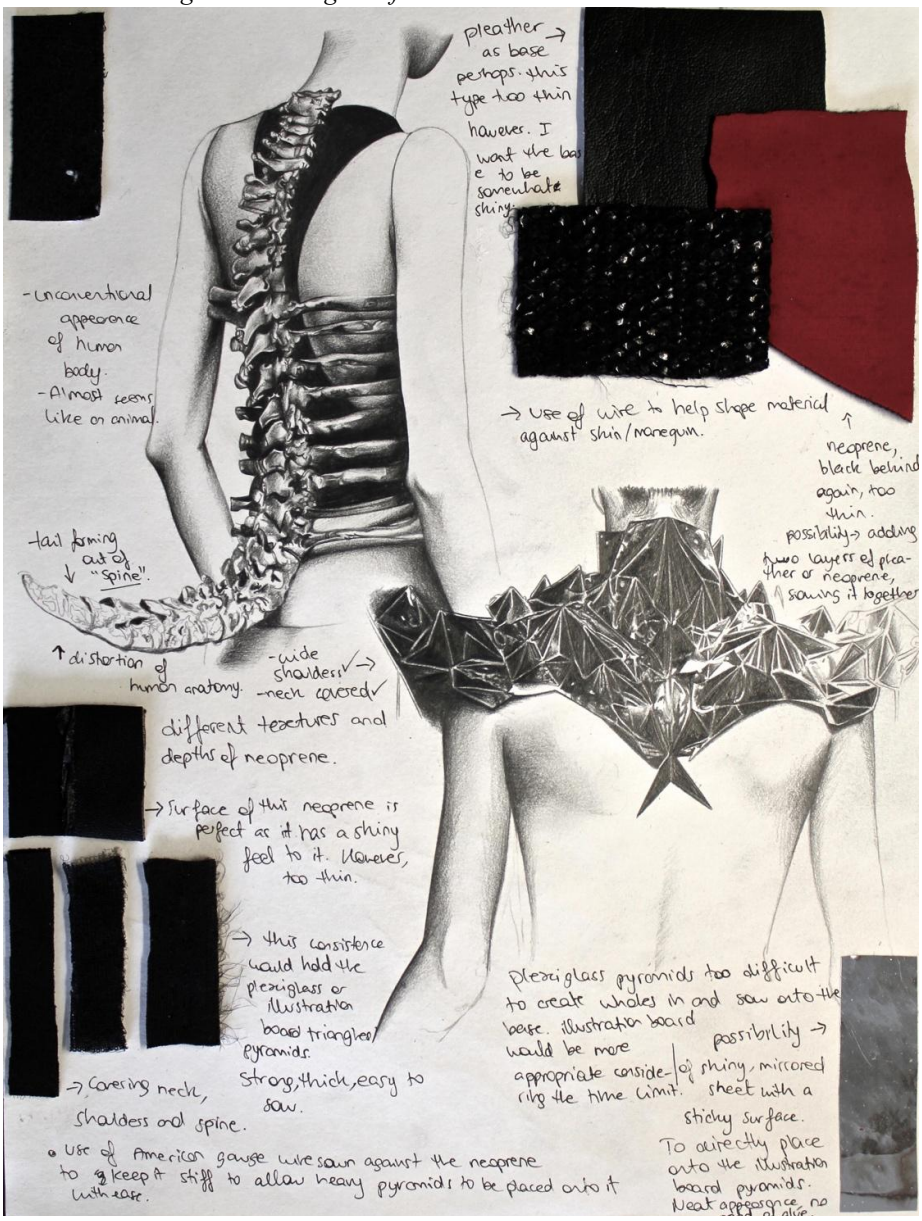
> I then sketched out the possible forms that my armor could take, collecting materials and trying to draw relationships between those and my concept. Here I considered which materials I could use which would help me maximize the distortion of the body, considering the time limit for the assignment. I also wanted materials to appear lavish, scintillating, imposing and crystal-like when constructed around the body, to emphasize the idea of extreme embellishment.

Student M is beginning to understand both the meaning of forms and how to work with her current skills under time constraints, thus monitoring her own development and adjusting strategies for learning. This sense-making process involves accommodating new ideas and phenomena with existing beliefs and knowledge. The construction of ideas also includes the context and what she was doing (sketching as a means of exploring) and an articulation of what she intended as outcomes of the process (Figure 2).

Another learning outcome for the integrative studio course is "Engage with art and design as a generator, embodiment and transmitter of cultural ideas. Demonstrate an understanding of value systems as social constructs." When Student A wrote about how she narrowed ideas for a fashion project and accompanying research paper, she pushed herself to think through the connections between design and cultural values:

> I would like to examine the different aspects of the veil and its significance. As fashion it is reflective of certain societal and cultural traditions and view, the interpretation of the veil is varied and diverse in its complexities. . . . My understanding of fashion, specifically designer fashion, is that the process of dress is an elaborate act of presenting oneself to the world. It is the first method of communication. . . . Veils serve and present a strange, complicated element to this process as it connotes a barrier, protective and distancing communication. This particular aspect is personally fascinating.

Figure 2
Using the Learning Portfolio to Track Materials and Process



What is exciting in Student A's writing is that we saw her constructing her own questions from her "fascination" with a topic (Figure 3). The structure of our reflective assignments helped her begin to internalize, reshape, and transform new information (Brooks & Brooks, 2001). By asking her to reflect on her own process, the new ideas that emerged were meaningful, in part because they were acquired in a personally relevant context. When key ideas are indexed to the features of the situation in which they are relevant–contextualized within her own studio project–opportunities for cognitive development are greatly enhanced (Marra, Jonassen, Palmer, & Luft, 2014).

In the context of art and design, process is often described as the sequence of events that shape the fabrication of an object or image. Donald Schön (1987) wrote about a way of knowing in professional practices, such as design and architecture, that he called *reflection-in-action*. He describes a "high ground" where problems are solved using theoretical knowledge, data and academic formulas. This is opposed to the "swamp" where hard-to-solve, shifting,

Figure 3
Writing as a Design Tool

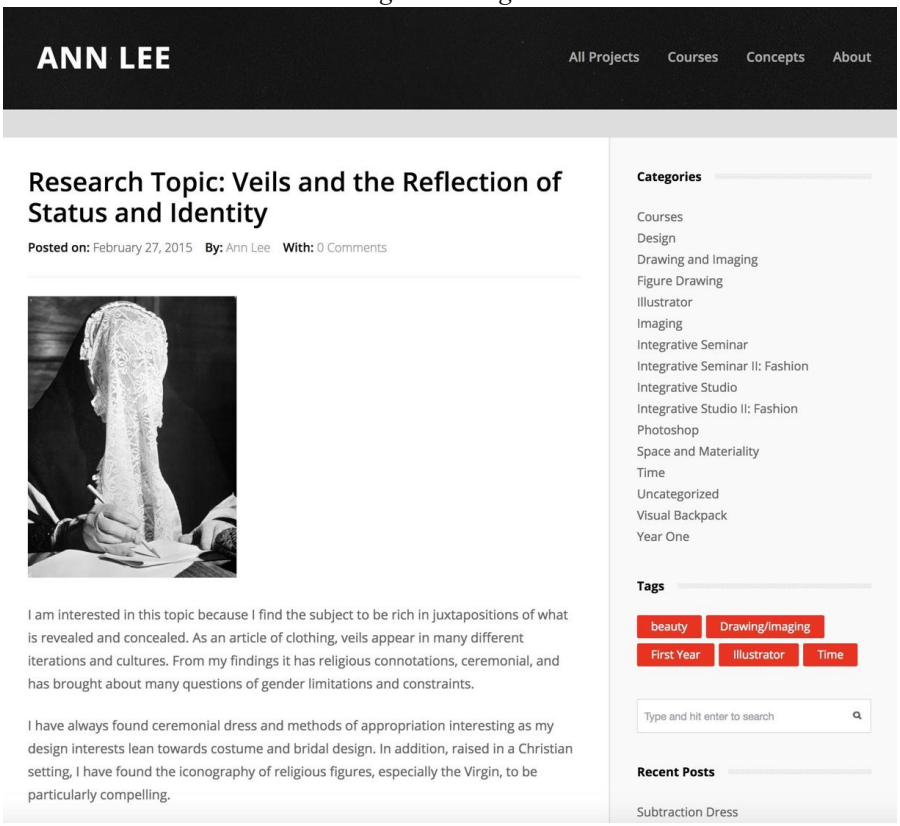
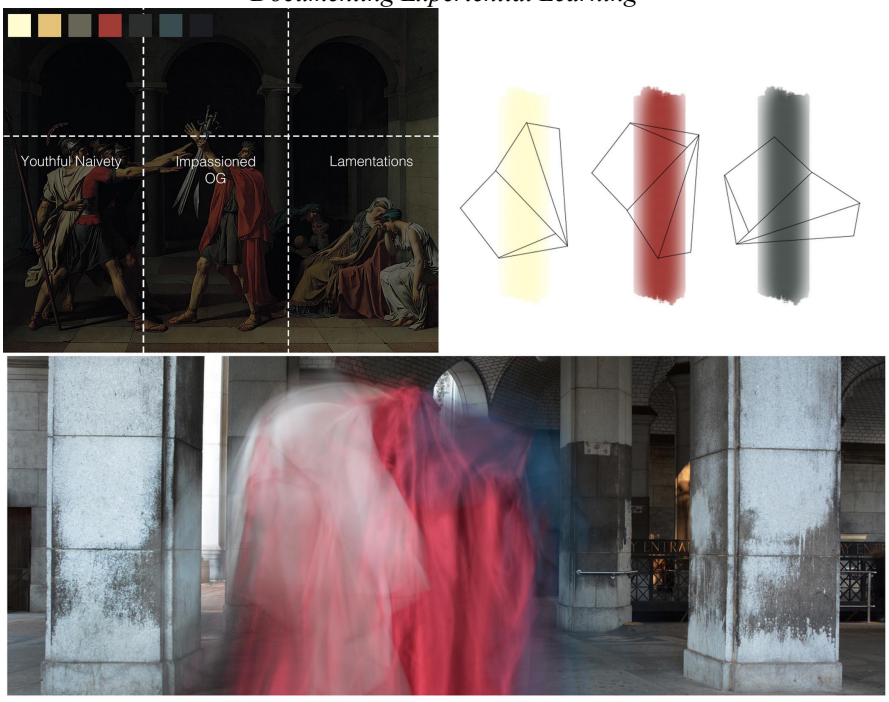


Figure 4
Documenting Experiential Learning



and yet socially important questions that "defy technical solutions" (Schön, 1987, p. 3) are found. He described this process as involving a dynamic kind of decision-making based on experience and "problem setting" in new situations that require "improvisation, inventing, and testing" (Schön, 1987, p. 5). Schön believed that this situated knowledge can only be discovered through doing, and that the process of learning centers on an ability to reflect as you go and to respond immediately. Eynon et al. (2014) described reflection as "a bridge between inquiry and integration" (p. 1). Here the idea of problems and questions raised at the moment, as inquiry, are integrated into knowledge through the process of thinking back and framing ideas for analysis as the process of reflection.

People sometimes innovate, invent, or stumble upon good solutions in unusual ways or in the process of doing something unrelated. This might be described as serendipity, or we might think about it as the situated knowledge Schön referred to. Students wrote in-process posts that mapped their project's development. The writing was composed after the fact, but the photographic documentation was taken "in action." These photographs offer a window to see the work happening outside of class time. This made the course learning outcome, "Employ visual and perceptual thinking as a problem-solving tool across multiple art and design applications," easier to assess. Images and captions were used on the blogs to document and curate the project story. Play and experimentation in action were visible and became part of the expectation of a project. Student K wrote about a group project that included recreating historical paintings:

> Heading back to the subway we encountered a set of very tall columns placed in a moderately open space which gave the same sense of depth as the setting in which the Horatii brothers are undertaking the Oath [in David's Oath of Horatii]. . . . Our intention was to take three different shots of the figure posing covered in fabrics following the geometrical figures in which the three groups in the painting are placed... Right before leaving we started playing with some moving images. This time we programed [*sic*] the camera to take the pictures in a slightly longer period of time. This is how we came up with our final piece.

The active experimentation that Student K described, "right before leaving we started playing," is an aspect of reflection-in-action that can be separated into a four-step process: "concrete experience, observation and reflection, formation of abstract concept or generalization, and active experimentation" (Osterman, 1990, p. 135). Looking at the process rather than the product is a useful first step in helping students learn how to be experimental. The model allowed us to conceptualize a process that we could then evaluate, rather than looking to the object created as the basis of success. Schön (1987) insisted that reflection-in-action cannot be taught through theories or transmitted as a body of knowledge but happens through the "naming and framing" (p. 5) of multivariate information only discovered in action—the process of doing. However, we have noticed that as students record and photograph process, they begin to embrace experimentation and become more open to, and skilled at, improvisation (Figure 4). They learn a way of operating that is repeatable in a new context and can be used as a teachable methodology of the discipline.

At the resolution of a project, we asked students to step back and examine the results. Because learning must be anchored in, and indexed by, relevant contexts (Marra et al., 2014), where they were and what was happening is an important component. Often, we store these knowledge and skills as stories (Schank, 1986). The narratives we asked them to write about the work became the primary medium of conversation and development of shared understandings with other people. We found that the knowing embedded in these stories was central to our students' learning.

The presentation posts placed the project in a larger context of ideas and summarized results. Working within the blog format, students often paired images of work with short captions. They worked with the blog galleries to sequence their work in slide shows or juxtapositions in thumbnail galleries. The students tagged posts with their own invented keywords, much like they would use hashtags on Instagram. Looking across the writing samples, we could see that students were starting to see "self as designer" in a way that pointed to the development of their own voice in making choices about methods, ideas, and styles. The collection of posts across different courses and semesters might allow peers and faculty to consider the whole student when viewing the learning portfolio. The LP is invaluable in making student learning visible. The course learning outcomes "Demonstrate an ability to integrate concepts, material skills and techniques from other courses and experiences into project work" become clearly assessable.

A Broader Framework for Teaching Reflection in an Art & Design Classroom

We used the learning portfolio pilot to test strategies, question assumptions, and collect a lot of student posts. Because use of the learning portfolio was embedded in the first-year curriculum, the expectation was that all 1,100 students and the corresponding (approximately

250) faculty would adopt this tool in their courses. One of our goals in developing the pilot was to understand and anticipate faculty professional development needs. In the new curriculum, many of the learning outcomes required a nuanced set of skills to be taught. We found that using the LP as an archive of reflective components in a course was extremely helpful for assessing student learning. Additionally, we learned that the habit of writing about process helped students in critiques as they became better prepared to talk about their projects and improved the quality of feedback that could be offered. Our next step was to develop a series of workshops and online resources to guide faculty. We sought to translate the things we learned in Anette's specific experiences to a more generalized approach, to reframe our findings for a larger group and more varied contexts. Our framework introduced LP practices as (a) *inquiry* as the space where problem setting occurs, (b) *curation* to emphasize storytelling in the process of making a project, and (c) *intra- and extra-curricular connections* to focus on transferring their experiences across contexts.

Inquiry

We started with the idea that inquiry is the process of asking questions to investigate an idea. It is different from simply posing questions as it implies a formal structure and progression. Maughn Gregory (2007) described a framework for inquiry that articulates specific stages as a kind of roadmap for this work. These include identifying relevant issues, formulating and organizing relevant questions, developing hypotheses in response to these, clarifying and testing, and then experimenting with solutions (Gregory, 2007).

To work productively in the design world our students need to know how to observe, wonder, question, and collect research. In moving through this process, students often define and then re-define a problem. These explorations and iterations are "discovery-oriented behaviors" that lead to more creative outcomes (Csikszentmihalyi & Getzel, 1971, p. 50). Students writing about how or why they solved a problem might also notice how they questioned, abstracted, analyzed, and synthesized their research and ideas, thus underscoring the importance of such critical thinking abilities.

In one assignment, students were asked to pay close attention in everyday life, noticing sensory information, situations, and interactions. The Hmm Collection project foregrounds the habits of close looking. In the project, students assembled a collection of 10 artifacts that document moments of "Hmm," which are moments when one noticed something that stops him or her, makes the person pay attention, or sparks curiosity. Students collected actual objects and/or made photos, drawings, or videos. These objects were catalogued in visual form: plastic baggies, a book, a video, a photo series, a box or container, an installation, etc. As students reflected via the learning portfolio, they became self-aware of both their own inspirations and the methods that they might use to collect that inspiration.

Students were given the following inquiry prompts to complete on the learning portfolio:

- What does your "Hmm" collection say about your interests as a person and as a designer?
- Which object in the collection is your favorite, why?
- Which object in the collection most surprised you, why?

It was exciting to see when students noticed patterns in the objects and brought focused attention to the topics and the forms they chose to document. The writing is what moved the project from "I like it" to "I noticed this because." Student Y wrote about the balance of attraction and repulsion in her collection. In her post she questioned and redefined what she saw as tools an artist or designer might use today to take note of inspiration. She was starting to see her smartphone photography as a type of research.

> It is not easy to keep a notebook with me, carrying a smartphone is much easier. I use the camera to "note" anything that inspires me or attract my attention. . . . I am not good at memorizing literal items like vocabulary, instead I am very sensitive to shapes, people.
>
> I pay attention to details on one's body, and then I can tell when and where I have seen this person before. The "useless" and neglected things are what I care about.

Curation

Curating is the act of selecting and ordering material to convey a specific meaning or story. Art and design students readily identify patterns and understand that ordering, sequencing images, or changing contexts will change the meaning in a project. Students collected and ordered artifacts on the learning portfolio with titles, tags, labels, and a consideration of sequence and juxtaposition. In today's digital world, students gather more images than they can use; they can take 50 process shots in the course of completing a project or Google an idea and find hundreds of images. Making meaning from this excess is necessary for this type of research to be valuable. Curation is an editing process. We ask students to create order by finding matches, relationships, and combinations. Finding connections across disparate sources is part of the process

that defines that creativity and through the practice of curation topics are discovered and themes of interest emerge (Ward & Kolomyts, 2010).

In the Concept Map project, students created a map/photo-based graphic to serve as a visual taxonomy of museum and online research. For this assignment, they visited two exhibitions and looked for connections between the two exhibitions to find possible research topics. Examples of topics were gender, mythology, and geometry. Students then narrowed the pool of images into piles of the most relevant and interesting. They began to define sub-themes by sorting into folders or making word-webs. They then made a visual map in a branching, web or linear format. The most important component of the assignment was not the map itself, but the skill to narrow a topic.

Students were given the following curation prompts to complete on the learning portfolio:

- Post your finished Theme Map.
- Reflect on the experience of making your Theme Map. What new connections and ideas surfaced as you sorted the images? What sub-themes are most interesting to you? Why?
- What research questions have you drafted? List possible questions. How do your questions relate to your map?

Students wrote about the assumptions they started with and how these initial ideas shifted. They asked themselves why they choose a topic and in doing so discovered that an original interest needed to be more narrowly defined. Student L's concept map focused on "Body, Brand and Diversity." She defined sub-topics such as branding and cultural appropriation. In her LP post, she reflected on her topic and began to frame questions. The movement from what she thought was a set topic to a question for further research was vital to her project development (Figure 5).

> New connections that I've seen are how designers and people use fashion to say something political or social about a certain issue. But, a few designers that I admire make mistakes that may or may not have been conscious: for example, using Africa inspired themes but then using a 100% white model population in a show. The sub themes that are most interesting for me are how marginalized communities are not well represented in the fashion industry. How is diversity at stake due to branding/marketing in the fashion industry? Why is diversity and representing marginalized communities important?

Intra- and Extra-curricular Connections

Asking students to describe connections across courses and activities outside of class is a central element in our learning portfolio framework. They come to understand that their thinking in one context is meaningful and relevant across their varied academic and extra-curricular experiences. This sense of continuity supports the development of integrated learning and a feeling of community across all of their experiences and leads to deeper and more complex thinking (Matthews-DeNatale, 2013).

Metacognition is the awareness of one's own knowledge, of one's actions, and of one's current "cognitive or affective state" (Hacker, Dunlosky, & Graesser, 1998, p. 3). It includes students' knowledge of what they know, how they learn new things, and their ability to see connections across varied or different experiences. The learning portfolio becomes more than a simple archive of work from many courses over the first-year program. It is a repository of student learning, interests, dispositions, and passions. Being able to understand one's intrinsic motivations, knowing what kinds of things consistently spark interest is important in building creative work. When "the pleasure and excitement are the drive and energy behind a task, then the end product is often more creative then if the drive is lacking or extrinsic" (Feist, 2010, p. 122).

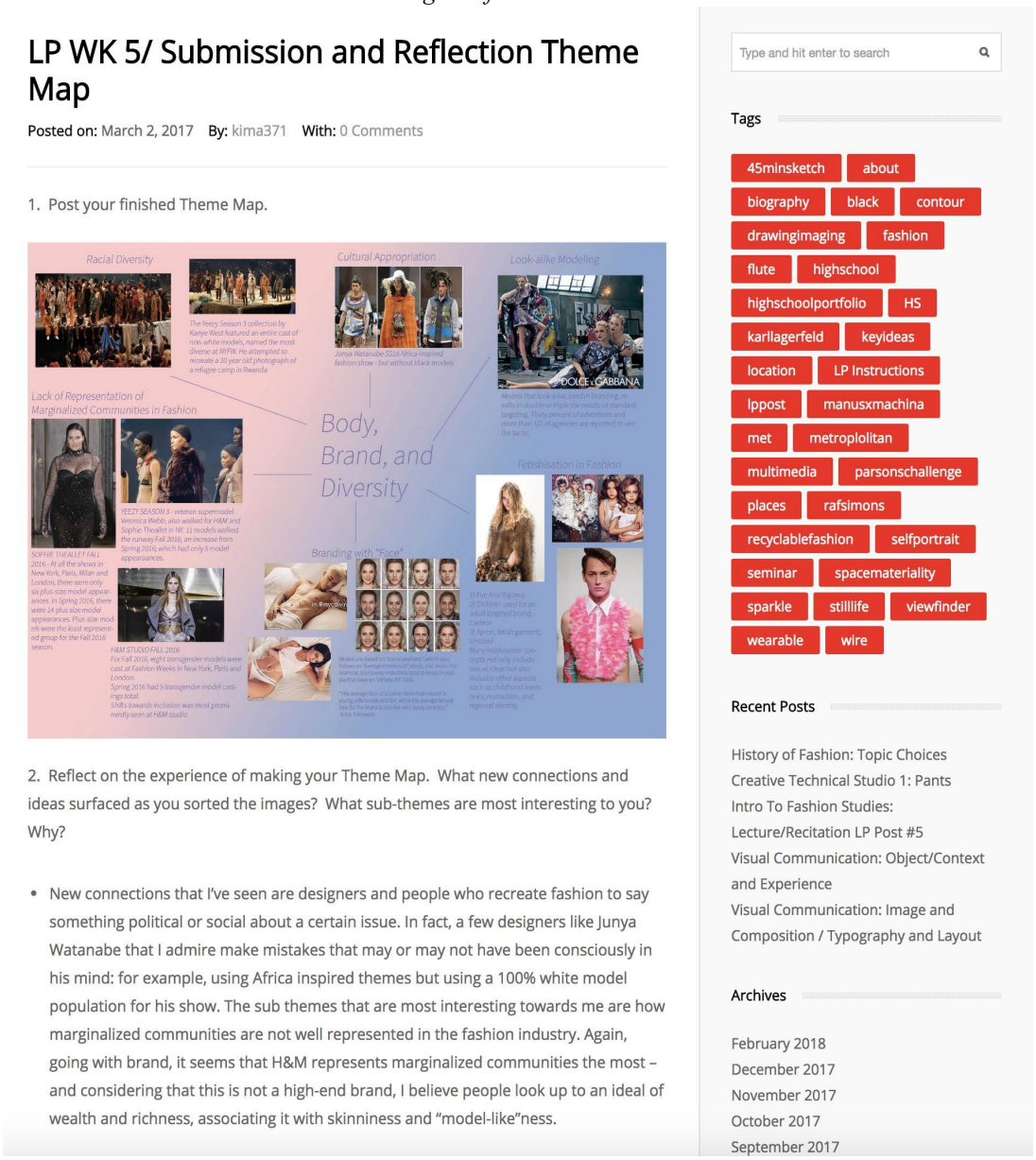
In one assignment, we asked students to compare the process of writing a research paper to the process of developing a studio project on the same topic. The reflective writing examined connections and disconnections between writing and making. The students were surprised that the paper research both stirred new ideas and changed assumptions in their studio production. It pushed the students to develop personal and often emotional connections to the design project and surprisingly, to the research paper.

At the end of a long-term project, we asked students to look back and summarize their experience. We gave them these cross-curricular connection writing prompts:

- Action: What happened? Begin the post with a one paragraph summary of your project. Include SELECTED (three to five) images of your process. Include the concept photography of the final garment.
- Thinking: Show connections that you made between the studio and seminar. Did research influence making? Did making influence research? Use studio process images and seminar paper quotes to make your point.
- Planning: What now? Make connections between this project and who you are as a designer/ person. What will you take forward in terms of making and researching?

This LP post was at the end of the term, so students were able to look back at process posts to find details. They noticed growth and development in both the paper

Figure 5
The Learning Portfolio as a Curation Tool



and project and tracked ways that each part influenced the other. They also saw how skills and concepts from other courses worked into the ideas they explored for this one. In summarizing this semester-long experience, they are also able to look ahead and anticipate ways they might work to develop a project in the future (Figure 6). Student E described the process:

> The research enabled me to develop the ideas I had, opening my mind into different concepts and realizations... I found that looking at my research from an intimate point of view [*sic*] allowed me to be more attached to the process and the creation of both projects. . . . Not only was I developing in the design, but also and most importantly on the essence of it. I think the depth of the project enabled me to contemplate on who I want to be as a designer.

Conclusion

In the rewriting of the Parsons School of Design's first-year curriculum we made visible aspects of an art

Figure 6
Finding Designer Voice on the Learning Portfolio

and design practice that are traditionally not seen. The list of outcomes for the integrative studio course focused on the process of making, including research, ideation, and problem-solving. The mandate of the learning portfolio paralleled this shift as it required a move away from the idea of a portfolio as a display of finished work but rather a location for documenting thinking and process. We asked students to reflect and write within their learning portfolios to help frame and then learn from their ongoing documentation. We were not evaluating their progress as writers or their finesse with documentation.

The reflective framework we introduced centers on the practices of inquiry, curation, and intra- and extra-curricular connections. A learning portfolio component was added to course assignments and was completed on a WordPress blog. Inquiry posts included student research and question formulation, curation posts told the story of a project in text, image, and video, and students made new connections between courses and life through prompted writing.

Schön (1987) described *reflection in action* as a natural component of art and design practice, as choices made in the middle of making. By asking students to then reflect back and notice patterns and trends in their own way of working, they were able to develop strategies for making those "in action" choices in the future. This supports the development of a practice where they will need to be continually acting as an innovator. When Brookfield (1995) instructed us to ask our students to look at their assumptions, it is so they may act in new and different ways, growing through a cycle of action and reflection. This approach to teaching and learning puts the methodologies of knowledge construction at the center of education.

In the context of art and design, success is traditionally measured by the projects that students produce. In our pilot, we valued process over final product and in the end, this shift contributed to improved studio output: the projects became more innovative and intentional. In the reflective posts, we observed improvement in students' understanding of what creative process includes, witnessed a new focus on methodology, and a stronger sense of community in our classrooms as we talked more about making. Students began to prototype more extensively, sought feedback, faced challenges without emotional judgement, posed thoughtful questions, and developed more unique work.

As we worked to extend findings from our pilot to a larger group of faculty, we developed a set of guidelines, suggestions, and strategies to help faculty recenter their teaching so it included reflective practices. Because artists and designers use portfolios all the time, we sometimes struggled to delineate the difference between a traditional, outward-facing portfolio that showcases your best work and a learning portfolio that looks inward, is messy and

process-oriented. We used the two-year pilot in an untraditional way. We saw it as an opportunity for experimentation. This was a chance for us to prototype, iterate, and refine, thus modeling our own engagement with the LP on the design process we teach our students. We asked faculty to think of assignment prompts in the LP as investigations that did not have to lead, in a direct way, to outcomes. We asked them to think of the LP as a virtual studio visit with their students.

Orienting our discussions with faculty around the idea of the studio visit became a useful metaphor. The studio visit, familiar to art and design faculty, is an opportunity to see sketches, rejections, and all notes alongside completed work. In this way, we shifted expectations of what an LP could do—from portfolio as archive or portfolio as showcase—to portfolio as an intimate look inside the way a student of artist or designer thinks, dreams, and orients themselves in their developing practice.

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Nursing Students' Perspectives on ePortfolios: Themes and Preferences Compared With Paper-Based Experiences

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ePortfolios play an important role in tertiary education globally in the 21st Century. Several studies have advocated for the implementation of ePortfolios on the basis that they have the potential to integrate technology whilst making learning visible and meaningful for students. However, rarely is the implementation of ePortfolios, considered from the students' perspective. The development of web-based learning resources including ePortfolios platforms are often driven by software developers with an extensive degree of technical expertise, rather than teachers and educators and, without acknowledging potential difficulties this may create for students (Andrews & Cole, 2015; Beckers, Dolmons, & Merriënboer, 2016; Cordier et al. (2016); Leacock & Nesbit, 2007; Nam & Smith-Jackson, 2007). The aim of this study was to explore students' perspectives on the value of an ePortfolio platform in the final year for nursing students in the Bachelor of Nursing programme in a New Zealand tertiary institute. The data for this study were obtained through focus group sessions. Thematic analysis identified four themes from the data which were the importance of ease of use, feedback, transparency, and the role of supporting technology. This study aligns with previous literature in demonstrating students' preference for the use of ePortfolios but extends our knowledge by considering the value of ePortfolios from students' perspectives.

Background

Over the past decade, there has been a dramatic increase in the prevalence of electronic technology in tertiary institutes globally (Association of American Colleges and Universities [AAC&U], 2015; Eynon, Gambino, & Török, 2014; Newell, 1999; Rhodes, Chen, Watson, Garrison, 2014; Stuart & Dahm, 2006). Methods of assessment that were all predominately paper-based have been digitized, some with more thought than others, as to the way in which this format changes the assessment experience. In addition, philosophies of education and employment have changed from training and workforce to the integration of skills for lifelong learning and the collection of evidence to demonstrate continuous improvement.

In response to the changing vision of education and industry, many higher education institutions internationally are disbursing considerable resources developing new curriculum and integrating technologies to foster skills of integrative lifelong learning (Clark & Eynon, 2009; Collins & Crawley, 2016; O'Keeffe & Donnelly, 2013; Riden & Buckley, 2016). In the search for an instrument to assist with this rapidly changing environment, ePortfolios are incrementally viewed as an ideal tool for supporting and assessing students by enabling students to create meaning from their learning, developing intentional digital identities, connecting experiences, and collating evidence for assessment (Barrett, 2007; Cambridge, 2008; Clark & Eynon, 2009; Collins & Crawley, 2016; Riden & Buckley, 2016).

Alexiou and Paraskeva (2010) acknowledged that the ePortfolio platform is an ideal tool for assessing in both the academic and professional environments, as it collates digital applications that enable students to learn and present material in an interactive and collaborative assessment. However, minimal literature has examined if students prefer the ePortfolio platform as a mode of assessment when compared with paper-based alternatives, particularly in the field of nursing education. In recent years, there has been a growing recognition of the link between higher retention, completion rates, and the prevalence of ePortfolios (Dahlstrom, Dziuban, & Walker, 2013; Eynon et al., 2014; Rhodes et al., 2014). Internationally, there is increasing evidence that ePortfolios have emerged as a valid and reliable tool for assessing student development, progression, and a measure of change over a duration of time (AAC&U, 2015; Dahlstrom et al., 2013; Eynon et al., 2014; Rhodes et al., 2014). However, there is little literature from the nursing student perspective comparing the experiences of collated electronic or paper-based portfolios.

In the field of nursing, portfolios are commonly used professionally to collect evidence of ongoing competence and capability, portfolios can be defined as a collection of professional work that follows the trajectory of a nurse's career from undergraduate to registration that should illustrate the background, skills, and expertise of the individual (Green, Wylie, & Jackson, 2013). Paper-based portfolios have been nursing's traditional method of assembling evidence both in undergraduate education and once in the profession. The emerging mode of ePortfolios in higher education provides an alternative to the often cumbersome, confusing, and bulky paper-based portfolios (Collins & Crawley, 2016; Collins & O'Brien, 2018; Green et al., 2013).

Green et al. (2013) and Collins and Crawley (2016) have noted that using ePortfolios contributes to nursing students being more prepared for the clinical work environment due to the unique advantage of how and when the ePortfolio can be accessed without detracting from the clinical placement itself. Green et al. (2013) identified the benefits of using ePortfolios as a robust method of an authentic assessment due to the fact that ePortfolios present a means of assessing a student's ability in an interactive and flexible environment, which is not achievable with a paper-based equivalent. The ePortfolio assessment concept encourages realistic objectives, critical reflection, evidence of critical thinking, and, importantly, is an interactive platform for students to construct and personalize their nursing assessment and judgement.

Facilitating students' engagement in their ePortfolio experience has the potential to transform the learning journey for the student in the forms of interactive learning and in ensuring the learning experience is visible, meaningful, and relevant to the student (Eynon et al., 2014). Chang, Liang, Tseng, and Tseng (2014) acknowledged that ePortfolios are essential in the utilization of digitalization for the added benefits of collecting, presenting, and analyzing student learning (Anderson, Gardner, Ramsbotham, & Tones, 2009; Garrett & Jackson, 2006; Lettus, Moessner, Dooley, 2001; Pincombe, McKeller, Weise, Grinter, & Beresford, 2010**).**

Much of the research identifies the potential of ePortfolios for students from an educator's perspective; however, in contrast to other areas of education, it appears that very few studies have considered the value of ePortfolios from nursing students' perspectives. Hadjerrouit (2010) investigated the value of web-based learning resources in education and concluded "that web-based learning offers more potential learning than that considered by tradition resources, such as textbooks in terms of potential capabilities, as ePortfolio users demonstrate the ability to collaborate, provide feedback, demonstrate interactivity and flexibility" (p. 59). However, this study did not capture the notion of value directly from the student perspective.

Collins and Crawley (2016) identified that paper-based portfolios are often weighty, with students submitting academic work that is not part of, nor relevant to, the assessment. Furthermore, there is the potential for lost and/or misplaced academic work due to the colossal size of the paper-based assessment material. This is further evidenced in studies by Collins and O'Brien (2018) and Riden and Buckley (2016). By comparison, ePortfolios (a) create a structure with the convenience of many educators viewing the portfolios simultaneously, (b) are eco-friendly, (c) allow for quick dissemination of feedback, and (d) encourage interactivity and engagement from the students with the work submitted.

International literature has shown that that ePortfolios can provide students an avenue to learn, collaborate, and present their academic requirements in an interactive, visual, and flexible manner (Andrews & Cole, 2015; Beckers et al., 2016; Cordier et al., 2016; Dahlstrom et al., 2013; Eynon et al., 2014; Rhodes et al., 2014;). Whilst there are many advocates for the use of ePortfolios over paper-based portfolios, the importance of student experiences in the implementation of new technology should not be lost, particularly as these experiences have implications for the educational experience, motivation for lifelong learning, and the transition of skills into the workplace. Furthermore, in the field of nursing education, and in environments such as clinical nursing that still rely heavily on paper-based evidence, the perspectives of students should be considered before implementing new technology. To that end, the aim of this study was to explore students' perspectives on the value of an ePortfolio platform for final year nursing students in the Bachelor of Nursing program in a New Zealand tertiary institute.

Methodology

To investigate students' perspectives on the value of an ePortfolio platform for final year nursing students in the Bachelor of Nursing program in a New Zealand tertiary institute, 10 volunteers were requested from the 2017 cohort of students enrolled in the Transition to Nursing course ($N = 44$).

Final year nursing students were selected, as they had experience of paper-based portfolios, clinical work environments, and a clear vision of what would be expected in terms of professional evidence collection once they entered the workplace. The ePortfolio platform Pathbrite was used in this study and accessed by the students through the institutional learning management system.

Participants

An initial, informal education session was held with the cohort of 2017 final year nursing students ($N = 44$ students) to explain the rationale for the research and to request volunteers four weeks prior to the commencement of their Transition to Nursing course. It was explicitly stated to participants that the research would not involve the graded marking of the portfolios and would focus on the experiences of collating paper-based versus ePortfolios for submission in the course. All potential participants were informed that they would receive an hour-long

tutorial on the ePortfolio platform prior to the commencement of the Transition to Nursing course, and that an ePortfolio support person would be available via e-mail or one-to-one based assistance for questions, clarification, and technology based complications for the duration of the nine-week course. As the ePortfolio support person was also part of the research team, it was reiterated to all potential participants that the research and researcher would take no part in grading the portfolios.

Following the information session, a sample size of 10 final year students were recruited for this research study (n = 10). All potential participants were advised of the intention of using focus group sessions at the end of the nine-week clinical placement to obtain data for analysis. To avoid power imbalances, the researcher who conducted focus group sessions was not responsible for the organization, facilitation, or marking of the academic work associated with this course.

The only exclusion criteria for this research was that all the participants' clinical placement had be within a 50 km radius of the institution to facilitate the ePortfolio education session and to provide one-on-one support, if required.

Focus Group Sessions

In order to facilitate participant attendance and the opportunity to fully share experiences in small groups, three focus group sessions were scheduled. Session one included six participants, session two included two participants, and session three included two participants. The focus group sessions were up to an hour long.

To guide the sessions, a series of semi-structured questions were composed (Table 1). The survey was not validated, but questions were trialed with a pilot group prior to use with the first focus group.

Ethical Considerations

Ethical approval was granted by the relevant institutional committees prior to the commencement of any student involvement in this research.

Data Analysis

Thematic analysis is one of the most common forms of analysis in qualitative research. Thematic analysis was selected to pinpoint, examine, and identify the recording patterns (i.e., themes) obtained within transcribed data (Creswell, 2013; Denscombe, 2014; Koshy, Koshy, & Waterman, 2011; Kreuger & Casey, 2009; Teddlie & Tashakkori, 2009). Initial themes are then identified as patterns across data sets that are important to the critical discussion and analysis of a phenomenon, which are associated to the research's specific research questions. Previous authors have described thematic analysis as research that allows for the "identification within the data of three to six overriding abstract ideas that summarize the phenomenon of interest" (Gray, Grove, & Sutherland, 2017, p. 273). The fact that the researchers were heavily involved in the action research journey with the participants informed the focus group questions but not the development of focus group data.

All data from the focus group sessions were collated initially by one researcher, transcribed, coded, and evaluated in order to identify themes from the data using the method previously described by Braun and Clarke (2013). In order to enhance the trustworthiness of the data, all themes were then evaluated and re-evaluated by the research team before settling on the findings using methods suggested by Nowell, Norris, White, and Moules, (2017). Braun and Clarke (2013) posited that thematic analysis has only recently become more prevalent and is fundamentally a technique of categorizing and examining patterns and themes in qualitative data.

Table 1
Focus Group Questions

Item No.	Questions
1	How would you describe the concept of ePortfolios?
2	How important to you is the flexibility aspect of an ePortfolio?
3	What type of device did you most commonly access your portfolio from?
4	How do you rate the convenience of using an ePortfolio?
5	What method of portfolio do you prefer and why? (ePortfolio vs. paper portfolio concept)
6	How would you describe what you perceive as the positive benefits of using an ePortfolio?
7	How would you describe what you perceive as any negatives attributes if any of using ePortfolio?
8	How did the ePortfolio concept encourage you to be a reflective practitioner?
9	Will you consider continuing with an ePortfolio as a method of obtaining evidence for your Professional Development Recognition Portfolio (PDRP) and to use in the work environment once graduated?

Figure 1
Ease of Use/Convenience

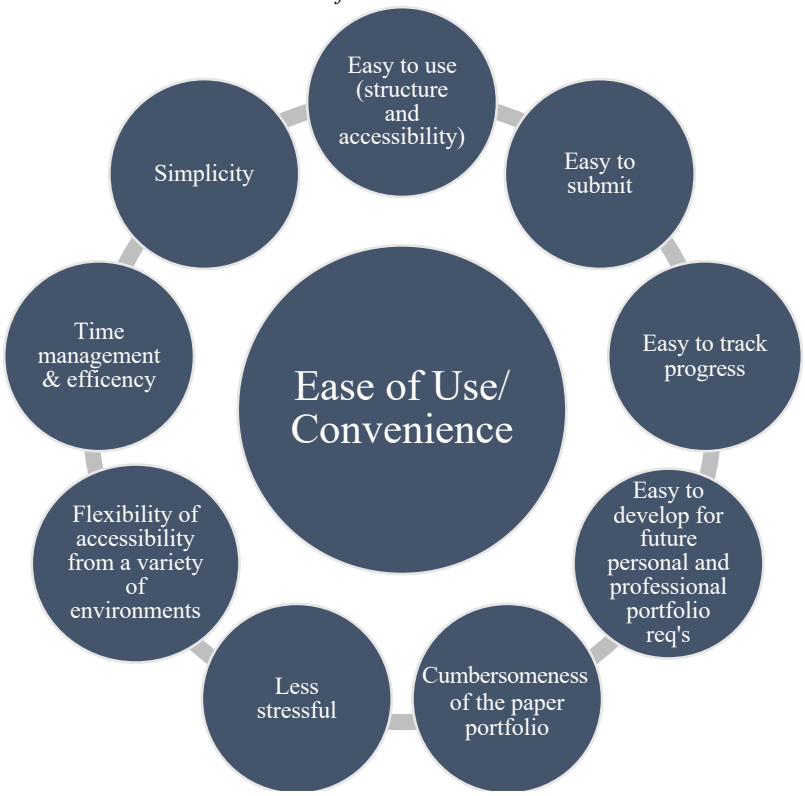

Figure 2
Feedback

Research Findings

Five initial themes were collated from the focus group data. On review, the five initial themes were condensed to four final themes:

- Ease of use/convenience
- Feedback
- Transparency
- Supporting technology

Theme One: Ease of Use/Convenience

Initial analysis identified ease of use and convenience as distinct themes. On re-evaluation, we decided to merge these two themes because there were distinct similarities within the data. Figure 1 shows some of the coded extracts used to evidence this theme.

The theme ease of use/convenience could be identified clearly in the data with virtually every student recognizing an aspect of timely accessibility of an ePortfolio over a paper-based portfolio as relevant to the experience. For example, one student stated,

> I think it was . . . being able to track your progress. I really liked that and not having to come into school and submit it. . . . Not racing around the morning of and submitting it was less stressful.

A second student noted,

> [The] convenience of not having to drive in on the day it was due, to not have not having to drive it into sit to hand it is, it was crazy, the night before it was uploaded and that was it.

Others similarly explained, "There is less room for error I think [all agreed] because you can't lose something, and you don't have to dig around or worry about finding specific pieces of paper" and "You can get to your portfolio however you wanted to, you didn't have to bring the whole thing with you."

Theme Two: Feedback

The concept of feedback was expressed by participants. In particular, they described relevance to the ongoing feedback facilitated through the ePortfolio by the course coordinator whilst students were collating the evidence in a variety of clinical contexts.

The relevance of feedback is of particular note in this situation, as evidence was collected by students on placement, often with limited contact with the course coordinator. As such, the ePortfolio in this context worked very much as the collection of evidence would do in an on-the-job training scenario. The participants also acknowledged that receiving a prompt notification in the form of an e-mail from the ePortfolio platform was of great benefit. They found it reassuring and comforting that the academic work they were submitting could be viewed throughout the nine-week clinical course, and that the institute's academic staff were aware of their progress in the clinical environment.

Figure 2 summarizes the participant's comments, which identified that ePortfolios helped them in several ways. One student stated, "To get the comments back the next day [yeah] . . . yes, I am on the right track with what I am doing." Another noted, "So easy to be able to upload, and I really like the feedback. . . . Oh, it was cool to get that feedback throughout and I didn't have to carry around a big folder!" A third student described other positive features like, "Comments like 'excellent' throughout, you are progressing well. [I] loved the 'like' button, it is like a Facebook like, it is a like button."

Theme Three: Transparency

The theme of transparency was identified in relation to participants acknowledging that they found that the ePortfolio assisted them in being able to "see" their portfolio effortlessly. The value to the students of timely access and navigation came through in the focus groups (see Figure 3). In addition, the structure of the portfolio and being able to track progress toward completion was also seen as of importance.

The concept of transparency aligns with the "visual" concept of ePortfolios. The transparency of the ePortfolios transcended to what was available on the screen due to the structure and tracking capabilities of an ePortfolio platform in comparison to paper-based alternatives. For example, students explained, (a) "It was nice to see 4/4 completed and 14/14 completed"; (b) "It was nice to see it was all there, to see the portfolio being structured and filled in and having a look through it and looking through it and having it uploaded was quite nice"; and, (c) "It was really easy . . . to keep track on what I have done and what I needed to do and upload."

Theme Four: Supporting Technology

The final theme that emerged from the data was the reliance all participants placed on supporting technology during their ePortfolio experience. Figure 4 identifies the codes from within the data. Examples of supporting technology included the use of software such as CamScanner or Fast Scan to capture ePortfolio evidence; however, the data demonstrated that this need to engage technological support went further than

Figure 3
Transparency

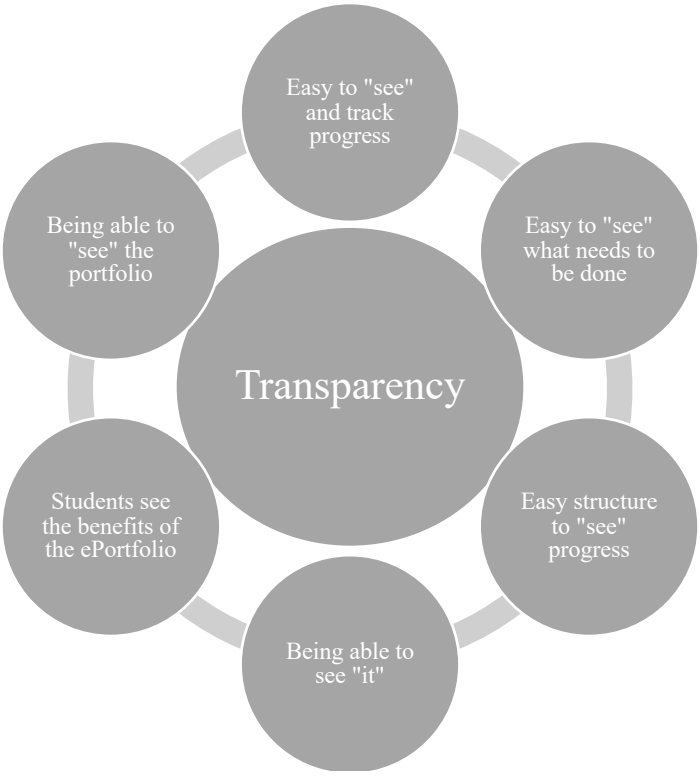

Figure 4
Supporting Technology

evidence capture in terms of the need for technology assistance in editing and collating evidence when compiling the ePortfolio. Of the 10 participants in the trial, five identified scanning technology on their mobile devices, one used a scanner at home, and the remaining four used a scanner in the institution's library. Several students explained, (a) "I could just take a photo and use CamScanner"; (b) "I have a scanner at home, but I didn't have to come to the library"; and, (c) "You just take photos of the documents on your phone and it converts it to the PDF and you upload it from there."

The nature of the assessment used with this ePortfolio required a portion of documentation signed or written by their registered nurse preceptor who was based in the clinical environment. This was the commonly cited requirement for the use of supporting technology. It is noteworthy that while the students did identify the need for supporting technology to fulfill the requirements of the ePortfolio, this collectively was not seen as a negative experience when using the ePortfolios.

Discussion

The most apparent finding to emerge from the analysis of these data is that ePortfolios "worked" from the students' perspective, due to the themes identified as ease of use, feedback, transparency, and supporting technology when using ePortfolios.

This research has found that the use of ePortfolios work favorably for students due to the ability to collate evidence in a versatile electronic mode through ePortfolios that is not provided by paper-based portfolios. The ease of use, feedback, transparency, and supporting technology facilitated through ePortfolios created a powerful and flexible tool for students to integrate both academic and practical work. Furthermore, the ability of final year nursing students to transition from paper-based to ePortfolio production sets a precedent for the integration of ePortfolios into the workplace.

The findings from this study are consistent with that of Beckers et al. (2016); Eynon et al. (2014); Garrett, MacPhee, and Jackson (2013); O'Keeffe and Donnelly (2013), Riden and Buckley (2016); and Williams et al. (2008). Participants reinforced the added value that ePortfolios bring to their studies. These results corroborate ideas from Hadjerrouit (2010), who suggested "that web-based learning offers more potential learning than that considered by traditional resources, such as textbooks in terms of potential capabilities, as ePortfolio users demonstrate the ability to collaborate, provide feedback, demonstrate interactivity and flexibility" (p. 59). This added value of ePortfolios was represented in this study by the four themes. Participants involved in this study positively favored and preferred the concept of ePortfolios in order to receive prompt feedback

The perspectives from this study reinforce findings by Fawns and McKenzie (2010) and Rhodes (2011), who observed the convenience of the ePortfolio concept. Their work suggested that ePortfolio assessments allow for the assembling and documentation of a student's individual journey in an electronic platform, which offers a compelling, multipurpose, convenient, and transferrable podium that aids in the expansion and synthesis of clinical judgement and academic knowledge. This study goes further by adding a nursing student perspective to that of the educator's opinion.

An explanation as to why ePortfolios could be considered easier to use than paper-based alternatives could be found in the consideration that while paper-based portfolios can include a similar structure to that provided by the ePortfolio, due to the nature of online layout and the hierarchy of menus used to navigate to the evidence, ePortfolios can be perceived by users as easier to use or more convenient for accessing the evidence. This premise is supported by Green et al. (2013), who recognized from students the advantage of ePortfolios as an assessment method is due to the fact ePortfolios provide an online visual, easily maneuverable structure that permits students to present and submit assessment material in an interactive, personalized, and flexible environment.

In this study, there was an overwhelming preference for ePortfolios versus paper-based portfolios due to the inherent flexibility, convenience, and the ability to receive quick feedback on academic work. The focus group sessions indicated that the participants collectively identified that there was significant value in receiving quick feedback. It is important to note that the ePortfolio platform we utilized provided notification to students in the form of e-mails when work had been viewed and/or commented on, aiding in the facilitation of quick dissemination of feedback. Prior studies relating to ePortfolios have also noted the importance of the ability to receive and deliver quick feedback (Collins & Crawley, 2016; Green et al., 2013; Hadjerrouit, 2010); however, this feature is not easily integrated into paper-based portfolios feedback.

An important finding from this research was that the participants disclosed that by using ePortfolios, the learning experience became visible in its unique ability to be creative and interactive. Secondly, the ePortfolio design allowed them to accept more ownership of their assessment material, and it became more meaningful due to its flexibility and ability to collaborate with

fellow students. This finding is consistent with the literature (Butler, 2006; Eynon et al., 2014; Hadjerrouit, 2010; Richards-Schuster, Ruffolo, Nicoll, Distelrath, & Galura, 2014), and the consideration of this perspective of meaningful assessment should not be lost in terms of the encouragement of lifelong learning.

Previous commentary has identified concerns about the ability of participants to adapt from paper-based to ePortfolio submissions during undergraduate education (Williams et al., 2008), which are not supported by this study. Although students preferred the concept of ePortfolios as a mode of assessment, one unexpected finding was how reliant the students were on additional supporting technology to successfully use the ePortfolio platform within the academic portfolio requirements of the course. While the participants in this study expressed a need for supporting technology when submitting via ePortfolio, they still confidently believed that—even though the ePortfolio platform is not specifically designed for the academic requirements of the nursing course—by using supporting technology to assist with their ePortfolio, there were noteworthy advantages in comparison to a paper-based submission. This finding will help draw the attention of other ePortfolio users to consider the implementation of free applications to aid in the smooth transition of uploading documents to ePortfolios from smart devices, thus minimizing reliance on additional technology.

Limitations

It must be acknowledged that each ePortfolio platform is unique, just as each student perspective is unique. The recruitment of only 10 participants and use of a single ePortfolio platform in conjunction with specific needs of a final year nursing course are undoubtedly very specific and may differ substantially from larger student cohort perspectives on ePortfolios. It is therefore unreasonable to assume that all ePortfolio platforms would be able to identically replicate the experiences of students in this study; however, the themes from this study could transcend topics, platforms, and assessment environments. Thus, the limitations of this study are acknowledged, but we consider that the findings are still transferable.

Conclusion

This study shows a preference of final year nursing students for ePortfolios over paper-based portfolios due to the ease of use, feedback, and transparency associated with the electronic submission. These themes are not unknown in the provision of ePortfolio; however, their representation from a student's perspective is a novel addition to the literature.

A key recommendation from this study is the consideration of supporting technologies when implementing ePortfolios, particularly when evidence may still need collation from a paper-based form, as is the case in nursing education. Further research should be explored that measures learner outcomes and learner experience. Overall, the learners enjoyed using an ePortfolio in this course and saw value in the use of ePortfolios regarding their life-long learning journey. As a result of this research, the tertiary institute has implemented ePortfolios in all undergraduate and postgraduate nursing qualifications and an additional longitudinal study examining the value of ePortfolios is currently being completed.

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Training University Teachers on the Use of the ePortfolio in Teaching and Assessment

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Higher education is increasingly called upon to respond to the need for educational innovations promoting graduate employability and lifelong learning (European Higher Education Area, 2012, 2015). To achieve this, students must progressively become able to reflect both on their learning and their potential to improve and plan their own educational and professional development accordingly (D'Andrea & Gosling, 2005). The portfolio, now used in many university courses worldwide, is a tool that contributes to responding to these needs. A study of literature on this subject indicates that the portfolio's effectiveness during the teaching-learning and assessment processes is dependent on the ability of teachers to master this tool. It follows that, in order to facilitate the effective implementation and use of the portfolio in universities, teachers need to receive suitable training. This paper presents the characteristics and results of a training course on the use of the portfolio. The course was part of an extensive training project for university teachers in the University of Turin's IRIDI program that was aimed at promoting the improvement and innovation of university teaching. The results of the training course show a higher level of competency in creating a portfolio, and a higher level of willingness to introduce it into teaching.

Literature Review

As is already well known, the portfolio first appeared in the field of art, where it is used to put together a collection of a student's best works and to showcase the goals reached by professionals in their field. Using this concept as a starting point, in education, the term *portfolio* indicates the systematic collection (in paper or digital format) of documents that record a student's learning experience. This collection must be accompanied by an explanation of the connections between the chosen documents, and between the documents and the purposes for which the portfolio has been created, as well as reflections on the academic and/or professional development documented (Giovannini & Moretti, 2010).

In the context of university education, the portfolio makes it possible for us to observe a student's learning experiences as a whole rather than as fragmented pieces, as often occurs (Carson, Greenhill Hannum, & Dehen, 2018). The elements of reflection within the portfolio contributes to determining the added value that the use of this tool offers to the future graduate's learning process (McDonald, 2012). In this regard, the definition proposed by Alvarez and Moxley (2004) is particularly incisive: the portfolio is simultaneously "a process, a product and a tool" (p. 92). This indicates the educational value of the construction process (process), the effectiveness of highlighting outcomes achieved by those who construct it (product), and, at the same time, its ability to become a virtual or tangible place (tool) in which the process and product are visible, making it possible to compare with expected goals.

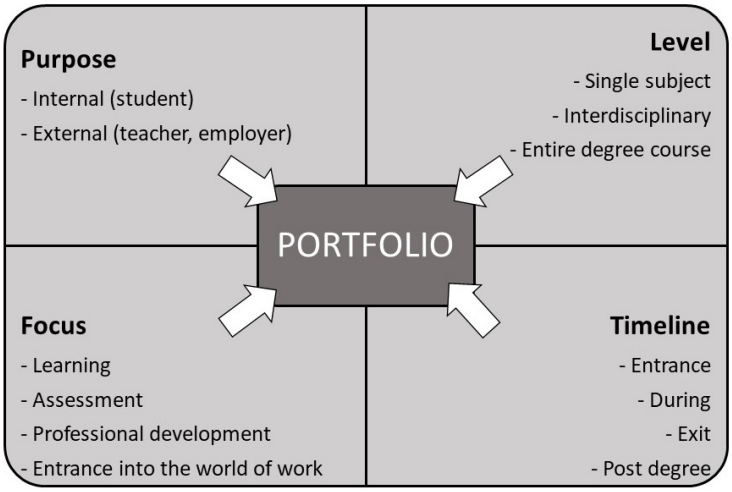
The portfolio's potential as a tool has increased with the transition from the paper portfolio to the ePortfolio. In the latter, the experiences included in the portfolio can be stratified more easily and can vary in format (e.g., written texts, images, videos, multimedia products). The ePortfolio can also be shared faster with other subjects (e.g., in a targeted manner, according to specific purposes, the situation and the recipients; Beckers, Dolmans, & van Merriënboer, 2016; O'Sullivan et al., 2012).

Types of Portfolios

The portfolio is therefore a flexible tool that performs different functions according to the purposes for which it is used. This makes it difficult to give it an unequivocal definition. Indeed, different nomenclatures are used to describe different types of portfolios in the various educational contexts, even if they are used for the same purposes, or, vice versa, the same nomenclature can refer to different objectives (Meeus, van Petegen, & van Looy, 2006).

For this reason, various classifications have been drawn up and disseminated worldwide. It is worthy to mention the classifications proposed by Smith and Tillema (2003), which are referred to in the most recent literature and described by Meeus et al. (2006) with specific reference to university education. These classifications have been employed to underpin the model proposed in relation to the specific context of Italian universities. Said model has been used as a theoretical basis for the training of university professors in the research path presented in this paper. The model identifies four main elements,

Figure 1
Classification of Portfolios and ePortfolios in Universities



which, when combined, determine the form, structure, and contents of the portfolio (Figure 1):

- the internal (the student) or external (teacher, tutor, potential employer) purpose;
- the focus with which the portfolio is created (learning, professional development, assessment, entry into the world of work);
- the level of complexity of the process that the portfolio describes: the development process of the expected goals in a single subject, or of the interdisciplinary goals in multiple subjects, or the synthesis of the experiences and skills gained during a degree course, possibly integrated with others acquired externally;
- the stage of the process under examination: initial orientation or recognition of incoming credits, the university process, leaving the course, starting a job.

Depending on the interaction and relative importance of these elements, the portfolio will require evaluation of different materials and highlight different aspects of the student's profile.

For example, a learning portfolio constructed for a single subject upon request of a teacher will contain completed assignments, supplemented with the student's reflections and any changes and improvements made based on the teacher's feedback, thus contributing to the process of building a specific set of skills. It can be used in summative assessment as evidence of the achievement of a set goal. A professional development portfolio, on the other hand, will document practical experiences and highlight the links between them and the theoretical aspects addressed in the courses. It will also contain the training professional's reflections on the strengths demonstrated, critical aspects encountered, and future development projects. It will be subject to subsequent updates to be presented to potential employers.

Research on Portfolio in Universities

The lines of research on the use of the portfolio in universities converge on three main questions: (a) the effects of the use of the portfolio on learning and the factors that support it, (b) assessment using the portfolio (process) and of the portfolio (result), and (c) critical aspects related to the use of this tool in teaching. As detailed next, all studies consider the role of the teacher as crucial to the educational effectiveness of the portfolio, its continued use, and its widespread use in universities (Eynon & Gambino, 2018; Yancey, 2019). This highlights the absolute need for effective continuing professional development training for teachers and tutors directed at favoring the correct implementation of the portfolio. We therefore briefly examine the three issues outlined previously in order to highlight the most important elements relating to teacher training.

Portfolio and meaningful learning. We recognize that it is not always possible to isolate the effects of the use of the portfolio on student learning, because this tool is often associated with other accompanying initiatives (e.g., freshman courses on study methods) or introduced in the context of a more general renewal of teaching (Bryant & Chittum, 2013). Nevertheless, the educational value of the portfolio is widely recognized.

The Association of American Colleges and Universities has recently indicated the portfolio as a high-impact practice for the effectiveness of university teaching (Watson, Kuh, Rhodes, Light, & Chen, 2016).

In general, research and empirical evidence on the portfolio show that, if properly used, it can help increase students' academic success and support the development of meaningful learning. Portfolio can also facilitate the development of soft skills and metacognitive skills. Students who use a portfolio tend to attain higher marks than their peers, as well as pass a higher number of exams with lower failure rates (Eynon, Gambino, & Török, 2014). There are many reasons for this positive effect. The development of a portfolio requires the student to make connections between the elements learned, including at an interdisciplinary and extracurricular level. It stimulates students to identify how and with which materials to document and present their achievements to others, and to explain the reasons for the choices they have made (Bryant & Chittum, 2013). Portfolio therefore promotes the active construction of knowledge and competence, the ability to organize and self-regulate learning and reflect on the results achieved, and self-assessment skills. These elements contribute to the development of deep learning, which has positive effects on academic results (Chittum, 2018; Eynon & Gambino, 2018; Hubert & Lewis, 2014; Qvortrup & Keiding, 2015).

It has been shown that this tool is also effective in promoting soft skills: students learn to communicate effectively, to collaborate, to participate in the community, and to use technologies (Yancey, 2019). Furthermore, the constant reflection required to create the portfolio has a bearing on the development of more specific metacognitive skills. Indeed, the structure of the contents of the portfolio not only requires students to learn a subject but also to consciously carry out and explain the processes necessary for this purpose while monitoring, evaluating, controlling, and changing said processes, and providing their rationale for the choices made (Janosik & Frank, 2013). Nevertheless, although said metacognitive skills also emerge spontaneously (Bokser et al., 2016), a student's ability to reflect needs to be suitably sustained (Landis, Scott, & Kahn, 2015).

Hence, the mere creation of a portfolio does not suffice for students to be able to benefit from the stimuli that the tool naturally offers to develop their metacognition. Rather, this potential must be made explicit and teachers need to guide development by proposing a structure to follow, by posing questions that students need to answer, and by providing targeted ongoing feedback (Bryant & Chittum, 2013; Buyarski & Landis, 2014).

Portfolio and assessment. The portfolio is recognized as a useful tool for the authentic assessment of students. In fact, by making the learning process and the goals achieved visible, complex aspects that are not always sufficiently appreciated with more traditional assessment tools can be evaluated (Buyarski & Landis, 2014).

The portfolio is also an effective educational assessment tool, not only for the student but also for the teacher and the institution itself. This is determined by the tool's unusual characteristics (e.g., a combination of assignments and reflections), which permit both the student and teacher to monitor progress, highlighting how expected outcomes are (or are not) obtained (Hubert & Lewis, 2014), while also promoting continuous improvement by the student, thanks also to feedback from teachers and peers. These elements are also an opportunity for organizational improvement; in fact, they provide indications for reflection on the aspects that need to be perfected in teaching a subject or in the curriculum (Buyarski & Landis, 2014).

However, the use of portfolios in assessment poses docimological problems related to the validity and reliability of the results obtained, especially when it is used for summative evaluation or certification purposes (Van der Schaaf & Stokking, 2008; Kelly-Riley, Elliot, & Rudniy, 2016). To respond to the critical issues raised, recent studies have recognized that the use of appropriately constructed and validated rubrics is a useful support to guarantee reliability, validity, and fairness in the assessment of students' products, especially when shared within the degree courses and with students (Buyarski & Landis, 2014; Kelly-Riley et al., 2016; Marshall, Mills Duffy, Powell & Bartlett, 2017). This again highlights the importance of targeted teacher training on the use of the tool and its implications.

Critical aspects in the use of ePortfolios and success factors. A few critical aspects of portfolio implementation are highlighted in literature, which can reduce the positive effects or limit the willingness of teachers and students to use the tool. They are mainly linked to (a) the ability of the subjects involved to use the tool and (b) the supports and technological skills necessary to manage digital portfolios.

With regard to the ability of the subjects involved to use the tool, research suggests that one of the main obstacles to introducing the portfolio is a lack of clarity on the tool's purposes and functions (e.g., Thibodeaux, Cummings, & Harapnuik, 2017). The negative attitude of students towards the portfolio is at times simply due to the teachers' own difficulty in understanding it; teachers may be unable to help students understand the methods of use and its potential, assist with its construction, or manage feedback. In fact, it is to be considered that, given the recent introduction of portfolios in university teaching, much of the research carried out on this subject has focused on experience where the teachers themselves were using this tool for the first time, and were therefore inexperienced

themselves both from an educational and technological point of view (Bryant & Chittum, 2013).

Among the main predictive factors for the successful introduction of portfolios in teaching, the following have been specifically identified:

- the teacher's experience in using the tool, the effective use of the portfolio in assessment, and the low number of students per course (Contreras-Higuera, Martínez-Olmo, Rubio-Hortado, & Vilà-Baños, 2016);
- transparency in the tool's purposes, the possibility of relying on formative and continuous feedback, and the degree to which students are autonomous in constructing the tool (Thibodeaux et al., 2017); and
- the convergence of teacher and student expectations (Scholz, Tse, & Lithgow, 2017).

In regard to technological issues, there are three types of factors:

- attitude towards technologies that affects the willingness to use the tool and the perception of its effectiveness (Deneen, Lumsden Brown, & Carles, 2018);
- the digital skills of teachers and students, and the availability of technical support (Clark & Eynon, 2009; Kelly-Riley et al., 2016); and
- the technical characteristics of ePortfolio management platforms, which are not always adequate for effective use nor constructed to adapt to the specific needs of the context or to permit students to organize their own documentation (Collins & O'Brien, 2018; Hains-Wesson, Wakeling, & Aldred, 2014; Janosik & Frank, 2013).

Implications for the professional development of teachers. A review of international literature on ePortfolios and the empirical research conducted suggest that the introduction of portfolios to university teaching would be valuable. As we have seen, the measures necessary to ensure that students benefit from the aforementioned advantages of using the portfolio involve changes in teaching. Precisely for this reason, we maintain that the introduction of this tool would promote the professional development of teachers and, consequently, require organizational change within universities towards more student-centered teaching (Eynon et al., 2014; Van Scoy, Fallucca, Harrison & Camp, 2018).

In fact, several have provided useful indications to potentially enable a more effective and efficient use of ePortfolios in the academic field authors (Beckers et al., 2016; Contreras-Higuera et al., 2016; Eynon & Gambino, 2018; Franco, dos Santos Franco, Pestana, Severo, & Ferreira, 2016; Yancey, 2019). Said indications are summarized next.

- With regard to curriculum:
  - inclusion of portfolios in routine teaching and
  - attribution of actual importance of portfolios in formative and summative evaluation.
- With regard to the tool:
  - accurate design of the portfolio structure, which avoids leaving out areas of competence and makes the work to be carried out clear (e.g., by providing examples or models) while maintaining a certain flexibility of use; and
  - presence of spaces or sections dedicated to reflections by the student.
- With regard to students:
  - formulation of clear objectives and clarification of how portfolios are constructed and evaluation criteria,
  - ongoing supervision and feedback from tutors or teachers and periodic review of progress by students,
  - scaffolding to increase motivation,
  - adequacy of the amount of work required, and
  - continuous technical support.
- With regard to teachers/tutors:
  - acquisition of skills regarding ePortfolio creation (consistent with the indications listed in the previous points) and of knowledge on the technical characteristics of digital implementation.

These brief considerations on the conditions that can promote a positive attitude towards the ePortfolio and willingness to use it—by both students and teachers—highlight a general and important aspect: the need for adequate training on the use of the tool from an educational-evaluative and technical point of view (Eynon & Gambino, 2016, 2018). Such training should be aimed at ensuring that teachers perceive the usefulness of portfolios, implement appropriate strategies to construct portfolios, assist students in the development process, and providing constant feedback (Beckers et al., 2016). An interesting experience in this regard is the one described in the research by Getman-Eraso and Culkin (2018).

Professional development activities to support teachers who intend to use the portfolio in their subject or throughout the degree course are therefore essential for the tool's implementation and integration**.** Using the panorama described previously as a starting point, we

present a training experience on the use of portfolios in university teaching and the results achieved.

Method

Context

This research falls within the broader framework of a research training program for university teachers that was started at the University of Turin during the academic year 2017-18. The IRIDI (Educational Research Incubator for the Innovation) program is aimed at promoting the improvement of university teaching and identifying effective interventions in the light of international research (IRIDI, n.d.). The scientific foundations, an analytical description of the course, and the overall results can be found in a recently published book (Coggi, 2019b).

The IRIDI training course was divided into 10 modules of three hours each with a final eight-hour workshop. The training modules were designed to promote certain fundamental skills for university teachers: (a) design teaching around course goals and students' initial skills, (b) implement learning-centered teaching, (c) make a plan for competence-based teaching, (d) obtain good classroom performance, (e) use new technologies in teaching, (f) create valid and reliable assessment tools, (g) adopt formative evaluation strategies, (h) use the ePortfolio, (i) develop students' soft skills, (j) promote inclusive teaching, and (k) plan a flipped classroom. The module titled "The Portfolio in Skill Development and Assessment Processes"—to which this contribution refers—examined the tool, highlighting the different types, purposes, and construction strategies. The module also took an in-depth look at the portfolio's role in the teaching-learning process and in formative and summative evaluation.

Each module included the presentation of a specific topic that was connected to the above-listed skills, detailed theoretical studies (e.g., models, theories, research results on the subject in question), included critical reflections and collective discussion, and proposed individual distance work aimed at exploring opportunities for change and innovation in the everyday teaching activities of the participating teachers (Coggi, 2019a). Each of the 10 modules included exercises and in-depth studies with the creation of a *teaching ePortfolio* (Bruschi & Torre, 2018), through which participants received individual feedback on their activities. During the course, participants were given overall feedback on the work done and development opportunities were discussed. In the final workshop, participants presented individual and group reflections and research on the innovations implemented (Coggi, 2019a).

Study Sample

The first edition of the course was attended voluntarily by 50 teachers belonging to 23 of the University of Turin's 27 departments. They were selected based on certain heterogeneous criteria (gender, age, years of experience, academic career, disciplinary field) in order to promote the exchange of experience between the participants and the institutional impact as much as possible. The final sample was characterized by a slight prevalence of women (58%), a mean age of 48 years (SD = 7.31), a good level of experience in teaching (M = 14.42, SD = 7.4 years), and a prevalence of teachers from scientific fields (70%). In any case, there was a good measure of variability, such as first-year teaching staff and teachers at the end of their career and adequate representation of the various courses at the University (Coggi, 2019a). A total of 48 participants completed the course.

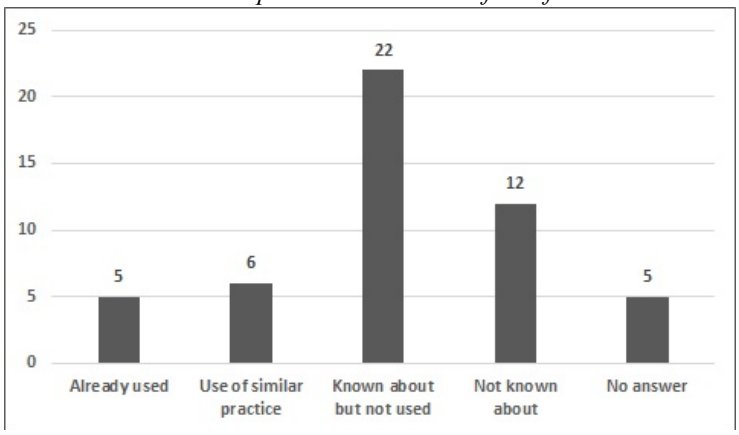
With specific attention to the previous experience in the use of portfolios in teaching, the initial survey shows the inadequate diffusion of portfolio use: only five of the participants had already used the tool in their teaching (n = 2) or throughout the degree course (n = 3, all taught the same course). Another six participants (all in scientific fields) affirmed that they asked students to produce materials and exercises that were collected and, in some cases, used for the purposes of exams, while acknowledging that they had never organized such requests in a framework that can be considered a portfolio. Finally, most of the participants (n = 34) declared that they had never used the tool and, in some cases (n = 12), did not know how to or that their first experience with one was during the IRIDI course, when they were asked to compile a personal portfolio (Figure 2).

Outcome Measures

The effectiveness of the IRIDI program was assessed through various tools: (a) a questionnaire and a self-assessment rating scale for the initial identification of the participants' experiences and beliefs, (b) a brief preliminary questionnaire for each module to examine the participants' previous knowledge on the specific contents of the course, and (c) a final survey aimed at verifying changes produced by the course.

For the module on portfolios in particular, the participants' knowledge of the tool, previous experience, and opinions on its introduction in teaching and assessment were initially examined. At the end of the classroom activities, the teachers were given an exercise on designing a portfolio. This made it possible to detect changes in the participants' knowledge of the tool, their understanding of the strategies of use, and their willingness to introduce it into their teaching practices, adapting it to the specific needs of the course.

Figure 2
Previous Experience in the Use of Portfolios



The final results showed the transfer of the proposed applications into the participants' teaching. To this end, it was possible to refer to the overall questionnaire proposed at the end of the training activities and final workshop of the IRIDI course, during which the participants presented a few proposals, also concerning the use of the ePortfolio.

Results

Initial Survey

Perception of portfolios. Portfolios were mainly thought to be a kind of archive of students' works and linked to a single subject. In some cases, reference was made to the possibility of the tool documenting students' knowledge and skill-building processes. Only in one case was explicit reference made to the fact that portfolios can help students gain awareness of achieved outcomes. In two cases, the use of a portfolio was perceived as a link to the working world.

Portfolios and assessment. Only a few teachers (*n* = 7) associated portfolios with assessment. Again, it was regarded as an archive of the outcomes achieved by the students in intermediate assessments. Some participants perceived the possibility that its use was able to provide additional information and assessment elements with respect to traditional exams, and that it could promote self-assessment by students. For those who already used the portfolio in their teaching, it was regarded as a starting point for oral exams.

Benefits and critical aspects. The teachers recognized in general that portfolios provided added value since they enabled students' progress to be documented, especially in advanced courses and in courses spread over several semesters, or for evaluation strategies based on exercises and reports produced by the students during their course. Portfolios were also recognized as being useful to promote coherence between the teaching provided and the skills expected on the outside, as it implies shared systematization and clarification of expected goals (this is the case for courses with very clear and defined exit profiles), or, in the case of courses with more fluid and diversified career opportunities, allowing students to present themselves more transparently and highlighting their strengths.

Portfolios did not seem to be particularly applicable in basic courses or in courses with a large number of students. Finally, the participants recognized that when the digital form was used, teachers needed to master technologies as well as the tool itself. These reservations echo those already highlighted in the literature (Clark & Eynon, 2009; Kelly-Riley et al., 2016; Deneen et al., 2018).

Final Survey

At the end of the module, participants were given the opportunity to do an exercise consisting of the design or revision of a portfolio for a single subject or an entire degree course. For this purpose, they were given a worksheet containing the essential elements that needed to be explained (Table 1). Qualitative analysis of completed products makes it possible to identity elements that reflect the short-term effect of the training received, with particular reference to the ability to design the tool and willingness to use it in teaching.

Of the 48 participants who completed the course, 39 carried out the exercise, uniformly distributed across all the represented disciplinary areas. The proposals were distributed across all levels of education (bachelor's degrees, master's degrees, doctoral degrees). Out of these, 33 of the participants designed a portfolio from scratch whereas six reviewed an existing one (Table 2).

Table 1
Proposed Exercise

Assignment: Design or revise a portfolio

• Type of portfolio chosen
• Reference subject or degree course
• Expected goals/exit profile
  o Some examples to contextualize
• Documentation methods
  o Briefly describe the products, how you plan to develop any reflections, possible assessment or self-assessment tools, etc., and explain your choices
• Strategies for using the portfolio in assessment
• Reflections on possible critical aspects identified or envisaged in the use of the planned portfolio and on the possible solutions that have been or will be adopted

Table 2
Characteristics of Portfolios Designed

	Portfolio ex novo	Portfolio revision	Total
Single subject	29	3	32
Degree course	4	3	7
Total	32	6	39

In 32 cases, the proposal was for a single subject and seven were for an entire course. Of those seven cases, three of the participants taught in courses where a portfolio was already used to document the students' entire educational path, and four hypothesized the introduction of the tool in areas where it was not used.

Next, we describe the characteristics of the portfolios presented by topic, highlighting their strengths and weaknesses and providing some examples chosen in order to give an idea of the variety of subjects involved.

Documentation of the learning process. Overall, the course participants proposed, articulated, and justified original methods for documenting the students' learning process, consistent with the goals set for the reference subject. For example, one participant proposed the following:

> Schematic diagram (by hand or in power point) of the internal structure of a chloroplast. Subsequent comparison with an example model for self-correction. Choice of a video (internet search) considered suitable to explain the mechanism of photosynthesis, with the student's comments on the strengths and weaknesses. The student's arguments on the influence of climate change on photosynthesis. (Biology and Plant Diversity Teacher)

In some cases, like the following, an initial recognition of prerequisites was expected.

> Self-assessment test. Two ongoing tests (as a simulation of the exam), one on historical knowledge and the other on skills in exegesis and communicating history starting from a source, with self-assessment based on criteria given by the teacher. Self-produced video on a detailed topic of the course, with reflections on the effectiveness and limits of the student's elaboration process and presentation attached. Logbook in which to note reflections raised during lectures and ongoing tests, with an assessment of the completed course compared to the starting point. (Greek History Teacher)

The level of complexity of the requests and the framework that linked the assignments given to the students varied. In the following example, the materials required for the documentation took the progressive development of students' skills into account:

> *Activity 1 (evaluation of incoming skills): My linguistic biography and motivations.* Linguistic autobiography, text or diagram, and a questionnaire on your individual profile as a Language student (motivation and entry skills). *Activity 2 (phonetic competence)* 1. The student records a sample reading of a chosen text and are then given a written diagnosis of the reading and suggestions for exercises to improve imperfections. 2. The student uploads a report of the observations made during the session and documents how he/she performed the exercises. 3. The student uploads the second

> reading of the text (together with the first one). Followed by feedback from the tutor. *Activity 3:* Written analysis of the morphological characteristics (verb and name) of German in a level A2 text. Teacher's feedback. *Activity 4:* Written analysis of word formation processes in a level A2 text. Teacher's feedback. *Activity 5:* Written analysis of sentences based on the model of the type of sentence. Teacher's feedback. (German Teacher)

In some cases, like the following, particular attention is paid to ensuring that the portfolio allows the student to observe their progress, consequently motivating their learning:

> Students must produce a "Field Notebook" in which they describe in detail the morphological characteristics of the different species being studied, and which includes their drawings, original photographs and any dried plants. The field notebook must provide detailed information and be easy for other students in the laboratory to read. Students are required to draw the plants they observe. About halfway through the course, I ask them to compare their first drawings with their latest ones: there is almost always a very clear improvement in all of them, and it seems to me that this motivates them a lot. (Laboratory for the Identification and Phenology of Cultivated Plants and Pests Teacher)

Portfolios are also used to document practical experience and encourage reflection on links to the theory. Portfolios thereby become a useful support for the professional development process. For example, one participant noted:

> In the portfolio, the student noted the pathologies detected in the various visits made (at least 10 different pathologies), noting the clinician's behavior during semeiotic, diagnostic and therapeutic processes. Before the exam, the student compares what he/she has seen at the clinic with that learned in class, and discusses (in the portfolio) how the clinician works with respect to what he/she has been taught, trying to note differences and similarities, in a critical and responsible manner. (Oral Medicine Teacher)

An important element that recurs in some of the proposals is interdisciplinarity: while the comprehensive portfolio for the entire degree course is not contemplated, it is proposed that students construct a product that integrates several subjects. About this, one trainee proposed, "Write an interdisciplinary project that concerns at least three of the courses attended in the first semester" (Advanced Cell Biology and Biotechnology Teacher).

Ideas that include peer-to-peer file sharing at different levels are also interesting, ranging from peer assessment to a group portfolio that is useful to cooperative learning. For example, one participant proposed:

> Collaborative annotation of a text: after having read and commented on some texts in the classroom, the teacher uploads them to a text annotation platform (e.g., Google Docs) and the students, divided into groups, must then annotate them independently. Each group deals with a different aspect (structural, linguistic, stylistic, thematic . . .). (Romanian Literature Teacher)

Similarly, another participant wrote:

> The student is asked to collect photographs of dogs and cats, and, for each subject, speculate on the corresponding genotype at the main loci involved, based on the coat color. The data collected is subsequently shared with the whole class. Then, using all the observations gathered, the allelic and genotypic frequencies for the entire sample are calculated and it is verified whether the population is balanced. Finally, students write a personal reflection, formulating hypotheses on the mechanisms of evolutionary changes taking place in the observed population. (Applied Animal Genetics Teacher)

The participants' assignments rarely require students to reflect on both their achievements ("What I learned") and their knowledge construction and learning development process ("How I learned"), which is an aspect that the literature highlights as being a characteristic element of the portfolio and useful for the development of metacognition. The following proposal is focused on metacognitive aspects:

> We propose a conclusive "narration" of the work carried out, in which the students are asked to describe the analysis, design and development process they experimented with for a selection of created products, and to make a presentation that highlights the relationships between the different stages of the process and the critical aspects, and explains the solutions to the critical cruxes. The ideal student will not do everything in this assignment perfectly (because it is not possible!) but is aware of the difficulties he/she has encountered, strengths and weaknesses, and of the reasons why it was difficult to meet certain quality criteria. To offer support to students for this activity, you could provide a series of questions

> which the narration must in some way answer. (Software Development Laboratory Teacher)

Strategies for using portfolios in assessment. The portfolios presented are rich with references to continuous and formative evaluation, and contain a variety of points-of-view: in addition to the teacher's feedback, they propose the use of self-assessment (guided by criteria provided upstream and shared) and peer assessment, thereby enriching the student's opportunities for reflection and improvement. For example, one trainee proposed diversified feedback:

> (a) Compilation of a paper or electronic prescription for a veterinary medicinal product. The prescription is written and printed, and its accuracy is discussed collectively as a group exercise (peer assessment). (b) Use of software for autonomously compiling a report on an adverse reaction or decreased effectiveness of a veterinary medicinal product. The document is sent to the regional Pharmacovigilance Centre, which in turn sends personalized feedback to each student. (c) Short written report on the choice of medicine based on the indications / case provided by the teacher. Critical discussion of the choice made (group exercise). Feedback from the teacher. (Veterinary Pharmacology Teacher)

Another participant suggested self-assessment:

> I leave some rather complex questions on the platform, the answers to which require some knowledge of my course topics and those of parallel courses, and the integration of information from both. I ask students to write their answers after about 10 hours of lessons - and towards the end of the course, I ask them to answer the same questions again. I do not want them to look at or change the answers they gave previously. This will be the subject of a self-assessment. (Developmental Biology Teacher)

Others proposed peer-assessment. One participant wrote, “In addition to a ‘laboratory notebook,’ the students prepare a presentation of a scientific article, and then discuss it in class. The presentation is usually followed by a general discussion to highlight strengths and weaknesses” (Laboratory of Cell Biology and Pathology Teacher). Similarly, another participant proposed, “Reading of a scientific article on a historical linguistic topic and the compilation of a reading form. Peer feedback (each student reads another student’s form and makes annotations)” (German Teacher).

With regard to formative vs. summative assessment, some participants fear that the use of the portfolio during the exam limits its intrinsic motivational and educational value. For example, one participant noted:

> So far, I have used these activities to promote learning without the assessment contributing directly to the final assessment. I prefer to insist on the fact that the activities help students understand the topics, freeing them from only having to do them to get a mark. (Advanced Molecular Biology Teacher)

Similarly, another participant wrote:

> At the moment a specific evaluation is not given, the purpose of the analysis of the products being making the student understand what could be improved. Due to how I am currently using it in this subject, I wonder if it should actually be part of the assessment. (Laboratory for the Identification and Phenology of Cultivated Plants and Pests Teacher)

Others believed that the tool could be the starting point for conducting the final exam, thereby reducing the importance and complexity of the oral examination. Some teachers suggested that the portfolio should only be used in individual cases where there are elements of uncertainty. For instance, one participant wrote, “It would be possible to use the portfolio as a tool for formative assessment, and reduce the coursework actually discussed during the final oral examination of the course” (Romanian Literature Teacher). Another stated, “After a structured written test on the coursework, I would use the portfolio to verify individual borderline assessments” (Biology and Plant Diversity Teacher).

In the event that the course included group activities (e.g., project presentations), the portfolio being discussed during the oral examination was also seen as an opportunity to distinguish the individual contribution of each student. For example, one participant wrote:

> Currently the presentation of the final projects is guided by the teacher. This means that discussions about the projects are very similar to each other and makes it difficult to assess. Furthermore, since the project is presented by a group, I cannot always be completely sure that there are no differences between the various components. Using the portfolio, I would still ask questions about the aspects that I consider critical, but I would also consider the students’ ability to assess their strengths and weaknesses. (Software Development Laboratory Teacher)

Critical aspects identified in the adoption of the portfolio. The critical aspects that the participants associate with the adoption of the portfolio reflect those highlighted by the literature. There are teacher-centered reservations about the amount of time needed to manage the tool, the difficulty of providing adequate feedback to everyone, an elevated number of students, and the need for adequate teacher training. For example, one trainee identified critical aspects concerning the teacher:

> The critical aspect regards the high number of students in the class each year (about 250) and therefore the impossibility of a targeted revision, also due in terms to the amount of time available. It would be difficult to even offer everyone one piece of feedback on the work handed in. We could ask the students which product they would like to be assessed. (Italian Linguistics Teacher)

Similarly, another wrote, "Institution-wide teacher training is needed, implemented by the universities themselves. Teachers, in fact, show a certain resistance towards topics regarding teaching, which is less promoted than research in career progression."

Another set of concerns regarded the students: difficulty in involving them, the need to adjust the overall workload required, and the risk of penalizing students who are already in difficulty. For example, one participant identified critical aspects concerning the student: "Convincing students of the usefulness of the portfolio as a formative assessment tool: keeping up with the portfolio activities requires time and energy that not all students are willing to invest" (Romanian Teacher). Similarly, another wrote, "The students have many other courses asides from mine. It is necessary to clarify the commitment required from the start, and to limit the activities to a reasonable number" (European Union Law Teacher).

Likewise, another participant noted:

> The time spent on project discussions is longer; the students' workload increases; people with difficulties in expressing themselves (not only those with learning disabilities) could be penalized. For the latter you could allow alternative report formats, such as a recorded video presentation. (Software Development Laboratory Teacher)

Finally, some critical aspects related to technology were mentioned, like in the following example:

> The adoption of the portfolio requires the adaptation of material currently available on Moodle and the development of new materials (for example, video capsules for feedback . . .), therefore planning and implementing it all requires competence, composure and time. Then there is the problem of students who are moving from other courses, since they do not have access to Moodle due to problems concerning university credentials, and therefore have to find different solutions. (Analysis of Experimental Data Teacher)

Transfer

The final questionnaire and the contents of the presentations given during the final workshop made it possible for us to analyze the teachers' willingness to use the portfolio in their teaching and assessment activities (transfer of acquired skills). At the end of the course, the participating teachers broadened the range of assessment tools introduced during their courses and foresaw using them according to the principles of formative evaluation. Some of the proposed tools (e.g., self and hetero-assessment rubrics, diversification of information sources that contribute to the final assessment) can be a useful part of a student's portfolio. In the case shown next (in the humanities field), explicit reference was in fact made to the portfolio being introduced into a specific subject:

> I introduced the "study portfolio," a different written exam method from the one I have been using for some years now; the portfolio allows the student to write down the knowledge acquired during the lessons (with sections that must be updated weekly), integrating them with individual research. The composition of the portfolio is more gradual, controlled and progressive, but requires the student's constant commitment, and an even greater commitment from the teacher to correct it. Compared to a traditional written test, I believe that there are already interesting results—and useful to the student—during the construction process, as it requires the use of skills (preparation of a word file, bibliographic research, academic writing) which are beneficial in themselves, including separately to the final assessment; however, it can only be used by a limited number of students for each course, due to the feedback required from the teacher.

The intended method of use referred to the same principles, highlighting benefits, limitations, and possibilities of adaptation even in contexts where there is a high number of students.

Of the 46 teachers who answered the final questionnaire, 26 stated that finding general assessment methods for the course they taught was useful. Seventeen of these identified a student skills portfolio (mostly digital) as a strategy able to document different learning experiences, highlight acquired skills, constitute an

element of the final assessment to complement the thesis discussion, and become a tool for graduates to present themselves in the world of work. Of particular interest is the proposal made by one participant (in the scientific field), which again reflected the philosophy of the portfolio, appropriately contextualizing it in the specificities of university courses:

> I am referring to a five-year degree course, which in the fourth year offers the choice of three different curricula. This is when the student should start creating his/her portfolio, through the development of a document or multimedia product, compiled in order to motivate the choice of curriculum (and increase awareness). The last part of the student's career will in fact all be based on the creation of a professional profile and an extremely personalized study path. Since this choice will naturally be based on achieving an informed choice, the portfolio will be the ideal tool to accompany the student on this path, allowing him/her to create a tool with which to be assessed by both the degree examination board and the professional world.

The final workshop also enabled us to gain an understanding as to whether and how much the portfolio training experience stimulated participants to reflect on the potential use of this tool teaching and evaluation. Twelve groups presented the introduced innovations, starting from the input provided by the IRIDI course. Of these, half referred to the portfolio and presented its use at different levels (e.g., single subject, degree course, department). The variety of disciplinary areas represented in the presentations should be noted. In the initial survey, on the other hand, the teachers who claimed to use or be familiar with the tool were mainly limited to those from the scientific field.

Discussion

We conducted this research in a context in which the use of portfolios was still significantly limited. Furthermore, the training module was shorter than other courses directed at building portfolio literacy (e.g., Eynon & Gambino, 2018). This was in part due to the organization of the module within a university teaching training course.

Overall, analysis of the exercises carried out by the participants shows the persistence of a few critical aspects. These could be resolved when implementing the tool through progressive support from teachers who have already completed the training module. Some teachers continued to perceive the portfolio as something that contains products rather than a framework for understanding the learning path. In some cases, a student's reflection on his or her own learning process was not adequately nurtured, which in actual fact is one of the characterizing elements of the tool, especially with reference to a single subject and the progressive construction of knowledge.

In general, however, the proposals included various articulated documentation methods, which often required students to genuinely commit themselves to reaching a certain learning goal or to demonstrate that they have already reached the goal. Other particularly interesting aspects were the interdisciplinarity and the push towards peer-to-peer file sharing and comparison. Much attention is given to the feedback that should be provided, whether it be directly from the teacher, during self-assessment or from peers. Furthermore, it is evident that there was an adequate problematization of the use of the portfolio in assessment and of the workload that the tool required from the students and the teacher. As is also underlined in literature, the portfolio proposals from the participants required a more student-centered approach to teaching, albeit implicitly. Said proposals were consistent with the elements of effectiveness of use of the tool found in a lot of present-day experience reported in recent literature on the subject (e.g., Eynon & Gambino, 2018; Yancey, 2019).

The statements in the final questionnaire and the proposals for innovation presented at the final workshop, show an increased level of willingness to use the tool across the disciplinary fields. The results of the module dedicated to the portfolio in the IRIDI course therefore show how theme-based training—contextualized in a systematic course and focused on changes in teaching that are consistent with the aims of the tool—made it easier for teachers to understand its functions and potential, thereby increasing their willingness to consider introducing it into their teaching.

In this study, we examined the outcomes of a training module on portfolios, which was organized as part of a pilot university teaching and evaluation teacher training course. This context, together with the number of participants and the structure of the specific task on portfolios, prompted us to favor a qualitative analysis of the products and the participants' answers to questionnaires at the beginning and end of the course. Subsequent research developments, which will take into account further editions of the course and will be able to count on a numerically larger sample, will allow for more analytical assessments, including quantitative assessments.

The level of the participants' knowledge of the tool at the beginning of the course and their experience using it was low and homogeneous in general within the sample. The organization of the research did not allow for a control group. Systematic comparisons

between those who attended the course and those who did not can therefore not be drawn. Future research paths could investigate this aspect, examining, for example, the level of adequacy—in relation to the evidence found in literature—of the portfolio structures proposed by teachers who had attended the training course and by those who had not attended it, or potential differences between different subject areas. Further elements of reflection could derive from the analysis of the portfolios produced by the students of the course participants.

The third edition of the IRIDI training course will begin in 2019-20, raising the number of teachers involved to 150. Two other courses aimed at specific study courses (veterinary sciences and law) have also begun in parallel. This will allow further interesting developments in the research, aimed not only at the use of portfolios by a single teacher but also at the adoption of the tool within a course of study. Further insights could derive from the analysis of the effects that the use of the teaching ePortfolio proposed to the teachers attending the course may have on their perception of the educational value of the tool for students.

Conclusions

Portfolios are gaining recognition in universities, in particular for their effectiveness in promoting in-depth learning processes and strategies in students, which are useful for academic success and lifelong learning. To some extent, the introduction of portfolios into single subjects or entire curricula also contributes to moving teaching towards student-centered learning, promoting the use of active strategies supported by diversified media and authentic formative evaluation. There are undoubtedly tangible problems concerning the application of the tool that are linked to several factors such as digital skills, technical rigidity and the increase in workload perceived by teachers and students. These critical aspects can, to some extent, be overcome by providing adequate teacher training.

The structure of the training module on the use of portfolios (e.g., theoretical presentation, illustration of practical examples and solid cases, exercises and feedback) and the outline for the design task presented in this paper can be adapted to a wide range of subjects and has proven to be effective in reinforcing teachers' skills in using portfolios in accordance with the examples found in literature and their willingness to introduce their use in their teaching.

The research presented, even with the limitations highlighted previously, is therefore able to offer ideas for the development of training directed at increasing the knowledge and skills of teachers in the construction of portfolios to be proposed within their teaching or to be implemented within an entire course of studies, thus contributing to increasing portfolio literacy (Yancey, 2019) by teachers and students.

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A Case Study in ePortfolio Implementation: A Department-Wide Perspective

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This case study documents the trials and tribulations over a 3-year span of one academic department in implementing the ePortfolio as a high-impact practice to its undergraduate students. Failures and successes will be introduced with the resulting lessons learned applied to our current efforts. Pivotal instances that allowed the project partners to gain clarity about the design and implementation of an ePortfolio will be expressed to better understand our journey. The root of our collaborative efforts was based on the product versus process conversation around ePortfolios. Once our mindset shifted, we were able to embrace a more student-centered process ePortfolio that is threaded throughout our curriculum and not sporadically addressed as an add-on assignment.

Electronic portfolios (ePortfolios) are rightfully positioned as a high-impact practice in higher education (Watson, Kuh, Rhodes, Penny Light, & Chen, 2016). In fact, over 50% of all colleges and universities in the United States employ some form of an ePortfolio (Jenson & Treuer, 2014). As such, there is a long list of established benefits, to both faculty and students, when ePortfolios are embedded in a course or program. These assertions typically include: (a) an efficient way to organize artifacts, (b) a tool to stimulate reflection, (c) an efficacious way to measure learning, (d) a way to connect curricular and co-curricular experiences, or (e) a timely medium to provide feedback, just to name a few (Egan, Cooper-Ioelu, Spence, & Peterson, 2018; Hager, 2013; Light, Chen, & Ittleson, 2012).

A review of the literature indicates that ePortfolios are often cited as tools of either documentation, reflection, or assessment of curricular and co-curricular learning. For curricular learning, the ePortfolio is linked to a particular academic program, course, or assignment, and in some instances a combination thereof (Buente et al., 2015; Cheng, 2008; Emmett, Harper, & Hauville, 2005; Light et al., 2012; O'Keeffe & Donnelly, 2013). In other ways, ePortfolios are used by co-curricular entities on campus—such as student affairs—to highlight and document informal learning and have a decidedly career readiness focus (Chen & Light, 2010; Light et al., 2012).

As it relates to the ePortfolio for curricular learning, Yancey (2019) underscored that there is a continuum of integration into the teaching and learning system. In particular, on one end, if the ePortfolio simply represents student learning and does not itself promote learning, it acts more like a "wrapper" or a show-case. Conversely, on the opposite end, if the ePortfolio development itself stimulated student learning, in addition to the content and experiences of the course, then it serves more as a "curriculum." Regardless, where the ePortfolio lands on this continuum is found squarely within the reach of either a faculty member or the academic program in which it is housed. Consequently, the way the ePortfolio is implemented in the overall curriculum, a course, or within a particular assignment will impact its landing spot on the continuum.

Additionally, the way in which ePortfolios are understood and used as a high-impact practice varies greatly (Barrett, 2005; Jenson & Treuer, 2014). Along with not agreeing on a universal definition, it is also not clear how intentionally adopters of the ePortfolio take into account the end-user perspective, the student. This is compounded by the fact that ePortfolios are, obviously, technology-based and driven. Therefore, given the ever-present nature of technology in each aspect of student lives, one could argue the best informer of ePortfolio usage and the stakeholder best positioned to inform educators about ePortfolio best practices should be the student. Parkes, Dredger, and Hicks (2013) highlighted this quite clearly when they shifted the ePortfolio paradigm from the classic compilation of artifacts to one where students were empowered to select artifacts to include and then after this choice, and the students were asked to express why they chose what they did and how it fits into their current and future "selves." On the contrary, if the student voice and choice is ignored, one could argue that with so many technology options for information, education, and entertainment, the ePortfolio can easily get lost in the mosaic of student daily living and, thus, students will not embrace the ePortfolio.

Taken together, the lack of a common definition and the scant formal attention paid to the student perspective, there are, unsurprisingly, varying degrees of success in implementing the ePortfolio (Endacott et al., 2005). This lack of consensus and contextual clarity heavily affects the extent to which educators invest time in learning about ePortfolios. As a result, faculty could be hesitant or even impervious to installing an ePortfolio into a course they teach or a program in which they are faculty. As important, the sustainability of ePortfolios through the necessarily rigorous scholarship of common practices becomes questionable when there are no common practices to study.

In a simplistic—albeit powerful—sense, much of the current dialogue on ePortfolios centers on whether

this educational tool is best used to aid the *process* of learning versus being used as a tool to document the *product* of learning. This was echoed by Matthews-DeNatale (2019), who suggested the most important next step to move the ePortfolio along the continuum toward the goal of curriculum is how to reconceptualize it from a noun (product) to a verb (process). This paper explores one department's journey in doing just that. This case-study will reveal the development and implementation of a department-wide ePortfolio project, going from product (noun) to process (verb) while factoring in both student and faculty perspectives.

Context

The faculty colleagues on this project work at a doctoral, high research activity institution prominently known for being community-engaged and is located in a large metropolitan area in the Midwest. Our department, the Department of Kinesiology, is one of eight departments housed in the fifth largest school on campus. Furthermore, the department has an undergraduate focus and embeds eight of the generally accepted high-impact practices throughout its curriculum (i.e., first-year seminars and experiences, learning communities, collaborative assignments and projects, undergraduate research, service-learning/community-based learning, internships, capstone courses/projects, and ePortfolios). In fact, our department's tag line is that each student will be engaged *early and often* in a high-impact practice.

While the campus has been active within the ePortfolio space for some time, the department has taken a measured approach in how it uses the ePortfolio. To some extent, both our campus and department emulate the national narrative on ePortfolios. We, both, are varied and slightly unsure about how we define, understand, and implement the ePortfolio. In sum, we are typical.

About three years ago, we came together and discussed the idea of implementing an ePortfolio as a culminating assignment for our majors. This idea was birthed from the work we had been doing previously in assessing our student learning outcomes (SLOs) annually and the campus-level recommendation to use ePortfolios in first-year seminar courses (ePDP or electronic personal development plans). We believed that developing an ePortfolio for student use when applying for internships or a job was a natural extension of our assessment of the teaching and learning process. This project would touch undergraduate majors within the three plans of study in our department (i.e., exercise science, fitness management and personal training, physical education teacher education) and, again, serve as a concluding piece to the students' undergraduate experience. We had visions of our graduates showing their ePortfolios to potential employers as part of the interview process. This was truly an ePortfolio as product mindset.

Strategy and Outcomes

When starting our dialogue on this pilot project, we focused on the campus-endorsed ePortfolio platform (iTaskstream, an externally vended product at the time) as the tool for collection and dissemination. We then built our project around that portal, using the features and prompts that were evident and relatively intuitive for assignments so that students would have an easy time making connections to the assignments and then the ePortfolio platform. Moreover, we had considered ways that the ePortfolio could be linked to social media sites with an employment focus such as LinkedIn. Our intentions were to benefit the student and make this an attractive feature of their learning. As a result, the primary objectives that drove our planning were the following:

- Learn the Taskstream ePortfolio platform,
- develop an ePortfolio framework to enhance career development/readiness for all Kinesiology students,
- create and implement ePortfolio courses and assignments for each Kinesiology major,
- develop assessments tools such as rubrics to evaluate the various ePortfolio assignments, and
- pilot ePortfolio assignments in select courses.

With these outcomes in mind, we developed an action, implementation, and evaluation plan. This plan was mapped out over the next academic year, with each of us filling roles that contributed to the outcomes. Within the first semester of implementation, through the lack of quality in much of their work, it became quickly apparent that the students were not as enthusiastic about this new dimension of their learning as we were. In addition, from the student and faculty perspectives, the vended ePortfolio platform was stilted, cumbersome, and not easy to navigate. In addition, we learned that graduates would have to pay to continue having access to their ePortfolios in Taskstream after they left our campus. To make matters worse, soon after the semester began, the campus announced it was severing ties with the ePortfolio vendor.

In retrospect, it did appear the ePortfolio was an add-on element to each course in which it was introduced and not woven into the fabric of the course. It seemed like "one more thing to do" in the course even though we were using existing assignments as artifacts. This was partly due to a lack of the true benefits for students of utilizing ePortfolios and lack of well-crafted reflection prompts for students. Without a doubt, the proper context for student buy-in was missing. Admittedly, we set our students up to fail, which they fully embraced. As a result, we pumped the brakes and hit pause on this pilot project.

We then took then next academic year to learn why we failed. We dedicated ourselves to various professional development opportunities on and off campus to ensure we had a more mature understanding of the ePortfolio. From attending conferences, speaking with campus experts, being involved with an ePortfolio pilot in the learning community program on campus, and the reading of many articles, we came to conclude that we did not, in fact, have a solid grasp on the national and international dialogue on ePortfolios. Therefore, our cursory knowledge prevented a successful launch.

When we regrouped to determine our next steps, there was certainly a preliminary conversation about whether or not we should even try this again. Yet, we were committed as we knew that, with small changes, our program-level implementation would truly reflect a high-impact practice. In fact, we could each point to one profound example where we gained clarity during our year hiatus. First, there was an experience from an international conference where the product versus process dialogue was in full view. This was transformational to us. Early on, we thought the only and best option was for the ePortfolio to be used as an object to aid in the job search, a product, if you will. We had not conceived the notion that the process or the journey was as important as the destination. Moreover, we now understood we should allow students both a voice and choice in this process for a chance of buy-in. This voice and choice began with their ability to decide on the technology they would adopt to tell their story via an ePortfolio.

One team member was involved in an ePortfolio project through the university's learning community program. As a part of that involvement, she reviewed ePortfolios from a variety of learning communities across campus. As part of the review, the Integrative and Applied Learning VALUE (Valid Assessment of Learning in Undergraduate Education) rubric from AAC&U (2009) was used to assess the level of integration in the ePortfolios.

This experience exposed her, and ultimately her team, to a deeper understanding of integrative learning. The process of reviewing ePortfolios from across campus was enlightening in that it exposed her to the range in quality of ePortfolios from the campus. This highlighted our strengths and weaknesses and gave us a local gauge by which to judge the quality of our own ePortfolio project. One of the weakest areas of our ePortfolio at the first-year level was the depth of integrative reflection. While this might be due in part to the students' academic level, we realized that it was mostly due to a lack of quality, well-written reflection prompts. At the first-year level especially, we need to explicitly guide students to integrate their learning and experiences from various courses. Our thought moving forward was to be sure we allowed students to not only decide on the artifact of learning or experience to highlight but also the freedom to decide which technology they wanted to use to best share their academic journey.

Now that we have established that the platform used is actually irrelevant and that the process (documentation and reflection) is as important as the product (camera-ready tool), we can meet the students where they are in their academic career. Our two overarching goals now are to have students (a) articulate what it means to be a young professional and (b) engage in self-reflection for personal growth over their lifetime. Therefore, our project outcomes are to

- implement reflective ePortfolio assignments for all majors in the Department of Kinesiology,
- provide a central space for students to highlight and reflect on course assignments/projects and extracurricular activities,
- teach students the importance of self-reflection by emphasizing the process of becoming a young professional, and
- instill important skills for ongoing professional growth and self-reflection that students will utilize as reflective practitioners in their future careers.

Implementation Challenges

For instructors with little or no experience with ePortfolios, the challenge of implementation within a course can seem daunting. Instructors may be deterred from adopting ePortfolios because they do not understand the positive impact of ePortfolios, the logistics involved, and have a lack of understanding about the available assessment options. Although strongly committed, some of these concerns were present within our team of faculty as well. After analyzing and reflecting on two semesters of implementation of an ePortfolio in a large (N = >100 students) undergraduate introduction course, the following insight was harvested from the instructor.

Initial implementation missteps included:

- Assuming students are proficient with the technical aspect of platforms used to create the ePortfolio,
- not having several diverse and detailed examples for students to use as a resource,
- not dedicating enough time in class for students to develop the ePortfolio,
- not providing a clear conduit for student feedback prior to completion, and
- not providing enough feedback for the students during the process.

Through student feedback and analysis of objective outcomes, the following recommendations are suggested:

- Be clear in translating what an ePortfolio is and how it may benefit the student.
- Give students several platforms from which to choose.
- Define terms such as artifact, tab, navigation, and reflection, and provide examples of each.
- Utilize prompts to promote reflection and help bridge the connection between assignments and projects, curricular and life experiences, and learning (see Appendix A for sample prompts).
- Provide detailed and diverse examples along with specific feedback on how the instructor is assessing the ePortfolio (see Appendix B for a sample rubric).
- Ask for student feedback and perspectives early in the process.
- Focus on helping students understand what it means to be a reflective practitioner and how it may enrich their academic and professional journeys.

From this instructor's perspective, several resources were paramount in helping with implementation. For example, campus and school assistance with professional development funding made it possible to attend conferences focused on ePortfolios and assessment. This provided insight and limited the concerns over the previously mentioned barriers. Campus resources with expertise in ePortfolios and high-impact practices were supportive in assisting with feedback and guidance throughout the process. The team of faculty colleagues involved with implementation were integral in providing assistance with logistics and technical support. Finally, the examples and feedback shared by students who have both struggled and prospered from the process of creating and developing their ePortfolios were an invaluable asset in the implementation.

Recommended Steps Toward Maturity

Throughout the next year, our team will continue implementing our department-wide ePortfolio for all Kinesiology majors. Specifically, students will begin their ePortfolio during the first semester of freshman year and add key assignments and reflections at each level, culminating with a capstone experience during the senior year. This reflective ePortfolio will serve as a central location for our students to highlight meaningful and impactful learning experiences, while exploring the process of personal and professional development via guided- and self-reflection. Students will use the ePortfolio as a visual representation of their personal journey to professionalism. The ultimate goal of this project is to offer a venue for our students to illustrate various experiences inside and outside of the curriculum that have shaped them into the professionals they have become by the end of their studies.

Our team is committed to ongoing local and national/international professional development. On our campus, the ePortfolio leadership has moved from the Office of Academic Affairs to our newly formed Institute for Engaged Learning (IEL) to be housed with other high-impact practice programs. This strategic move will allow for more faculty and student input into ePortfolio implementation campus-wide. At the campus level, one team member will participate in a course design institute co-sponsored by our Center for Teaching and Learning and the IEL with the purpose of creating well-written, directed reflection prompts for our first-year level ePortfolio project. These improved writing prompts early in the students' ePortfolio experience will lead to deeper, more meaningful, and integrative reflections from the beginning of their ePortfolio journey. Hopefully, this will make the entire program-wide ePortfolio process richer and more meaningful for our students.

Conclusion

Summing up, our three-year journey has taught us important lessons about successful implementation of a department-wide ePortfolio plan. While well intended, we were very premature in our implementation. Undoubtedly, we focused too heavily on the ePortfolio as a product and not enough on the process. Furthermore, we ascribed to the notion that we knew best the type of technology our students would want their professional journey and narrative to be located on, overlooking the student voice and choice. Taken together, these two views proved to be serious blows to the fruitful launching of our ePortfolio project. Currently, after a year-long and high-fidelity approach to professional development, we are optimistic in our efforts to stand up our ePortfolio project. Our primary goals, now, are aligned with more of the generally accepted outcomes of (a) facilitating our students into reflective practitioners and (b) promoting lifelong learning.

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Appendix A
Sample Reflection Prompts

1. Personal Summary: This should be a detailed description of who you are. Reflect on two to three life experiences that have shaped you into the person you are today. Include things such as mentors and/or important milestones/markers in your life. *(100-level first-year seminar course)*
2. Major and Career Goals: Describe your major and any minors or certificates, and reflect on why you chose your major. Explain your career goals and reflect on why they are meaningful to you. *(200-level intro to exercise science course)*
3. Teaching Philosophy: Give a detailed summary of your individual teaching philosophy as it relates to your values and beliefs. This should highlight your specific methods of teaching and should include a specific example of how you apply your philosophy in the classroom. Other areas to consider include your interactions with students, how you assess learning, and continued professional growth. Be sure to cite references if applicable. *(100-level history and principles of physical education course)*
4. My Involvement and Impact: This should be a meta-reflection of your overall experience in college. Think back on your meaningful experiences; first, describe the experience and then reflect on how it helped shape you into the professional you are today. *(400-level capstone course)*

Appendix B
Sample Rubric

100-Level First-Year Seminar Course

Criteria	Needs Work (0-5 points)	Developing (6-8 points)	Excellent (9-10 points)
ePortfolio Design and Navigation Navigation menu should contain the following tabs: (1) *Home/About Me,* *(2) Significant Learning Experiences*	☐ No design ☐ Missing tabs ☐ Not easily navigated ☐ Broken links ☐ Pages look messy and cluttered ☐ Not all content is public	☐ Design and& navigation are good, but lack creativity ☐ Pages are bland and/or inconsistent in design	☐ Student has used creativity with the ePortfolio design ☐ Easily navigated ☐ Pages have relevant photo/digital elements (i.e., artifacts) in relation to written content
Criteria	**Needs Work (0-11 points)**	**Developing (12-17 points)**	**Excellent (18-20 points)**
Home/About Me Offers a "welcome" to audiences. Includes an introduction by offering some highlights of the student's background and interests, and other information of their choosing.	☐ No/not enough content ☐ Insufficient introduction to the student's background, interests, etc. ☐ No photos/graphical elements	☐ Sufficient content ☐ Sufficient introduction to the student's background, interests, etc. ☐ Appropriate photos/digital elements (i.e., artifacts)	☐ Engaging content ☐ Well developed introduction to the student's background, interests, etc. ☐ Engaging photos/graphical elements
Criteria	**Needs Work (0-11 points)**	**Developing (12-17 points)**	**Excellent (18-20 points)**
Significant Learning Experiences Showcases student experiences supported by artifacts and reflections. Experiences should include: *(1) Monumental Marathon Service Learning, (2) Insta-Tweets, and (3) at least one additional experience.*	☐ Missing summary for one or more experiences ☐ Missing artifacts for one or more experiences ☐ Missing reflection for one or more experiences	☐ Experiences summaries and artifacts are present but not fully showcased and integrated ☐ Reflections are present but not in-depth	☐ Summaries are concise and well written ☐ Experiences are showcased effectively using a variety of artifacts ☐ Reflection is apparent and in-depth