The 6A ePortfolio Model: Professionalizing Learning in Higher Education

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In this article, the researchers propose a student-centered, six-step model for implementation in higher education to transform learning ePortfolios into career ePortfolios. Using the integrative literature review as a research methodology, this article surveys peer-reviewed articles of ePortfolios with the goals of contributing to knowledge regarding career ePortfolios and creating an implementation model for campus-wide adoption by students, faculty, and administrators. This article then presents an overview of strategies that all individuals in higher education can take to transform learning ePortfolios into career ePortfolios as students complete their degrees and initiate their job search.

Research finds that use of ePortfolios leads to increased academic performance and deepened intellectual engagement (Ring et al., 2017). In addition, the use of ePortfolios in the classroom can be connected to active learning and high-impact practices (Nagle et al., 2019). A benefit of ePortfolios is the focus on processes instead of single deliverables, a manifestation of shifts in higher education exemplified by ePortfolios (Slepcevic-Zach & Stock, 2018). Because ePortfolios allow students a medium through which to ascertain and manage what they know, socially-networked ePortfolios are effective at fostering goal setting and learning strategies, corroborating that ePortfolio experiences engage individuals' ability to learn and acquire skills (Alexiou & Paraskeva, 2020). Given these benefits, ePortfolios provide an effective strategy to foster professional development (Coric Samardzija & Balaban, 2014).

ePortfolios have a unique capacity to measure professionalism, assess professional development, and juxtapose students' progress against professional criteria over time (Whitney et al., 2021). Furthermore, they permit the assessment of professional development after graduation and throughout alumni's careers (Watty & McKay, 2015). In addition, research has demonstrated that students find ePortfolios valuable for job seeking (Wakimoto & Lewis, 2019) and career advancement (Cieselkiwicz, 2019). Regardless of perceived benefits, the adoption and implementation of ePortfolios in higher education has historically faced several challenges (Deneen et al., 2018). One of the most prominent challenges is for students to provide a clear distinction between learning or assessment ePortfolios and career ePortfolios and how an ePortfolio can be used for career success and advancement purposes (Boulton, 2014; Tzeng & Chen, 2012). For this reason, the researchers of this study argue for the need of a model that not only demonstrates the clear distinction between learning and career ePortfolios but also how career ePortfolios can be used as career success tools after adaptation of learning ePortfolios. In this study, we aspire to provide higher education institutions with a model for programmatic implementation of ePortfolios that bridges learning and career readiness and success. Evidence of the lack of this type of research (Clayson, 2019) motivates this study and proposed model for implementation. Even though relevant work about career ePortfolios is found in the literature (Coric Samardzija & Balaban, 2014; Rowley & Dunbar-Hall, 2015), there is still a need to expand the knowledge about this type of ePortfolio given that many employers are still unfamiliar with them (Leahy & Filiatrault, 2017; Tzeng & Chen, 2012).

The model presented in this paper also specifies the types of skills and levels of mastery that students who follow it can gain. These findings are aligned with research that promotes the use of ePortfolios in instruction given their impact on students' learning and growth (Ring et al., 2017). Recognizing evidence of correlation between grades and job performance (Walton et al., 2015), this model might help researchers identify factors that influence students' success in securing employment. Made possible by the model, such study is feasible given the longitudinal nature of students' transition from student to professional.

For this study, the overarching research question is: What process can students follow to professionalize their learning and adapt learning ePortfolios into career ePortfolios?

Literature Review

Types of ePortfolios

Given the lack of clarity that some students have about the types and purposes of ePortfolios (Tzeng & Chen, 2012), it is important to establish a clear distinction between the three types of ePortfolios: learning, assessment, and career ePortfolios. The learning ePortfolio is used at the course level as part of the curriculum of a student and includes a reflection process as well as a focus on the learning process (Coric Samardzija & Balaban, 2014; Fuller, 2017; Mihret et al., 2017). On the other hand, assessment ePortfolios are used at the program level and require the

demonstration of specific criteria or competencies (Garrett et al., 2013; Harver et al., 2019; Moon-Kwon Jun et al., 2007). Finally, career ePortfolios are used to showcase knowledge, skills, and abilities to potential employers in the job application process and for overall career success and identity (Bennet & Robertson, 2015; Nino, 2018; Ring et al., 2017).

ePortfolio Models and Frameworks

Existing ePortfolio implementation models and frameworks have focused on learning ePortfolios (Alexiou & Paraskeva, 2020; Mazlan et al., 2015; Roberts, 2018) and assessment ePortfolios (Kelly-Riley et al., 2016; Ring, 2015). Shin (2013) proposed an ePortfolio framework for research and assessment purposes, whose goal is to collect data from learners about specific tasks over periods of time. Other frameworks and models have added components of personal development, integrative learning, and reflections (Buyarski et al., 2015; Chen & Penny Light, 2010). ePortfolio frameworks have also been used to study and foster student growth through reflective practice (Pitts & Ruggirello, 2012).

In some instances, ePortfolio frameworks have been developed for curricular learning purposes, but their goal is to promote lifelong learning skills (Jones & Leverenz, 2017). Furthermore, models for measuring the success of ePortfolio programs at the student level have also been created (Balaban et al., 2013). Eynon et al. (2017) created the Catalyst Framework, which is focused on ePortfolios as a high-impact practice that promotes student success, making learning visible, and learner-centered institutional change. Based on this framework, Pitts and Lehner-Quam (2019) developed the ePortfolio Social Pedagogy Ecosystem, which allows learners "to document their growth in knowledge practices and dispositions in information literacy" (p. 29).

In addition, other frameworks have been created for campus-wide implementations, focusing on all the resources and stakeholders that need to be involved for successful adoptions at the institution level (Blevins & Brill, 2017). Other ePortfolio implementation models have focused on technology and social media integration, as well as the uses of ePortfolios for employability purposes (Bekri et al., 2013; Jwaifell, 2013). Jwaifell (2013) proposed a model that focused on the use of social media and government websites to use ePortfolios for employability purposes. Similar career ePortfolio frameworks and models have focused on the elements that should be aligned and constructed by student themselves to make learning more effective (Cordie et al., 2019).

Some ePortfolio models have been designed to enhance learning and development activities that are not directly connected to the classroom, such as advising (Ambrose & Ambrose, 2013). Similarly, ePortfolio frameworks have been created for faculty engagement and their purposes for continuous learning that can have an impact on their teaching practices and effectiveness (Ring et al., 2016).

Career ePortfolios

The growth of career ePortfolios has prompted research that connects ePortfolios to impacts such as career readiness (Clayson, 2019) and effective job placement (Lievens, 2014). By developing ePortfolios, students can make strong career connections before entering the workforce, which allows them to prepare, in an effective and timely way, for the job search process (Whitney et al., 2021). In addition, career ePortfolios are widely used by students and even promoted in ePortfolio programs in higher education (Okoro et al., 2011). This is a result of ePortfolios having the potential to connect students to the workplace and prepare them for the realities of the job market (Ciesielkiewicz, 2019). In a study of business education and development graduate students, participants reported they liked the use of ePortfolios for job applications, with 64.5% also claiming that ePortfolio supported their career orientation (Slepcevic-Zach & Stock, 2018). Some studies have pointed out that in some fields, the use of a career ePortfolio is part of the job posting, with several hiring managers considering ePortfolios a valuable tool for recruiting purposes, for gaining broader and more detailed information about candidates, and for selecting them (Ciesielkiewicz, 2019). Moreover, ePortfolios used for career purposes have the ability to develop a sense of career identity in professionals as well as improve their practice (Panos, 2015). This can be connected to the reflection process in which students must engage in when developing an ePortfolio (Boulton, 2014; Wakimoto & Lewis, 2019).

As career ePortfolios are recognized as an effective tool for job applications and to land jobs (Carson et al., 2018), research into the professionalization of learning suggests that a learning ePortfolio can be transformed and customized to make it competitive and effective when applying for jobs (Nino, 2018; Tzeng & Chen, 2012). Ring et al. (2017) found that students with career ePortfolios had superior interviewing skills than those who did not, which provides evidence of the value of ePortfolio for career readiness and success. Furthermore, the use of career ePortfolios can have an impact on promotions and career advancement opportunities (Winberg & Pallitt, 2016). However, others have recognized the lack of formal frameworks to study and evaluate the use of ePortfolios in the workplace (Lievens, 2015).

An important and distinctive aspect of the career ePortfolio is its connection to additional robust

professional development programs (Coric Samardzija & Balaban, 2014; Rowley & Dunbar-Hall, 2015). This indicates that the success of an ePortfolio initiative for career purposes is connected to additional programs and resources that students can be part of during their higher education experience. Evidence of these programs include the creation of courses in digital ePortfolios, which prepare students to develop a strong and professional digital presence that can be evaluated by potential employers (Apostel, 2015).

Methodology

The methodology we used to conduct this study is integrative literature review. As a methodology, "the integrative literature review is a form of research that reviews, critiques, and synthesizes representative literature on a topic in an integrated way such that new frameworks and perspectives on the topic are generated" (Torraco, 2005, p. 356). The design of this integrative review followed Whittemore and Knafl's (2005) five-step process: problem identification, data collection, data evaluation, data analysis, and presentation of results.

Problem Identification

Even though the ePortfolio literature has presented cases of transforming learning ePortfolios into career ePortfolios (Coric Samardzija & Balaban, 2014), there is not a formal model that can guide students through this process and that considers all the resources needed for such transformation. However, existing evidence supports the benefits of adapting ePortfolios for career readiness and success (Korhonen et al., 2020). Moreover, in many instances students do not further develop their ePortfolios in professional settings, leaving their ePortfolios at the learning level (Slepcevic-Zach & Stock, 2018). In other cases, students use learning or assessment ePortfolios for the job application process, which can be detrimental for applicants (Clayson, 2019). For this reason, we identified a need to synthesize the literature and to develop a model that could be used by students at diverse colleges and universities to adapt learning ePortfolios into career ePortfolios. The model can be also used by faculty and administrators interested in promoting career readiness and success in their institutions. For these reasons, an implementation model, based on existing peer-reviewed and empirical evidence, is a suitable solution to this problem (Holt et al., 2016). Such a model has the potential to offer opportunities for replication, evaluation, and scalability.

As part of the problem identification stage, we developed the overarching research question: What process can students follow to professionalize their learning and adapt learning ePortfolios into career ePortfolios?

Data Collection

We utilized the Educational Resource Information Center (ERIC), given its centrality in the study of education (Echenique, 2014), to collect the articles included in this review. Then, we determined keywords for the search based on the scope of the study and the research question. These search terms were as follows: "EPORTFOLIOS," "HIGHER EDUCATION," "CAREER," and "PROFESSIONAL." We narrowed the search by filtering for articles that complied with the following criteria: availability of full text, peer-reviewed journal articles, and articles written in English. Articles that did not meet these criteria were thus excluded. The use of these keywords and filters yielded 91 articles used in the next step of the study: data evaluation.

Data Evaluation

In this step, we ensured that the articles focused on the intended scope of career ePortfolios in higher education. After careful evaluation and reading of the abstracts and major parts of the papers, we selected 24 articles for further consideration and analysis. Articles that were not considered for further study did not meet the criteria presented in the data collection stage.

Data Analysis

Because the goal of this study is to synthesize existing ePortfolio literature and to generate new knowledge in the form of a model, we employed qualitative data analysis methods. Qualitative analysis also is an appropriate method because the heterogeneity of methodologies in the sources collected for this study inhibits their synthesis (Whittemore & Knafl, 2005).

Qualitative data analysis for this study started with open coding of the 24 articles. In this stage, qualitative codes were assigned to any text within the articles that was connected to the research question and then exported to a data collection table. Once completed, we engaged in data comparison to ensure the codes were named consistently and applied accurately. Next, we completed axial coding in which similar codes and those that had commonalities and relationships were grouped into categories. These categories were labeled and further analyzed through a second round of data comparison. In this second iteration, the researchers sought additional and deeper relations, commonalities, possible cause and effect, and accuracy. This process culminated in the creation of themes (Whittemore & Knafl, 2005). Six major themes resulted from the data analysis and became the elements of the model presented in the next section of this paper.

Figure 1
The 6A ePortfolio Model

Presentation of Results

The results of an integrative review, which represent generation of new knowledge, can be presented in several forms, including a research agenda, a taxonomy, metatheory, or alternative models and conceptual frameworks (Torraco, 2005). To present the results of this study, we chose a model with themes that emerged from the analysis. This model will be presented and described in the next section.

Results

The product of this integrative review is a model of steps that students can follow to transform their learning ePortfolios into career ePortfolios within the context of institutional support, guidance, and commitment. Models are a common format to present results in this type of methodology and, in many instances, provide alternatives to existing frameworks (Alagaraja, 2014; Torraco, 2005). We have named this model the 6A ePortfolio Model, embracing six themes that emerged when analyzing data in this study: acceptance, assessment, appraisal, adaptation, application, and alliance. In this model, the first five themes become sequential steps, all undergirded by the sixth and constant theme (alliance), denoting collaboration and partnership between and among students, faculty, institution, alumni, and prospective employers (see Figure 1).

The 6A ePortfolio Model represents a student-centered model and, like existing models in the field, seeks to achieve specific outcomes as described in ePortfolio literature (Buyarski et al., 2015; Roberts, 2018). This model's goal is for students to land jobs because of their career ePortfolios and the skills they gained and documented in the process, which starts with a learning ePortfolio. As discussed in the ePortfolio literature, a career-focused model is valuable because many institutions have received criticism for failing to prepare students for careers (Carson et al., 2018). In addition, recruiters recognize the value and importance of applicants' ePortfolios when applying for jobs (Ambrose & Chen, 2015; Melles et al., 2018).

The following sections in this paper detail each element of the model and strategies relevant to each step as students design and develop their career ePortfolios. This model suggests that ePortfolio programs whose goal is to promote career ePortfolios should start by fostering acceptance toward ePortfolios in general and learning ePortfolios in particular. Rather than implementing career ePortfolios at the outset of students' academic journeys, the model advocates that implementation happen through a process of maturation, growth, and transformation in students (Clayson, 2019; Prokopetz, 2018). The rationale behind such a process-driven implementation acknowledges the complexity of career ePortfolios, which entail intensive growth, reflection, and career readiness, demonstrated through carefully selected and honed artifacts (Cordie et al., 2019). The next sections describe in detail the strategies for implementation in each step of the model.

Acceptance

The process of creating a career ePortfolio should start with students' general acceptance of ePortfolios (Strampel & Lewis, 2016). Even though ePortfolios have gained popularity and are widely used in higher education, evidence reveals that many students and faculty are still unaware of their value (Cordie et al., 2019). This lack of understanding of ePortfolios' value is correlated to high levels of resistance to adopt ePortfolios in courses (Holt et al., 2016). Therefore, this model suggests that the first step toward developing a career ePortfolio is ensuring that students accept and recognize the value and importance of having an ePortfolio, especially for post-baccalaureate purposes, with opportunities for acceptance, creation, and development of ePortfolios in coursework, targeted programming, and/or learning communities. This recommendation aligns with the efficacy of existing ePortfolio programs because of high levels of acceptance by students (Cordie et al., 2019; Okoro et al., 2011).

Although acceptance of ePortfolios in general should be encouraged, this model encourages faculty members to promote the specific impact of ePortfolios in students' career development (Ambrose & Chen, 2015). Making connections between career readiness

and ePortfolio authorship can increase the level of acceptance and adoption in students (Cordie et al., 2019). Connections between assessments and career readiness not only increase acceptance of ePortfolios but also of curricular learning in general (Choate et al., 2019; Okoro et al., 2011).

A highly effective mechanism to promote acceptance by students is training (Ring et al., 2017). Such training should communicate the value of ePortfolios (Strampel & Lewis, 2016) and deliver user-friendly, accessible technology (Hanbridge et al., 2018). Topics in training sessions might include: "(a) what an ePortfolio is; (b) reflective writing exercises, including writing a personal mission statement; (c) targeting an audience; (d) collecting artifacts and ethical literacy; and (e) developing an ePortfolio using Wix or a similar online platform" (Cordie et al., 2019, p. 20), as well as data regarding the relevance of ePortfolio in securing jobs upon graduation and the trend of employers' increasing consideration of ePortfolios in hiring (Ambrose & Chen, 2015; Lievens, 2014).

Another effective strategy to increase acceptance by students is academic planning and advising. First-year students can learn from academic planning and advising experiences about the importance of participation in co- and extracurricular programming and the role it plays in academic and professional success (Carson et al., 2018). When engaging in academic planning and advising, students can be guided in designing and developing career ePortfolios (Ambrose & Ambrose, 2013). A collaboration between career services professionals and faculty can result in a strong program defined by multiple initiatives, such as individual meetings, customized workshops, peer-to-peer interactions, and learning communities (Bennet & Robertson, 2015; Carson et al., 2018; Hanbridge et al., 2018). All these initiatives can increase student acceptance of ePortfolios, especially career ones.

Acceptance and Alliance

Intra- and more-than-institutional alliance is vital in cultivating acceptance. Current students can present and share with each other their ePortfolios in process, thus providing role models of acceptance and practice (Choate et al., 2019; Melles et al., 2018). Similarly, alumni constitute a vital alliance during acceptance (Ambrose & Chen, 2015). Including alumni early in implementation is beneficial because they can advocate for the values of career ePortfolios from personal experience while showcasing their own ePortfolios. Furthermore, alumni can contribute by connecting students to future internships and job placement, thus articulating instrumental validation for students beginning an ePortfolio (Kryder, 2011).

Allies vital to students' acceptance are potential employers because they can inform students about the realities of the job market and the possibilities students can have upon graduation (Cordie et al., 2019; Choate et al., 2019). The 6A ePortfolio Model presupposes that strong connections between curricular learning and the needs and trends of potential employers can positively impact students' success and performance given the relevance they then perceive in courses and assignments—and the relevance that faculty and student support professionals can thus design into their courses and programs. The participation and relevance of employers as allies can translate into increased acceptance of ePortfolios as a pedagogical and professional tool.

Finally, acceptance should also be promoted in faculty members as allies, given that they work directly with students and that implementing ePortfolios in their courses provides curricular opportunities for the creation, expansion, revision, and reflection of ePortfolios (Hanbridge et al., 2018). A key element in the institutional implementation of ePortfolios, even career ePortfolios, is helping faculty understand the pedagogical implications for their courses (Ring et al., 2017). As Bennet and Robertson (2015) stated, "many educators are striving to answer the question of how students might be prepared to negotiate and manage complex work and identity. In our case, we looked to the ePortfolio as part of the solution" (p. 2). To facilitate acceptance and alliance by faculty, this model recommends that faculty receive professional development on transforming traditional assessments into authentic ones aligned with the ePortfolio program (Strampel & Lewis, 2016) and that institutions create sustained, long-term support systems for faculty as they integrate ePortfolios into their courses (Carson et al., 2018). Moreover, advising can be enhanced with ePortfolios (Ambrose & Ambrose, 2013), which can facilitate the process for students and advisors, as well as promote acceptance.

Assessment

After acceptance, the second step in the 6A ePortfolio Model is assessment. For the purposes of this model, this step should not be confused with assessment ePortfolios. An assessment eportfolio is programmatic in nature and used for accreditation or professional development purposes (Moon-Kwon Jun et al., 2007). Assessment, as a step in this model for implementation, encompasses students' creation of learning ePortfolios via coursework, targeted programming, and/or learning communities, in which summative or formative assessment can take place (Carson et al., 2018). The inclusion of assessment as a specific step ensures that students create fully developed learning ePortfolios, not mere repositories

of artifacts and projects, that are able to be further actualized as career ePortfolios (Roberts et al., 2016). This also ensures faculty formally assess knowledge, skills, and abilities in students, which can motivate students as they develop their ePortfolios (Apostel, 2015). Furthermore, this step entails the transference of best practices of course design and assessment in general to the development and implementation of ePortfolios in particular (Shin, 2013). In addition to manifesting best practices in course design, so too must faculty design learning activities and focus their assessment such that their course contributes to students' capacity to develop career ePortfolios out of multiple and diverse curricular, co-curricular, and extracurricular activities (Graves & Epstein, 2011). As with other instructional tools and programs, pedagogy must be the guiding force in an ePortfolio program (Ring et al., 2017). The long-term goal of assessment is to help students authentically demonstrate their mastery of knowledge, skills, and abilities required to enter a professional community through ePortfolios (Cordie et al., 2019; Graves & Epstein, 2011; Strampel & Lewis, 2016).

Designing assessments that connect curricular learning and career readiness—such as asking students to "develop a brand statement to deliver in a recorded 2-minute video" (Graves & Epstein, 2011, p. 393)—can foster authentic learning and improve performance in students (Choate et al., 2019). As assessments are presented to students, faculty members should make clear connections between them and the skills students are practicing and will eventually master (Lewis & Gerbic, 2012). Other types of authentic assessments include design documents and prototypes, project management flowcharts, recorded presentations, digital storytelling and podcasts, papers, infographics, and group projects (Nino, 2018). When possible and relevant, faculty members can design assessments relevant to the job search process, such as the creation of mission statements or the exploration of companies' websites (Cordie et al., 2019). Thanks to the richness of possible assessments, students in ePortfolio programs recognize the value of authentic connection to their emerging and developing professionalism (Lewis & Gerbic, 2012).

On the other hand, faculty can design assessments that help students master specific skills, beyond content knowledge (Graves & Epstein, 2011; Kryder, 2011), or the use of certain technologies (Boulton, 2014). As some studies have demonstrated, students sometimes are unprepared to apply for and land jobs, given that the skills needed for success in these domains are not taught in courses (Lievens, 2014). For this reason, faculty members interested in the development of students' career readiness can contribute to the professional growth of their students through assessments that demonstrate mastery of appropriate and relevant skills (Carson et al., 2018).

Moreover, assignments in this step must make insightful use of reflection, as is standard in the ePortfolio field (Guder, 2013; Roberts, 2018). Because some students do not value engaging in reflections (Strampel & Lewis, 2016), faculty should emphasize strategies that help students understand reflection's relevance and value. For example, thought-provoking prompts for reflection related to pre-professional identity could engage students in evaluating themselves and their career readiness (Melles et al., 2018; Prokopetz, 2018). In addition, faculty members can promote reflection as an effective exercise that prepares students for job interviews, in that they allow them to articulate the importance of their project and the skills they gained in the process (Ring et al., 2017).

As assessment takes place, faculty members should integrate and provide meaningful and constructive feedback (Cordie et al., 2019). Such feedback is extremely important because students tend to prefer their instructors' feedback more than other types (Hanbridge et al., 2018). However, faculty can supplement their feedback with peer assessment, which has also been reported as effective (Alanson & Robles, 2016; Buyarski et al., 2015). For peer feedback, faculty are encouraged to incorporate a rubric for students that guides them toward constructive suggestions (Alanson & Robles, 2016).

Assessment and Alliance

A collaboration between faculty and other campus units, especially career services, is also recommended for the purpose of stimulating significant reflection and providing vital feedback (Ambrose & Chen, 2015). In some instances, career services can connect students and faculty with potential employers, so they also provide evaluation of the artifacts that students produce and could potentially showcase in job applications and interviews (Cordie et al., 2019).

In terms of alliance, faculty members can use assessment examples from previous students' ePortfolios (Ambrose & Chen, 2015). Furthermore, former students can be invited to talk about their experiences being assessed through ePortfolios and the ways they used those assessments later (Melles et al., 2018). Importantly, partnership with campus career services professionals represents an alliance that can be embedded in assessment. Although assessment might not be fully oriented to job seeking at this point, career services can provide actionable advice such that the ePortfolios that soon-to-be alumni use in their job searches are as effective and successful as possible (Cordie et al., 2019). This aspect of alliance is crucial because employers are looking for skills that allow prospective employees not only to enter but also advance in the workforce. Some examples of these

skills are communication, critical thinking, decision making, collaboration, and transfer of knowledge (Hart Research Associates, 2018). For this reason, faculty should use these skills to develop the learning outcomes of their courses and assess students.

Appraisal

After assessment through ePortfolios in their coursework, students are ready to move to the next step of the model, a step that encompasses but transcends the activity of reflection: appraisal. However, this model contends that after assembling, curating, and reflecting on an appropriate number and types of artifacts, the students should engage in a holistic appraisal to evaluate the depth and breadth of their learning to this point, their strengths and weaknesses, their career goals, and the next actions they need to undertake to become career ready (Buyarski & Landis, 2014). For this reason, appraisal might take place months or years after the assessments and their reflections took place. Even though appraisal is a continuous and lengthy process, there is evidence about its effectiveness for students to make strong career connections (Whitney et al., 2021). Alanson and Robles (2016) stated that students' confidence can increase after engaging in an appraisal process. For this reason, appraisal is a critical step in the design and development of career ePortfolios (Lewis & Gerbic, 2012; Melles et al., 2018). At this point, students should fully value and embrace ePortfolios as a tool for career development (Ambrose & Chen, 2015).

Because the appraisal entails self-evaluation in concert with an overall evaluation of academic and career goals, this step might not be guided by a particular faculty member in a specific course (Bennett & Robertson, 2015). Thus, leaders of ePortfolio programs should provide venues and resources for students to engage in self-evaluation in independent and/or co- or extracurricular settings (Graves & Epstein, 2011). Such provisions might take the form of group or individual just-in-time training or consultations, live or recorded presentations, and materials that explain the relevance, forms and mechanisms, and goals of appraisal (Hanbridge et al., 2018). Since the appraisal step represents a longer-term commitment and is iterative in nature (Ring et al., 2017), an ePortfolio program can rely on academic planning or career services units to help as students reflect on and evaluate their learning at that time and the extent to which they are making progress toward accomplishing their career goals (Boulton, 2014; Carson et al., 2018).

In the appraisal step, students are required not only to know themselves, but their career interests and goals as well (Buyarski et al., 2015). With assistance of career services or other professionals working in partnership with the ePortfolio program, students should evaluate their strengths and weaknesses in relationship to their career goals and determine an action plan to close the gap between their status and their career aspirations (Bennett & Robertson, 2015; Buyarski et al., 2015; Rowley & Dunbar-Hall, 2015). Moreover, it is imperative in this step that students reflect on co- or extracurricular activities for their alignment with professional goals (Carson et al., 2018). Such a wealth of evidence of students' academic experiences facilitates the activity of appraisal (Prokopetz, 2018) and thus benefits students because they learn and practice interrogating themselves and the evidence of their work that ePortfolios capture (Bennett & Robinson, 2015; Slepcevic-Zach & Stock, 2018).

Appraisal and Alliance

More important in this step than in prior steps is alliance. The presence of a system of support is even more crucial in that appraisal is more holistic in nature and distinct from any particular course, instructor, or adviser (Ambrose & Chen, 2015). What is more, this step emphasizes self-interrogation and self-evaluation potentially pressurized by anxieties about previous preparation and future professional belonging. At this stage, providing examples of successful ePortfolios, particularly those created by alumni, offers guidance and confidence to students as they plan for their careers (Hanbridge et al., 2018). In addition, alliance with peers via peer-to-peer interaction provides constructive, complementary, and empathetic feedback (Bennet & Robertson, 2015; Prokopetz, 2018). Because students have undertaken a similar process of acceptance and assessment strengthened through reflection in alliance with relevant support, they are well positioned to respond to each other's work. Of further benefit is that, because each student has different experiences and aspirations, they can complement and enhance each other's work (Ambrose & Chen, 2015). Finally, students should educate themselves as much as possible about the realities of the industry they want to join (Lievens, 2014; Weber, 2018). As students identify these realities, they can engage in a holistic appraisal of their strengths and weaknesses at that point of their education and how that can impact their career opportunities. As a result, students can engage in additional activities or programs and seek mentoring opportunities that close the gap between their status and career aspirations.

Adaptation

The next step in the model is adaptation, defined as the transformation of learning ePortfolios through

revision and customization into career ePortfolios relevant to applying, interviewing for, and seeking professional employment upon graduation (Nino, 2018). As the ePortfolio literature describes, a learning ePortfolio is distinct from a career ePortfolio (Yaffe et al., 2016), hence the need to go through an adaptation step. Although this model proposes that students start thinking about career ePortfolios beginning at the stage of acceptance, it is in this step, of adaptation, that students actively revamp and customize their learning ePortfolios (Buyarski & Landis, 2014). Because learning and assessment ePortfolios are designed for academic settings and purposes, they are not effective in professional settings (Clayson, 2019). The adaptation step also is iterative in nature, given that students might have to revise or customize career ePortfolios for each internship or job they seek (Cordie et al., 2019; Graves & Epstein, 2011).

In this step, students make necessary changes to the formatting, appearance, technology, and content of their learning ePortfolios so that they are marketable and attractive to potential employers (Melles et al., 2018). Because research has shown that perceived value and attitudes towards technology play a role in adoption (Tzeng, 2011), it is recommended that students have access to multiple technology options that meet their specific needs and that are user friendly for their skillset. At this point, the selection of technology should be as personal as possible and depending on the student's preferences, level of comfort, and perceived value (Korhonen et al., 2020).

Even though reflections are an essential part of the learning ePortfolio, they might be too lengthy, personal, or recondite for a career ePortfolio. For this reason, they should be excised and/or edited such that they conform to the expectations of hiring managers, teams, and screening software. In addition, students in the adaptation step also engage in showcasing activities and building their digital identity (Carson et al., 2018; Ring et al., 2017). For instance, students might create LinkedIn accounts for sharing their career ePortfolios, or they might embed their profile and relevant professional social media in their email signature (Ambrose & Chen, 2015). In this step, students also have to learn how to articulate the work presented in their ePortfolio and provide context from the perspective of a professional, not a student (Clayson, 2019). Thus, this step must consider rhetorical principles of message design, accessibility, and sound use of visuals and pictures (Weber, 2018).

Adaptation and Alliance

To develop skills needed to adapt a learning ePortfolio, students might take part in training sessions and consultations supported by videos available to them beyond course curricula or activities (Ring et al., 2017). At this time, alliance with career services units is vital to offer guidance to students who might not identify clear connections between the work they have done and their career aspirations (Cordie et al., 2019). In addition, students on this step require the support that comes through alliance because they should focus on tasks and skills beyond the actual ePortfolio, which includes preparing application materials, preparing for the interview, and networking (Carson et al., 2018). Through in-person training and digital resources, career services units can provide comprehensive support to students preparing for professional belonging—just as they can promote collaboration between employers and students entering professional communities.

Creating opportunities for prospective employers and employees to interact helps both groups better understand current needs and trends in the profession and in the education that students have undertaken in preparation (Choate et al., 2019). Furthermore, students, in alliance with prospective employers, can share their career ePortfolios with professionals in the field for the purposes of gathering relevant, targeted, and actionable feedback (Buyarski et al., 2015). Finally, faculty members and administrators can become allies by promoting the creation of courses dedicated to teaching students how to develop career ePortfolios and an overall strong online professional presence (Apostel, 2015).

Application

The final step in 6A ePortfolio Model is application. In this step, students use their career ePortfolios to apply for jobs, incorporating the wealth of knowledge, resources, and coaching they have received through their ePortfolio activities (Weber, 2018). Their ability to present a career ePortfolio offers them an advantage in their job search: employers expressed a strong preference for applicants with an ePortfolio (Ambrose & Chen, 2015); likewise, Clayson (2019) provided data that alumni successfully used their career ePortfolios when applying for jobs. Furthermore, there is evidence that career ePortfolios are beneficial for employers and employees in terms of finding the right match (Lievens, 2014). Because students can clearly demonstrate mastery of skills, share their digital professional identities, and connect with employers by telling them about their stories through these platforms (Cordie et al., 2019), we concur that possessing and presenting a career ePortfolio is highly desirable—and will continue to increase in importance and use. Research has demonstrated that even though many employers are not replacing traditional application materials and processes, the adoption of an ePortfolio is an effective addition and asset for job applicants (Leahy

& Filiatrault, 2017; Lievens, 2014; Rowley & Dunbar-Hall, 2015). Furthermore, even though an ePortfolio per se might not be the only element into consideration in an application package, today's employers expect prospective applicants to have strong digital presences, as they use the Internet to know more about them (Apostel, 2015; Weber, 2018).

In this step, students might incorporate actions undertaken in previous steps. Acknowledging that some fields do not make widespread use of ePortfolios (Ring et al., 2017), students should seek to communicate the value of their ePortfolios to facilitate employers' acceptance. Likewise, students might return to appraisal, evaluating their preparation and ePortfolio insofar as it conveys the depth and breadth of their preparation, strengths, and professional goals to demonstrate their readiness for positions for which they are applying. Finally, students might continue their work of adaptation, customizing their career ePortfolios for each position for which they apply, given employers' desire for specific, relevant, and unique work samples (Clayson, 2019).

In refining their ePortfolios for professional purposes, students must assure effective organization, visual design, and written communication (Weber, 2018). Moreover, they must determine whether to include a curriculum vitae or résumé in their ePortfolios as well as badges and pictures, depending on the job description (Nino, 2018). Likewise, students must familiarize themselves with future employers, as employers prefer candidates who have explored the workplace before interviewing (Clayson, 2019). Finally, students must commit to networking, including via social media (Carson et al., 2018), for participation in professional communities is strongly correlated to their abilities to land jobs (Clayson, 2019; Kryder, 2011).

Application and Alliance

Alliance is also a fundamental part of this final step in the model, as graduating students and alumni move forward within a context of alliance. Because students or alumni directly interact with employers in this step, faculty members no longer serve as instructors but transition to roles of mentors and coaches (Ambrose & Chen, 2015). At the same time, graduating students and alumni will ally with career services professionals in the area of honing skills for job seeking and access to career fairs and job advertising, with alumni and employers functioning as complementary mentors who can facilitate entry into professional communities. Furthermore, alliance among faculty, advisers, and peers for the purpose of mutual support and encouragement is vital during this stage, among peers who have undertaken the ePortfolio program (Kryder, 2011). Finally, we encourage alliance between those who have been part of an ePortfolio program and the institution, such that they share the lessons they learned and the challenges they overcame (Prokopetz, 2018).

Discussion and Conclusion

Given the integrative review we used as the methodology to conduct this study, the development of the 6A ePortfolio Model is based on peer-reviewed scholarship and empirical data. The model is grounded in data about effective best practices as well as extant gaps and challenges in ePortfolios and ePortfolio programs. The goal of this model is not only to coalesce existing effective strategies but also to offer recommendations to fill gaps and help practitioners solve problems. The limitations and recommendations of the studies presented in this review also played a role in the development of the model (Clayson et al., 2019; Melles, 2018), just as considering articles solely from the literature of career ePortfolios also effects limitations, as such consideration demarcates a specific and narrow scope that might cause results and conclusions not to be generalizable to other types of ePortfolios and ePortfolio programs.

Existing scholarship advocates for further study of career ePortfolios in general (Cordie et al., 2019; Melles et al., 2018), for further study of the efficacy of ePortfolios in securing employment (Clayson, 2019), and for further longitudinal studies, such as explorations of the integration of professional internships (Alanson & Robles, 2016) and graduates' continued use (if any) of ePortfolios following employment (Wakimoto & Lewis, 2019). The 6A ePortfolio Model can address these gaps in research and thus contribute to the growing body of knowledge in the ePortfolio field, given its long-term, scaffolded approach culminating in students' authorship of career ePortfolios utilized in employment-seeking activities. The researchers argue that this model can be applicable for practitioners for the purpose of implementation as well as for researchers for the purpose of future study.

This model specifies the types of skills and mastery that students who follow these steps can gain. These findings corroborate existing studies that promote the use of ePortfolios in instruction given their contribution to students' learning and growth (Ring et al., 2017). Recognizing evidence of correlation between grades and job performance (Walton et al., 2015), usage of this model might help researchers identify further factors that influence the success of students who land jobs. Such investigation is possible given the longitudinal nature of the model that documents the journey from student to professional.

In addition, the use of this model can enhance understanding of career identity and how students perceive themselves as professionals (Bennett &

Robertson, 2015). Using the 6A ePortfolio Model, researchers and practitioners can investigate how students' career identity changes over time and the effect such change can have on successfully applying and interviewing for jobs. Because career identity evolves with experience (Bennett & Robertson, 2015), a longitudinal study using this model might reveal the complex process of students' blending academic identities with emergent or clarified professional identities.

Future studies should investigate the applicability, implementation, and usability of this model in higher education institutions. In addition, future research should provide empirical evidence of the framework's impact on the efficacy and success of students and graduates to apply, interview, and secure jobs. Finally, future exploration should emphasize the multifaceted role of alliance in contributing to the comprehensive and collaborative implementation of this framework and the continuing success of its participants.

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