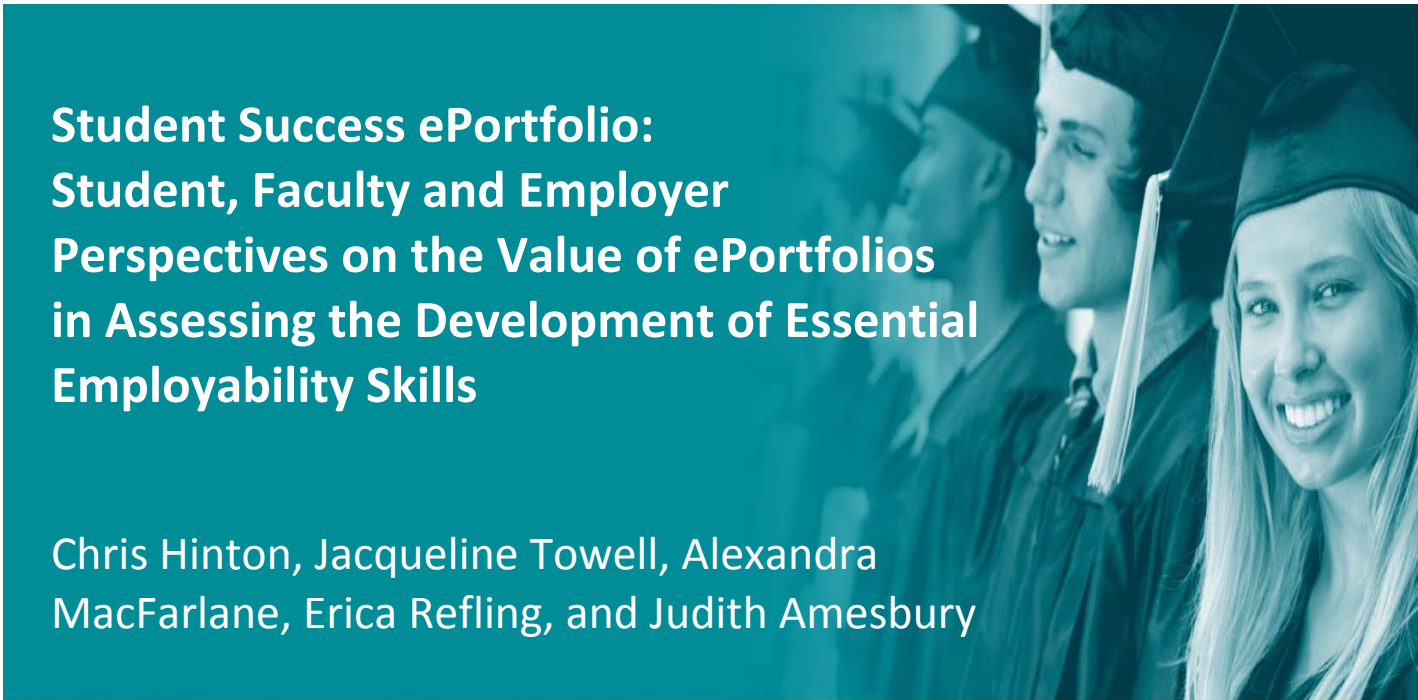




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Student Success ePortfolio: Student, Faculty and Employer Perspectives on the Value of ePortfolios in Assessing the Development of Essential Employability Skills

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Executive Summary

The development of essential employability skills (EES) has become an increasingly critical component of the postsecondary curriculum. Today's graduates must be able to demonstrate a range of skills such as communication, teamwork and problem solving, and use these skills within diverse employment contexts. Although essential skill learning outcomes have been a part of Ontario's postsecondary college curriculum for more than two decades, there is a distinct gap in research on the development and assessment of these skills. Reports on skill gaps, employment trends and EES assessment in education have led some educators to speculate whether electronic portfolios (ePortfolios) can be used to address the development and assessment of EES — and help shine a spotlight on EES for postsecondary students.

According to the research literature, ePortfolios can meet multiple needs and achieve multiple purposes. They can be used by students as part of their learning; educators can use ePortfolios as an assessment method; and employers can use them during the hiring process (Desmet, Church, Miller, Griffin, Balthazor & Cummings, 2008; Girton-Snyder, 2012; Herring & Notar, 2011). While there are many different types of portfolios, ePortfolios that showcase EES provide students with an opportunity to demonstrate skills most commonly sought by employers (Lievens, 2014; Miller & Morgaine, 2009; Reese & Levy, 2009).

While academic learning environments continue to explore applications and strategies to promote ePortfolios as a learning strategy, less is known about how ePortfolios can be utilized for assessment and employability from the perspective of employers. Students may invest significant time and effort developing an ePortfolio and, in return for this investment, would like to be confident that the ePortfolio will be of value to potential employers. Similarly, students, employers and educators alike continue to identify the need for more investigation into how ePortfolios can be used to develop and assess EES achieved at the graduate level.

To better understand EES and ePortfolios, Durham College conducted a two-phase study. The first phase included the implementation of a comprehensive ePortfolio initiative with students and faculty; the second phase involved an online survey of employers. Both phases aimed to answer critical questions about the values and perceptions of ePortfolios and how they could be used to assess EES.

Phase one (Winter 2013 to December 2014) focused on:

- Establishing a planning committee
- Creating support, training and promotional resources
- Promotion to, and training of, students and faculty
- Conducting and analyzing data from faculty and student surveys and focus groups

In phase two (October 2015 to June 2016), the focus shifted to gathering information on employers and included:

- Creation and vetting of an electronic survey
- Identification of audience
- Administration and analysis of survey data

In phase one, more than 600 students and faculty from four college programs participated in an initiative entitled the Student Success ePortfolio Project. The participants were provided with a range of materials to help support the implementation of an ePortfolio that could be used to assess one or more of the EES developed by the Ontario Ministry of Advanced Education and Skills Development. Following two semesters of use, 224 students and seven faculty participated in surveys and focus groups to provide feedback on the use, benefits, challenges and implications of the project.

Students reported that the project helped them learn more about EES, and raised awareness of the importance of these skills. Students expressed that the ePortfolio was beneficial as both an organizational tool and a permanent record of achievements, as well as being useful for job preparation. When asked if ePortfolios should be made a mandatory part of all programs across the college, the majority of students agreed that they should be encouraged rather than made mandatory. Several challenges were identified including the need for more ongoing hands-on training, and a rationale for how this initiative fits within the curriculum. Students questioned whether employers would value or use ePortfolios, and whether employers would recognize the time and effort involved. Future recommendations include integrating ePortfolios into other aspects of program curriculum, services (e.g., academic learning services) and campus activities (e.g., orientation) to help with promotion and support of the initiative. Some students suggested that ePortfolios should be linked to field placements, practicums or other forms of work integrated learning.

Faculty reported that the ePortfolio was useful as a method of assessment, and was beneficial in helping students reflect, organize and prepare for job applications. Similar to students, faculty identified the need for more training and the fact that they did not have enough information on employers' uses or requirements for ePortfolios. Following the study, the four participating programs continued their use of ePortfolios.

A second phase of research was initiated in response to the questions raised by students and faculty around whether employers value ePortfolios, and perceptions around EES and ePortfolios. An online survey was sent to 4,185 employers; 326 employers responded (a response rate of 9%). Employers' perceptions were positive — they valued the ePortfolio as an employability tool that could be used in the recruitment, selection or hiring processes, and as an important product of a graduate's learning process. Interestingly, employers had varying interpretations of what constituted an ePortfolio, which led to significant challenges when interpreting some of the data.

The reason most commonly cited by employers for using ePortfolios was to gain a better understanding of an applicant's skills, knowledge and abilities. Other reasons included:

- Ease of access to information
- A better overall picture of an applicant

- A better understanding of an applicants' skills and abilities
- Assistance with the hiring and screening process to provide more information about an applicant's education and experience

The top reason for ePortfolio non-use by employers was that employers were unfamiliar with them. Of the employers that were defined as non-users, 65% stated that they would consider using them in the future to get a "more accurate and thorough presentation of the candidates" and if using them was helpful in the hiring process.

One of the strengths of this study is that it connected students, faculty, learning professionals and employers in uncovering more about the role of ePortfolios in postsecondary education. The results of this research along with the literature review continue to emphasize the importance and value of ePortfolios as a tool for learning, assessment and employment. Further research to examine how ePortfolios can be used to achieve essential skills development, assessment and employability will almost certainly take place. Colleges and universities have an opportunity, through their program advisory committees and industry partners, to engage in a conversation with employers to learn more about employers' values, needs and requirements.

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Introduction

The Higher Education Quality Council of Ontario (HEQCO) has been committed to exploring evidence-based research aimed at improving the postsecondary education system in Ontario since 2005. As part of this commitment, HEQCO created the Learning Outcomes Assessment Consortium in 2012. The consortium includes four colleges and three universities, and was formed to explore the measurement of learning outcomes. Each institution developed a unique approach to researching assessment tools and techniques that can be scaled up to an institution-wide level.

As part of this initiative, Durham College joined the consortium to explore and pilot the use of ePortfolios as an assessment tool for essential employability skills (EES). The initial research project began in May 2013 and formally concluded in June 2016. As part of the project, Durham College was asked to determine and inform future college-wide adoption, planning, implementation and evaluation of the Student Success ePortfolio as an EES assessment tool. From this first phase of the project, it became apparent that employer perspectives on ePortfolios were necessary, leading to a second phase. The main purpose of this second phase was to investigate employer perspectives of ePortfolios as employability tools, specifically in light of EES.

Phase One — Student Success ePortfolio: Essential Employability Skills Project

The Durham College Student Success ePortfolio: Essential Employability Skills Project explored student, industry and faculty experiences using an ePortfolio in the assessment of EES within four selected programs. During this initial 18-month project, data were gathered on the perceived effectiveness, relevance, feasibility and appropriateness of the Student Success ePortfolio in the assessment of EES outcomes.

This study addressed a critical gap in research on college-wide and program-wide assessment tools for EES, and explored how a common platform such as an ePortfolio could facilitate assessment of these skills.

The project provided Durham College with valuable data on how an EES-focused ePortfolio assesses the relevant skills; however, the study fell short in engaging industry in the assessment of an EES-focused ePortfolio. This lack of engagement informed future research and action plans for scaling this initiative as a college-wide EES assessment method.

Phase Two — ePortfolio and Employers Project

Following the results of the initial project, the research team identified the need for additional data on the perspective of employers. Students and faculty identified a need to validate industry partners' use of and perceptions around ePortfolios to help confirm the value of ePortfolios to employers. Durham College identified several research questions related to employers' perspectives of ePortfolios as hiring, recruitment

and assessment tools, and the feasibility of college graduates using them to communicate achievement of EES. The purpose of this second study was to investigate employers' perspectives and use of portfolios, including ePortfolios, to determine how they are valued, if at all, as a tool for assessing EES (Towell et al., 2015).

As Ontario-specific information regarding portfolio (including ePortfolio) use by employers is limited, a secondary goal of this research was to contribute to the growing international body of research regarding employer perspectives and use of portfolios and ePortfolios (Ambrose, 2015; Desmet, et al., 2008; Girton-Snyder, 2012; Hart Research Associates, 2015; Herring & Notar, 2011; Lievens, 2014; Yancey, 2009; Chen & Light, 2010). Finally, by engaging local employers in its research, Durham College also sought to determine the level of engagement of potential employers by asking them to provide additional feedback and data in order to better inform ePortfolio curriculum requirements and decision making.

Building on the Student Success ePortfolio Project, this study provided meaningful employer data, which helped inform curriculum decisions such as whether ePortfolios should be used as a mandatory college-wide assessment tool for EES achievement (Towell et al., 2015). Specifically, this second investigation utilized an online survey of employers who were registered with the career development service area at Durham College. The research was conducted by the Centre for Academic and Faculty Enrichment (CAFE) at Durham College, in partnership with Career Development and HEQCO, in an effort to examine ePortfolios and their effectiveness as a tool to assess EES, as defined by the Ontario Ministry of Advanced Education and Skills Development.

Definition, Uses and Potential Benefits of ePortfolios

For the purpose of this research an ePortfolio is defined as follows:

- A digital collection of files often used as part of a job application, professional development, planning or assessment of learning outcomes.
- Eportfolios can include text, electronic files, images, multimedia, blog entries, reflective or narrative summaries, learning goals, résumés and professional development goals.
- Eportfolios can be edited and added to over time and can be customized to be used for multiple purposes.

(Towell et al., 2015)

Typically, ePortfolios are managed by users to represent their learning and achievements. An ePortfolio is then shared with select viewers such as peers, instructors, field placement supervisors, industry experts and potential employers. EPortfolios provide a place where users can creatively package who they are, what

they can do and what they want to do in the future. Traditional portfolios are utilized for similar purposes; however, they are paper-based.

Portfolios, particularly ePortfolios, have been shown to be an effective method of documenting and recording successful achievement and learning outcomes (Lievens, 2014; Miller & Morgaine, 2009; Reese & Levy, 2009). EPortfolios remain a popular alternative to traditional paper-based portfolios because they offer a broader audience the opportunity to review, communicate and assess portfolios in an asynchronous manner (Reese & Levy, 2009). In fact, some regard the use of ePortfolios — specifically in the pursuit of employment — as an industry standard (Hartman, 2013), and the ability to develop a successful ePortfolio as a demonstration of several of the EES outcomes (Hart Research Associates, 2015).

Some employers may view students who use ePortfolios more favourably, as they are demonstrating achievement which is “ahead of the curve” (Wilhelm et al., 2006). EPortfolios can also provide employers with more in-depth and accurate information regarding a candidate. Employers have stated that effective ePortfolios are those that contain the right information and helped them to save time and money when seeking skilled employees to hire (Fowler, 2012). EPortfolios have also been shown to promote deep learning and knowledge transfer by fostering a student’s ability to make connections between his or her learning experiences in a variety of classroom, workplace and community settings (Chen & Light, 2010).

Research Questions

Phase One — Student Success ePortfolio: Essential Employability Skills Project

Phase one of this research, the Student Success ePortfolio: Essential Employability Skills Project, focused on student and faculty perspectives of ePortfolios and addressed the following primary research question:

- To what extent, if any, is the Student Success ePortfolio effective in assessing the development of EES?

Additional research questions included:

- To what extent is the Student Success ePortfolio effective in assessing the culminating performance of EES?
- How well does it meet accessibility needs and universal design for learning needs of Durham College students?
- How well does the Student Success ePortfolio address the learning needs of a diverse population of students and range of programs?

Phase Two — ePortfolio and Employers Project

Phase two of this research, the ePortfolios and Employers Project focused on employer perspectives of ePortfolios and attempted to answer the following primary research questions:

- From the employer's perspective, what value, if any, do ePortfolios have in the hiring process?
- What skills, if any, do employers expect to be demonstrated through an ePortfolio and in what way?

As part of the ePortfolios and Employers Project, an analysis through the lens of the following secondary questions allowed the research team to answer the primary research questions:

- Are employers currently using portfolios during the recruitment, screening, interview and hiring processes?
- What industries are using portfolios?
- Why are employers using or not using portfolios?
- Would non-users consider using portfolios in the future? Why or why not?
- What skills would employers expect to be demonstrated through a portfolio and in what way?
- What components would employers find helpful to see in a portfolio and why?

Broader Contributions

Results of this research contribute to the scholarship by providing information that can assist Durham College moving forward with alternative ways to assess EES and learning outcomes, strategies regarding the future role of ePortfolios in the curriculum, and further insight into employers' perspective of portfolios (including ePortfolios) as employability tools in light of assessing EES. Furthermore, information gathered can be useful in preparing students for the job market, as well as defining the types of knowledge, skills, abilities and artifacts that employers might be looking for, and expect to see in, an ePortfolio.

Overview of Methodology

The research was conducted in two main phases. Phase one focused on the following:

- Selection of the ePortfolio platform
- Development and distribution of ePortfolio tools and resources to students and faculty within four programs
- Implementation of student and faculty surveys and focus groups

Phase two of the project focused on the implementation of an online survey of employers who were registered with Career Development Services within Durham College.

The Ministry of Advanced Education and Skill Development's (MAESD) Essential Employability Skills (EES) and criterion were used as the basis for this project. The EES are a set of 11 learning outcomes used by all Ontario colleges and are required learning outcomes for graduates of Ontario college certificates, diplomas and advanced diplomas (Ontario Ministry of Advanced Education and Skills Development, 2016). At Durham College, students are taught and assessed on selected EES in each course, and must be able to fully demonstrate all of the learning outcomes upon graduation. The aim of the project was to provide students and faculty with resources that would help them better understand each of the learning outcomes, identify examples of how they have demonstrated each of the learning outcomes, exchange resources and seek feedback between peers/faculty/experts, write reflective summaries of their ongoing development and achievement, and create and share an online portfolio presentation. Additionally, students were given a series of interview prep questions and resources to help them use their ePortfolio to apply for a job, promote themselves to prospective employers or prepare for an interview.

Phase one focused on the development and distribution of several significant resources including the Student Success ePortfolio rubric, Student Success ePortfolio template and user guide. These resources were developed with feedback from students, faculty and support staff to help improve accessibility and ease of use. Training material, presentation material, a series of videos and a newsletter were distributed to faculty and students as part of ongoing training and support. Additional online and in-person training was also offered to students and faculty. Students from each of the four participating programs were invited to use the ePortfolio resources to help them complete class assignments related to the demonstration of EES, or as part of their own self-directed ePortfolio completion.

Students and faculty were surveyed and participated in focus groups to provide feedback on use of the Student Success ePortfolio and support resources. All final year students were invited to submit their ePortfolio as part of a peer-employer-faculty expert feedback initiative (entitled 360-degree feedback). However, students did not elect to participate, possibly due other competing priorities (such as exams and final placements) at the end of the semester. Following phase one, students identified the need for evidence that employers would use their ePortfolios. The uncertainty around employer use of ePortfolios had also been raised as an important gap in research throughout phase one by the steering committee.

Given the importance of employer feedback, the research team initiated a second phase of research focused on gathering employer perspectives of portfolios (including ePortfolios). Using an email survey, employers were asked for their perspectives on ePortfolios and how the EES factored into their consideration of an ePortfolio during the recruitment, hiring or selection processes.

Literature Review

The following literature review provides an overview of the current research on ePortfolios and assessment, employers' perspectives, requirements and uses for ePortfolios. In addition, the review was conducted in order to review relevant literature on student and faculty perspectives on ePortfolios as tools for assessing EES.

The Growth of ePortfolio Use in Higher Education

As postsecondary institutions continue to seek new teaching, learning and assessment tools to increase self-direction and learner autonomy in virtual learning environments, ePortfolios have increased in relevance and are becoming standard practice (Chen, Chang, Chen, Huang & Chen, 2012; Hartman, 2013). EPortfolios extend the concept of integrating theory, action, self-reflection and assessment in education by acting as a content management system, which facilitates the collection, consideration, sharing and presentation of learning outcomes with others through a digital platform. They can be effective tools in education as they provide a means to show growth by serving three purposes: facilitation of learning (e.g., as a learning system for professional development), demonstration of learning outcomes, and as a showcase of learning outcomes (e.g., when a graduate uses an ePortfolio as part of a job search) (Desmet, et al., 2008; Girton-Snyder, 2012; Herring & Notar, 2011; Lievens, 2014). Ultimately, ePortfolios enable students to showcase their learning in a professional manner, and foster interpersonal and personal traits and behaviours that correlate with success in school and employment (Herring & Notar, 2011; Yancey, 2009).

Types and Benefits of ePortfolios

Different types of ePortfolios enable specific benefits. EPortfolios as both process and product can promote deep learning and knowledge transfer by fostering a student's ability to make connections between his or her learning experiences in a variety of classroom, workplace and community settings (Chen & Light, 2010).

Process-based portfolios provide a means of tracking, planning and demonstrating students' advancement, learning and development of skills over a period of time. They can include self-assessment, reflection and feedback elements (Barrett, 2011; Jimoyiannis, 2012). Alternatively, showcase portfolios consider the product to be the primary purpose of the portfolio and are usually presented at the end of a course or program of study to show and highlight the quality of students' achievements, skills and competences. These types of ePortfolios can help graduates demonstrate exemplary or project work, along with their competences and employability skills to stakeholders or potential employers, in the pursuit of employment or a new position (Yorke et al., 2004; Willis & Wilkie, 2009).

Using a process-based ePortfolio can help students learn how to better articulate their educational experiences (Martini & Clare, 2014). This is important, as data reveals that 75% of employers believe that a student's ability to effectively describe his or her experience outweighs the experience itself, and that incorporating more opportunities for reflection into academic programs is needed so students have time to develop this ability (Yancey, 2009). Students are better able to develop their EES as they integrate competencies across courses and connect them to employability skills and field work while engaging in ongoing self-reflection and peer review (Fitch et al., 2008). In addition, the completion of a showcase portfolio in a designated capstone course can extract key information from the artifacts and reflections accumulated across the program, and focus on the specific transferable skills that the student wishes to highlight to potential employers. The benefits of both process- and product-based ePortfolios have indeed been documented from an educator's point of view (Martini & Clare, 2014).

Integrating ePortfolios into Curriculum

The increased interest in ePortfolios in the postsecondary environment raises questions about their impact and effectiveness (Miller & Morgaine, 2009). As the ePortfolio movement gathers momentum, there is growing evidence to suggest that the addition of an ePortfolio requirement is least effective when introduced in isolation and/or without sufficient explicit instruction combined with integration of skill-based learning outcomes across courses and programs of study (Zhang, Olfman & Ractham, 2007; Light et al, 2012; Martini & Clare, 2014). To be most effective, ePortfolios should not be used as a one-time presentation or assessment-only tool, but rather as a representation of ongoing learning involving resource collection, self-reflection and redesign.

The use of an ePortfolio as an isolated effort at the end of a program is not likely to enhance students' understanding of transferable skills, their knowledge of how these skills are fostered by curricular and co-curricular learning experiences, or their ability to articulate those skills in job-relevant settings. To capitalize

on the potential of ePortfolios as a teaching tool, they need to be an embedded part of the program's curriculum design (Batson, 2013). While evidence is preliminary, it suggests that the most powerful ePortfolio practice is inherently connective and integrative, which helps students to link and make meaning from various learning experiences (Enyon, Gambino & Török, 2014). Without prior instruction on how to connect the course curriculum to the intended transferable EES, many students experience difficulties in accurately articulating a clear understanding of both definitions of transferable employability skills as well as correctly identifying the experiences that demonstrate them. Adopting a developmental approach to skills acquisition also makes it more likely that students will be better prepared to discuss their transferable skills in relation to appropriate and powerful examples of their learning as they transition from an educational setting to the labour market (Martini & Clare, 2014).

Approaches to ePortfolio Assessment

Use of rubrics, frequent instructor feedback, technical support and peer learning opportunities contribute to positive impact of ePortfolios (Panke, 2014). Successful implementation of ePortfolios requires a rethinking of assessment approaches whereby students are actively engaged in performance-based tasks, and where feedback is frequent and constructive. While institutions may promote an outcomes-based approach to curriculum design and teaching and learning, faculty may not be able to make the transition from traditional assessment methods to creating and assessing artifacts in an ePortfolio. Without having an institution-wide pedagogy that supports embedding the ePortfolio within the broader teaching and learning agenda, the level of uptake may be diminished (Ferns & Comfort, 2014). Findings suggest that the most vibrant ePortfolio campuses pay sustained attention to faculty development to ensure the quality of ePortfolio practice, and to help faculty explore and adapt ePortfolio pedagogy to the needs of their disciplines and courses (Enyon, Gambino & Török, 2014).

In broadening the discussion about the use of valid assessment tools, the American Association of Colleges and Universities (AACU) has launched the Valid Assessment of Learning in Undergraduate Education (VALUE) project, which brings together ePortfolio institutions in order to create cross-campus dialogues about national standards for ePortfolios. In addition to traditional areas of competency, such as written communication, the VALUE project is looking at integrative learning, an essential component of effective ePortfolios. This project is helping to set a standard for national discussions of student learning through ePortfolios by providing individual postsecondary campuses with nationally normed tools to use in analyzing their students' learning (Clark & Eynon, 2009).

EPortfolios can make significant contributions to student learning when properly implemented; however, there are still substantial gaps in the literature as the adoption of ePortfolios continues to outpace knowledge of their effectiveness and appropriate use after over a decade of research. For example, from the Ontario perspective, to what extent are ePortfolios useful in assessing the development of EES? Also, if educational institutions in Ontario are encouraging students to create ePortfolios, are the resulting ePortfolios useful for employers?

Employer Perspectives of ePortfolios

Some employers consider ePortfolios a standard tool for gaining employment, while others view candidates with ePortfolios to be ahead of the curve (Wilhelm et al., 2006; Hartman, 2013). Also, successful development of EES is critical for students in order to obtain employment and to be successful in the workplace. EPortfolios can enable students to learn and document EES related to career development, and some employers are willing to incorporate ePortfolios in their hiring decisions (Reardon et al., 2005; Lievens, 2014). The digital collection of work samples and skill demonstrations can be easily shared with potential employers (Reese & Levy, 2009), and employers value ePortfolios as an information resource (Fowler, 2012; Hart Research Associates, 2015).

There is growing pressure to produce graduates with transferable skills in response to the ever-changing needs of today's workplace (Fair, 2013; Culkin & Malick, 2011). For example, in a 2015 survey conducted by Hart Research Associates (2015), employers revealed that college graduates are not prepared to achieve learning outcomes that are important for success in the workplace. Furthermore, employers have increasingly expressed a desire for potential employees to demonstrate skills such as written and oral communication, critical thinking, teamwork and ethical decision-making, as well as the ability to apply knowledge in a real-life context. These skills are perceived to be vital and complementary to undergraduate studies and professional knowledge and expertise (Comfort & Ferns, 2014; Hart Research Associates, 2015). It is the responsibility of educational institutions to provide evidence of culminating performance of EES over time as final grades are no longer sufficient evidence of student learning (Girton-Snyder, 2012). It is clear that success in the workplace means more than having the necessary technical skills and knowledge; it requires the application of a broad range of employability skills learned across many contextual environs and ranges of experience (Precision Consultancy, 2007; Hart Research Associates, 2015).

While the value of EES is acknowledged, recent observations from employers reveal perceived gaps in critical thinking and problem solving skills, and deficits in literacy, communication, and teamwork skills among recent postsecondary graduates and job candidates. Furthermore, employers have expressed that the essential innovation and employability skills of graduates are lacking (MacLaine et al., 2014; Hart Research Associates, 2015).

Despite the apparent agreement between employers and educators on the value of ePortfolios as a means of demonstrating EES, there remains little evidence of widespread usage as a hiring consideration (Ward & Moser, 2008; Woodley & Sims, 2011). As concluded by Hallam et al. (2008) and Precision Consultancy (2007), there has been little research on actual use as compared to speculated use of ePortfolios in the recruitment and hiring process. However, during a survey of several thousand employers, Ward and Moser (2008) found that despite the majority of employers revealing that they did not use ePortfolios during recruitment, 56% of employers who did not use ePortfolios were considering using them in the future. Although this evidence is promising, it suggests a disconnect between how much employers value ePortfolios and how much they actually use them.

Employer ePortfolio Use

Some employers value ePortfolios and use them during recruitment, screening, hiring and beyond (Ward & Moser, 2008; Lievens, 2014, 2015). Others, however, do not, which means employers can be divided into two groups: ePortfolio users and non-users (Ward & Moser, 2008). Furthermore, it is clear that ePortfolios can engage students in demonstrating EES to both educational institutions and employers (Ward & Moser, 2008; Hart Research Associates, 2015). However, many questions remain. Specifically, when and how do users use ePortfolios? How are the ePortfolios presented (or how would employers prefer them to be presented)? What artifacts or evidence are employers looking for in an ePortfolio? How are employers assessing the EES that they claim college graduates are missing? Furthermore, for non-users, why do they not use these tools despite their perceived value?

In terms of timing, Ward and Moser (2008) found that employers tend to use ePortfolios during initial screening, as well as occasionally after interviews. Lievens (2014) examines career ePortfolios as tools for job-matching. He proposes career ePortfolios as a means through which workers can be matched to jobs, specifically during the online application process. However, Lievens (2014) also claims that ePortfolios must move beyond simply profiling job seekers to become a source of employer and job position information as well. He implies that employers should also showcase ePortfolios and proposes a transparent, two-way communication system founded on mutual understanding of competencies, both from the perspective of the job seeker and the employer.

Lievens (2014) also notes conflicting paradigms regarding the ePortfolio concept — the constructivist versus positivist approach. The former — and that most noted in the higher education sector — focuses on the learner, learning and internal reflection indicating that the meaning constructed regarding the ePortfolio concept can vary. The latter — that taken by an external reviewer of an ePortfolio, such as an employer — assumes that “meaning is constant across users, contexts, and purposes” (p. 36). Opposing paradigms — and resulting purposes of ePortfolio use — may be a clue explaining the disconnect that exists between higher educational institutions and employers regarding the use of ePortfolios in the assessment and demonstration of EES.

In terms of ePortfolio presentation, the literature suggests many ways ePortfolios can be presented to employers. However, Ward and Moser (2008) reported that 95% of employers preferred to access ePortfolios online in the form of a website, blog, or online résumé (Hartman, 2013). However, as technologies evolve, so too do ePortfolios. For example, Open Badges, Open Credentials, and distributed ledgers (blockchains) are changing the face of ePortfolios (Ambrose, 2015; Presant, 2016; Ravet, 2016).

EPortfolio users tend to be associated with the education, health sciences and social services industries. Common artifacts in demand by those employers include a summary of career goals, a professional mission statement, résumés, a list of marketable skills and qualities, letters of recommendation and references, samples of written work, projects, lesson plans, presentations, evidence of achievements and job-related work samples (Hartman, 2013; Ward & Moser, 2008;). However, Chen and Light (2010) highlight the

importance of a holistic ePortfolio that reflects the whole person; as such, they suggest that artifacts should reflect skills, abilities, achievements, and evidence of growth from both academics and life.

The current literature provides some insight into how ePortfolios are used by employers; however, the lens is an international one. There has only been limited research of ePortfolio use among Ontario employers. Hence, it is difficult to ascertain whether the aforementioned ways of using ePortfolios are relevant to local employers.

The situation is similar regarding non-users. However, Ward and Moser (2008) have been able to provide some insight into why employers may choose not to use ePortfolios in the hiring process. Of the employers surveyed, 75% of non-users were unfamiliar with ePortfolios, 14% stated that ePortfolios were not valuable, 13% reported time constraints, and 12% reported cost as the reason they were non-users. It is encouraging to point out again that 56% of non-users in this study stated that they planned on using ePortfolios in the future.

Still, questions remain:

- What skills, knowledge and attitudes are prospective users looking for in an ePortfolio?
- If a prospective employee provides a link to an ePortfolio, at what stage of the hiring process would it be considered useful? For what types of positions?
- What trends, if any, do non-users see with respect to ePortfolio use during the hiring process in their industries?

Again, the research regarding the perspectives of non-users in Ontario is scant. As such, it is difficult to ascertain relevant employers' perspectives from this provincial perspective.

Methodology

Phase One — Student Success ePortfolio: Essential Employability Skills Project

Phase one of the project focused on the selection and design of an appropriate ePortfolio platform, the design and development of ePortfolio tools and resources to support participants, and the enrolment of students agreeing to participate in the project. A mixed methods approach was used, including surveys and focus groups.

Participants

Students from the Practical Nursing, Fitness and Health Promotion, Social Service Worker and Personal Support Worker programs in the Durham College School of Health and Community Services were invited to participate in the project. Students were invited to participate through a combination of classroom visits, emails, newsletters and messages delivered through a widget on the school's learning management system. Once the initial project started, each program self-initiated a course-based strategy for integrating the Student Success ePortfolio. Participants used ePortfolios during the Fall 2013 and Winter 2014 semesters.

Although the participating programs were all from the School of Health and Community Services, it was expected that the students would have a wide range of learning styles, technology experience and motivations for creating an EES focused ePortfolio. Three of the programs are diploma level while the fourth is certificate level.

Participating ePortfolio students who self-identified as being in the final year (n=295) of their program were invited via email to participate in an additional optional component of the ePortfolio project entitled 360-degree feedback. Students who chose to participate were to be partnered with a volunteer industry expert from the community, a non-program faculty member and a fellow student from the 360-degree feedback group. These three people would then review the student's ePortfolio online and provide a specific type of feedback (expert, faculty or peer) to the student following the Winter 2014 semester.

A proposed followup to this activity included inviting participants to complete an anonymous survey during phase two of the project. Unfortunately, there were no volunteers to be 360-degree feedback participants. Possible reasons for this will need to be further explored, however, the timing (end of semester) and competing workload concerns (such as final exam preparation) may have been primary reasons for lack of participation. A total of 224 students participated in the survey following the project.

Student and Faculty Recruitment

Several recruitment approaches were used in phase one and phase two. Recruitment strategies included a series of visits to classrooms to introduce the project, followup visits to provide students and faculty with a more in-depth overview of the project, in-class training, emails to student participants, newsletters with

videos and tips, use of a widget on the learning management system, providing refreshments as an added incentive for attending student focus groups, and researcher visits to classes to conduct the student survey. During phase one, each program coordinator also provided significant time and feedback during each stage of the project by participating in regular project planning meetings.

EPortfolio Platform Selection

Following Research Ethics Board (REB) approval of the Student Success ePortfolio proposal in May 2013, the research team, consisting of faculty members from each of the selected programs, met and developed a process to select a suitable ePortfolio platform. Each research team member responded to a series of questions in order to review two ePortfolio platforms (see Appendix B) for their ability to meet criteria such as accessibility, universal design for learning, collaboration, training resources, ease of use, functionality, integration with the current college learning management system (LMS), exportability and content security.

Following an initial review of several free and open source ePortfolio platforms, the team decided to use the Desire2Learn (D2L) ePortfolio tool. This decision was informed by literature on the importance of internal support including training and development support, integration into existing learning management infrastructure and security features. Additionally, students would not need an additional password, as it would be contained within the existing college learning management system. Although the team was unable to fully test the D2L ePortfolio tool, sufficient samples of completed ePortfolios and minimum system requirements (security, privacy, non-commercial “upselling,” universal design for learning, and existing training resources) were provided to help the team make the decision to use this platform.

EPortfolio Resources, User Guide and Template

During June, July and August of 2013, information was gathered for each of the EES categories and outcomes. This information was used in the development of electronic resource materials that included an EES ePortfolio template and user guide. These resources can be viewed via the following links, [Student Success ePortfolio template](#) and [Student Success ePortfolio user guide](#).

The Student Success ePortfolio resources were developed to help students and faculty:

- Increase their knowledge of the importance and relevance of EES
- Collect and store course and program suitable items/artifacts related to EES
- Reflect on achievement of EES
- Share student EES achievement with peer, faculty and industry experts in order to gain insight into the ongoing relevance, assessment and need for these skills
- Assess achievement of EES using a summative assessment method that complemented current assessment rubrics used by faculty
- Assess achievement of EES using a rubric that could be readily completed by students, industry and faculty

The Student Success ePortfolio user guide integrated information about developing, organizing, sharing and assessing an ePortfolio. Detailed “how-to” instructions were provided using a variety of images, texts and videos. Although the user guide supplied all the information students needed to successfully complete an ePortfolio, it also encouraged students to expand their ePortfolio beyond the EES focus and consider its use for program, course, employment and career purposes.

The Student Success ePortfolio template was designed specifically to demonstrate a student’s ability to provide evidence of EES. It provided a starter kit that allowed for expansion to include any number of additional professional, course and employment components. Furthermore, critical information and support was also provided. For example, the template was organized into the six EES categories for ease of use by students. Each section included an overview of the skill, the related learning outcomes, context, examples of methods to demonstrate achievement of a particular outcome, identification of potential artifacts, questions to help with the selection of artifacts, questions to guide the students’ reflection and a section on how to assess the ePortfolio section they had developed.

Student Success ePortfolio Rubric

Also included in the resource materials were two assessment rubrics. The first was designed to be used by participants to self-assess each ePortfolio section they developed (e.g., a single EES outcome), prior to submission to an instructor for marking or sharing with a future employer (see Appendix C). This rubric identified each of the steps involved in the development of an ePortfolio section, and the criteria expected to be met during each step. The intent was to provide participants with the information necessary to assess whether they had met each criterion. The process of self-assessment allowed students to correct or revise a section as necessary.

The second rubric was designed to assist in the assessment of a fully completed EES ePortfolio (see Appendix D). Students, peers, faculty or industry representatives could use this rubric to determine if the identified criterion for each of the EES outcomes had been met. To aid in the assessment, descriptions of expectations for each of the criteria were provided.

Focus Group Meetings

During this phase of the project, the ePortfolio concept, platform, template and resource materials were vetted in three focus group meetings held in September 2013. The focus groups provided the research team with an opportunity to give a brief personal introduction and orientation to the resources and to gather detailed feedback. Additionally, the focus groups mirrored how students would experience the ePortfolio launch and orientation resources, thus any feedback would be representative of initial feedback from students. The goal was to ensure that the students and staff, as potential users of the ePortfolio platform and resource materials, would find the platform and materials conducive to documenting the demonstration of EES. Specifically, the goal was to gather feedback from potential ePortfolio users about the concept of ePortfolios, the D2L ePortfolio platform and the resource materials that had been developed to assist users. Recommendations from these meetings informed the revision of the template and user guide.

Two focus groups were held with students and a third was dedicated to staff and faculty. In total 11 students, two staff and one faculty member participated. Students were invited through email and information sessions conducted during class. Durham College Career Services, Centre for Students with Disabilities, and Student Academic Learning Services staff were also emailed invitations to participate.

Table 1: Phase One Focus Group Meetings

#	Date	Participants	Program/Department
1	Sept 18, 2013	7 DC Students	Practical Nursing Social Service Worker Fitness and Health Promotion Personal Support Worker
2	Sept 19, 2013	3 DC staff/faculty	Career Services Centre for Students with Disabilities Student Academic Learning Services
3.	Sept 19, 2013	4 DC students	Social Service Worker; Practical Nursing

Focus group participants were shown a prototype of the Student Success EES ePortfolio template along with resource materials and asked to complete three simple ePortfolio tasks within a 15-minute time frame. They were then questioned about their previous ePortfolio experience; task completion; their response to the platform, template and materials; and their response to the concept of ePortfolios (see Appendix E for a list of focus group questions). Information was typed during the sessions and recorded using a digital recorder.

Project Promotion

Following the initial prototype development, students from the selected programs were invited to fully participate in the research project. Students were then invited to use the Student Success ePortfolio resources to complete a class assignment related to the demonstration of EES. Students were also invited to participate in an additional 360-degree feedback and assessment process.

The key steps in this phase of the project included:

- Project promotion
- EPortfolio site launch
- Participant engagement
- Survey development and administration
- Focus group meeting

In September and October of 2013, prior to the actual launch of the ePortfolio site, emails were sent to all students in the four participating programs. The emails promoted the ePortfolio research study and invited students to register for the project and for the 360-degree feedback process. This initial recruitment contact was enhanced by a series of 11 in-class visits from the project lead. During these orientation visits, the students and faculty received a letter of invitation, and were informed about the research project and the registration process. In total, more than 500 students were reached through these visits.

In order to create awareness, maintain interest and increase engagement throughout phase two of the project, the following initiatives were developed and implemented: e-blasts, customized handouts, customized ePortfolio templates and a newsletter, and a widget (i.e., ePortfolio promotional message posted in Durham College's learning management system). For a full description see Appendix F.

EPortfolio Resources Launch

A significant outcome of the development work undertaken during phase one was the launch of the Student Success ePortfolio user guide in October 2013. The user guide was designed to provide a one-stop point of access to all essential ePortfolio orientation and training materials for students, staff and faculty. It provided critical information about how to assess EES ePortfolios. In addition, a starter template was designed to assist students in the construction of an ePortfolio. All necessary "how-to" information was also present in both text and video format.

Participant Engagement

By the end of phase two, 224 students had consented to participate in the research survey. It should be noted that many students accessed the ePortfolio resources and consented to participate, but did not use the ePortfolio. A total of 66 students, from the four contributing programs, were defined as users having used at least one ePortfolio feature. Ten faculty members, from these same programs, used one or more features of the ePortfolio.

A total of 278 students were in the final semester of their program during the Winter 2014 semester. All 278 students were invited to participate in an additional optional component entitled 360-degree feedback. Promotion included classroom visits, email blasts, faculty promotion and a newsletter.

It was intended that these students be partnered with a volunteer "expert" from the community, a non-program faculty member, and a fellow student to review and provide feedback on the prepared ePortfolio. After using the ePortfolio tool for two semesters, data was to be gathered through surveys and focus groups with the participating students, faculty and industry partners.

Although 24 students registered to participate in the 360-degree feedback evaluation, none of those students completed the feedback process. Reasons for this lack of engagement are difficult to determine with certainty although the short project time frame, lack of student confidence in sharing their ePortfolios,

demanding student workloads, and the fact that ePortfolio creation was optional were considered possible reasons for the lack of participation in this part of the study.

To facilitate adoption of the EES ePortfolio, 11 in-class training sessions were conducted for students and faculty between January and May 2014. The sessions were conducted by CAFE's learning technologies specialist and by the principal investigator. These ePortfolio sessions included an overview of EES, ePortfolios and their uses, and a step-by-step demonstration of the functions available on the ePortfolio platform. A separate session designed specifically for faculty was conducted in November 2013.

Throughout this phase of the project, both students and faculty were able to access additional one-on-one support by contacting research team members, CAFE's learning technologies specialist or the project manager. A schedule for drop-in support was created within the computer lab, as well as regular promotion of help and support through faculty announcements.

Survey Development and Administration

In the spring of 2014 two surveys, one for students (see Appendix G) and one for faculty (see Appendix H), were developed to assess the impact and potential of the ePortfolio and to help inform the implementation of a college-wide EES ePortfolio assessment tool.

The survey collected data related to:

- The effectiveness of an ePortfolio as an assessment tool
- The associated challenges and benefits of the EES ePortfolio process
- The usefulness of the resources provided
- The overall perceptions of the students and faculty engaged in the study

The survey questions were reviewed by the research team and a research assistant. Pilot tests of the surveys were done with staff within CAFE. The survey was created using SurveyMonkey.

All students in the four participating programs were sent a link to the electronic survey and were invited to complete it. Initially 85 students registered and completed the survey. An additional 11 classroom visits, where students and/or faculty were given the opportunity to complete either the electronic survey or a paper-based survey, increased the response level to 224 student surveys and 10 faculty surveys. All respondents had some exposure to ePortfolios, but not all respondents actually completed a section of an ePortfolio. To help with the analysis, the respondents were, in some cases, divided into two groups, users and non-users. To be a user respondents must have used one or more features of the ePortfolio and the associated resources. These categories are further defined in the data analysis section. As an incentive, students who responded to the survey were eligible to win a professional résumé coaching session and review with a registered résumé strategist/career consultant.

Focus Group Meetings

Two hour-long focus group sessions were conducted following the two semesters of use of the ePortfolio resources. The first involved two students from one of the participating programs, who had developed a section of an ePortfolio as an assignment in one of their courses. The other session included five Durham College faculty members, four who had participated in the project and one who had not.

In mid-April, faculty participating in the project were contacted via email and asked to invite their students to participate in one of two focus group sessions to explore their perceptions and experiences with the ePortfolio tool in DC Connect. An incentive of lunch and a nominal campus gift certificate were offered; but given that the only available time to hold the focus groups was the last week of the winter semester, response rates were very low. Students were asked to respond to 12 questions about their recommendations and experience perceptions for the ePortfolio process, the platform, the resource materials, their understanding of EES, the relationship between the ePortfolio and their course work, and recommendations for further use of ePortfolios throughout the college (see Appendix I for student focus group questions). A research assistant facilitated the focus groups, while a note-taker recorded the students' responses.

Participating faculty were contacted in April and invited to one of three scheduled focus groups. Five faculty members participated in the faculty focus group session. Three of the five taught courses where students were actively using the ePortfolio tool while the other two were associated with programs that were involved in the project. As with the student focus groups, the faculty were questioned about their perceptions of and experiences with ePortfolios, and about their classroom experiences related to the use of the EES ePortfolio (see Appendix J for faculty focus group questions). Again, a research assistant facilitated the focus group and responses were captured by a note-taker.

Phase Two — ePortfolios and Employers Project

Phase two of this research focused on determining employers' perspectives of ePortfolios as employability tools during the hiring process — specifically in light of assessment of EES development.

Participants

Participants for this phase included employers who had registered with the Hired Career Services Portal, a service offered by Career Development at Durham College. Through this service, employers can connect with students and alumni, advertise and manage job postings, as well as book on-campus information sessions. All employers are screened by Career Development prior to obtaining login information for the site. Employers are continually added to this database as new organizations register. Employers excluded from this study included home-based companies (i.e., those listed as “private family”), organizations that only hire work-study students, and employers who had requested not to receive any further email communications from Durham College.

Employer Recruitment

As indicated, a list of employers was generated using the Hired Career Services Portal database. This system is also a contact management system and an email campaign tool. Recruitment of participants was possible using several email campaigns managed by research support at Career Development.

The email communications to recruit employers were provided to Career Development for the email campaigns, and potential participants were contacted on three occasions. Email communications introduced the purpose of the study, type of information gathered by the study, eligibility criteria, incentive (an iPad worth \$600 or an equivalent charitable donation) and contact information, as well as a link to the survey and closing date. For specific procedures regarding timelines associated with recruitment emails, see the survey administration section below.

Survey Development and Administration

In the winter of 2016, the ePortfolio and Employers Survey was created (see Appendix M). The survey was designed to investigate employers' perceptions of ePortfolio use, as well as gauge the effectiveness of these tools in assessing the development of EES, during the recruitment, screening and hiring process.

The survey was created using FluidSurveys and was reviewed by experts at Career Development, CAFE and HEQCO to ensure that survey questions effectively captured the questions under investigation and avoided "double-barreled, confusing, and leading questions" (Collingridge, 2014).

Pilot tests were conducted with the survey over a period of two weeks. Feedback was returned by two experts and the survey tool was modified based on this feedback. In total, six employers completed the survey; however, no qualitative feedback was received.

The survey was administered between February 24 and March 14, 2016; it was disseminated via several email campaigns using the Hired Career Services Portal. A total of 4,485 employers were contacted, with an invitation to participate sent to an initial group of 300 employers in February, and to the remaining 4,185 employers one week later. This strategy was utilized to provide the research team with further information regarding the effectiveness of the survey tool, as no qualitative feedback was received from employers during the pilot. In other words, by administering the survey with a small initial group of employers, the research team was able to gauge response rate prior to disseminating the survey to the remaining employers (Andrews et al., 2013; FluidSurveys 1-4, 2014). Also, three follow up reminder emails were sent to each group of employers (see Appendix L for more specific details on survey campaign timelines).

Finally, to provide a confidential means through which employers could provide their contact information, a second short survey was created using FluidSurveys, in which participants could access a single survey question regarding entry into an optional draw for a prize. By creating a second survey, employer survey question responses could not be connected to identifiers, thus ensuring confidentiality. This secondary survey was also subject to expert review, as described above.

Data Collection and Management

Email Campaign Data

Email campaign reports were shared with the research team through the Hired Career Services Portal after each new campaign was initiated. Upon launching a new campaign, results from the previous launch were shared through email. This resulted in eight reports — four from the campaigns associated with the first 300 employers and three associated with the campaigns to the final 4,185 employers.

In addition to information sent directly from research support at Career Development (e.g., number of “bounce-back” emails), these reports allowed the research team to determine the following information:

- Total number of emails sent
- Total number of bounce-back emails
- Total number of employers removed from the email list (either due to employer request or because the email bounced back)
- Total number of emails opened
- Total number of emails with clicked links

For this study, the research team used this information to determine the final sample size and response rate for the survey. A summary of this information is provided in Appendix O.

Survey Data

Both quantitative and qualitative survey data were collected using the Durham College FluidSurveys account hosted by the Office of Research Studies, Innovation and Entrepreneurship, ensuring secure storage on Canadian servers and adherence to Durham College security protocols. Contact information for employers who completed the secondary survey was also collected using this method. Data from both surveys were downloaded as Excel (.csv) files.

Survey response data were cleaned and shared with the research team and researchers from HEQCO for analysis. This raw data were encrypted, stored on a password protected USB and locked in the office of the principal investigator after data analysis was completed. Employer contact information from the secondary survey was also stored as above; however, this information was not shared beyond the research team. Once the analysis and the draw for the incentive was complete, all data were deleted from the FluidSurveys account.

Data Analysis

Data collected using FluidSurveys were analyzed and summarized using descriptive statistics and content analysis. Respondents who did not complete the survey were included in the analysis as long as they proceeded past the demographic questions and consented to participate in the study. A total of 323

employer responses were included in the analysis. Three open-response questions and six closed-response question were analyzed.

NVivo 11 Pro was used to analyze the three open-response questions. A conventional content analysis method was used to analyze the open responses (Hseih & Shannon, 2005). A primary coder coded all three open responses and a secondary coder analyzed 50% of the responses. Cohen's Kappa was used to calculate the inter-observer reliability and it was found to range between 84% and 99% for all three questions, indicating good reliability (Krippendorff, 1980).

It became apparent during the analysis of the open responses that some employers interpreted the difference between an ePortfolio and a paper portfolio as simply the difference between an electronic or paper résumé and cover letter. Due to differing interpretations, the research team chose to analyze and interpret the data through the following lenses:

- Respondents who had a similar interpretation of the ePortfolio concept to that given (i.e., an understanding)
- Respondents who had a different interpretation of the ePortfolio concept than that given in the survey (i.e., a misunderstanding)
- Respondents who had an unknown interpretation of the ePortfolio concept (i.e., unknown understanding)

This was done by looking at respondents' open responses. The results from many of the survey questions were analyzed using these three categories to create a more accurate picture of employers' perceptions of portfolios (see Appendix P for the analysis plan).

Results

Phase One Initial Findings

EPortfolio Platform Feedback

Several potential opportunities and challenges were identified following a more comprehensive testing of the D2L platform.

The D2L ePortfolio tool offers several benefits that are not available with a free open source tool:

- D2L ePortfolio is integrated in the institutional LMS using a singular, reliable, secure and password-protected learning and ePortfolio-architecture environment.
- Students can access training, resources and orientation material under the singular umbrella of the LMS.
- Students do not need to back up their material as all material is stored and automatically saved by a secure institutional server every 24 hours.

- Faculty can quickly select, store and share documents with students.
- Most LMS tools, such as the assignment drop box, are linked to the ePortfolio tool allowing faculty to automatically forward all assignment evaluation feedback to individual students' ePortfolio collections.
- Faculty can customize the ePortfolio templates and send an editable or non-editable copy to all students.
- Faculty can send any course-related ePortfolio instructions and documents directly to individuals or to the entire class.
- Students can share and comment on peer ePortfolio documents and presentations as part of the LMS rather than through a public online forum or website.
- Marked assignments can be automatically added to the ePortfolio collection.
- Student ePortfolios, documents, items, artifacts and presentations can be transferred and managed within a free MyD2L account upon graduation.

Use of the D2L ePortfolio tool also included several challenges including:

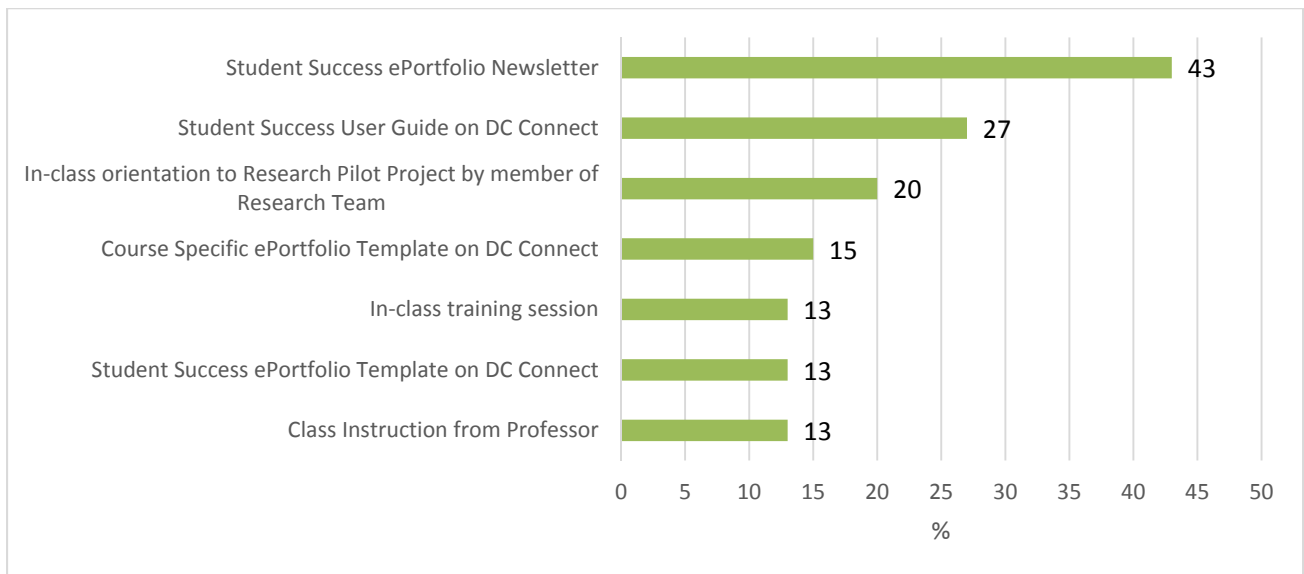
- Unfamiliar and highly proprietary terminology
- Lack of ePortfolio/webpage format and editing tools (e.g., page to page linking, formatting of images or embedded files)
- Users could not see presentations until initial text editing was completed and previewed (i.e., no html editor, no WYSIWYG)
- Limited functionality of the D2L ePortfolio rubric tool for instructors
- Lack of information on student use of platform outside of school
- Need for program- or course-specific information to be added to template each time template was used by a different course
- Interface lacks intuitiveness or ease of use

Phase One Focus Group Feedback

Improvements to the ePortfolio Resources

The comments and recommendations of both student and staff participants during the phase one focus groups helped shape the final version of the ePortfolio template, user guide and related resource materials.

Figure 1: Awareness and Use of ePortfolio Resources and Supports (% not used or seen) (n=217)



As a result of the three focus group sessions, adjustments were made to the organizational framework of the ePortfolio user guide and template based on user feedback. Technical and “how-to” information was displayed in a variety of ways to help increase accessibility and flow. Content was edited to provide greater clarity and ease of access. Information about EES assessment was more clearly linked to information about how to develop an ePortfolio.

Focus group participants identified a need for information about the security of ePortfolios and their portability. As a result, this content was added to the site. Based on recommendations of the participants, the overall appeal and appearance of the site was enhanced by adding more graphics and reducing the unnecessary text intensive segments of the user guide and template.

The support resources were further reorganized and redesigned to address focus group and project team feedback, the needs of diverse learners and project priorities. Step-by-step instructions were added to the user guide including screenshots of the various stages of development. Furthermore, the research team identified several strategies to supplement existing phase two activities, and recommendations were discussed including the development of promotional and coaching material (e.g., student, employer and faculty videos and testimonials).

Benefits of ePortfolios

Feedback from these focus groups also provided insight into the participants’ perceptions of the value of ePortfolios, when and how an ePortfolio might be used, the broad acceptance of ePortfolios among employers, as well as issues related to security of information provided by the ePortfolio user and the

portability of an ePortfolio once the user has exited the college. Most of the focus group participants were unfamiliar with the concept of ePortfolios, but were enthusiastic about their potential as a tool to present themselves, their accomplishments and achievements to others. Students stated that “once you do an EES [reflection and collection of artifacts], you have an example that can be used for all jobs.” Overall students felt that it was a “great organizational tool” and stated that they “like the idea of putting everything in one spot so this is not all scattered.” When we discussed how this might or might not be viewed by an employer, one student stated, “I would do this regardless of whether an ePortfolio would be looked at by an employer.”

Phase One Student Survey Results

Respondent Profile

There were 224 valid survey respondents from three of the four surveyed programs. Participants from one of the four participating programs were away from the college and did not respond to the survey. Almost three-quarters of the respondents were female due to two of the programs having a traditionally high female enrolment. Extensive demographic detail was not sought. See Table 9 (Appendix N) for respondent profile.

Determination of ePortfolio Users

In this study, all students had some exposure to ePortfolios. However, in order to obtain valuable information about the tool and its implementation, it is important to distinguish true users of the tool from those who had not actually used it. Students were asked whether they had “read or used” ePortfolio information or resources, as well as which features they had used. An ePortfolio user was defined as someone who had used at least one “section or feature” in the ePortfolio tool on DC Connect. Therefore, three groups were initially created:

- Those who had not read or used any of the ePortfolio information or resources
- Those who had read the information or resources, but had not used any of the features
- Those who had used at least one section or feature

The analysis showed that the first two groups were very similar in their responses to the survey questions, and were, therefore, combined as a non-user group and compared with the user group.

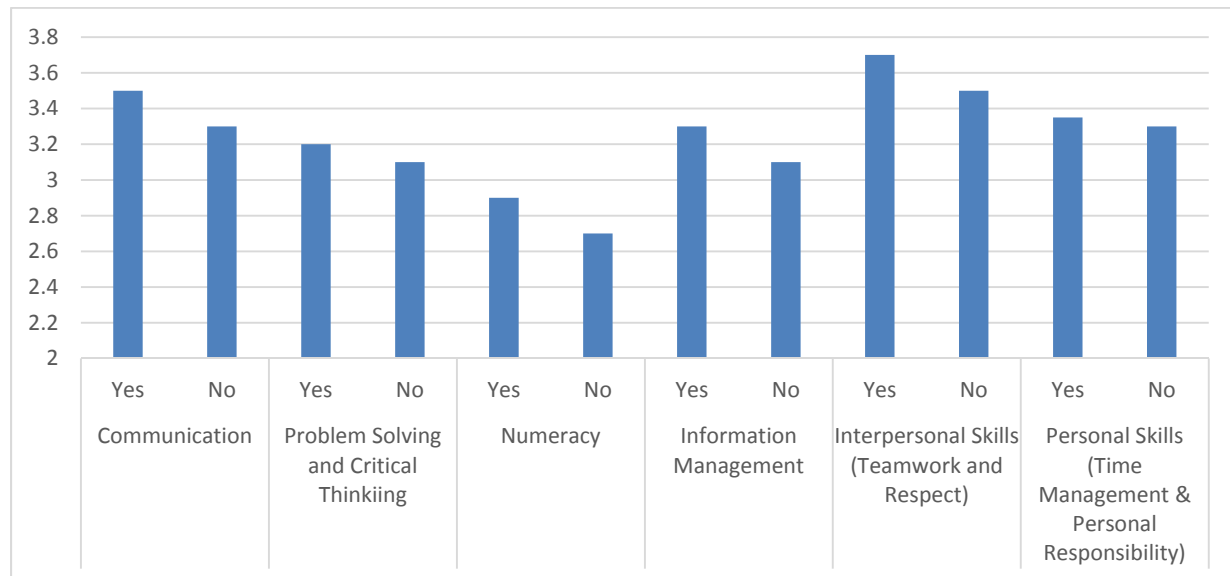
Self-Assessment of EES

As part of the survey conducted in phase one, students were asked to rate their skills across six of the EES areas (Table 10, Appendix O). Overall, students tended to rate their interpersonal skills the highest and their numeracy skills the lowest. Comparing the three program areas (while controlling for year of study) the mean self-rated score for numeracy skills was significantly higher for practical nursing students than social

service worker students. However practical nursing students rated their problem solving and critical thinking skills lower than students in the other two programs.

Figure 2 shows the comparison of self-assessed employability skills between ePortfolio users and non-users (n=224). Overall, students who used the ePortfolio tended to rate their skills higher than non-users. However, there was only a significant difference for communication skills, ($t(217) = 2.083, p = .0384$).

Figure 2: Self-Assessed Essential Employability Skills* for ePortfolio Users Versus Non-users (n=224)



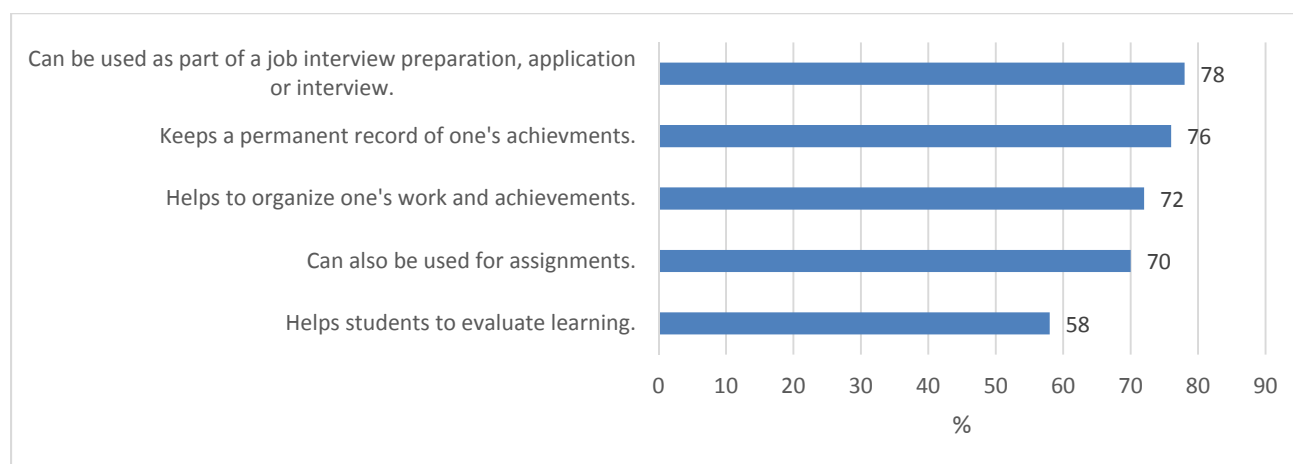
(mean score /4)

*Scale used: 4= excellent, 3=satisfactory, 2=needs some improvement, 1=needs significant improvement

EPortfolios: Perceived Benefits and Barriers

Survey respondents were provided a list of perceived benefits of ePortfolios and asked their level of agreement. Students tended to have a high level of agreement that ePortfolios are beneficial for various aspects of the job search (78% agree/strongly agree); they had the lowest level of agreement with the statement that, “it helps students to evaluate learning” (58% agree/strongly agree) (Figure 3).

Figure 3: Agreement with Perceived Benefits of ePortfolio, % agree/strongly agree (n=224)



Scale used: 5=strongly agree, 4=agree, 3=neutral, 2=somewhat agree, 1=do not agree

When analyzed according to whether or not the student had used the ePortfolio, users generally reported higher agreement levels with the perceived benefits. Table 2 shows the mean agreement scores by ePortfolio usage. Users were significantly more likely to agree that the tool helps with organizing, can be used in assignments, and can be used for job search activities.

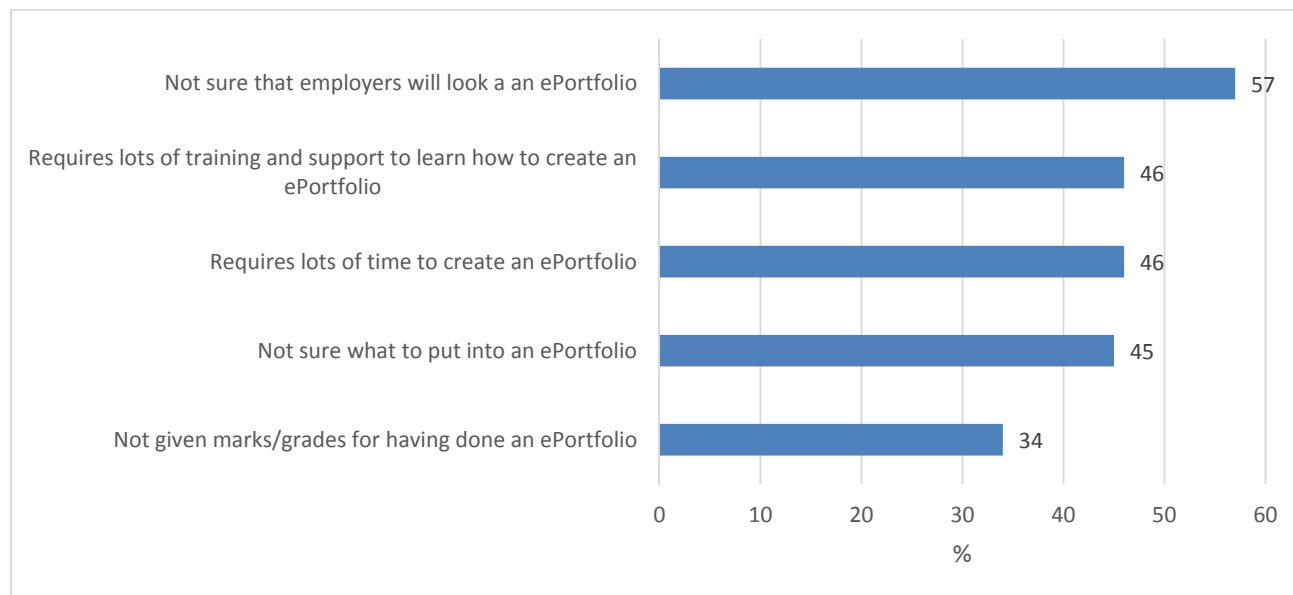
Table 2: Agreement with Perceived Benefits of ePortfolios for Users Versus Non-users

	User	Non-user	Significance
Helps to organize one's work and achievements	4.08	3.76	**
Keeps a permanent record of one's achievements	4.00	3.88	NS
Can be used for assignments	4.02	3.78	*
Can be used as part of a job interview preparation, job application or job interview	4.17	3.94	*
Helps to evaluate learning	3.70	3.61	NS

Mean scores (/5); ** p<0.01, *p<0.05; one tailed t-test was used (users were hypothesized to perceive benefits as greater than non-users)

Survey respondents were also provided a list of perceived barriers or challenges for students creating an ePortfolio and asked for their level of agreement (see Figure 4). A majority of respondents agreed that the uncertainty of whether employers looked at ePortfolios could be a barrier (57% agreement), however, for the other perceived barriers less than half of the respondents were in agreement.

Figure 4: Agreement with Perceived Barriers or Challenges for Students Creating an ePortfolio, % agree/strongly agree



Scale used: 5=strongly agree, 4=agree, 3=neutral, 2=somewhat agree, 1=do not agree

Similar to the perceived benefit analyses, users generally reported lower agreement levels with the perceived barriers and challenges. Table 3 shows the mean agreement scores by ePortfolio usage. Users were significantly less likely to agree that the tool requires a lot of time and training, and that uncertainty around content was a barrier for creating an ePortfolio.

Table 3: Agreement with Perceived Barriers or Challenges for Students Creating an ePortfolio for Users Versus Non-users

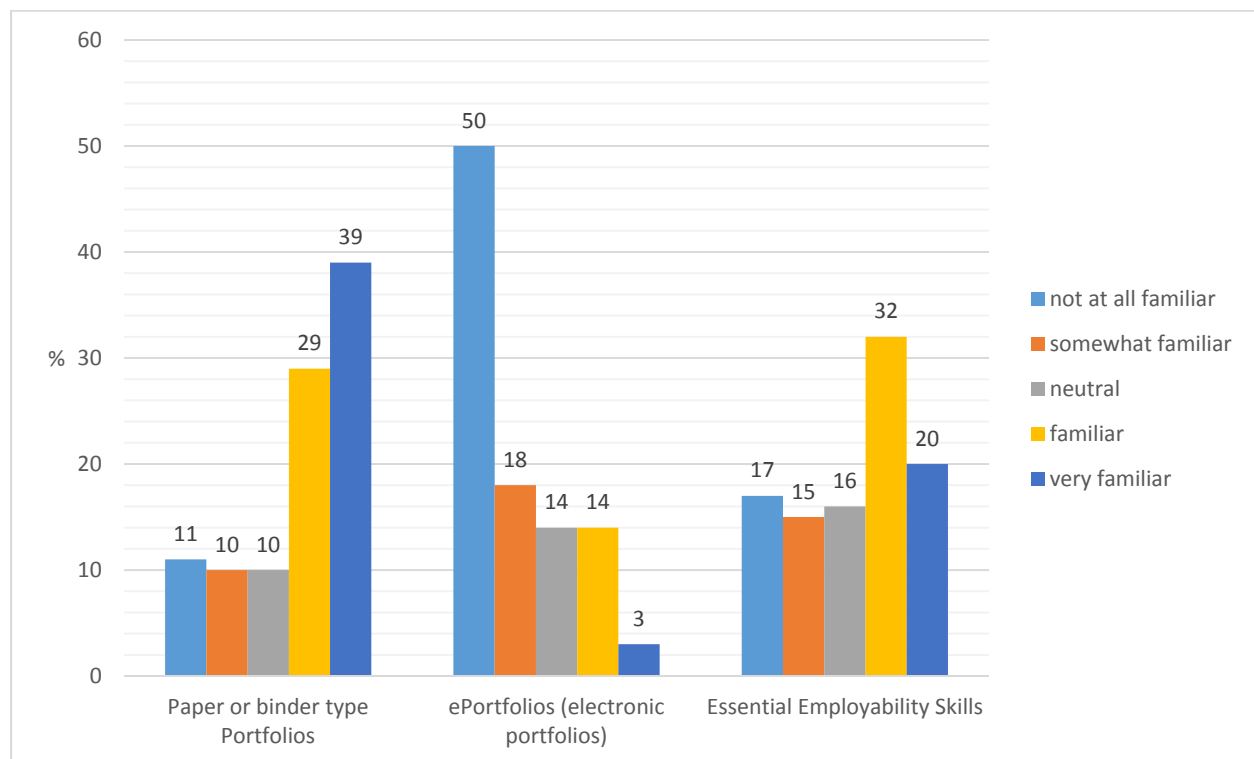
	user	non-user	significance
Requires lots of time to create an ePortfolio	3.28	3.63	*
Requires lots of training and support to learn how to create an ePortfolio	2.85	3.42	**
Not given marks/grades for having done an ePortfolio	2.97	3.10	NS
Not sure that employers will look at an ePortfolio	3.36	3.60	NS
Not sure what to put into an ePortfolio	2.74	3.30	**

Mean scores (/5); ** p<0.005, *p<0.05; one tailed t-test was used (users were hypothesized to perceive challenges as lower than non-users)

Previous Familiarity with Portfolios and EES

To ascertain students' previous awareness of portfolios and EES before the project began, students were asked to describe their level of familiarity. Figure 5 clearly shows that student familiarity with the traditional paper-based portfolio was quite high with over two-thirds stating they were familiar or very familiar. However, students' familiarity with ePortfolios was quite low before the project began, with half of the students reporting that they were not at all familiar with ePortfolios. In terms of EES, just over half were familiar or very familiar with them before the project began.

Figure 5: Previous Familiarity with Portfolios and Essential Employability Skills (%)



To determine whether previous familiarity with portfolios and EES was associated with whether the student used ePortfolios, familiarity was compared for users and non-users. The results for the mean familiarity scores are compared in Table 4 showing that previous familiarity did not have a significant impact on whether the student used the ePortfolio or not.

Table 4: Previous Familiarity with Portfolios and EES for ePortfolio Users Versus Non-users

	User	Non-user	Significance
Paper or binder type portfolios	3.82	3.73	NS
ePortfolios (electronic portfolios)	2.11	1.95	NS
Essential employability skills	3.42	3.16	NS

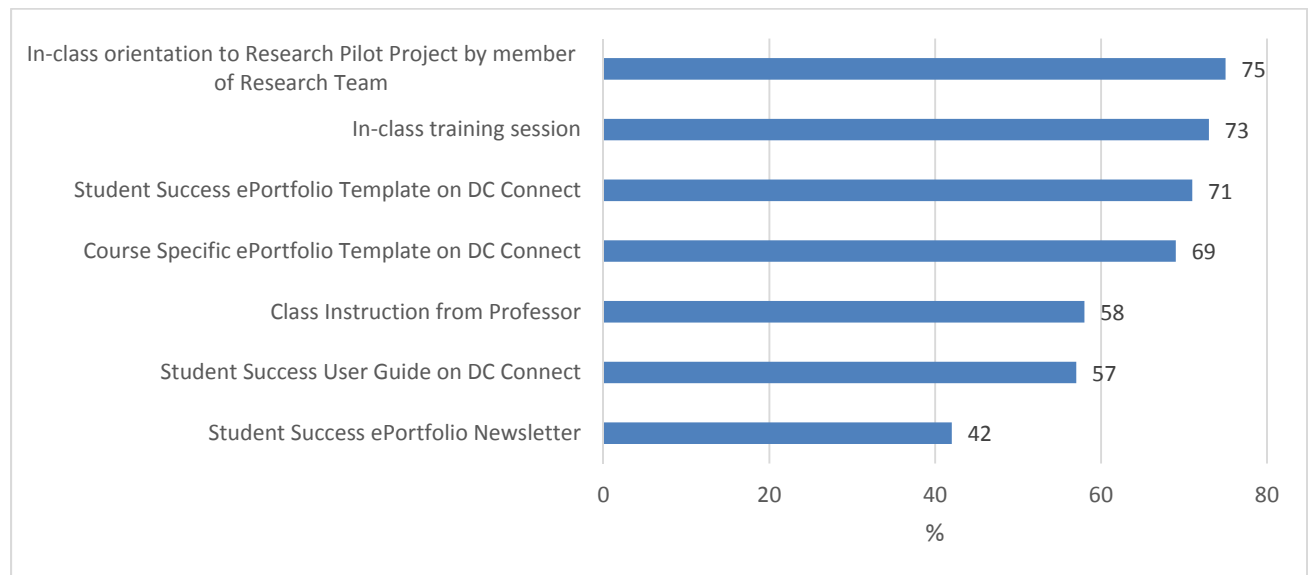
Mean scores (/5); NS=Not significant; one tailed t-test was used (users were hypothesized to have been more familiar at the start than non-users)

Resources Used and Helpfulness

This project included a wide range of resources and support services for students to build awareness and to assist students who decided to go through the process of creating an ePortfolio. In the survey, students who indicated they had “read or used” any of the project’s ePortfolio information or resources were asked which ones they were aware of or had used, and to rate the helpfulness of each. With the exception of the newsletter (42% did not use or see it), most of the resources and supports scored highly in awareness and support (>70%) (see Appendix Q).

In-class sessions and sample templates had the most awareness and use. Figure 6 shows that in-class orientation and training were the most helpful, followed by general and course specific templates provided online.

Figure 6: Percentage of Users Finding Resource Helpful or Very Helpful* (n=224)



*% of respondents who had seen or used the resource/ support

There was a wide range reported for the time it took to orient to the ePortfolio online tool; 41% required less than an hour, while 25% required more than four hours.

EPortfolio Features Used

Results for those who indicated they used at least one of the features are shown in the Table 5. A total of 66 respondents indicated use of at least one ePortfolio feature. Creating a complete or partial ePortfolio presentation and sharing with a professor are the most common uses, while sharing with peers or potential employers and completing the self-assessment rubric were the least common uses.

Table 5: Usage of ePortfolio Features and Sections

	n	%*
Add or create artifacts	57	86.4
Add or create reflections	43	65.2
Completed part of an ePortfolio presentation	45	68.2
Completed multiple sections of an ePortfolio presentation	39	59.1
Finalized an ePortfolio presentation	42	63.6
Completed self-assessment rubric	7	10.6
Shared an ePortfolio presentation with peer	20	30.3
Shared an ePortfolio presentation with professor	42	63.6
Shared an ePortfolio presentation with a potential employer	3	4.6

* Percentage of ePortfolio users

Role of an ePortfolio in EES Development

Students were asked whether they agreed that the Student Success ePortfolio Project helped them learn about and self-assess their EES development (see Table 6). Among ePortfolio users, the majority agreed with the statements provided (>70%). However, for those who had heard about the project but did not actually use any of the ePortfolio features, only 50% or fewer agreed with the statements about the role of the ePortfolio project and EES development.

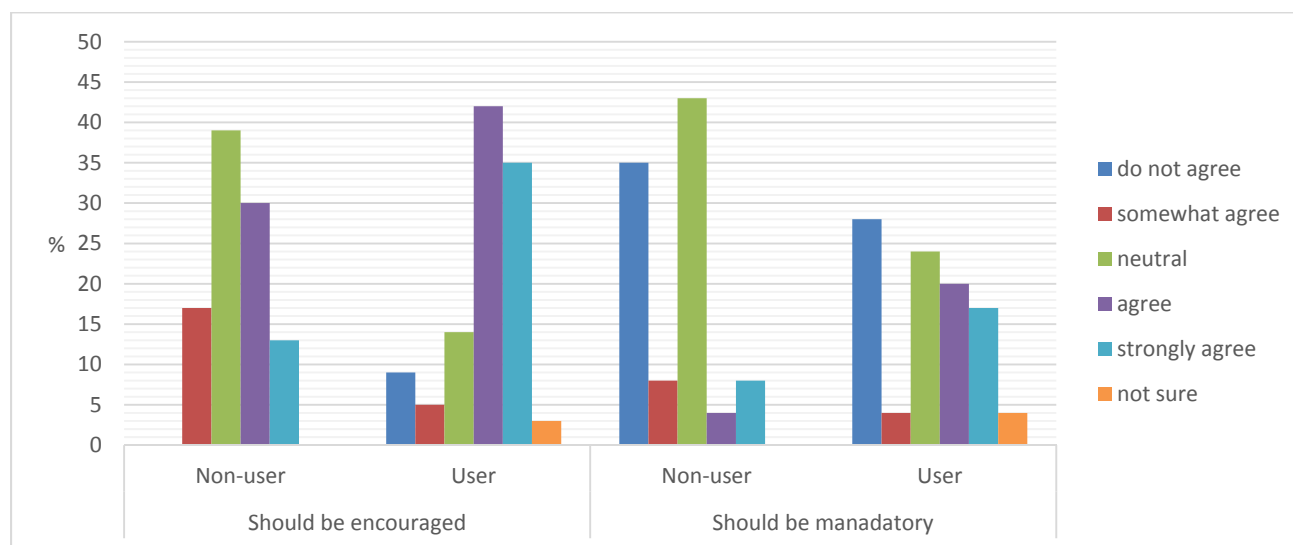
Table 6: Role of ePortfolios and EES Development by Usage (% agree or strongly agree)

	Used ePortfolio % (n=66)	Did not use ePortfolio % (n=25)
Helps students to learn more about EES	72.3	45.8
Helps students to reflect on their ongoing development of EES	70.8	50.0
Helps students to self-assess achievement of EES	72.3	41.7

Should ePortfolios be Encouraged or Mandated for Durham Students?

Students were asked their level of agreement about whether ePortfolios should be encouraged as well as whether ePortfolios should be made mandatory for Durham College students (see Figure 7). There was general agreement that they should be encouraged with those who used the ePortfolios more likely to agree (68% of users agree or strongly agree versus 43% of non-users). The results for whether it should be mandatory were somewhat polarized, with a large share not in agreement (35% of non-users and 29% of users did not agree). However, 38% of users agreed or strongly agreed that it should be made mandatory, compared with only 13% of non-users in agreement.

Figure 7: Student Agreement with Whether ePortfolios Should be Encouraged or Made Mandatory (%) (n=224)

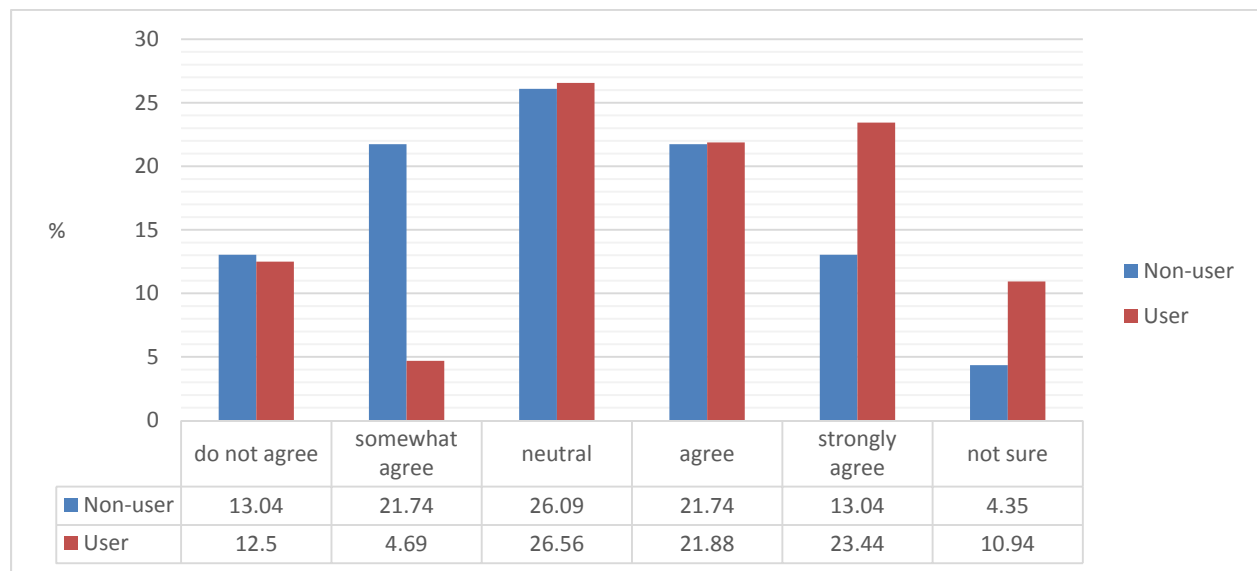


Interestingly, mandating the ePortfolio as a way to implement it was a frequent response in the open-ended questions (see “Suggestions for Implementing College-Wide” below). So although students may not agree with mandatory usage, they seem to believe it would be an effective means of implementation.

Plans for Continued Use of ePortfolios by Students

Students were also asked about their plans to continue to use the ePortfolio and the accompanying resources for their own personal or professional development purposes (see Figure 8). Although there was a fair amount of ambivalence, with high numbers unsure or neutral, only 13% did not agree that they would continue to use the ePortfolio. It is interesting to note that of those who had indicated that they had not used the tool (but were aware of it), over one-third agreed that they will use it in the future for personal or professional development purposes.

Figure 8: Students’ Plans to Continue Using ePortfolio and Resources (%) (n=224)



Next Steps: Student Point of View

Several open-ended questions were included on the survey of all respondents, regardless of their level of involvement with ePortfolios. These included:

- Suggestions for changes or improvements
- Advice for future students and faculty using the tool
- Suggestions for implementation

Suggested changes or improvements centered on the ePortfolio technology (e.g., options, editing feature issues, ease of use), as well as suggestions for improved orientation, training and support.

Suggestions for Changes or Improvements

The specific challenges identified included the following D2L platform issues:

- Difficulties adding content (within the ePortfolio application)
- Difficulties making changes to the layout
- A need for more template choices
- A need to improve overall visual appeal

When asked about orientation, training and support, seven respondents mentioned they would like to see improvements. Similar comments regarding this theme also arose in the other open-ended questions. Examples included:

“I found the in-class orientation somewhat difficult to follow. Maybe having a hands-on orientation would be helpful for those who best learn that way.”

“More training in class, better guidelines of what to include — maybe a hard copy example of portfolio for reference.”

Advice for Students and Faculty

Students provided recommendations and advice for anyone wishing to create an ePortfolio in the future. Advice for students included “starting early,” “asking for help,” and “being patient with the tool, since the benefits are worth it.”

Advice directed at faculty included suggestions such as “making the tool more user friendly,” “offering it earlier in the program,” “providing more hands-on training,” and “increasing promotion of the project.”

Suggestions for Implementing College-Wide

When students were asked about suggestions for how to implement this type of project college-wide, the most common responses centered on providing training, orientation, advertising, initiating the ePortfolio earlier in the program, and making the ePortfolio mandatory within a course or program of study. Thirty two survey respondents suggested improvements to the orientation and training currently provided, and ten respondents mentioned promoting and advertising it more. Providing training during class time and additional training sessions were frequently mentioned. Four respondents provided recommendations regarding timing, suggesting that the ePortfolio should be initiated in the first semester.

Twenty three students indicated that they would like the ePortfolio to be mandatory, while five students specifically said not to make it mandatory. Students suggested making it a part of assignments with marks associated with it, with some students suggesting that there should not be a paper portfolio option. Several students provided an interesting suggestion that it be linked to practicums/field placements.

Phase One Faculty and Staff Survey Results

Faculty and staff were issued an online survey similar to the one issued to students. The survey asked questions such as, “Can ePortfolios be used to assess essential employability skills?” Perceptions around benefits, challenges and helpfulness of resources and supports were also gathered.

Respondents

In total, there were seven respondents to the survey (see Table 7), from three of the participating programs as well as from Career Services and CAFE.

Table 7: Faculty/Staff Survey: Department or Program

Career Services	1
CAFE	2
Fitness and Health Promotion	2
Practical Nurse	1
Social Service Worker	1
Grand Total	7

Familiarity, Awareness and Use

When asked about their familiarity with portfolios before the ePortfolio project began, the majority of respondents were familiar with paper portfolios, but less so with ePortfolios (see Appendix R, Table 12). By the end of the project, as expected, all respondents were familiar with ePortfolios. In terms of EES, as expected, all staff members were familiar with them at the start of the project. Some increase in familiarity occurred with a shift from neutral/or familiar to very familiar.

Faculty and staff were also asked about the resources used and the helpfulness of each. The ePortfolio sample template had the highest awareness and use and was also considered the most helpful along with the in-class training session. Similar to the student responses, the newsletter did not score highly in usage/awareness and was considered to be of moderate helpfulness (see Appendix R, Table 13).

Benefits of ePortfolios

Faculty were provided with the same list of benefits and challenges of ePortfolios as the students, and responded similarly. There was strong agreement that it is beneficial in job searching, with some ambivalence that it helps students evaluate learning (Table 14, Appendix R).

Challenges or Barriers of ePortfolios

When asked about challenges and barriers of ePortfolios, the majority of respondents agreed with the statement that “lots of training and support is required” with moderate levels of agreement for the other listed barriers (see Appendix R, Table 15).

Sections or Features Used

As per Table 16 (see Appendix R), faculty and staff primarily used the ePortfolio tool to create artifacts and reflections. Fewer respondents reported completing and sharing of presentations or a finalized ePortfolio. No faculty reported using or sharing an ePortfolio with an employer.

Engagement

The faculty and staff survey respondents engaged with students predominantly by discussing ePortfolios, encouraging their use, and providing training and support. Staff from CAFE mentioned they had provided samples of ePortfolios and provided training and support, whereas a faculty member respondent had created a course assignment, provided feedback and training, and evaluated students’ ePortfolios.

Table 8: Level of Engagement by Faculty/Staff with Students on ePortfolio Project

Question: Please identify how you have promoted or engaged with the Student Success ePortfolio Project with students since September 2013?

	no	yes
I have encouraged ePortfolios with students.	2	4
I have discussed the benefits of ePortfolios with students.	2	4
I have provided samples of ePortfolios to students.	4	2
I have provided students with training and support on ePortfolios.	2	4
I have created a course assignment that incorporates some aspect of the ePortfolio research pilot project.	5	1
I have provided feedback on students’ ePortfolios.	5	1
I have evaluated students’ ePortfolios.	5	1

*One respondent indicated they did not formally interact with students on the ePortfolio project.

The Role of ePortfolios as Tools for Assessing EES Development

The faculty were in agreement with the role of ePortfolio creation in the development of EES, in terms of learning about them, reflecting and self-assessing them (see Appendix R, Table 17).

There was strong agreement with the role of the ePortfolio project in helping students organize material to create an ePortfolio. However, there was ambivalence about whether the faculty will continue to use the ePortfolio resources for their own personal or professional development, with some strongly agreeing and others disagreeing. It is unknown if this was due to poor question wording; respondents may have reflected on whether this was beneficial for their program or for students in meeting employment and career goals.

Similar to the student responses, the majority of faculty and staff stated ePortfolios should be encouraged for Durham College students. However, participants were polarized in their responses to the question of making ePortfolios mandatory for all students.

Phase One Focus Group Feedback

Student Challenges and Opportunities

The students who participated in the phase one focus group agreed that participating in EES ePortfolio development further raised their awareness of EES and helped them assess their current skill level. They appreciated the classroom instruction offered by the staff from CAFE and the PowerPoint slides that were posted on DC Connect. Neither student made significant use of other resource material provided; instead they relied on the peer support network they set up via Facebook. They found the platform challenging to navigate and suggested that short “how-to” pop up videos would have been useful. They noted that from their perspective, their particular ePortfolio assignment did not seem to be well integrated into the course. In response to a question about implementing EES ePortfolios college-wide, one student suggested it could be successful, but should be introduced very early in a program and be continued through to the end of the program. The second student felt that the ePortfolio should be an option now, but mandatory once students entering college were more familiar with the technology (see Appendix W for focus group summary).

Faculty Successes and Challenges

The faculty focus group responses indicated that most of the faculty had previous experience with paper-based portfolios, but not with ePortfolios. In the classes taught by focus group participants, students were required to produce a portfolio (or part of a portfolio), but in some classes students had a choice between traditional paper and electronic formats. Most of the faculty indicated that their understanding of EES had not changed as a result of the project, but that the reflective element of a portfolio, if done well, helped students assess their skill level. The faculty indicated students needed further assistance in recognizing the significance of EES.

The resources that were most beneficial included the classroom training, promotion visits from CAFE staff and a printed customized user guide prepared for the Practical Nursing students. Faculty suggested that the sessions presented by CAFE staff be videotaped and made available to staff and students.

Challenges with site navigation were common. Faculty agreed that ePortfolios are playing an ever-increasing role in education and employment, and that the ePortfolio platform should be made available to all students in the college. However, they had mixed opinions about making ePortfolios a mandatory element of programs. They indicated that further consideration was required to clarify the purpose(s) of the ePortfolio, and how it would integrate into the various programs Durham offers. To enhance future ePortfolio use in classroom settings, faculty suggested that the introduction and use of the ePortfolio should begin early in the program, that students be required to develop greater familiarity with the platform, and that students be required to complete more reflective writing.

360-Degree Feedback

The project was unsuccessful in recruiting students to participate in the 360-degree feedback portion of the project. Although one student did initially submit his ePortfolio for 360-degree feedback, he did not continue in the study for reasons that have not been determined. Due to this lack of participation, no employers were involved in this phase of the study meaning no feedback results are available.

Phase Two Employer Survey Results

Phase two of this study focused on employers' perspectives of ePortfolios and sought to answer the following primary research questions:

- From the employer's perspective, what value, if any, do ePortfolios have in the hiring process?
- What skills, if any, do employers expect to be demonstrated through an ePortfolio? In what way?

An analysis through the lens of the following questions allowed the research team to answer the primary research questions:

- Are employers currently using portfolios during the recruitment, screening, interview and hiring processes?
- What industries are using portfolios?
- Why are employers using portfolios?
- Why are employers not using portfolios?
- Would non-users consider using portfolios in the future? Why or why not?
- What skills would employers expect to be demonstrated through a portfolio and in what way?
- What components, if any, would employers find helpful to see in a portfolio and why?

Note that the survey questions included both ePortfolios and portfolios with the logic being that the use of portfolios in general was important to measure and that ePortfolios would be a subset of this measurement. If an employer is using portfolios, they are more likely to transition to ePortfolios.

Are Employers Currently Using Portfolios During the Recruitment, Screening, Interview and Hiring Processes?

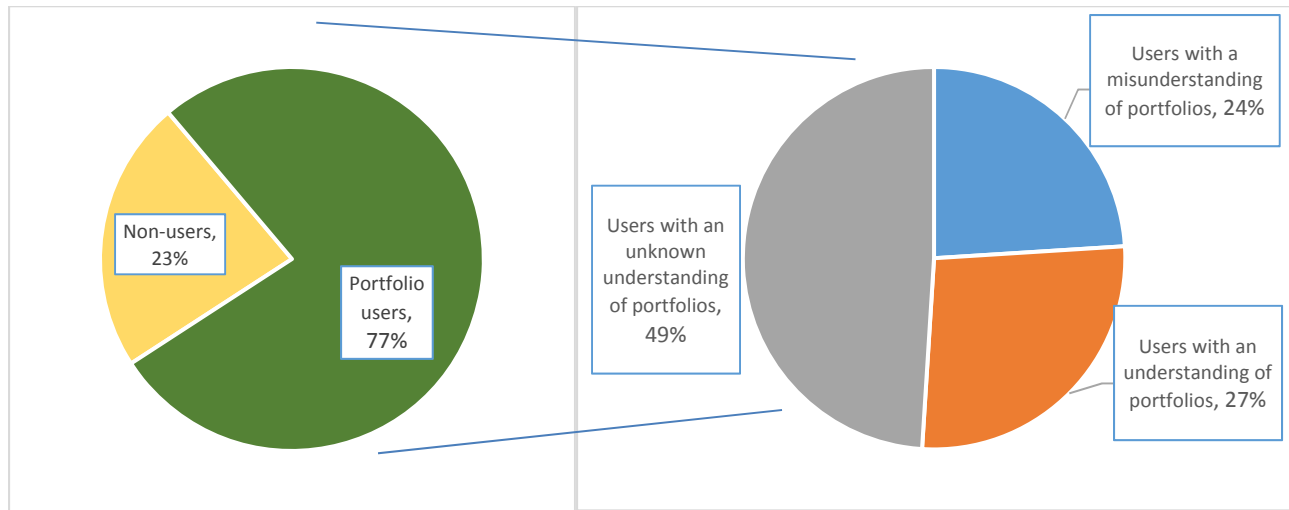
Of the 323 employers who responded to the survey, 52% reported using ePortfolios and non-electronic portfolios, 25% of employers reported using only non-electronic portfolios and 23% said they had never used portfolios (see Figure 9).

However, this is not an accurate picture of employers' use of portfolios (including ePortfolios). The open responses revealed that many of the employers had a different interpretation of the concept of a portfolio than the definition provided at the beginning of the research survey. In many cases respondents indicated that an ePortfolio was considered an electronic submission of the traditional job application (résumé, cover letter and references) and a paper portfolio was considered a non-electronic submission of a cover letter and résumé. Based on the mixed responses, respondents were classified as follows:

- Respondents who had a similar interpretation of portfolio (or ePortfolio) to the research definition (i.e., an understanding)
- Respondents who had a different interpretation of portfolio (or ePortfolio) than that given in the survey (i.e., a misunderstanding)
- Respondents who had an unknown interpretation of the portfolio (or ePortfolio) concept (i.e., unknown understanding)

Of all survey respondents, 19% (n=60) indicated that they used portfolios, but were found to have a misunderstanding or different interpretation of portfolios (see Figure 9). When these respondents were asked why they review ePortfolios, they stated that "We focus more on résumés emailed to us and it is easier to organize than paper résumés." Similarly, employers that indicated they prefer paper portfolios said, "We generally receive paper résumés."

Figure 9: Use of Portfolios by Employers during Recruitment, Screening, Interviewing and Hiring* (n=323)



***Note:**

- “Users with an understanding of portfolios” refers to respondents who had a similar interpretation of portfolios (including ePortfolios) to that given in the survey.
- “Users with a misunderstanding of portfolios” refers to respondents who had a different interpretation of portfolios (including ePortfolios) than that given in the survey.
- “Users with an unknown understanding of portfolios” refers to respondents who had an unknown interpretation of portfolios (including ePortfolios).

Of the 66 employers that were found to have a similar understanding of portfolios, the frequency with which they use portfolios varied (see Appendix T, Figure 14). The survey revealed that 20% used portfolios rarely, 35% used portfolios sometimes, 22% used portfolios frequently and 23% used portfolios all of the time.

What Industries are Using Portfolios?

When respondents who demonstrated an understanding of portfolios were examined based on industry, employers in educational services, manufacturing and business were found to understand portfolios the best (see Appendix U, Figure 15). When the percentage of portfolio users (electronic and non-electronic) with a clear understanding were included with those with a misunderstanding of portfolios and were examined by industry, a slightly more valuable picture emerged (see Appendix V, Figure 16). For this part of the analysis, sample sizes were very small and no clear conclusion can be drawn because interpretation of portfolios was used as a proxy for ePortfolio use.

A large proportion of employers in public administration demonstrated a clear understanding of portfolios over a misunderstanding (i.e., similar versus different interpretation). Of those surveyed, 50% expressed a clear understanding of portfolios, 25% a misunderstanding and 25% were unknown. Similarly, 38% of employers in educational services demonstrated a clear understanding, 10% a misunderstanding and 52% were unknown. Employers in three industry categories — trades; information, culture and recreation; and finance, insurance, real estate and leasing — often expressed a misunderstanding and no respondents in these industries demonstrated a clear understanding of portfolios. There was not enough data on employers in agriculture; forestry, fishing, mining, quarrying, oil and gas; transportation and warehousing; and utilities.

Why are Employers Using Portfolios?

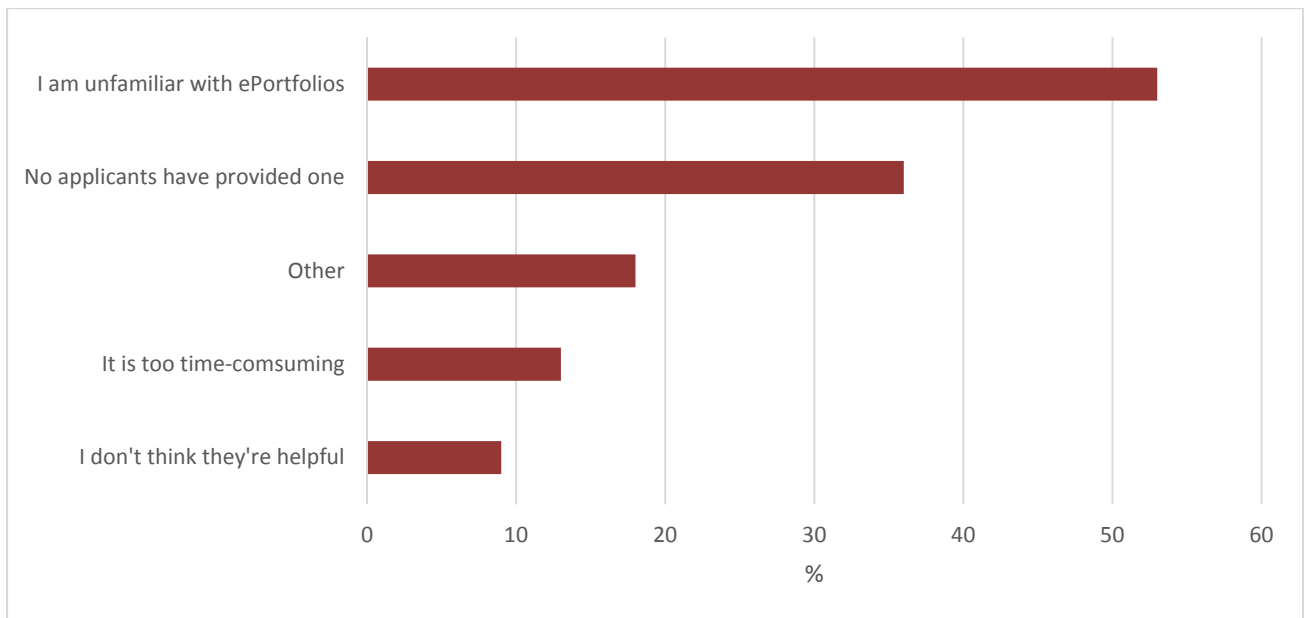
In an open-response question asking employers why they are reviewing portfolios (electronic or paper), the three most common reasons cited were ease of access to information, a better overall picture of an applicant, and a better understanding of an applicant's skills and abilities. Portfolios were also reported to add some value in the hiring and screening process, and provide more information about applicants' education and experience.

Using portfolios to gain a better understanding of applicants' skills, knowledge and abilities was the most commonly cited reason for using portfolios among respondents who were identified as having a good understanding of them. Twenty-six percent (n=66) discussed how "ePortfolios permit us [employers] to see the applicants work products and skills more clearly." A few employers that were identified as understanding portfolios also indicated that they will review portfolios if applicants provide them, but they do not require them. Some respondents expanded on this and explained that specific positions lend themselves to portfolios more than others. For example, "If a position requires creativity, that is, marketing or advertising positions, etc., we will view [it] to get a feel for what they have created in the past. We don't require it, but if someone provides it, we will view it and it probably elevates their possibility of obtaining the position over someone who doesn't provide [one] (if their ePortfolio shows what is applicable to the position)."

Why are Employers not Using Portfolios?

Employers who indicated they were not using portfolios (n=74) were asked why they are not using them. They were given multiple options and asked to select all the reasons that applied. Unfamiliarity with portfolios and applicants not providing portfolios were the most common reasons respondents gave for not using them (Figure 10).

Figure 10: Reasons Employers do not Use ePortfolios During Hiring (n=74)



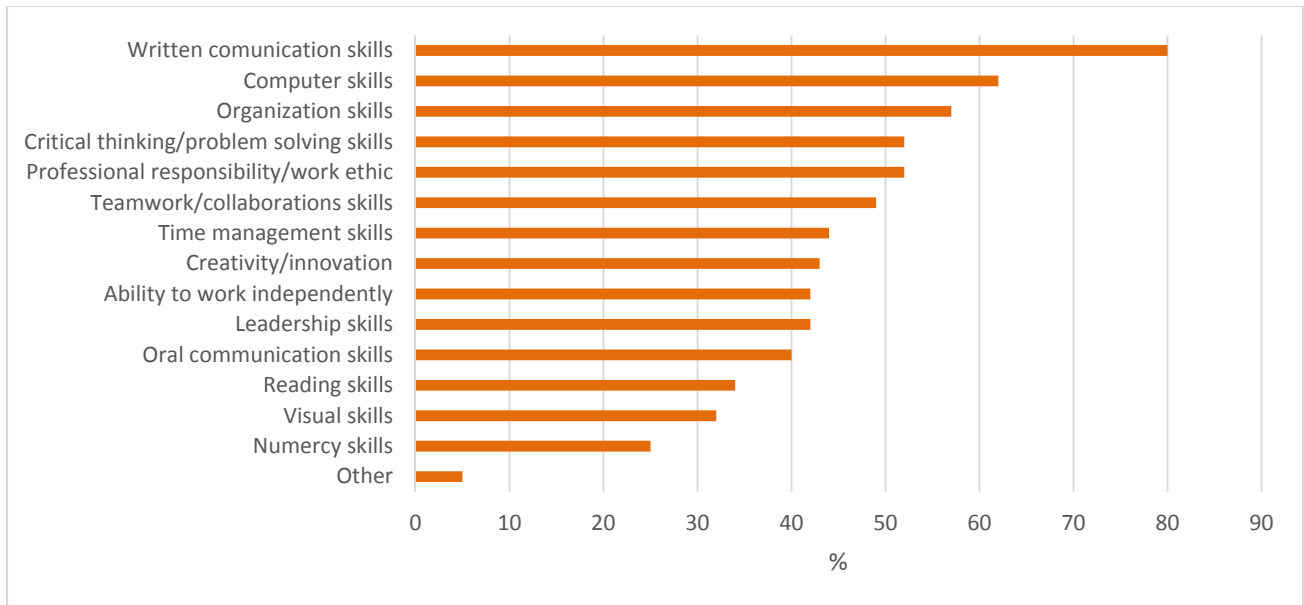
Would Non-users Consider Using Portfolios in the Future? Why or Why Not?

When non-portfolio users (n=74) were asked if they would consider using portfolios in the future, 65% said they would consider using them and 35% said they would not. Those that said that they would consider using portfolios in the future suggested that they would use them to gain a “more accurate and thorough presentation of the candidates.” While gaining a better overall picture of candidates was the most frequent response, they also indicated that “if it makes the hiring process simpler, I would be interested.” Respondents that said they were not interested in using portfolios in the future suggested that portfolios are “not necessary” and are “too much work.” They reported that “for our field we do not require portfolios,” they are “not necessary given [the] type of positions we hire for,” and “I just think it's too time-consuming. A candidate should be able to showcase their skills effectively in their résumé.”

What Skills Would Employers Expect to be Demonstrated Through a Portfolio and in What Way?

Employers who reported using portfolios (electronic and paper) were asked which generic skills — EES — they could assess by reviewing an applicant’s portfolio. It’s important to remember that a number of these respondents had a different interpretation of the portfolio concept than that given. With that in mind, 81% of respondents (n=249) indicated that written communication skills could be assessed through a portfolio (see Figure 11). Computer and organization skills were also high on the list of skills that employers indicated could be assessed using an applicant’s portfolio. Only 25% of employers expected that numeracy skills could be assessed.

Figure 11: Generic Skills that Portfolio and ePortfolio Users Perceive could be Assessed Using Portfolios (n=249)

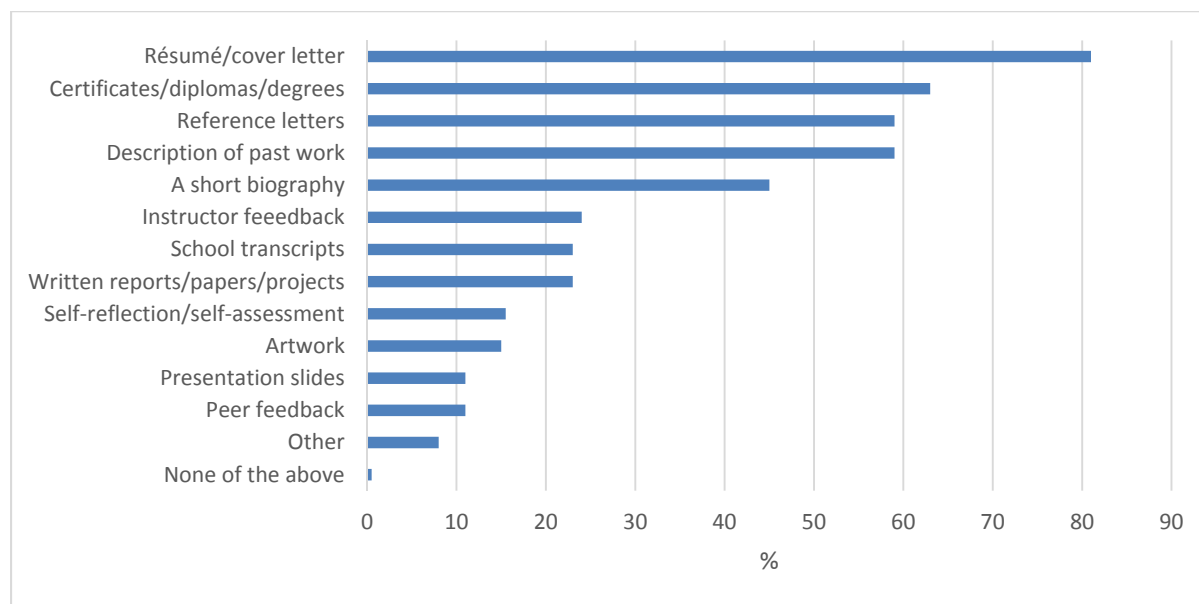


In an open-response question, employers were asked to describe how a job candidate could effectively demonstrate these skills using a portfolio. The three most common responses were using a résumé or cover letter, examples of past or current work, and lastly, that the creation of a portfolio in itself demonstrates these desired skills. Employers expressed that, “The ability to create an ePortfolio shows computer knowledge and hopefully they spell check and edit [their] work, which demonstrates professionalism and working independently.” Employers also thought applicants could demonstrate their skills by including proof of education (certificates and transcripts), writing samples, and feedback from employers, instructors and peers.

What Components, if any, Would Employers Find Helpful to See in a Portfolio and Why?

Employers suggested that a number of different documents and artifacts should be included in a portfolio. Of employers who reported using electronic or non-electronic portfolios, 81% indicated that including a résumé and cover letter in a portfolio would be helpful. They also said that including proof of education (e.g., certificates, diplomas), reference letters and descriptions of past work would be beneficial. Only 11% of employers thought that including peer feedback would be a good idea (see Figure 12).

Figure 12: Artifacts and Documents that Employers Perceive as Useful in a Portfolio



When employers were prompted to explain why these artifacts and documents would be important to include in a portfolio, they explained that “it’s important to see proof of what a candidate says they have accomplished/can accomplish.” Employers indicated that many of the components listed in Figure 12 helped applicants validate their skills/abilities and demonstrate their past experiences. To a lesser extent, employers indicated that the components give them a better overall picture of the applicant, and help them determine the applicant’s personality, character and education.

Discussion

Familiarity of ePortfolio and Awareness of EES

The majority of both students and faculty were familiar with paper portfolios, but less so with ePortfolios. By the end of the project, as expected, all student ePortfolio users and faculty respondents were familiar with ePortfolios. Given the fact that participants were studying in health or community programs, students tended to rate their interpersonal skills the highest, with numeracy skills at the lower end of a four-point scale. However, students who used the ePortfolio tended to rate most of their skills higher than non-users. The survey findings suggest that using at least one feature of the Student Success ePortfolio tool had a positive impact on students with respect to confidence in self-assessing EES, a finding confirmed via focus group interviews and the current literature. This implies that ePortfolios may be effective in assessing the development of those aspects of the EES that relate to boosting confidence, but more information is needed to determine to what extent. All faculty were familiar with ePortfolios at the start of the project; however, some increase in familiarity occurred with a shift from neutral or familiar to very familiar. For faculty,

integrating the Student Success ePortfolio tool can become another tool in the pedagogical toolbox easing the assessment of the development of EES among their students. However, further research regarding integration of the ePortfolio into the curriculum is required.

Perceived Benefits and Barriers

A large majority of students (78%) reported that using an ePortfolio for various parts of a job search was a benefit. Most students also agreed that an ePortfolio can provide a permanent record of achievements (76%), organize one's work (72%), and be used for assignments (70%). This was most evident among student users as opposed to non-users. In other words, student users perceive more benefits of ePortfolio use than non-users. These results further suggest that students consider ePortfolios to be valuable. Faculty and staff perceptions of the benefits of ePortfolios were similar to student perceptions. Faculty and staff deemed ePortfolios beneficial in job searching, but expressed ambivalence regarding whether or not ePortfolios help students evaluate learning.

The main barrier reported by students was an uncertainty that employers would look at their ePortfolios (57%). For this reason, phase two focused on employer perspectives of ePortfolios as a means to alleviate this concern. Alternatively, the main barrier reported by faculty was the large amount of training and support required when learning how to create an ePortfolio. Further research of how best to support faculty during integration of ePortfolios into the curriculum would be required to address this concern.

In focus groups, both students and faculty reported further barriers, such as difficulty navigating the ePortfolio platform. Students also reported that the ePortfolio tasks were not well integrated into their course, raising further concerns regarding support of both faculty and students during ePortfolio integration efforts.

EPortfolio Resources and Supports

For students, in-class sessions and sample templates were the resources and supports that had the most awareness and were used most often. Similarly, when considering which resources were the most helpful, in-class orientation (75%) and training (73%) both ranked highly, followed by general and course-specific templates provided online (71%). These results were corroborated during the focus group interviews. However, one interesting finding arose from the focus groups when discussing supports: students tended to prefer online supports. In addition to requesting online video support, students reported creating a Facebook group, which they used to support each other, in addition to the online support available via DC Connect.

The ePortfolio sample template had the highest awareness among, and use by, faculty and was considered the most helpful, as was the in-class training and the user guide. Additionally, during the focus group interviews, faculty revealed that video instructions would have been helpful, an opinion shared by the students. Although this information does not directly address whether ePortfolios are effective in assessing EES development, it does suggest that, from Durham College student and faculty perspectives, in-class

orientation, ePortfolio templates, a peer-support mechanism (e.g., Facebook) and instructional videos are important considerations to effectively engage stakeholders in any ePortfolio initiative.

EPortfolio Features Used

Among student users, creating a complete or partial ePortfolio (63.6% and 68.2% respectively) and presentation and sharing with a professor (63.6%) were the most common uses. Since students were completing assignments for the project, and were likely used to sharing assignments with professors, these results are logical. These results further suggest that from the students' perspectives, there may be value in creating at least a partial ePortfolio; however, from the student perspective, the question as to what extent the ePortfolio is effective in assessing EES development remains unanswered.

Sharing with peers (30.3%) or potential employers (4.6%), and completing the self-assessment rubric (10.6%) were the least common reported uses of an ePortfolio. Since the majority of student users were concerned that employers would not look at their ePortfolios, it is logical that this type of usage was not more popular. Of interest, however, is the lower instance of sharing the ePortfolio with peers. Lack of time and confidence were reasons identified by the research team as to why there was no student participation in the 360-degree feedback portion of the study (see Results). These reasons may also explain the aforementioned results. For example, since an ePortfolio can be considered as a base for further development down the road, it is possible that students did not feel their ePortfolios or partial ePortfolios were ready to be shared. Furthermore, students may not have been comfortable since they were only working with ePortfolios for a short time and may not have become fully familiar with the support resources. Further research considerations could include peer assessment as part of an ePortfolio integration initiative.

For faculty, creating artifacts and reflections were reported as the most commonly used features. Reflections seemed to be more of a priority for faculty than students, a fact that was corroborated by the faculty focus groups from phase two. For example, faculty highlighted that the reflective element of the portfolio — if done well — helped students assess their skill level. This result highlights faculty perceptions that reflection is key to an ePortfolio being a successful tool for assessing the development of EES. Further research could investigate how to best engage students in reflective activities during ePortfolio creation, with the goal of developing a better understanding of the significance of EES both academically and for employment purposes.

The Role of an ePortfolio in EES Development

Among students who used the ePortfolio, the majority agreed with the statements provided (>70%): that ePortfolios help students learn more about EES, reflect on their ongoing development of EES, and self-assess achievement of EES. Faculty agreed and went on to highlight that ePortfolios were useful in helping students organize material. However, for those who had heard about the project but did not actually use any of the ePortfolio features, only 50% or fewer agreed with the statements about the role of the ePortfolio in EES development.

These results provide evidence that, from student and faculty perspectives, ePortfolios help with EES awareness, development and self-assessment, although it is still unclear to what extent. An investigation into how to integrate ePortfolios into other programs at Durham College needs to be considered prior to moving forward.

Future Use of ePortfolios

Over one-third of students, whether they used the ePortfolio tool or not, agreed that they would use it in the future for personal or professional development purposes. Again, this suggests that, from the student perspective, there is value in completing an ePortfolio. However, its effectiveness in assessing the development of EES is still unknown, both due to the small sample size for some of the data and the limitations of the data itself.

Student Engagement

Although faculty and staff predominantly engaged students by discussing ePortfolios, encouraging their use, and providing training and support, only one faculty member created a course assignment that incorporated aspects of the ePortfolio research project, provided feedback on students' ePortfolios, and evaluated them. Therefore, it is logical that students reported feeling that the ePortfolio was not well-integrated into their courses.

In line with the open-ended and focus group responses provided by students, faculty suggested that ePortfolios be introduced at the beginning of a program to provide students with the opportunity to learn the platform as they move forward. Faculty also suggested that students require greater exposure to reflective writing, again corroborating the finding that the focus of faculty is on ensuring that students understand the significance of EES, rather than simply being aware of them.

Both students and faculty reported that ePortfolio creation should be encouraged, with mixed responses regarding mandatory completion during implementation of an ePortfolio initiative. Interestingly, although student survey results revealed mixed feedback regarding mandatory completion of ePortfolios, when asked about college-wide implementation strategies, many students suggested that ePortfolios be made mandatory. Again, additional efforts are needed to further address best practices in engaging students in ePortfolio creation, specifically from the perspective of integrating ePortfolios into the curriculum.

360-Degree Feedback

The research team was unsuccessful in recruiting students to participate in the 360-degree feedback portion of the project. Several factors likely contributed to this, including competing workload issues and the fact that students may not have sufficient time to fully develop an ePortfolio. Completion of the EES ePortfolios by the eligible second year students coincided with the end-of-term assignments, final exams, placement and graduation.

This raised additional research questions about student engagement in the 360-degree feedback project such as:

- Do students value this type of assessment?
- Were students intimidated by this process? Concerned about sharing ePortfolios with a potential employer? Another student?
- How many students fully completed an EES ePortfolio? What would have helped them complete this?
- When is the best time to recruit students and have them share an ePortfolio with an employer?
- Do students have concerns with sharing? Security? Privacy?
- Are the students receiving sufficient training, faculty support and other resources to help them complete an ePortfolio?
- Does the D2L ePortfolio tool provide students with the right set of features?
- Are the overall aesthetics (which have been previously described by students as “limited”) pleasing and suitable for sharing with a potential employer or industry representative?
- What would help to support and motivate students to complete an ePortfolio? To participate in 360-degree feedback?
- Would giving marks/grades help? Monetary incentives? Making it a mandatory component of a course?

Scalability

Continued efforts are needed to engage larger and more diverse sample sizes. This will provide the necessary data to determine scalability and suitability of this type of initiative. The results of phase one of the project suggest that the processes, methods and strategies were successful in creating a community of ePortfolio users that were highly engaged, saw great value in the ePortfolio as a learning and development tool, and were interested in continuing to use the tools and resources beyond the research study. Although phase one of the project was unsuccessful in recruiting students to submit their ePortfolio to employers, faculty and peers for a summative assessment, this finding was less likely due to sample size and more likely due to the short time frame within which the project was done. Both the data analysis and the literature search indicate that ePortfolios require a steady input of time and effort and are best sustained when introduced at the start of a program and reinforced throughout the program of study.

Employer Perspectives

EPortfolio: Interpretation, Use and Non-Use

Employers were found to have different interpretations (labelled as misunderstandings) of the ePortfolio definition given at the beginning of the survey. For example, although 77% of respondents reported using portfolios (including ePortfolios) and 23% reported not using portfolios, it became clear through analysis of the open-ended responses that not all users interpreted the ePortfolio in the same way. This was evident as some described a portfolio (including ePortfolio) as a traditional résumé, cover letter and references, whereas others felt a portfolio should include other documents as well (e.g., examples of past work, degrees etc.). Of the survey respondents who reported using portfolios (77%), 19% misunderstood (i.e., had a different interpretation), 20% understood (i.e., had a similar interpretation), and 38% had an unknown level of understanding (i.e., an unknown interpretation). Based on these results it was difficult to interpret the quantitative data.

The most likely explanation of the differing interpretations was that those surveyed had insufficient experience with ePortfolios. Also, different industry sectors use ePortfolios for different purposes. There is a variety of ways in which ePortfolios can be used, including enriched learning, and improved career development, transfer and assessment (Clark & Eynon, 2009). In other words, the definition of portfolio or ePortfolio changes depending on the context within which it is used and who the user is. Lievens (2014) suggests conflicting paradigms, that of a constructivist versus a positivist, as a possible reason for the differing perspectives that exist between the higher education sector and employers. In higher education, the dominant perspective is the constructivist perspective. The constructivist perspective focuses on learners, learning and reflection. This perspective suggests that ePortfolios can vary in meaning and purpose. Alternatively, a positivist approach — such as the perspective of an external reviewer of the ePortfolio (e.g., an employer) — assumes that “meaning is constant across users, contexts, and purposes” (p. 36). With many different lenses through which to examine the ePortfolio concept, any further research regarding employer perspectives of ePortfolios needs to examine what constitutes a valuable (or useful) ePortfolio as per specific employers.

Perceived Value of ePortfolios as an Employability Tool

In order to determine what value employers saw in ePortfolios, an examination of the reasons behind portfolio use was necessary. Of the employers in this study who clearly understood the term ePortfolio, reasons cited included general assistance during the screening and hiring processes, ease of use with respect to gaining information about applicants, ability to get a better overall picture of an applicant, and ability to gather more information about applicants’ education and experience. However, portfolio use to gain a better understanding of applicants’ skills, knowledge and abilities was the most commonly cited reason.

Research on ePortfolios shows that they may be valued by employers during recruitment, screening, hiring and beyond (Ward & Moser, 2008; Lievens 2014, 2015). Furthermore, they can provide an avenue through which job candidates can demonstrate their achievements (e.g., project samples, experience and

credentials) and employability skills (Hart Research Associates, 2015; Yorke et al., 2004; Ward & Moser, 2008; Willis & Wilkie, 2009). Some employers view portfolios as a way of understanding applicants' skills, knowledge and abilities. Thus, the value perceived by employers regarding ePortfolios is rooted both in the affordance of portfolios (including ePortfolios) as products to assist in screening and hiring applicants, and to provide an understanding of the "whole person" (Chen & Light, 2010).

Perceived Value of Specific ePortfolio Components

When employers were asked what they would like to see in a portfolio (including ePortfolios), 81% percent of employers who reported using portfolios (and who held a similar interpretation to that presented), indicated that including a résumé and cover letter in a portfolio would be helpful. They also reported that including proof of education (certificates, diplomas), reference letters, and descriptions of past work would be beneficial. Further, employers suggested that these components should be included because "it's important to see proof of what a candidate says they have/can accomplish." Interestingly, there was less support from employers for the idea that the components of a portfolio give them a better overall picture of the applicant, and that portfolios help them determine the applicants' personality, character and education.

These results suggest that although employers value ePortfolios as tools for understanding the whole person and the creative process involved in creating an ePortfolio, as mentioned above, perhaps in practice, they prefer artifacts or proof of experience when reviewing ePortfolios. The value placed on proof is also evident in the literature on ePortfolios. Online résumés such as Open Badges, Open Credentials, and distributed ledgers (blockchains) are often referenced (Ambrose, 2015; Presan, 2016; Ravet, 2016). According to Ambrose (2015), digital badges "need ePortfolios," as ePortfolios provide a platform through which proof of student learning becomes visible. A result of this is that many postsecondary institutions are looking to these technologies to assist learners in providing evidence of their learning. As such, there is common ground between postsecondary institutions and employers regarding the perceived value of ePortfolios as proof of qualifications.

What is unclear from the employer's perspective, is whether the proof is in the components of an ePortfolio (e.g., résumé, cover letter, credentials, Open Badges etc.) or if the act of completing the ePortfolio itself is sufficient for demonstrating EES. It is possible, given the results of this study, that employers value ePortfolios as both collections of components and artifacts, and as a process. Again, further research is necessary to investigate this possibility. Interestingly, conflicting or polarizing paradigms arise when employers valued ePortfolios as a process (constructivist paradigm) and also reported a preference of ePortfolios as a product (positivist paradigm). Herein lies a potential reason for the differing interpretation of the ePortfolio concept, and subsequently the gap between perceived value and adoption of ePortfolio use by employers. Further research regarding what constitutes a valuable ePortfolio from specific employers' perspectives is necessary to further understand whether employers interpret the ePortfolio tool as product, process or both. Further research here could include examining varying contexts whereby different interpretations of ePortfolios may arise (e.g., within different industries, at different stages of the recruitment process, during different career stages). Again, the recognition of the benefits of an ePortfolio

as both product and process is a common point from which to develop an ongoing relationship with employers.

Reasons for ePortfolio Non-Use

Employers who reported not using any form of a portfolio stated a number of different reasons. The most commonly cited reasons were that they were not familiar with portfolios and they had not received any portfolios from candidates. What is encouraging is that 65% of these employers stated that they would consider using portfolios (versus 35% who would not). Ward and Moser (2008) similarly reported that the majority of employers they surveyed who did not use ePortfolios stated that they were unfamiliar with them. Furthermore, of the employers we surveyed who were not using ePortfolios, 56% stated that they would consider using them in the future. Given these results, and the fact that similar results have been reported elsewhere, it is possible that employers who reported not using ePortfolios (and who may be unfamiliar with ePortfolios) may be interested in engaging in future research with Durham College to learn more about ePortfolios. Further research with this group could include a needs assessment in order to determine how postsecondary institutions can help those interested in using ePortfolios. Additionally, investigating ways of improving awareness of ePortfolios could be a relevant next step. Any study involving employers who do not use ePortfolios but who are interested in learning more can benefit from information from employers who are already using them, thus highlighting priorities for consideration.

Perceived Value of ePortfolios in Assessing EES

Further evidence of the potential use of ePortfolios as a means of demonstrating EES was found when employers were asked to highlight which generic skills they thought could be assessed by an ePortfolio. Participants reported written communication, computer skills and organizational skills as skills that could be assessed. Employers also reported that they would prefer to see these skills demonstrated using a résumé, cover letter and/or examples of past or current work, and that the process of creating a portfolio in itself was effective in demonstrating EES. This suggests that employers not only value ePortfolios as a means of assessing EES, but also as an important process through which demonstration of such skills is inherent.

It is clear that ePortfolios can engage students in demonstrating EES to both educational institutions and employers (Ward & Moser, 2008; Hart Research Associates, 2015). For example, 75% of employers believe that a student's ability to effectively describe his or her experience outweighs the experience itself (Yancey, 2009). Furthermore, a process-based ePortfolio is a means through which students can better articulate their experiences (Martini & Clare, 2014). The process allows for the development of EES as students integrate competencies across courses, which connects them to employability skills and real-life contexts while engaging in ongoing self-reflection and peer review (Fitch, Peet, Glover, Reed & Tolman, 2008). In addition, the completion of a showcase portfolio (i.e., ePortfolio as product) in a designated capstone course can extract key information from among the artifacts and reflections accumulated across the program, and focus on the specific transferable skills that the student wishes to highlight to potential employers (Martini & Clare, 2014).

The results of this study, along with prior research, suggest that employers who engage with Durham College value ePortfolios as tools to assist in the screening and hiring processes. This is because they provide the ability for job seekers to demonstrate EES through engaging in the process of ePortfolio creation and by presenting ePortfolios as products. Further investigations could explore specific reasons, from the perspective of the employer, as to why the ePortfolio creation process in itself effectively demonstrates EES. Again, this research could focus on employers who interpret an ePortfolio as more than a résumé and cover letter and who currently use ePortfolios during hiring processes.

Conclusions and Recommendations

Acquisition and development of EES is a critical curriculum component for students to master in order to obtain employment and be successful in the workplace. Amid growing pressure on graduates to show that they can reliably demonstrate these transferable skills in today's workplace, educators have also increasingly expressed a desire for valid assessment tools that will assess essential skills such as communication, critical thinking and teamwork. These skills are perceived to be vital and complementary to professional and vocational knowledge and expertise, and it is the responsibility of educational institutions to provide evidence of culminating performance of EES.

Portfolios have been well documented as an effective method of collecting and recording successful achievement of course and learning outcomes (Miller & Morgaine, 2009; Reese & Levy, 2009). There is a gap in research on the use of ePortfolios to assess generic or essential skills. EPortfolios are becoming a popular alternative to traditional paper-based portfolios because they offer a broader audience the opportunity to review, communicate and assess achievements using creative and versatile tools available in digital formats (Reese & Levy, 2009).

Students who participated in the Student Success ePortfolio Project had increased confidence in their development of EES. The project also helped students develop an awareness about EES, reflect on their ongoing development of EES and self-assess achievement of EES. Students also found that ePortfolios helped them to improve organizational skills and create a record of their accomplishments that could be used in the future. Faculty agreed that ePortfolios helped students organize material and raise awareness of the importance and value of EES.

Overall, students and faculty recommended that the Student Success ePortfolio be encouraged as a college-wide strategy for students rather than made a mandatory component of their curriculum. Further research and discussions are needed to scale this to an institutional level.

Additional research questions were raised in response to the project. The following is a summary of the key questions:

- What is the future role of ePortfolios in postsecondary education? From an employer's perspective? Faculty perspective? Discipline perspective?

- What is a valid method of assessing an ePortfolio? From an employer's perspective?
- How can Durham College operationalize, plan, implement and evaluate students and faculty in the Student Success ePortfolio process? At the school level? At an institutional level?
- What are the challenges or strengths of the Student Success ePortfolio?
- What technology/platform should be used in the future? Does it meet accessibility and universal design for learning needs?
- What are the training, faculty support and other resources needed to support an ePortfolio initiative?
- What additional approaches should be considered to support, engage and motivate students to complete an ePortfolio? And participate in 360-degree feedback?

Despite differing employer interpretations of the portfolio/ePortfolio concept, some employers value these tools, both as a product and a process. For employers who reported using ePortfolios (and had a similar interpretation of what constituted an ePortfolio), there is evidence that they also value ePortfolios as tools through which job candidates can demonstrate EES, particularly communication, organization and computer skills.

Employers reported that ePortfolios are helpful during screening and hiring processes, and can be a means through which employers can gain an understanding of a potential candidate's knowledge, skills and abilities, as well as personality and character. Not only did employers indicate the value of portfolios (and ePortfolios) both as a product and process, employers recognized the portfolio creation process itself as a potential means of demonstrating desired skills.

Several questions remain regarding ePortfolios as employability tools for assessing successful achievement of EES. For example, among employers who use portfolios/ePortfolios and had a similar interpretation of what constitutes one, it was not clear as to whether the creation process is sufficient for demonstrating desired employability skills. Students would like more information on how employers use ePortfolios in the hiring process. Further research into how ePortfolios could be used to assess EES would be valuable and would complement the existing research that supports ePortfolios as an effective teaching and learning strategy.

Possible questions to address during next steps could include the following:

- What makes a valuable (i.e., useful) ePortfolio?
- How does the ePortfolio as a product and/or process provide value in the hiring process?
- Does the value of ePortfolios differ among specific employers? Specific industries? How?
- Are different components of value applicable to different phases of the hiring process? How so?
- What does a valuable ePortfolio look like? What should be included in an ePortfolio?
- How can postsecondary institutions help increase awareness of the value of ePortfolios in assessing EES?
- How can postsecondary institutions work together with employers to ensure that it is of benefit from both a learning perspective and an employability perspective?

Further research could help determine employers' needs and identify strategies for engaging employers in discussions about how graduates can transition from an academic-focused ePortfolio to an employment-focused one.

Continuing the conversation with employers regarding ePortfolios would enhance the already strong research support for ePortfolios as transformative learning tools and would enable postsecondary institutions to answer critical questions related to how ePortfolios can be leveraged for employability and student success.

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