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The Practical Uses and Benefits of ePortfolios

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The Practical Uses and Benefits of ePortfolios

by

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A THESIS

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Abstract

ePortfolios are a rapidly emerging, powerful, and iterative form for capturing student work including accredited evidence for lifelong learning in both academic and professional contexts. The purpose of this research is to determine if and how ePortfolios can serve as a foundation for individuals to obtain, or enhance opportunities toward, meaningful employment. The question that directs this undertaking is: What are the practical uses and benefits of ePortfolios for employment purposes among undergraduate and continuing education students?

The research is addressed through a mixed methods research approach through the use of a survey to collect both quantitative and qualitative data, as well as semi-structured interviews. The results identify the perceptions students have regarding ePortfolios in showcasing their skills and knowledge, and potentially improving their employment opportunities.

The responses indicate participants believe ePortfolios provide both direct and in-direct employment leads and opportunities, and they have had positive experiences that influence their motivation to create and maintain an ePortfolio. Participants also believe ePortfolios will play an ongoing and integral role in helping to seek or obtain employment, and in enhancing or augmenting the résumé or curriculum vitae, but not replacing it.

On this basis, it is recommended that all graduates seeking employment have an ePortfolio and that Universities promote and encourage ePortfolio use among students by integrating ePortfolios into the curriculum. Continuing Education should develop a short ePortfolio development course and ePortfolio users should ensure they are maximizing the full features that the ePortfolio can provide. Future research into employer perceptions of ePortfolios is also recommended.

Preface

This dissertation titled “The Practical Uses and Benefits of ePortfolios” has been written to fulfill the completion of the Doctor of Education degree with a specialization of Leadership in Post-Secondary Contexts, within the Werklund School of Education at the University of Calgary. I was engaged in coursework, research and writing of this dissertation from July 2015 to February 2019.

The research project, of which this dissertation is a part, received research ethics approval from the University of Calgary Conjoint Faculties Research Ethics Board, “The Practical Uses and Benefits of ePortfolios”, Ethics ID: REB17-1890, on December 10, 2017.

The decision to pursue this research stems from my personal experiences as an adult learner and educator for over 20 years, with a penchant for combining education with technology. My research topic and the journey of conceptualizing how I would perform the research was realized throughout the evolution of my doctoral program. The research question was formulated together with my supervisor, Dr. Margaret (Peggy) Patterson. This research is targeted to help benefit the working adult, adult learners, recent credit and non-credit graduates, employers, continuing education practitioners, postsecondary leadership, as well as professional and government agencies.

Acknowledgements

First, I acknowledge the support of my family, including my wife Cathy, my daughter Jennifer, and my son Travis. Your sacrifice was equal to mine and I will forever be grateful for your love and support throughout my journey.

The rationale and motivation to conduct this research was influenced by several key academic influences in my life, including: Dr. Scott McLean, Dr. Jo-Anne Willment, Dr. Margaret (Peggy) Patterson, Dr. Ian S. Winchester, Dr. Sheila LeBlanc, and Dr. Lorraine Carter. I recognize my colleagues who have supported me as both my friends and peers, including my friend and classmate Rita Egizii and all the members of my cohort, as well as the colleagues that I work with.

I also recognize and thank my supervisory and defence committee members, the staff of the Werklund graduate programs office, and all the instructors who allowed me into their classes to recruit participants and administer my survey. I am especially indebted to the research participants who volunteered to complete my survey and participate in the personal interviews. Their insights provided me with the data and the knowledge to complete this research and motivated me to want to conduct additional research on this important topic.

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Chapter 1 – Introduction

Genesis / Rationale

Information and communication technologies (ICTs) have served as a change agent in the provision of higher education, pushing the boundaries of innovation in teaching and learning. The use of these technologies has contributed to the provision of a full range of pedagogical experiences for all learners, which have been transformed by new platforms of delivery and accessibility (Gras-Velázquez, 2016; Makori & Mauti, 2016; Idowu & Esere, 2013; McLoughlin & Lee, 2010).

Electronic portfolios (ePortfolios) are one such example of how technology influenced transformation is taking shape in education. ePortfolios are a mechanism for individuals to assemble and showcase artifacts that provide evidence of skills acquired through educational and extra-curricular activities, such as life experience and work-integrated learning. They are used by colleges, universities, and governmental agencies to facilitate lifelong and life-wide learning, capturing assessment, accomplishments, and accountabilities. They also provide individuals with opportunities to manage self-directed learning for personal and professional growth, helping with self-promotion and marketing to achieve meaningful employment. (Cambridge, 2008; Chambers & Wickersham, 2007; Ferns & Comfort, 2014; Jenson & Treuer, 2014). ePortfolios are a rapidly emerging, powerful, and iterative form for capturing student work that includes accredited evidence for lifelong learning in both academic and professional contexts, and for highlighting the importance of life and career competencies for the 21st century (Alexiou & Paraskeva, 2013).

Background / purpose / context.

The purpose of this research was to identify the practical use and benefits of ePortfolios for employment purposes. Faced with the challenge of dynamic, unpredictable economies, both employers and employees face constant pressure to react and respond quickly to market changes. Employers must increase or decrease their workforce by adding or subtracting employees, some of whom may be in

highly specialized roles. The employee is also under pressure to respond to market uncertainties; however, many mid-career workers are often unable to recover quickly, because they may lack the ability to re-image themselves so they appear attractive to employers.

Difficulty in hiring qualified workers to fill required positions is called the skills-gap, and the cost of the skills gap on the economy is estimated to be in the billions of dollars (Nguyen, 2013; Blackwell, 2013; Lamphier, 2015). In 2013, the federal government of Canada attempted to help close the skills divide by introducing the Canada Job Grant program. This program was introduced with a promise to help fund \$15,000 worth of classroom-based training per worker, and to provide employers with greater autonomy, by matching employer and provincial contributions up to a maximum of \$5,000 per person (Sorensen, 2014). The program is intended to help employees increase their knowledge and skills to meet the needs of a changing economy by offering funding toward the cost of training provided by eligible third-party trainers, with the cost to be shared between the Government of Canada and employers (Canada Job Grant, 2016). Can ePortfolios help close the economic skills gap? What role can higher education play in helping to close the skills gap through the application of student ePortfolios?

Merriam (2001) identifies continuing education (CE) learners as change-agents, seeking to improve their circumstances through self-directed learning which can promote emancipatory learning and social action. With a focus on personal and professional development, CE can provide flexible, relevant, and timely learning opportunities for individuals who require focused and applied learning. Many employers and their employees benefit from the flexibility CE courses and programs provide, within or outside of the workplace. As a result, it is assumed that higher education can play a role in helping individuals address the skills gap challenge by helping individuals create opportunities for themselves. Individuals can enhance their employment marketability with ePortfolios, and Hasse (2016) offers various suggestions, such as connecting the ePortfolio within social media pages, adding a link to

the ePortfolio on résumés, covers letters, and the e-mail signature. Referring to appropriate sections in the ePortfolio during job interviews, using iPad, tablet or a smart phone to “show and tell”; and referencing appropriate sections in thank-you notes and follow-up correspondence with prospective employers, providing evidence which strengthens the candidate’s position to obtain the job (Hasse, 2016).

Primary Research Question:

What are the practical uses and benefits of ePortfolios for employment purposes among undergraduate and continuing education students?

Secondary Research Questions:

What are the factors that influence undergraduate and continuing education student’s beliefs that ePortfolios may/may not enhance their employment opportunities?

Given the variety of influences and options that learners and workers have to improve and showcase their skills, knowledge and experience, what is the best method or tool individuals should use to showcase their skills, competencies and knowledge?

Can ePortfolios become the new replacement for the résumé and curriculum vitae?

There is some evidence which supports the value of individuals utilizing the ePortfolio to enhance their employment opportunities. Hart Research Associates (2013) conducted an online survey on behalf of The Association of American Colleges and Universities to identify employer priorities for college learning and student success. There were 318 participating employers whose organizations have at least 25 employees and 25% of new hires holding either a two-year college or four-year bachelor’s degree. Respondents were made up of executives at private sector and no-profit organizations, including owners, CEOs, presidents and vice presidents. “In addition to a résumé or college transcript, more than four in five employers say an electronic portfolio would be useful to them in ensuring that job applicants

have the knowledge and skills they need to succeed in their company or organization” (Hart Research, 2013, p. 3).

This research investigation determined whether formal or informal education and individual knowledge and experience portfolios help to improve employment opportunities for students. I set out to identify the factors that influence the beliefs and perceptions students have regarding how ePortfolios may assist them to become more effective in showcasing their skills and knowledge, thereby potentially improving their employment opportunities.

Significance of the Study

Most research and publications regarding ePortfolios focus on the academic application of ePortfolios in teaching and learning (Challis & Challis, 2005; Donnelly & O’Keeffe, 2013; Ellis, 2017), but there is a lack of current literature regarding direct links between ePortfolios and employability. For example, it is recognized that employers use social and networking media to aid in the recruiting process (Hensvik & Skans, 2016; Acquisti & Fong, 2015). If we consider LinkedIn to be an ePortfolio tool, there are many articles and websites which provide tips on how to be successful using LinkedIn to gain or to change employment. Many authors agree that the key criterion for success in using LinkedIn is that it will only be as effective as your profile is maintained, current and relevant (Bell, n.d.; Doyle, 2016; Roth, 2014). What is not evident in the literature is any substantial evidence that ePortfolios increase or enhance employability.

Okoro, Washington, and Cardon (2011), indicate that there is a lack of research that shows how effective ePortfolios are when compared with traditional résumés in helping individuals to obtain employment. At the same time, they foresee that individuals need to be prepared to use ePortfolios during their careers to help them secure or to have mobility in their work.

As far back as 2006, the Learning Innovations Forum (LIflA) proposed to develop and stimulate support for an ePortfolio environment that targeted skilled immigrants and potential employers. Used

by immigrants as they seek employment, workplace advancement and skills upgrading within Canada, this ePortfolio environment was meant to be used by employers to recruit and place individuals, maximizing the use of human and social capital, both individually and collectively. Compiled by Barker (2006), the final report details the goal of achieving “an ePortfolio for every citizen” and “one ePortfolio for life” (p. 5). The vision was to ensure all Canadians had access to a digital identity and a digital record of formal and non-formal learning. The Learning Innovations Forum was intent on ensuring that every ePortfolio created met international quality standards and provided return on investment for their creators and users. The report called upon government to initiate a national funding strategy so as to establish the program, however there is no evidence that this project was either supported or implemented. Further research that identifies similar programs and supporting infrastructure within civic, provincial or national levels may help to identify the opportunities and barriers to widespread ePortfolio adoption.

An assumption underlying this research is that I believe higher education can play a similar role as that envisioned by LIfIA, in providing opportunities for the working adult to improve their skills and knowledge within learning environments that meet their needs and schedules, and allows the adult learner to succeed. In addition, I believe higher education institutions can help individuals to effectively track and record their skills and knowledge through ePortfolios, thus improve their ability to respond quickly to economic swings and uncertainties. This study determines if individuals believe ePortfolios provide an advantage in finding employment, and provide the impetus to conduct future research in determining the role higher education institutions can play in reframing how ePortfolios are socialized and utilized in helping individuals gain meaningful employment.

The following individuals or groups are identified as potentially gaining benefit from this study. The working adult. Even if employers do not know what an ePortfolio is, it does not mean that it is not be useful because it has the potential to help individuals prepare to find a job. Working adult-learners

who are also engaged in learning to upgrade their skills, can learn of the value of the ePortfolio and how to create and maintain one. Recent graduates, depending on their program of study, may already have an ePortfolio, therefore evidence that ePortfolios can help in garnering meaningful employment, would benefit recent graduates. Employers seeking high quality candidates with specific skills can benefit from this research. It is reported that between 60 percent to 92 percent of employers and recruiters use social media to screen and to find high-quality candidates (Tarpey, 2015; Morrison, 2015). If employers are taking the time to screen an individual's social media, it seems reasonable to assume they might also screen professional ePortfolios as well. Continuing Education (CE) Practitioners may wish to consider offering educational opportunities for learners in how to create and maintain an ePortfolio if there is evidence that ePortfolios help individuals obtain meaningful employment. Post-secondary leadership can promote the faculty within the institution in a consistent and uniform manner through the use of ePortfolios. A clear and consistent image to the public of teaching and research faculty can enhance the image of the institution. Innovation, Science and Economic Development Canada (2018), is an organization that works with Canadians in all areas of the economy and the country to improve conditions for investment, innovation performance, global trade and competitive marketplaces. ePortfolio's may help to achieve this through consistent and uniform presentation of the participating members. Employment and Social Development Canada (2018) is an entity that promotes a skilled labour force as well as an efficient and inclusive labour market. By managing services which support jobs, immigration, and business, ePortfolios could play a role in linking skilled immigrants with potential employers. Job Bank Canada (2018) is the Government of Canada's leading source for jobs and labour market information. It offers users free occupational and career information, such as job opportunities, educational requirements, main duties, wage rates and salaries, current employment trends, and outlooks. ePortfolio Organizations and Groups (2016) can benefit from academic research which supports a successful connection between ePortfolios and employment.

Delimitations of the Study

I set the following boundaries for the research. The research focused on research literature and examples of successful ePortfolio use and implementation, in an attempt to build on advancements in ePortfolio application and implementation to help improve the employability of the individual. The research yielded recommendations for evaluation and reframing of ePortfolio within higher education contexts. This was accomplished by exploring the extent of ePortfolio knowledge, application and use with individuals and undergraduate student populations, and whether or not ePortfolios help to create real or perceived employment outcomes. Within the CE context, the focus was on the student who is also active in the work force, and whether or not their use of ePortfolios create real or perceived employment outcomes. Evidence of ePortfolios success is presented within the realm of education, economy, employment options, employability, job satisfaction, and professional networking.

Through examples that highlight individuals experience and perceptions of maintaining a digital identity and a digital record of formal and non-formal learning, this research explores possibilities that result from previous ePortfolio use. This research did not focus on academic purposing of ePortfolios in pedagogical delivery, rather the focus is applicable to the individuals' marketability and employment, whether it is perceived or actual.

Assumptions

This research is based on the assumption that the ePortfolio enhances an individuals ability to react to economic uncertainties and to improve one's marketability, thus there is value to be gained for the employee through the use of ePortfolios. Identification of evidence that a direct link between ePortfolio use and employability is one of the goals of the research. In addition, the research may identify the need to consider the implications of conducting future research which clarifies the role that universities can play in evaluating and reframing ePortfolios so individuals can utilize them as a tool in achieving gainful employment.

Conceptual Framework: Reframing and evaluating ePortfolios

Educating lifelong learners can be challenging when much of the knowledge, skills, and capacities people gain through informal learning is tacit and therefore unconscious and invisible (Eraut, 2004; Smith, 2008). The more a person becomes competent or expert in a given task or area, the more likely it is that his/her knowledge will recede into a tacit or unconscious realm. While tacit knowledge is directly linked to the development of effective leaders, experts, innovators, and reflective practitioners, the utilization of this type of knowledge is often ignored in most higher education curricula (Reynolds-Keefer et al., 2011). The Learner's Knowledge Portfolio (see Figure 1) is a collection of personal achievements in the development of competencies obtained through lifelong formal and informal learning. As a tool that aids in the preparation and development of the résumé or curriculum vitae (CV), it can also be used for further validation of obtained competencies. Information stored in the Knowledge Portfolio can be upgraded during and after each learning process (Learners Guide, 2016).

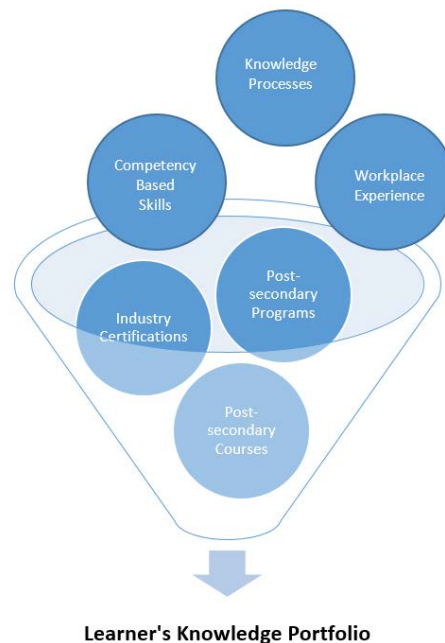


Figure 1. The Learners Knowledge Portfolio (Learners Guide, 2016). This figure identifies some or all of the attributes of skills, competencies and knowledge. Capturing and synthesizing these attributes into an individual knowledge portfolio is a valuable marketing and recognition tool.

Conceptual Framework Model

Based on the Learners Knowledge Portfolio, the conceptual framework of my research is visualized in Figure 2 – Reframing and Evaluating ePortfolios. Continuing Education (CE) may have the potential to play an integral role in helping the adult learner capture and present their knowledge in an ePortfolio. This research explores the practical uses and benefits of ePortfolios, and identifies the potential to conduct research regarding reframing and evaluating ePortfolios.

A long term aspirational vision for ePortfolios is that they help to increase the employability and marketability of individuals while establishing stability and credibility for the CE institution. Consideration of promoting ePortfolio development with learners involves both the internal and external factors that influence CE decision making, such as the focus and goals of students, the expected benefits to the CE unit and other influential factors on CE decision making. The CE market is competitive, with multiple options available to the learner, so appealing to their autonomous nature and their desire for choice and options of delivery is important. Industry influences the demand and types of courses and programs of study that CE offers, therefore administrative oversight is critical to ensure that relevant programs are provisioned in a timely fashion to both corporate and individual clientele.

Student objectives and personal experiences guide their learning choices and the knowledge they impart within their learning environments. When the CE unit practices prior learning assessment and recognition (PLAR), recognizing and rewarding previous learning and achievement, this stimulates and enhances student motivation. Career-based ePortfolios are a culmination of the students' knowledge and expertise, and serve to help the student identify and collect their knowledge in one location. Institutional and industry certifications are structured to satisfy employer requirements and recognize competencies. These certifications and other forms of educational recognition such as digital badges and competency-based learning can be integral components of the ePortfolio. Enhancement of these certifications and

services will yield positive returns and outcomes for the CE unit. The institution gains when students are seen as valuable and marketable to employers because they are setup by the institution to succeed.

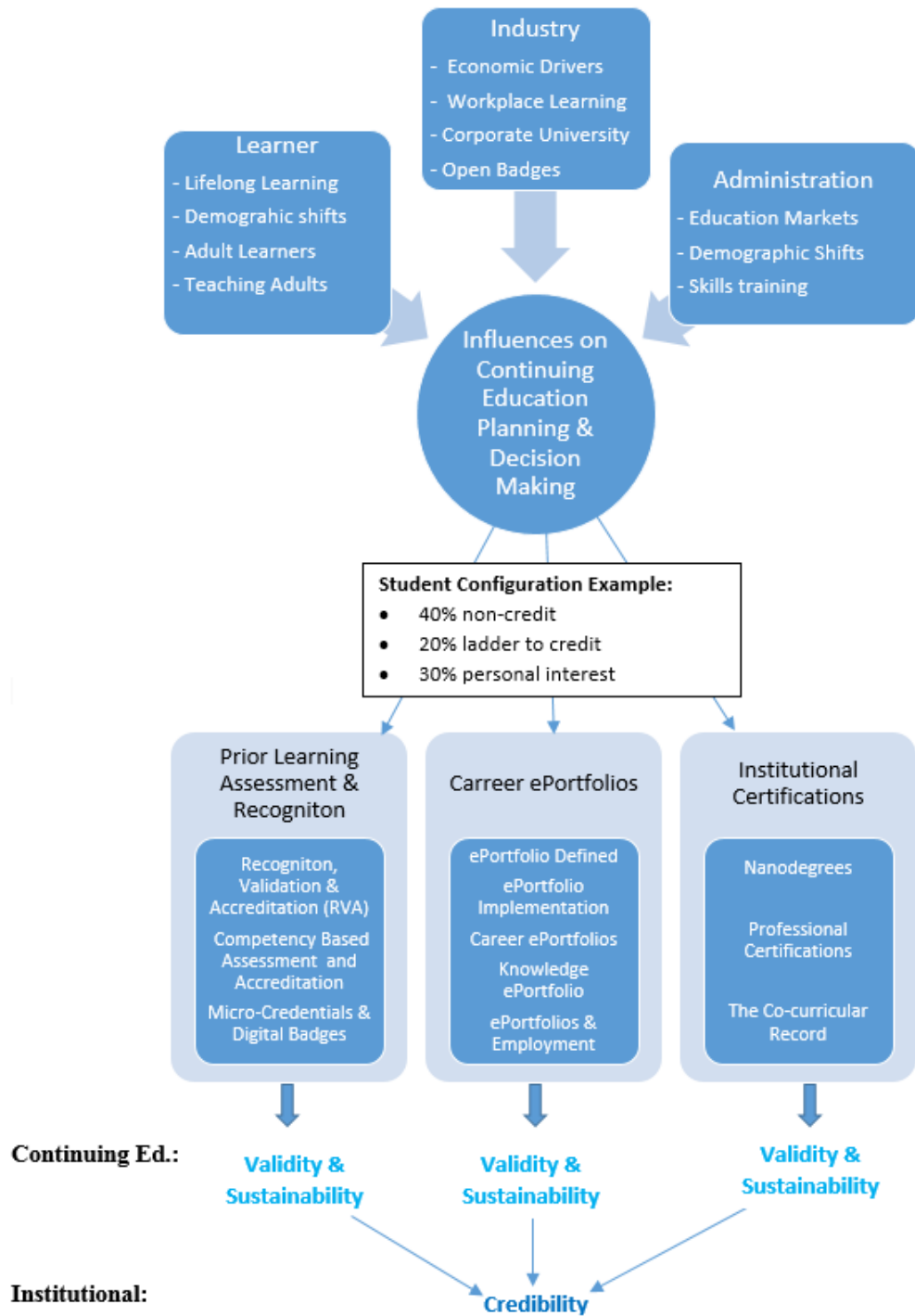


Figure 2. Reframing and Evaluating ePortfolios. Continuing Education (CE) can play a role in reframing and evaluating ePortfolios to help close the employment skills gap.

Structure of the Study

This study employed a qualitative methodology made up of sequential mixed methods. This two stage, sequential research project included a questionnaire, and interviews with key informants from groups of students who are ePortfolio users. The surveys asked questions that focus on the following goals: Identify familiarity and use of ePortfolios (this may include, but is not limited to the use of social media and social networking tools and media). Clarify the attitudes and beliefs of the value that ePortfolios provide for individuals. Substantiate any economic benefits or perceived value from use of ePortfolios, and identify the link between ePortfolio and employment success (or not), whether perceived or real. The surveys also helped to inform the subsequent personal or one-on-one interviews, allowing for a deeper understanding of the identified barriers and opportunities that are presented through the use of ePortfolios.

The next chapter presents a review of related literature specific to ePortfolios, with a focus on students, workers and employment. The intent of the review is to report on existing knowledge and ideas that have been established on this topic, including common themes and contrasting viewpoints. The literature review positions this study with a perspective that combines sources from other studies and contributions which relate within the domain of ePortfolios and employment. The review will also provide the justification and basis for the research design methodology, in an effort to contribute in filling a gap in the existing literature on this topic.

Table 1. Definition of Terms/Glossary of Terms

| Term | Definition |
|---|--|
| ePortfolio: | a mechanism for individuals to assemble and showcase artifacts that provide evidence of skills acquired through educational and extra-curricular activities, such as life experience and work-integrated learning. |
| Competency-based learning | an approach to teaching and learning that is focused on learning concrete skills, rather than abstract learning. Rather than a course or a module every individual skill/learning outcome, known as a competency, is one single unit. Learners work on one competency at a time, which is likely a small component of a larger learning goal. |
| Continuing Education: | learning activities which include post-secondary learning for degree or non-degree credit; career-related training; workforce training; personal enrichment courses, self-directed learning and experiential learning as applied to problem solving. Teaching and learning takes place within formal and non-formal settings and can be delivered in face-to-face or online formats. |
| Digital Badges | a validated indicator of accomplishment, skill, quality or interest that can be earned through various learning environments. |
| LinkedIn | a social networking site designed specifically for the business community. The goal of the site is to allow registered members to establish and document networks of people they know and trust professionally. |
| Skills Gap: | the difference in the skills required on the job and the actual skills possessed by the employees. |
| Prior Learning Assessment and Recognition (PLAR): | processes that allow individuals to identify, document, have assessed and gain recognition for their prior learning. |

Chapter 2 – Literature Review

This purpose of this study was to identify the factors that influence the beliefs and perceptions students have regarding how ePortfolios may assist them to become more effective in showcasing their skills and knowledge, thereby potentially improving their employment opportunities. The parameters of this review are primarily focused on employment and professional development, although it is recognized that student ePortfolios may have been developed for academic purposes only. In order to provide a base foundation of knowledge on this topic, this literature review is categorized into four primary themes. The first theme defines the ePortfolio and explores the relation to student academic development, including implementation considerations of the ePortfolio within the post-secondary institution. The second theme provides an overview of the career ePortfolio, focusing on career and professional development and the various types of ePortfolio models which can support this. The third theme examines the economic drivers and the changing economic landscape which influence the types of knowledge and artifacts that individuals may choose to include or reference within their ePortfolio. The fourth theme is based on combining and representing the knowledge portfolio, which includes identifying and examining professional platforms available to develop and support this within the context of ePortfolios and employment outcomes.

The ePortfolio Defined

For the past 20 years, information and communication technologies (ICTs) have acted as a change agent in the provision of education, pushing the boundaries of innovation in teaching and learning, and contributing to a full range of pedagogical experiences for all learners with new platforms of delivery (Jones and O'Shea, 2004; McLoughlin and Lee, 2010; Kirkwood, 1998). Electronic portfolios (ePortfolios) are on such example of how this transformation is taking shape. ePortfolios are a mechanism for individuals to assemble and showcase artifacts that provide evidence of skills acquired through educational and extra-curricular activities, such as life experience and work-integrated learning.

They are used by colleges, universities, and governmental agencies to facilitate lifelong and life-wide learning, capturing assessment, accountabilities and marketing, and providing individuals with opportunities to manage self-directed learning for personal and professional growth (Cambridge, 2008; Chambers & Wickersham, 2007; Ferns & Comfort, 2014; Jenson & Treuer, 2014). ePortfolios are a rapidly emerging, powerful, iterative mode for capturing student work and include accredited evidence for lifelong learning in both academic and professional contexts (Alexiou & Paraskeva 2013).

While the act of collecting and compiling items and evidence of learning and knowledge is a planned activity, the design and creation of an ePortfolio is an ongoing exercise because the ePortfolio can never be considered a complete product. Furthermore, ePortfolios have a variety of applications. Moretti and Giovanni (2011), describe the ePortfolio as a multifaceted tool representing six different typologies: (1) Assessment ePortfolios, which demonstrate successful achievement in meeting pre-defined standard or achievement of an acceptable level of competency in some activity; (2) Presentation ePortfolios, that provide evidence of learning or achievement to a defined audience or peer group; (3) Learning ePortfolios, which document, guide, and advance learning over time; (4) Personal Development ePortfolios, are most often related to professional development and employment; (5) Multiple-owner ePortfolios, which are intended for information sharing and communication purposes, often finding application in business and industry-type environments; (6) Working ePortfolios, providing multiple threads and viewpoints as constituted by the different portfolios included to be compared and contrasted. The variety of applications that ePortfolios can represent, identifies the amount of effort that ePortfolios can demand.

The ePortfolio and Academic Development

Student success is driven by many factors, and with the benefit of technology, tools such as ePortfolios play a role enhancing and enriching the academic experience. Uzunboylu, Cavus, Akçıl and Arap (2009) point out that the ePortfolio holds an advantage over a traditional Portfolio because users

can hold, organize and reorder contents easily and quickly, and they can solidify their content and realize their own efficiencies by reflecting on their experiences. Based on a study in assessment of the perceptions of Faculty of Education students on the use of ePortfolios, the authors discovered that students view ePortfolios positively. Most students today are comfortable using technology, and were comfortable using electronic environments to communicate with each other and within the courses. The students also preferred evaluation methods that include ePortfolios as they believe them to increase their motivation and make their learning more permanent. By monitoring and controlling themselves through ePortfolios, students viewed themselves as important learners because they felt more secure, confident and respected during the learning processes (Uzunboylu & Cavus et al., 2009).

ePortfolio Implementation

Eynon, Gambino & Török (2014) believe the ePortfolio movement is at a crossroads. With more than 50% of U.S. colleges and universities now offering some form of ePortfolio experience, ePortfolio innovators are increasingly asked: What differences can the ePortfolio make? Does an ePortfolio initiative improve student learning? Do ePortfolio-based outcomes assessment really work? Is the ePortfolio worth an investment of institutional resources? The ePortfolio has the potential to play a vital role in the evolution of higher education, but the advancement of the ePortfolio field depends on the collective ability of the educational industry to gather, analyze, and share evidence of the success of ePortfolio initiatives.

The nature and structure of creating an ePortfolio can be combined with the principles of Self-Directed or Self-Regulated Learning (SRL). Alexiou and Paraskeva (2013) define SRL as “the degree to which students are meta-cognitively, motivationally, and behaviorally active participants in their own learning process” (p. 2). They describe how structuring an ePortfolio enables individuals to think critically, act independently and to elaborate in a self-regulated manner. The process of SRL involves a critical selection of actions (cognitive, affective, social and behaviour) that are adapted to each learning

experience, and are defined as: setting meaningful goals; adopting strategies for managing goals; monitoring the learning process; restructuring learning environments; managing time; self-evaluating personal learning paths; attributing meaning to outcomes; and adapting future strategies. The use of ePortfolios involves an increased awareness by participants in areas of practice that could use improvement. This indicates the ePortfolio approach has the potential to enhance self-directed learning (Hoekstra & Crocker 2015).

ePortfolios may have the potential to provide a more detailed comparative overview of a candidate's abilities, complete with up-to-date Web-linkages and other information. When describing the evidence of student learning employers would like to have available when hiring college graduates, 35% indicated that they would like to see the students' work in ePortfolios. Although younger employer-respondents were the most enthusiastic, this suggests that this type of evidence will be more in demand in the future (Rhodes, 2010).

Implementing ePortfolios into the learning activities or career services within the post-secondary environment is no different than implementation of software in any other environment. The experiences of those who have completed similar implementations is of great value, and understanding the lessons learned and wisdom gained by others can help to make the implementation a success. Perlman, Christner, Ross and Lypson (2014) point out that configuration of the ePortfolio software and applicable training are essential to a successful ePortfolio implementation. Training is often delivered in a hasty and ill-applied manner, with users often left to fend for themselves once the software is deployed and in heavy use. This is exactly the time when responsive personal training and support is the most critical. Although ePortfolio learning is recognized both as a means to promote reflection and an opportunity to document it, whole-scale implementation of portfolios is only beginning to gain moderate attention. The possible cause of this is reluctance from faculty who are not prepared to use the new technology. Their solution was to enlist internal computer programming and instructional design staff to assist with faculty

development workshops, answer questions about the technology, and enhance the efficacy of the ePortfolio tool. The workshops were augmented with both immediate peer feedback and the opportunity to self-reflect. It was also noted that faculty had to be willing to invest uncompensated teaching time. The authors also identified important considerations when planning to implement a similar ePortfolio program. First, accounting for faculty time and effort to ensure that individual educators will be able to commit time and energy to the project. Second, that faculty receive adequate training on the use and goals of ePortfolios, to better understand students' perceptions of, and experiences with the ePortfolio. Third, focus groups held with students as ongoing assessment of their reflections over time. Fourth, continued faculty development to ensure they maintain sufficient skills in providing meaningful student feedback. Enlisting internal computer programming and instructional design staff to assist with faculty development workshops, answer questions about the technology, and enhance the efficacy of the ePortfolio tool was also cited as contributing to successful implementation. These workshops were augmented with both immediate peer feedback and the opportunity to self-reflect. It was noted that faculty had to be willing to invest uncompensated teaching time in order to learn the ePortfolio tool. If faculty receive adequate training on the use and goals of ePortfolios, they will better understand students' perceptions of, and experiences with the ePortfolio (Perlman, et al., 2014).

Kim, Ng, and Lim, (2010), identified the concept of a public-private based ePortfolio (PrP1) system. Using Internet personal-cloud computing infrastructure that taps into a wide range of free cloud computing services, a collaborative and semantically indexed data management system functions as a simple index of data that users may already have stored in other services. Within the PrP1 system, each user has a Personal Cloud Butler (PCB), which is a program that manages a user's personal cloud of information on his or her behalf. The PCB functions as a single interface that mediates between all the data repositories and cloud computing services of the user, thereby providing the user with one-stop access to all his or her data in the cloud. The value of the PrP1 concept is rather than re-post or re-create

in a new ePortfolio system, simply create the index of linkages to existing data, artifacts, websites, social media sites which already contain information about yourself. These artifacts are stored on their host sites, thus eliminating the need for vast amounts of storage to support the PrP1 environment (Kim et al., 2010).

Student and faculty challenges.

Perhaps the greatest barrier to adoption of ePortfolios for any individual is the commitment of work involved to create a robust ePortfolio. Learners are already using social and Web 2.0 technologies, interacting with each other and showcasing their media artifacts. Introducing a new ePortfolio system requires users to complete the additional process of duplicating media artefacts which may already be residing in existing and diverse Web applications, such as LinkedIn, Facebook, personal and professional Web-based publications. While ePortfolios help student academic and professional success, certain ePortfolio characteristics may exacerbate problems in distance education settings.

Shepherd and Bolliger (2011) explain the various challenges that students and faculty face when learning and using ePortfolio tools. Personal reflection and evidence examination require support, and portfolios take time, are confusing to organize, and often lack a clear purpose resulting in student uncertainty and frustration. Despite a growing diversity of tools and functions in recent years, a minority of researchers examine the learning requirements involved in using ePortfolio tools. Complexity, time limitations, and mental effort can burden the student's ability to use these tools effectively, increasing workload when the ePortfolio systems present an unfamiliar navigation interface. When students lack necessary information technology skills, including computer and internet usage which are important in e-portfolio practices, Uzunboylu et al. (2009) recommend that appropriate technologies which simplify the student experience be developed before introducing ePortfolios into the curriculum.

ePortfolios have the potential to enhance not only the student academic experience, but their personal and professional lives as well. Within academic settings, evidence of how ePortfolios increase collaboration, individual and peer reviews of work, self-regulated learning and overall student engagement were identified as positive outcomes. For the student, creating and maintaining an ePortfolio is a significant commitment of time, energy and willpower. With all of the social networking and other professional or personal ePlatforms which students are currently engaged, ePortfolios might portray themselves as a high-work, low-return endeavour, unless the value of creating and maintain one is plainly evident. Reluctance from faculty to integrate ePortfolios into their curriculum is based on concerns regarding lack of technical support and lack of instructional design support. The ePortfolio movement may be stalled in many academic institutions because the vision, purpose, value and implementation plans are ill-defined.

Coffey and Ashford-Rowe (2014) researched the top academic concerns with ePortfolio implementations. They identified 70% of respondents expressing concern about availability of support when adapting the ePortfolio tool to their discipline, program or course, and 57% expressing concern about staff computer literacy. Most of the academic faculty did not have confidence in their technical skills, identifying the need for strong support when engaging in any blended learning initiative. The ePortfolio integration into the academic context required strong institutional commitment to provide strategic direction, engage the correct players from across the institution, and secure adequate funding.

Implementation of technology and software is one of the greatest challenges, yet it is often an afterthought, as is consideration for the sustainability of the product during the years it will be in use. It is a significant commitment for the institution to provide ongoing software licensing and storage space to students. When the ePortfolio is integrated in the curriculum, and it is done well, it is evident that it provides value to the student and enhances their learning and engagement. The challenge is applying the ePortfolio beyond the classroom to incorporate all of the student's artifacts which will benefit and

help them become a professional in their chosen field. Maintenance and expansion of the ePortfolio has to be simple and easy for the user. Recreating something that already exists on another technology platform is not a productive use of time, therefore any ePortfolio implementation should be capable of integration with other eRepositories the user may have or belong to.

Career ePortfolios

Career ePortfolios are also called showcase ePortfolios because they show the owner's achievements in relation to particular work or developmental goals and is, therefore, selective. It is used for job applications where the audience is external, and the goal is to provide individuals with a tool for showcasing their achievements to employers (University of Waterloo, 2017).

A comprehensive article by Flanigan (2012), described how ePortfolios and technology can be customized for careers, and over the length of careers. Professional and business people are aware of the need to keep their résumés up to date, although they may not do this until an employment crisis forces them to reflect and report on their accomplishments. In the case of annual job assessments, this activity often results in scrambling through the papers or memories of the prior year to compile a report that supports a desired salary raise or promotion. Unless people deliberately trace their intellectual and their professional growth, many are not consciously aware of the paths that lead them from one level of knowledge or from one career to another. The career Portfolio or electronic Portfolio is a showcase of digitized artefacts documenting the diverse items individuals wish to display to enhance opportunities for employment, and is dedicated to highlighting the individual's achievements, skills, relevant work samples, professional development and accomplishments. These artefacts can be represented in a variety of formats: text documents, Web pages, presentations, research papers, assessment instruments, original projects, academic or external team- work, internships, performance videos, certificates of achievement, spreadsheets, databases, digital images, and multi-media demonstrations. ePortfolio technology is advantageous over traditional or paper-based portfolios in that the artefacts within it are

digitized. This process allows original documents to be preserved and assures the integrity of precious historical materials. These serve as snapshots of a discrete period in a person's career development (Flanigan, 2012).

At many points in a work career, the employee frequently pursues further skills or education in a full degree programme, a certification, or even a workshop. Flanigan (2012) identified universities that have formal programmes to assure that students, upon graduation, have prepared initial career portfolios. One example is the Florida State University Career Center describes where employers assess students' portfolios, and through their assessment, employers reported that their knowledge of the potential employee was enhanced. They evaluated not only the achievements presented but also the technical skills and student's ability to communicate. For the employee or potential employee, the ePortfolio serves as the constant, ready to receive and preserve new artefacts.

Job inquiry and interview presentation ePortfolios.

The initial job inquiry ePortfolio is identified by Flannigan (2012) as playing a role in advertising for employment. The candidate is often directed to send documents such as résumés or supporting material electronically, and if the initial inquiry is made online, a small portfolio of work examples could be submitted along with an electronic résumé. As an alternative to actually sending multiple text documents or supporting images, composing a résumé and cover letter with internal hyperlinks directs the reader to a web-based ePortfolio. If an interview is granted, the Interview Presentation ePortfolio can be customized and tailored to the particular needs of the company, the position sought, and the company mission statement as the base for comparison with the job-seekers' competencies. The ePortfolio can fit on inexpensive flash drives, can be presented during the interview session, and can accompany application materials.

Career growth ePortfolio.

Once hired, the employee should collect artifacts and include them into this ePortfolio to demonstrate work performed and growth achieved in skills and responsibilities. The preservation of projects and achievements can bolster the description of activities required for job assessment, request for promotion, or avoidance of being part of a staff-reduction in the company (Flannigan 2012). Tubaishat (2015), found that students “like the idea of e-Portfolios when it is presented to them as a career showcase rather than a process for documenting learning” (p, 193). He further identified that a career centre can use e-Portfolios as a tool to help students find a job.

ePortfolio and professional development.

Within the workplace, Hoekstra and Crocker (2015) researched how professional learning was enhanced within the context of using an ePortfolio approach that was designed to foster professional learning. Their review of literature suggested that professional development (PD) organized as an activity separate from work, typically yields limited impact on the professional performance of the PD participants. They examined how professionals learn at, and for work and, how to supplement existing PD offerings with alternative approaches, such as ePortfolios to effectively supporting instructor learning.

Participants were encouraged to create performance management plans, and after one year, discuss with their supervisors the extent to which they achieved the PD goals within their plan. Their findings showed the ePortfolio approach did enhance professional learning, but only to a limited extent. Supervisor support contributed to greater uptake of ePortfolio use, while issues including understaffing and overloading of additional work clearly limited the success. The ePortfolio approach was found to increase professional reflection, awareness of one’s professional learning, and collegial discussions, supporting that conceptually, ePortfolios have the potential to enhance and promote self-regulated learning (Hoekstra & Crocker, 2015).

ePortfolio for the lifelong learner.

Heinrich, Bhattacharya, and Rayudu, (2007), studied the use of ePortfolio as a tool that supports the lifelong learner. Their motivation to do so was born out of recognition of the importance of lifelong learning skills and the lack of explicit preparation the students of their institution receive in this field. Within the context of a smaller, localized initiative at their institute, their goal was to provide grounding of the theory, gain experience in customizing and using an electronic portfolio system, and initiate a dialogue between industry and academia in the use of ePortfolios.

With a focus on two key elements in creating an ePortfolio as being the selection of work and the reflections of the individual, the selection of work had to be purposeful and systematic, including examples of the student's own work and determined by the students themselves. The ePortfolio had to contain reflections and self-evaluations, outlining both the rationale for the selection of examples or artefacts, and reflections on the learning process. This allowed students to not only showcase their academic achievements, but capture a record of their personal growth (Heinrich et al., 2007).

ePortfolios showcase skills and build the basis for assessment as well as personal development planning. The students maintain a record of learning, spanning formal education and life experiences, helping them to reflect on how well their learning matches the requirements of employers. Heinrich et al. (2007) suggested that career planning and CV writing are assisted by record keeping and reflection, and are valuable tools for continuing professional development. This applies to both actual skills development and to showcase the skills so as to aid in the process of membership application to professional bodies. Capturing evidence of learning and skills and reflecting upon them in an ePortfolio provides the student with directions for lifelong learning, and allows them to extract selected evidence and reflections to showcase their skills when applying for employment.

Designing the ePortfolio initiative also included industry feedback. Heinrich, et al. (2007) asked interviewees their opinions on the value of ePortfolios for lifelong learning and the value they might see

for students in producing them. Employers want to be able to look at the portfolio and understand what it is all about at a glance. A short paragraph explaining what the portfolio is about was deemed helpful. It was also noted that employers want to understand the person behind the résumé. Employers believe in the importance of students getting their personality across as part of the job application process; that there is not one defined set of characteristics which make a person a suitable candidate. The ease of access to examples in an ePortfolio was appreciated by the employers.

With respect to how an individual structures their ePortfolio, Heinrich, et al. (2007) stressed that development of the ePortfolio is not an easy task. One has to start somewhere, ask for feedback, and improve. In order to learn from the process, one has to be able to take constructive criticism, however enhancing personal development through the construction of an ePortfolio will be of lasting benefit. Examples of the student's work should include at least one example for each area within their skills section, and the examples should come from a variety of contexts. It is also essential that students reflect on their experiences as reflecting demonstrates openness to learning. Not everything in life goes straight or right the first time, so reflections on setbacks or failures are part of the lifelong learning process.

A student who has worked on an ePortfolio is not only able to better showcase their skills, but is more prepared for an interview situation and to deal with the challenges of working in a collaborative, yet competitive working environment. The ePortfolio can make the individual stand out and creates a favourable opinion before the start of an interview. Employers recognize and credit the effort an individual has put into constructing an ePortfolio. It shows that the individual has been proactive and organized, and has realized the value of investing in the effort required. An ePortfolio can make the selection of who to invite for an interview easier and can tip the balance on a close decision (Heinrich et al., 2007).

ePortfolios based on competency models.

Porto and Thompson (2017) describe how educational institutions, industry associations, and some employers consider competencies a common language that describes the skills, knowledge and abilities of individuals, helping learners navigate the world of jobs, training, and learning in a more seamless fashion. They point out that traditional résumés and CVs are no longer capable of displaying the competencies employers are looking for, whether the competencies are developed in higher education, at work, in the community, or some combination of settings. They reference how ePortfolios are commonly used in academia as a tool to display achievements and evidence of mastery, and are a natural candidate to become the platform through which one displays and ensures one's competencies and can serve the purpose to set forth academic plans as well as career paths. The ePortfolio can serve as a bridge to connect individual learners and employees with academia and employers, using a common language and competency model, and facilitating the deployment of ePortfolios as a key tool for lifelong learning by way of supporting effective job search strategies, work opportunities and continuous targeted professional development.

Economic shifts and career ePortfolios.

Given the signs of mismatches and search conflicts between employers and appropriately skilled labour in economic markets, Lievens (2014) explored the potential of competence-based career ePortfolio systems in meeting the needs of labour market economics and human resource management. The career ePortfolio concept and its potential role in the job matching process was described and examined. Existing labour market problems were also analysed on a macroeconomic level through cyclical and structural economic developments.

Growth in the frequency of job searching via the Internet has increased the amount of information about jobs and workers available at a lower cost. Lievens (2014) asserted that this has had a positive effect on match quality between employer and employee, raising both worker earnings, and the

profits of the firm. Additional benefits include lower unemployment levels, reduced transaction costs of matching, and an enhanced mobility of workers, who can more easily engage in an on-the-job search. Internet job searches were said to reduce individual workers' unemployment durations by 25 percent through low-cost channels of interaction between job seekers and firms, and an overall improved design of Internet job search sites, such as LinkedIn.com and Monster.ca. Clark and Eynon (2009), predicted how e-portfolio systems will be reshaped by the wave of Web 2.0 technologies sweeping higher education and society as a whole. For e-Portfolios to continue to be attractive to students and the millennial generation, e-portfolio systems need easy and interactive features found in social networking sites like Facebook, Twitter, and Web-authoring platforms like Blogger, TypePad, and Wordpress.

Lievens, (2014) identified how the career ePortfolio could be valuable in matching workers to jobs during times of fluctuating demands for labour. Mismatches or imbalances between the supply of, and demand for, human capital indicates there are fewer workers available than jobs, or vice versa. There can be a geographical or regional mismatch resulting from a geographic dispersion of jobs and suitable workers, and there can be a mismatch of preferences among workers and types of jobs available. The implication for the career ePortfolio is that it should be part of a transparent information system, which includes individual and aggregate information about the competencies of workers. Matching on competencies can be facilitated by career ePortfolios, including information about available competencies of graduates, the employed, the unemployed, and information about competencies required by organizations, provided both the workers and the firms have a common understanding of the competencies involved.

In conclusion, Lievens (2014) claimed the career ePortfolio needs to go beyond profiling individual jobs or workers, that it should be part of an information system which contains information on both the aggregate and individual level. The information in such a system can help educational and governmental institutes develop appropriate curricula design and labour market policies. Credibility and

validity of information was also raised because competencies can be developed in various settings and are not always supported by assessment tools, especially in non-formal learning settings. It then becomes a major challenge to ensure that claims made about competencies are credible and valid.

Economic Drivers and Changing Landscapes

To analyse the effectiveness of the interface between education and training systems and the labour market, Keep (2012) identifies three levels where this activity occurs. The Micro level, is the identification of successful models for liaison activity and the forms that interaction can take; the Meso level, is specific to employer demands for enhanced employability and competition between employers, occupations and sectors for what are perceived to be scarce pools of talent; Macro level, where over-qualification, mismatches, weak demand for skills, lack of employer ambition and the persistence of low paid, ‘bad’ jobs. Keep (2012) argues there is no single, simple, widely accepted view about what education should be aiming to achieve, what skills and values it should instil, and what an ideal curriculum and balance between the different subjects or areas of study might be. Predicting a continuation of employer unhappiness from unresolved disputes between sectors and occupations for workers, analysis of the skills-gap problem revolved around deficiencies in the supply of skills, with much of the blame being placed on courses, qualifications, and institutions that failed to motivate young people to achieve. The failures of the education system left employers without the skills they needed, and with detrimental effects on economic performance (Keep 2012).

Education markets and policies.

Kirby (2007) reinforces the competing priorities of post-secondary institutions because they serve both economic and non-economic purposes. Economic objectives include preparing people to be productive workers in professional and other occupations, and research which results in new products, new technologies and greater economic efficiency. These are important objectives, however they can stand in contrast to the cultural, moral, civic and broader intellectual purposes of education.

Governments recognize the connection between universities and economic growth where knowledge production, innovation, and economic success has become a key public policy focus. As a result, growth in university enrolment in Canada has been driven by shifting labour-market requirements of the 'knowledge economy'. Jobs in nursing, teaching, and management that had previously required only the completion of high school or a short period of technical training now require one or more university degrees, coupled with ongoing professional development after graduation.

Since the public is obligated to cover a greater proportion of the cost for post-secondary education through tuition fees, Kirby (2007) makes note of the growing emphasis on institutional accountability and quality. One's perception of quality is dependent on one's philosophical outlook on post-secondary education. Agreement on appropriate measures of output with which to measure quality, has been elusive. Outputs may focus on student academic performance, the labour market outcomes of student success, or the satisfaction of education stakeholders. There is no consensus on which output measures are appropriate or that they actually provide a reliable accounting of the outputs they are intended to measure.

Weingarten (2016) confirmed this as well, emphasizing that there is no privileged or direct pipeline between specific fields of study/programmes/degrees and specific jobs. He contends that it is impossible to figure out how many people should enrol in a specific postsecondary programme to fill, but not overfill, the expected number of specific jobs. With the measurement of skills becoming increasingly prominent in postsecondary education, to solve the alignment problem between postsecondary education and jobs to solve the skills gap, Weingarten (2016) suggested that colleges and universities must do a better job of measuring and credentialing skills, not just the traditional transcript of what courses a student took, the grades obtained and the credential they received. On the other side, employers must do a better job of identifying the specific skills necessary for success in particular jobs. Weingarten (2016) asks: "What skills should students acquire in their postsecondary education given

that they are to change jobs five to seven times during their working careers? What skills should students acquire in their postsecondary education given that a high percentage of jobs these students will have in their working careers have not yet been created or contemplated?”

Workplace learning.

Workplace learning is also described as being informal learning and refers to learning activities which are not institutionally sponsored, but are typically initiated in the workplace by employees with the purpose to develop their professional knowledge and skills. An example of employee informal workplace learning is gaining new knowledge, skills, and abilities by reading a book or article, asking others for help and feedback, and sharing knowledge (van Rijn, Yang, & Sanders, 2013). The authors further categorize informal workplace learning by their focus on career motivation and performance motivation. Career motivation is a concept representing the motivation of employees to develop themselves in their jobs and careers, emphasizing long-term development that continues until the employees' career journey is over. This differs from performance motivation, which is usually short-term oriented, focusing on attaining a certain goal or employee outcome, after which it may no longer be needed. Examples include goal setting, self-efficacy and expectancy theory. The purpose of their study was to unfold the dynamics of employee informal workplace learning from both motivational and self-construal perspectives. Their findings showed that career motivation stimulates employees' engagement in informal workplace learning (van Rijn, Yang, & Sanders, 2013).

Prior learning assessment and recognition.

Kawalilak and Wihak (2013) defined prior learning assessment and recognition (PLAR) as a way to offer adults formal academic recognition for learning obtained through non-formal and informal means. Their research described a large-scale study within the United States post-secondary education context of adult learners who are able to utilize PLAR as having better academic outcomes than those who cannot. The participants had completed more courses, had better persistence towards degree

completion, and also had a shorter time to degree completion. Earlier research demonstrated that students who engage in PLAR achieved grades that are equal to or better than regular students. Within society, the growing trend for working individuals to enrol in part-time programmes has created a need for valuing other forms of knowledge. Brown (2002) believes “developing a portfolio supports not only the identification of prior learning but also leads to new learning outcomes” (p. 232). Knowledge is a critical factor supporting an organization’s ability to remain competitive. Organizations need to recognize knowledge as a valuable resource and tap-into the intelligence and skills of employees to create a greater organizational knowledge base, and employees must acquire knowledge and skills that will keep themselves employable and a strong contributor to the organization (Bollinger & Smith, 2001).

Recognition, validation and accreditation (RVA).

English (2015) identifies recognition, validation and accreditation (RVA) of the outcomes of non-formal and informal learning, and the importance of giving greater recognition to such forms of learning, rather than what occurs in formal education institutions. The reasoning is that much of the most important learning that occurs for individuals and groups does not occur in formal settings in schools or colleges, but through informal and non-formal means, from family, friends, the mass media and ‘on the job’ in the workplace. Workplace learning is identified as a powerful tool to enhance capabilities and competencies, and to lower some of the barriers to obtaining qualifications or becoming qualified. Some countries are making efforts to put systems in place that ensure informal workplace learning is encouraged, formalized and recognized. Countries in the European Union that have laws and regulations which provide a general framework for RVA guaranteeing the right of individuals to primary, secondary and higher education services that are adapted to their needs and circumstances. Another objective of this reform was to establish a national system for documenting and validating the non-formal and informal learning of adults that would be acknowledged in workplaces and within the education system.

Competency based assessment and accreditation.

In their research, Ion, Cano, and Cabrera (2016) define competency as “the capacity to mobilize all types of resources (cognitive and social, among others) in order to make decisions and/or solve complex problems in an efficient way within a given context. That is to say, being competent involves selecting and, in a pertinent and ethical way, combining available and diverse knowledge to provide a creative response to a given situation” (p. 631).

The Government of Quebec’s (2005) policy on Adult Education and Continuing Education Training identified a framework for prior learning and recognized that competencies are a major component. The recognition of prior learning and competencies is a process that allows adults to obtain official recognition for competencies in relation to socially established standards, such as those set out in programmes of study. Depending on their goals, adults can identify competencies they have already acquired and determine the missing components of education or training they need. An official process for recognizing prior learning and competencies based on the principle that individuals have a right to social recognition of their knowledge or competencies insofar as they are able to provide evidence that they possess them. The framework states that individuals should not have to redo, in a formal educational setting, any learning they may have already acquired in other contexts or other ways. What is important in the recognition of learning is what a person has learned, not where, when or how it was learned. In addition, individuals should not be obliged to seek recognition again for competencies or prior learning that have been properly evaluated and certified by an official system.

Within the workplace, there is a constant need to increase efficiency and deliver value. Identifying core competencies defines and recognizes the knowledge, skills and attitude required to perform a job effectively. Evaluating an employee’s performance based on pre-defined competencies and their behavioural indicators, is called competency based assessment (MSG, 2016).

Micro-credentials and digital badges.

Digital badges are online records of achievement awarded to learners for learning specific sets of educational components. Also called micro-credentials, Guilbaud, Camp & Vorder Bruegge (2016), identify their use by higher education institutions to assess and validate knowledge, competency, or accomplishment; as increasing. They also identify the challenge that digital badges face is a lack of agreed-upon measures for which types of learning contents equate to the award of a digital badge. As a result, the acceptance of digital badges outside of the issuing organization is limited.

Ahn, Pellicone and Butler (2014) highlight how the majority of discussion about badges focuses on their design, implementation and effects in closed or bounded systems such as a website or a learning platform. They explored the openness that badges can provide to create freely available, adaptable and usable resources across networks of people and open education resources (OERs) and open courses, describing production models that share media and educational delivery to introduce new ways of thinking about badging as a social practice. Concepts and ideas associated with badging and openness within social and technical practices were shown as being in direct conflict with one another in some situations, and at other times mutually enhanced one another. They highlighted instances where openness and badge functions are contradictory, such as the intersection of open production and the use of badges as a pedagogical tool.

Digital badges or micro-credentials afford opportunities for the use of alternative assessments, which focus on extrinsic or intrinsic motivational strategies that promote individual or group success and learning outcomes (Fedock, Kebritchi, Sanders & Holland, 2016). Digital badges provide the flexibility for participants to engage in competency based, game based, or hierarchical learning that complements different learning styles. Schools such as MIT, Yale, Purdue, Carnegie Mellon, and organizations such as The Smithsonian, Disney-Pixar, and NASA use badges for commending learners or employees who have improved skills, knowledge, and accomplishments in education and workplace development.

Innovative ways of promoting and incorporating the use of digital badges were identified by Schaffhauser (2016), through a crowd-sourced competition run by Credly, a for-profit digital credential platform, and the Lumina Foundation, a non-profit that promotes success in post-secondary education. These organizations turned to members of the public to come up with new ideas for getting colleges, universities and industry to work together in tightening the skills gap. With input from the American Society of Association Executives (ASAE) and the American Council on Education (ACE), they are seeking to identify new approaches for using digital credentials to connect qualified workers with available opportunities.

Open badges.

Ravaioli (2015) identified the problem of the skills gap between the needs of the production world and the skills provided to individuals by education systems. To support both the production world and education systems in tackling this problem, he proposed the use of Open Badges. A badge is a symbol or indicator of an achievement accomplished or a skill that is earned. The Open Badge provides value by associating metadata to the badge, such as the person holding the badge, the badge issuer, a description of the skill, the mode in which it can be verified, and other information that is relevant. Ravaioli (2015) believes badges make it possible to identify and certify all the skills developed by individuals inside and outside learning paths, giving them value and making them valuable in the employment market. Badges also enable individuals to integrate, organize, and share their own collection of skills; acquire the publications, courses and certifications to expand their skillset; and minimize the gap between skills required by the work market and their own certified skills.

For the institutions that issue badges, they will be able to define and publish their own skill profiles in the form of open-badges; refer to international standards of excellence and achievement; and carry out searches for individuals who have certain certified skills or professional profiles. Participating learning providers can publish their courses and teaching materials to support the learning path required

for employment; publish their own certification paths, and proctor examinations that lead to certifications. This platform digitizes the credentials for skills that individuals often have, but which are not valued because they were achieved in formal or non-formal contexts. At the same time, the platform motivates learners to increase their skills through formal learning or certification paths, which can make their profiles (portfolios) more appealing in the employment market. Finally, Ravaioli (2015) identified the virtuous loop where companies are encouraged to make their own needs explicit by endorsing badges that meet their skill requirements. He concludes that it is through this dynamic interaction of learners and employers that identifies the possible solution to reduce the skill gap.

Institutional and professional certifications.

Certifications can be earned from professional associations, a post-secondary or higher education institute, a certification-granting body, or from private organizations. Some certifications must be renewed, or may only be valid for a specific period of time. As a part of a renewal or extension of an individual's certification, it is common to show evidence of continued learning. Some professional bodies or associations require continuing education units (CEU's) from members to demonstrate proof of continued upgrading and professional relevance

Nanodegrees.

The concept of Nanodegree's arose from the need to build skills and knowledge that directly coincides with the specific skills and knowledge required by the employer. Watkins (2015) describes the Nanodegree as both curriculum and credential, built in concert with the companies that are hiring potential employees. To establish one's hireability by obtaining certified credentials that are created and endorsed by the target employer is an ideal way to showcase one's proficiency and readiness to work. Companies such as Google, AT&T, Facebook, Salesforce and Cloudera are participating with a new online university called Udacity to teach the skills that industry employers require, providing credentials endorsed by employers, and educating at a fraction of the cost of traditional education. The nanodegree

programs are designed so professionals can become Web Developers, Data Analysts, Mobile Developers, etc., completing their nanodegree in less than a year and inexpensive enough so it is feasible to obtain more than one (LeBar, 2015). Nanodegree programs are designed for efficiency, selected with hands-on courses by industry, a capstone project, and career guidance. They are efficient enough so learners can obtain a nanodegree as they need it and earn new ones throughout their career, even if they need to switch paths since career's are not always a straight line (Shen, 2017).

Professional certifications.

Similar to a Nanodegree, professional certification is the process of developing the knowledge, experience, and skills to perform a specific job. Once an individual completes a course of study, he or she receives a certificate earned by passing exams or other forms of assessment. The certification is typically accredited by an organization or association that monitors and upholds prescribed standards related to the particular industry involved. A wide variety of industries and careers offer professional certification, from highly technical jobs, to human services, and the arts. In each case, the certificate assures employers, customers, students, and the public that the certificate holder is competent and professional (Peterson, 2017).

Certifications can be obtained in many different ways and formats. From online to face-to-face, within private and public post-secondary institutions, they are generally targeted to allow existing professionals the opportunity to enhance and specialize within a specific domain, however they can also provide sufficient credentialing that allows individuals entry-level access to the related industry of choice. For example, continuing education faculties and departments within the post-secondary education sector may offer certificates or diplomas which are non-credit or credit based, co-offered with industry associations or which may ladder into degree and graduate programs of study. The variations and options relating to defining levels of competency and length of program are dictated by supply and demand within the economy, the workforce, and by the interests and motivations of society.

Specific to workforce training and planning, organizations are recognizing that a continuous-learning workforce is critical to a strong and vibrant workplace. To meet this need, The University of Calgary Continuing Education department offers a specialization certificate in workplace learning which helps individuals develop knowledge and skills to contribute to a rapidly changing and challenging workplace. The program is of interest to human resource and other organizational staff who are pivotal in creating a dynamic work environment. Penn State University offers workforce education and development certificate programs (Supervisory Leadership, Operational Excellence, Instructor Development, and Advanced Instructor Development). Each certificate program is aligned with competency models and focus on skill sets to maintain a globally competitive workforce.

There are many professional association certifications, which provide members and professionals in the field to continue to educate, so they may remain relevant and competent. Just a few examples of these include: The Canadian Nurses Association AIIC (<https://www.cna-aiic.ca/en/certification>); Information Systems Professional and Information Technology Certified Professional (www.cips.ca/certification); Project Management Competence certification (<https://pmac-agpc.ca/certification>); Coaching certification (www.coach.ca/); and the Chartered Professional in Human Resources (<https://cphr.ca/your-career/become-a-cphr/>).

The co-curricular record.

Many Canadian universities and colleges have created a program called the co-curricular record (CCR), with the intention to encourage engagement in activities that extend beyond the classroom. The premise for adopting the CCR is based upon the belief that engagement yields a more robust and holistic academic experience, contributing to student satisfaction, retention, persistence, and experience. Although the programs captured in the CCR are voluntary in nature, they are recognizing that students should be engaged beyond the classroom. The goal is to graduate with a sense of purpose and understanding of one's interests and skills, not necessarily discovering a particular career. In fact, the

reality of today's economy is that many people will have multiple careers; therefore, the focus of development should be on the self and not only the job. The CCR, helps students find and track experiences beyond the classroom, links those experiences to competencies and validates those experiences on an official institutional document. This definition highlights the three pillars of a CCR program: search, reflect, and record. The CCR generally provides a centralized database of eligible cocurricular activities that is searchable by students, allowing them to peruse a broad range of opportunities (Elias & Drea, 2013).

At the University of Calgary, students who engage in 20 hours or more of involvement with a defined position are eligible to add these positions to their co-curricular record, which can be used in job and volunteer applications, medical school applications, and for keeping track of involvement throughout their academic careers. It is the official document that recognizes a student's out-of-classroom experiences, which are defined as any activity that occurs outside of the classroom, lab, practica, or internship, but which is still connected to the university. Through the co-curricular record, students can earn university-recognized credit, receive an official university document validating involvements on campus, expand and market skills, and use it to showcase skills and experiences to potential employers and graduate programs (University of Calgary, 2017).

Combining and Representing the Knowledge Portfolio

The Centre for Teaching Excellence at the University of Waterloo (2017) describes ePortfolios as a tool for what has come to be known as personal development planning (PDP). ePortfolios provide a structured platform and process where an individual can reflect on their own learning performance and achievement, and plan their personal, educational and career development. Described as helping individuals plan, integrate and take responsibility for their personal, career and academic development, PDP helps to recognize the value and evidence of learning and development inside and outside the curriculum, as individuals become more aware of how they are learning and what different teaching and

learning strategies are trying to achieve. In helping individuals become more effective in monitoring and reviewing their own progress and by maintaining their own records and evidence of learning to demonstrate what they know and can do, PDP helps individuals develop their identity in relation to their academic, professional and personal progression. They can develop a vocabulary to communicate their development and achievements, become better prepared for seeking, continuing or changing employment or self-employment, and articulate the skills and knowledge they have gained to others. Stony Brook University (2017) is in the second year of the implementation of ePortfolios. With a student-driven emphasis, they invited participants to add and review the ePortfolio systems used at various schools, college or university. Over sixteen ePortfolio tools and platforms are identified, and these are only academically focused ePortfolio tools.

Within the professional networking realm, ePortfolio tools such as Monster.com and LinkedIn with millions of subscribers across the world, provide not only a free platform with which to market your professional ePortfolio, but job search tools, career resources and advice.

Monster.com.

Monster.com is one of the most visited employment websites in the world. Monster pioneered the digital recruitment industry by introducing the first-ever online job board. Over time, Monster became recognized for its job search matching technology that joins job seekers with job opportunities. On their job board, users will find job postings and job ads from many top employers in Canada. Users can create a profile or ensure their current career and job profile is current. Users can upload their résumé so employers can find them; and users can visit the career advice section for in-depth information on how to embark on a job search and map out a career path. Every minute on Monster's network, there are 29 résumés uploaded, close to 8,000 jobs searched, and 3,000 jobs viewed (Monster, 2017).

LinkedIn

LinkedIn is the world's largest professional network on the Internet, with 400 million subscribers. This free service helps individuals build their professional identity online and stay in touch with colleagues and classmates. It allows users to discover professional opportunities, business deals, and new ventures, while getting the latest news, inspiration, and insights to excel at what they do (LinkedIn, 2016). The purpose for many LinkedIn users is to seek out jobs and have their colleagues and mentors leave recommendations to bolster their credibility. It has evolved into more of a contact relationship management service for individuals, to manage contact relationships from the beginning when a business card is presented, through to maintaining the friendship by following updates and keeping in touch (Yeung, 2013). LinkedIn co-founder Konstantin Guericke describes how LinkedIn helps to build strong relationships through personal networks: “people who have been working for at least 10 years [and] have a network. Those networks are valuable, but people tend to lose touch. People tend to hire and make other business decisions by drawing on these personal networks. Is a job candidate honest or hard-working? You can’t tell from a résumé or even from an interview. That’s why people fall back on trusted relationships” (Yeung, 2013). Through acquisitions of various companies that specialize in networking technologies and training, LinkedIn began offering additional services, including LinkedIn Jobs, which allows hiring managers, HR professionals and recruiters to quickly assess, verify, and prioritize candidate’s viability through their relationships, references, and reputation.

The monetary value of LinkedIn ranks among the highest in all social and professional technology platforms. In June 2016, Microsoft Corporation announced the purchased LinkedIn for \$26.2 billion, the largest acquisition in its history. Intending to connect Microsoft productivity tools Office Professional Suite with the LinkedIn professional network, helping attendees of meetings learn more about one another directly from invitations in their calendars. Sales representatives using Microsoft’s Dynamics software for managing customer relationships could pick up useful information of

background on potential customers from LinkedIn data (Green, 2016). This evolution of melding work-production with work-networks identifies the growing recognition that professional networking portfolios can play in not only identifying employment opportunities, but in the enhancement of the quality of the work that individuals and groups produce.

LinkedIn has developed features and tools that can assist in helping individuals find their “dream job”. LinkedIn Premium is an enhanced service that members pay an additional fee for access to services that help them get noticed by potential employers, get connected to hiring managers, and get ahead of other applicants (LinkedIn, 2016). With the Premium service, individuals can visually enhance their profile to become more prominent in search results through the use of a larger photo, expanded headers and the use of additional images. Premium and non-premium users can set their preferences for job matching through preference settings that allow users to define preferred employment locations, set experience levels, and identify preferred industries to work in. Premium users can apply to jobs as a “featured applicant”, promoting the individual’s job application to appear above the applications of non-premium members. Premium users also access the full list of people who viewed their profile in the last 90 days, rather than the last five people, and they can fine-tune their search for recruiters in matching industries, executives at target companies, or leaders within the same industry that the Premium subscriber works. Premium subscribers can also compare themselves against current employees within a company they wish to work, filter job listings by salary range and see salary estimates on each job posting. LinkedIn Recruiter helps employers find the perfect hire with access to over 400 million subscribers, advanced recruiting filters, prioritization features, direct email engine and access to reporting and analytical tools (LinkedIn, 2016).

Even the most traditional job seekers, those who ‘pound the pavement’ and carry a briefcase full of printed résumés, and those who are casual members of LinkedIn might find it difficult to argue against the design, usability and popularity of this professional networking platform. The powerful

features, algorithms and programming underlie and support LinkedIn's interface, enhance its popularity and acceptance and make it easy to assume that members are finding their "dream job" and employers their "dream employee". There is, however, scant evidence, either statistical or anecdotal which proves or disproves that LinkedIn actually works in helping individuals secure employment, or employers find the ideal employee. LinkedIn conducts surveys with members, inquiring about motivations toward use of the tool, including perceived value, performance, design preferences and other characteristics, however the results are not prominent when searched, and they do not reveal actual hiring results.

Individuals have developed courses and seminars, written books, provide consulting and professional speaking services with the aim of teaching individuals or business to make productive use of, and create successful results with LinkedIn (Breitbarth, 2016). It would be reasonable to ask if such services and knowledge are required because of the lack of effectiveness of LinkedIn or because LinkedIn has grown exponentially and is creating "spin-off" industries.

ePortfolios and employment.

With the basis that ePortfolios have been used to develop employability and self-awareness and to showcase skills to prospective employers, Giovannini and Baldazzi (2016) explored the use of ePortfolios toward career development and transitions from unemployment to employment. Their research was based on "employment centres", which are public offices that deal with the Italian labour market, offering the services necessary to support the effective matching of demand and supply of labour. The hypothesis of their research was that the "constituent elements of the ePortfolio, such as reflexivity, capitalization and transferability of skills, can effectively encourage the matching between demand and supply of labour, on the one hand promoting in the candidate's awareness their skills, acquired in different contexts (formal, non-formal, informal), on the other hand ensuring the employer more completeness of information for the recruitment" (p 41). Semi-structured interviews with employment centre operators and employers revealed that all respondents would use the ePortfolio as a

tool for recruitment, although two of them would not use it for all profiles. The majority of respondents also said that the instrument would qualify as a direct submission by the candidate through links, if the ePortfolio was placed in a platform-database and provided that it was updated. Most of them would consult it after a curriculum vitae screening and before the selection interview itself.

Respondents found the value of ePortfolio similar to other tools such as Facebook, Linkedin, and Almalaurea, however they agreed that the ePortfolio seemed to offer something more or different than other systems. One extra ‘added value’ was identified as greater ease of obtaining access to all information in one place, and the presence of evidence of past employment information as well as extra-work activities. Another value is that the ePortfolio has within it many functions such as the collection of elements and networking. The final added value is the effort of the person who has compiled it. Their wishes are mainly concerned ease of use, exportability, completeness and possibility to choose the information actually needed for recruitment purposes (Giovannini & Baldazzi, 2016). Rhodes (2010) identifies there is employer support for ePortfolios. When describing the evidence of student learning employers would like to have available when hiring college graduates, 35 percent indicated that they would like to see the students’ work in ePortfolios. Although younger employer-respondents were the most enthusiastic, this suggests that this type of evidence will be more in demand in the future.

This literature identified that there are multiple types and applications of ePortfolios, which may be applied depending on the need and circumstance of the ePortfolio owner or groups of ePortfolio users. While this review was primarily focused on the use of ePortfolios for employment and professional development opportunities, it was also recognized that student ePortfolios may have been developed primarily for academic purposes. The related challenges for both students and faculty with implementing, adopting and using ePortfolios within their respective institution was also identified. This review also identified the trends and applications of ePortfolios for career and professional purposes, and how this domain has evolved based on economic drivers and changing technologies.

Various examples of different artifacts that can be included in ePortfolios were discussed, closing with examples of popular platforms which allow individuals to create and maintain an ePortfolio.

The next chapter describes how the research was conducted, including the procedures and tools that will be used answer the primary and secondary research questions of this study. The intent is to identify the perceptions individuals have regarding the ePortfolio how it may help in enhancing employment opportunities. Through the methods described, the capture of participant perceptions and characteristics will determine the frequency with which individual or common traits occur, and to decide if there are any causal relationships between the variables presented to, or revealed by the study group.

Chapter 3 – Research Methodology

The primary purpose of this research is to determine how and if ePortfolios can serve as a foundation for individuals to obtain, or enhance opportunities toward meaningful employment. The question that directs this undertaking is: What are the practical uses and benefits of ePortfolios for employment purposes among undergraduate and continuing education students? The secondary questions relate to the relationship between ePortfolios and employment, the best ePortfolio tool to showcase skills, competencies and knowledge, and whether the ePortfolio is the new replacement for the résumé and curriculum vitae.

Ontological and Epistemological Underpinnings

Ontology is a system of beliefs that reflect the interpretations individuals hold about what constitutes a fact by looking at the very nature of things, their being, their cause, or their identity (Ontology, n.d.). The researcher's ontological stance is based on a universal sense that human beings are guided by highly abstract principles. Ontology attempts to take things that are abstract and establish that they are, in fact, real. We must also recognize that behind this definition of ontology stands the personal biography of the researcher, who speaks from a particular class, gendered, racial, and ethnic community perspective (Denzin & Lincoln, 2011).

The desire to pursue this research stems from my personal experiences as an adult learner and educator for over 20 years, with a penchant for combining education with technology. My research topic and the journey of conceptualizing how I would perform the research has evolved throughout the doctoral program. Personal experience and subjectivity have been influential factors on the research design as well. I relate to, and understand, both technical and non-technical persons and terminology. This has allowed me to bridge the gap between technical and non-technical groups, achieving successful outcomes for both by resolving technology-related challenges while teaching individuals to adapt

technologies. The love of interacting with people and my desire to teach and support them one-on-one, and in small groups, reflects my quantitative and qualitative nature as a researcher.

I apply a postpositivist ontological approach to studying the perceptions individuals have between learning, training and knowledge as it relates to employment and business productivity. The process by which reality is created by the participants is described through their active experiences with their ePortfolio. Garnering “the truth” from participants while seeking to understand the importance of their personal meaning describes my style as a professional and a researcher. Establishing a relationship between the solution-provider (or researcher) and the participant, being flexible in the design of the model or solution; and using technology to enhance the solution or research design (Roller & Lavrakas, 2015), are traits I have developed throughout my career. With my professional background, I tend to focus on analysis and a desire to understand the needs of the larger population and seek solutions for the greater good. I like to use standardized instruments to maintain objectivity in developing solutions. I use facts, data and statistical analysis to provide proof before I take action, and I like to explore with experimental designs, or prototypes (Regoniell, 2015). My never-ending quest to get to the root-cause of the problem, to fix that which is broken, to find solutions that utilize technology, has helped to define my research penchant for both qualitative and quantitative research, represented in a mixed methods research design. This philosophy and approach “constitutes a postpositivist methodology in that it combines a data collection strategy more akin to interpretive social science while retaining a positivistic epistemological framework.” (Parry, Gnich, & Platt, 2001). While determining and understanding the perceptions individuals have regarding ePortfolio’s and employment, it is important to understand these perceptions are socially constructed, but this rationality may not be a means to better knowledge (Denzin & Lincoln, 2011). This is consistent with a pragmatic research philosophy, recognizing that there are many different ways of interpreting the world and undertaking research, that no single point of view can ever give the entire picture, and that there may be multiple realities. I believe this can be reflected in the

selection of the research design, as consideration for multiple or mixed methods attempts to capture the views and perceptions of the participants through more than one research method or medium.

My epistemological stance as a researcher is based in constructivism, due to the history and nature of the androgical instruction (Knowles, 1984) I have delivered and the programs I have developed. This is also based on truth in uncovering the methods by which we understand how knowledge is created and stored within the individual. Epistemology describes the thoughts of by groups of people that defines their reality and provides their foundation of knowledge. Through the research methodology and the instruments, participants are able to express their knowledge and perceptions with confidence and accuracy. From an epistemologist constructivist point of view, any one person's interpretation or construction is as 'true' as any other person's interpretation or construction, as long as it can be captured within the context of the chosen research methodology (Van Niekerk, 2005). I support the belief that all participants' stories or interpretations are equally valid and that no single 'truth' or interpretation exists.

Both observed experiences or and subjective meanings can provide acceptable knowledge, dependent upon the research question. Collectively, the research data and the responses of participants can describe major themes or patterns of beliefs. I ultimately wish to determine if new or modified approaches of androgical delivery are possible as it relates to ePortfolio awareness and development. I believe researching ways of supporting innovative training and personal marketability for students so they are well positioned to meet workplace employment requirements, would be a worthy contribution. Taylor (2012) describes the constructivist paradigm as "suited to the adult learner who has a cabinet-full of information and experience that he brings to the table of learning. Adults are often more confident in their views and enjoy active engagement in dialogue and debate." I wish to better understand how adults perceive the challenges they face satisfying skill and academic requirements for employment. I

foresee the use of surveys and interviews to identify the perceptions and expectations individuals have of enhanced employability from the use and application of ePortfolios.

Based on the literature and results of the data analysis, I will attempt to demonstrate that the ePortfolio can serve as a legitimate tool for adults interested in combining their academic achievements with work experience to strengthen the recognition of their credentials. I envision this will be supplemented and driven through the practice of ePortfolio development, and enhancement of linkages with student services across the post-secondary institution, particularly in the areas of career services and work placement programs.

The Research Paradigm – Mixed Methods Research

My appreciation and preference for the mixed methods research paradigm was enhanced by Johnson and Onwuegbuzie (2004, p. 15) who suggested that “mixed methods research offers great promise for practicing researchers who would like to see methodologists describe and develop techniques that are closer to what researchers actually use in practice.” They see mixed methods as a research paradigm which helps to bridge the chasm between quantitative and qualitative research. I believe mixing and matching design components provides a better chance of describing the behaviors, beliefs, and attitudes of a larger sample of the population of interest, while also gaining insight into the reasoning and motivation of the individuals represented within those groups. Instead of limiting oneself to either qualitative or quantitative methods, the researcher is better informed by using both methods. A quantitative survey method can yield specific data that is statistically analyzed to the frequency and magnitude of trends for larger groups of people. A qualitative interview method can provide differing perspectives of the topic and provides a more complex picture of the situation through the application of open-ended and semi-structured questions (Creswell, 2015).

Data collection.

Data collection in this study is based upon a mixed methods approach, using a convergent parallel design that entailed analysis that identifies common patterns or distinct contradictions within the results. Mixed methods research “provides the opportunity for an assortment of divergent views in conclusions and inferences due to the complexity of the data sources and analysis” (Teddlie & Tashakkori, 2011, p. 287). Students and employees are represented in the descriptive design through a Web-based survey that highlights the scale, scope, awareness and use of ePortfolios.

Neither of these data collection methods is dependent upon the other. Both methods were conducted simultaneously as a parallel convergent design. Both methods inform and provide triangulation of the research to “elucidate complementary aspects of the same phenomenon” (Cohen & Crabtree, 2006). Triangulation of sources allows for a more complex understanding of the phenomena being studied. It enhances the quality of data by gathering information from multiple sources (e.g. people, events), in multiple ways (e.g. interviews, observations) that will illuminate different facets of situations and experiences and help to portray them in their complexity (Fossey et al., 2002). Components of triangulation that make up this study include the survey data analysis, and the semi-structured interview analysis. The purpose is not to merely cross-check data from these two sources and methods, it is to increase knowledge and strengthen the results derived from each method. Figure 4 represents the convergent parallel design of the research project, summarizing the data collection, data analysis, and merges the results together to form interpretations, conclusions and identify additional phases of related research. Each of the sections identified in Figure 4 are discussed in depth within the sections of this chapter.

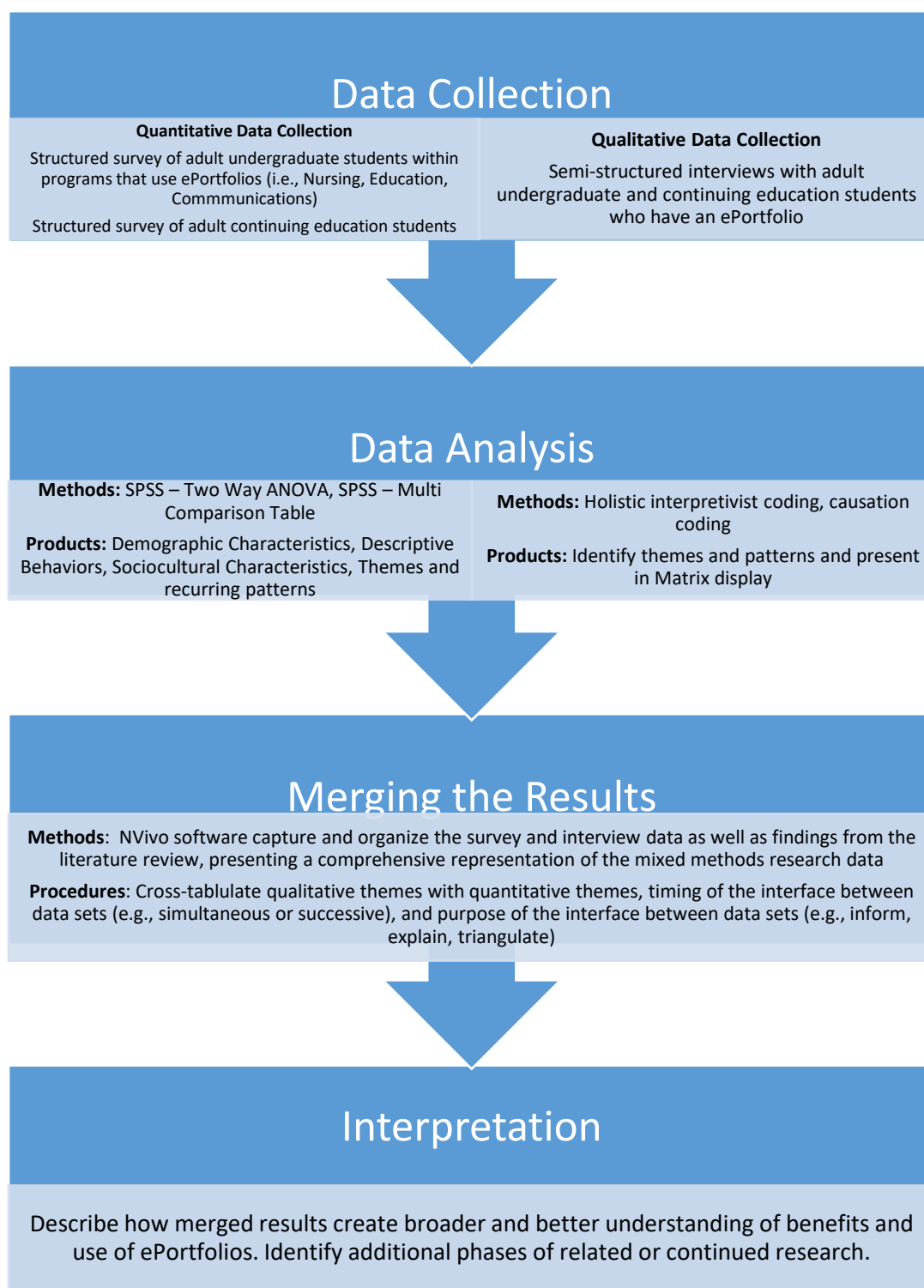


Figure 4. ePortfolio Convergent Parallel Research Design.

Survey method.

The survey was designed to capture a broad overview from a wide sample of participants and to collect descriptive, behavioral, and attitudinal information from the participants. The survey also captures qualitative data sets, which define participants' demographic characteristics such as age, gender, employment status, academic status, and academic program of study. The survey was used to collect descriptive information, facts and participant characteristics to better understand the larger population represented by the sample (Rea & Parker, 2014). The survey questions are designed to determine each participant's beliefs relating to ePortfolio and employment prospects or outcomes. The questions were designed to be short, with opportunity for participants to provide additional elaboration through open-ended questions. Validation of the survey was completed through reviews by independent parties, and pilot testing of the survey to address inconsistencies with formatting and overall user interface. This data is presented as statistical comparisons between credit and non-credit students to compare and contrast their exposure to ePortfolios, and any benefits they may have experienced through the use of ePortfolios. Merging the data from each method of collection provides context and describes the application and use of ePortfolios across these user groups, summarizing the results in both quantitative and qualitative representations.

Interview method.

Semi-structured participant interviews allow for deep questioning by the researcher and deep reflection by the participants as compared to the survey which presents a high-level overview of participant perceptions. This method has the potential to uncover rich descriptive data about the personal experiences of participants relating to the use of ePortfolios and to clarify the research direction. The design of the interview questions was based on replicating the main objectives of the survey to elicit detailed and descriptive responses from the participants. Validation of the interview questions was achieved through several reviews conducted by independent parties, correcting formatting

and clarifying the questions until the desired readability and design were achieved. Information gathered from the semi-structured interviews provided the opportunity to enable the comparison of general topics or domains identified from the survey, to more specific insights, factors and variables (McCammon & Keen, n.d.; Galletta, 2013). The intent of the semi-structured interviews is to probe deeper into the use and benefits of ePortfolios regarding the possible improvement of an individual's employment outlook or situation. Barriball and While (1994) compiled a number of advantages to using the personal interview as a method for data collection: the interview has the potential to overcome the poor response rates of a questionnaire survey; it is well suited to the exploration of attitudes, values, beliefs and motives; it provides the opportunity to evaluate the validity of the respondent's answers by observing non-verbal indicators; it can facilitate comparability by ensuring that all questions are answered by each respondent; and it ensures that the respondent is unable to receive assistance from others while formulating a response.

The semi-structured interview data was collected in order to confirm or contradict the web-based survey results while providing expanded validation and reasoning behind the participant's responses. Methods of analysis were employed to establish legitimacy of the comparisons, as described in subsequent sections of this chapter.

Describing the research population and participants.

The sampling population is defined as two distinct groups of participants who are classified as either credit or non-credit students, and are engaged in either full-time or part-time studies. Participants could also be employed or unemployed. The credit students were enrolled in a program of study which has a requirement for the creation of ePortfolios within program and course-graded assignments. The non-credit students required an ePortfolio as well, however there was no expectation that their ePortfolio was created to meet academic requirements. LinkedIn is an acceptable ePortfolio for the purpose of this study, so any participant who had a LinkedIn profile was eligible to participate in the study.

Recruitment.

Recruitment occurred within University of Calgary Continuing Education classes (day or evening), and University of Calgary undergraduate classes in which ePortfolios are utilized as part of the program of study (i.e., nursing, education, environmental design, etc.). A third group of participants was also included in the study, participating in the semi-structured interview process only. This group consisted of working professionals who utilized their LinkedIn ePortfolio for personal and professional gain. Participants in this third group contacted the researcher directly, after learning about the research study through word of mouth. The principal researcher was the primary recruiter.

Permission was obtained from the Associate Deans and the instructors for the researcher to visit face to face classes, explain the research project to the class and obtain consent to participate in the study. If the potential participants provided their consent to participate in the survey, they could link to the survey questionnaire on their laptop or personal device and complete the survey immediately, within class. Interview participants were selected based on their consent provided through the response in the survey. This project did not include anyone under 18 years of age.

Data Collection, Analysis and Procedures

The analysis of the data gathered in this study was focused on comparing patterns of similarities and divergences between the individuals who participated in the study. An interactive model of data analysis is described by Miles, Huberman and Saldaña (2014) as data condensation, (calculation of means and standard deviation), data display (correlation tables, regression printouts), and the presentation of conclusions and verification (significance levels and control group differences). The data condensation and display is presented in chapters 4 and 5, Data Findings and Analysis and Discussion, respectively.

Figure 5 describes the key variables identified in the study. The key variables connected by causal arrows, which can influence the nature and extent of ePortfolio use for employment purposes by

University of Calgary students. Background factors that determine the students' use of ePortfolios can include demographics and socioeconomic variables, the levels and extent of support available in developing an ePortfolio, and general academic characteristics of the participant. These background factors are key variables because they can also influence the outcomes experienced by students, including perceptions of value that ePortfolios may provide them. The beliefs that students hold regarding ePortfolios may be positive or negative, thus influencing the nature and extent of use of ePortfolios. The visual representation in Figure 5 shows the dependent and independent variables that make up the research. The causal arrows identify the direction of causal or influential factors, and variables, which can affect the nature and extent of use of ePortfolios for employment purposes. Examples of causal or influential factors can be social and structural motivations, knowledge or skills. Analysis of the key variables is the intent of the research, and is accomplished through the act of codifying, which is to arrange things in a systematic order by classifying and categorizing the qualitative data into summative categories (Saldaña, 2016). Thematic analysis is the process of searching for themes that emerge as being important to the description of the phenomenon; searching for pattern recognition within the data where, through inductive coding, emerging themes become the categories for analysis (Fereday & Muir-Cochrane, 2006). Using thematic analysis techniques, the participant interviews describe, through open coding techniques, the ways in which communities of users make use of ePortfolios, the goals they expect to achieve, and the outcomes they have experienced.

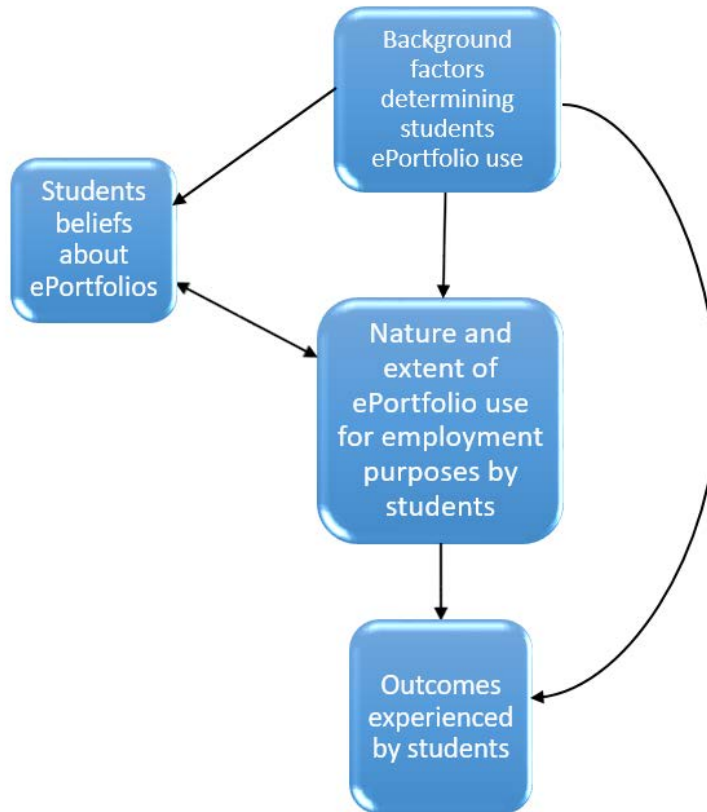


Figure 5. Key variables and causal factors of ePortfolio use

Mixed methods research dimensions.

Guest (2013) identified the key typological dimensions that create simpler, yet inclusive, typologies which distill mixed methods research designs down to three fundamental dimensions: (a) level of mixing (partially vs. fully mixed); (b) time orientation (concurrent vs. sequential); and (c) emphasis of approaches (equal status vs. dominant status). The dimensions of this study consisted of a fully mixed method of participant groups where the responses from the credit, not-credit and professional participant groups were considered and responses were coded and categorized together to form the major findings. The time orientation with which the survey and the semi-structured interviews were conducted was concurrent among the three participant groups, and the emphasis of approach was equal status, although the volume of response was greater from the credit student participants over the non-credit student and

professional participants. The timing of the interface between data sets was simultaneous for both the survey and for the semi-structured interviews. This means both the credit and non-credit students were surveyed together over the same period of time, and the semi-structured interviews were also conducted with all three participant groups over the same period of time. The purpose of the interface between the data sets was conducted to inform and explain the perceptions that participants have toward ePortfolios for employment purposes. Theoretical orientation of this study is founded on inductive reasoning and interpretive analysis of the data. Based on analysis of the survey data, the interviews, and from the literature review, general assumptions of ePortfolios and employment were validated and/or refuted through the findings. The purpose of this research is based on a theoretical construct, with the intent of advancing the knowledge that exists regarding the use of ePortfolios to enhance employment opportunities. Relative importance and weighting of the qualitative and quantitative data is equal and was used concurrently when deriving the major findings from the research data. The survey data was first analyzed separately from the interview data, but were then analyzed together and compared and contrasted with the literature to form the analytic categories, representing a complete narrative of the research.

Graphical and statistical representation of the data.

The analysis and display of the data through graphical and data tables was conducted using the SurveyMonkey survey tool. This representation presents the visual and statistical representation of the population, such as participant category, age and levels of success related to ePortfolio use and employment outcomes. The identification of major and minor preferences and levels of agreement with questions and statements in the survey and the interviews define and categorize similar perceptions together. The participants confirmed through the Likert scale of responses in the survey, and by expressing their personal beliefs and experiences through the interview process the themes that formed the major findings, and ultimately the analytic categories.

Holistic coding techniques.

Holistic, interpretivist coding techniques were applied to the questionnaire and semi-structured interview data to retrieve and categorize similar data chunks, which are formed into patterns and major findings. The process of identification, coding, sorting, and sifting of themes and text involved significant editing of the verbal grammar that participants displayed. Overuse of common verbal phrases and expressions were removed in order to present clear and comprehensive thoughts, experiences and opinions. High-inference levels of judgement were necessary when interpreting responses for several reasons, ranging from English as a second-language to excessive use of slang words. Consideration for maintaining reliability without sacrificing validity was at the forefront of the analysis. Responses were colour-coded and grouped within various themes and major findings. Coding decisions were often difficult, carrying ambiguity and consideration for the nature of the audience.

Ethical Considerations

The researcher-participant relationship, specifically rights of participants in how the research was conducted, was critical in establishing credibility of the study. In compliance with University of Calgary ethical standards and requirements, the areas of informed consent, participant confidentiality and risk are addressed in the ethics proposal. In addition, measures to establish trustworthiness and to enhance the study's credibility and dependability are also identified to participants. For example, interview participants were often reminded that all questions were voluntary and they were free to advise the researcher of no-comment or to skip to the next question. Similarly, every question in the survey was optional, and this is evidenced in the data findings, showing the number of participants that answered a given questions and number of participants who skipped a given question.

Informed consent.

In order to gain access to potential participants, with the permission of the Faculty or department, instructors who teach the undergraduate and continuing education courses were contacted by the

researcher. The researcher visited the classes to speak to the students in the class, explain the research project and obtain their consent to participate in the study. Please refer to Appendix A – Participant Recruitment Script, and Appendix B – One-page Project Description. The researcher met with all participants to explain both the project and the informed consent process. Participants were given the option of being provided with a copy of the Participant Recruitment Form (Appendix C).

The researcher distributed hard copies of the Participant Consent Form (Appendix D) and asked potential participants to complete it. The researcher verbally reviewed the informed consent form with the participants and also allowed participants as much time as they required to read through the form. The researcher answered questions or concerns verbally during the informed consent gathering, and prior to allowing participants to complete the survey.

Interview participants were selected based upon their program of study and the consent they provided to participate in a semi-structured interview. Participants had the option to choose a pseudonym for the purposes of keeping their semi-structured interview responses anonymous. At the time that the informed consent form was presented to participants, they were informed of their right to withdraw from the study at any time and that they may refuse to answer any questions. Information that was collected prior to a participant's withdrawal could still be used as part of the overall data collection, as noted on the consent form.

Confidentiality and anonymity.

The online survey questionnaire was anonymous and distributed using the Survey Monkey survey tool. Questions that asked for the participants' identity (i.e. name or pseudonym) were in relation to their consent to be contacted for a semi-structured interview. All questions in the survey were voluntary. None of the questions were required to be completed in order to complete the survey.

The interview process was confidential. Participants were asked to provide their first name or a pseudonym to replace their name in order to protect their identities. Participants had to be willing to be

interviewed face to face or by telephone for a maximum of 45 minutes, and participants had opportunity to review their contribution before their data was included for analysis in the study. Additional measures to safeguard confidentiality and anonymity included: providing option for participants to use alias name identifier; details describing the type of project and business, and the job-type of participants were not identified unless consent was provided; asking for permission to record the interview was requested of the participants; participants were given the opportunity to review the transcript of the interview for accuracy; participants were advised that they may contact the researcher to receive a copy of the executive summary of the project for personal and professional use; and participants were advised that the results of the study will be shared with the larger community, including internet and publication.

Risk.

The level of risk to the participant was deemed to be minimal or negligible for the purposes of the study. Psychological or emotional stressors, such as participants feeling demeaned, embarrassed, worried, upset, fatigued, or stressed, were minimal. There was the slight risk that a participant may already be upset if they, for example, are unemployed and questions in the study that relate to employment opportunities caused them further stress, due to their circumstances. There was no physical or psychological risk to participants. There was no deception, misinformation, risk of reduced social status or significance, and there was no risk of coercion to participate in the study. The survey questions were not intrusive or manipulative, nor were the interview questions.

Establishing Research Trust and Objectivity

Any researcher who engages with participants for research purposes must consider the relationship they have with the people they are studying and ask themselves; “Do we trust each other?” (Miles, et al., 2014, p. 62). Trust was established with the survey participants by providing a thorough explanation of the research project and establishing a rapport with the participants. When visiting classes to recruit participants and administer the survey, the researcher distributed the Participant

Consent Form (Appendix D). The researcher verbally described the research project and the method of data collection and storage. The researcher further explained that participation in the survey was anonymous and voluntary, that all questions in the survey were voluntary, and that participants had the option of withdrawing from the survey at any point in time. Explanation was also provided regarding questions at the end of the survey which relate to participating in a follow-up interview, and the option to provide consent and contact information so they may be contacted to participate in the semi-structured interview. Opportunity to answer questions or provide any further clarification was provided before participants completed the consent form and engaged in the survey. Participants were advised they could ask to skip any question at any time, and they could withdraw from the interview at any time, with the interview ending immediately. Participants were informed that data pertaining to their interview could be withdrawn from the study, if requested. They were also informed that only the principle investigator, the study coordinator (researcher), and the transcriber would see or hear any of the complete answers to the interviews.

Accepting that complete objectivity is unobtainable, Payne and Payne (2004), acknowledge that research is a collection of activities, in which the question of objectivity arises at several different points. Choice of topic, the theories brought to bear, how research questions are posed, kinds of data collection and analysis, and the construction of conclusions, are all stages where values can and do intervene. My role as a continuing educator for 25 years has defined my values and beliefs toward adult education, employment, personal growth and well-being. Although I believe ePortfolios can help individuals in obtaining employment opportunities, the focus of my research was to understand if ePortfolios actually enhance employment opportunities, and whether or not there is any evidence from the participants that supports this. Adhering to the goal of focusing on drawing out the individual perceptions of participants helped to reduce personal bias and maintain objectivity. Other steps taken to achieve objectivity included using an anonymous survey, and having independent reviews of the survey questions to ensure

they would not lead the participants to a specific answer. Objectivity in the interviews was maintained by remaining consistent in the questions asked, and the way in which the questions were asked. Maintaining consistent inflection of tone and body language were efforts conducted to portray a neutral disposition with interview participants. Allowing participants ample time to answer questions, and providing clarifying points as they answered, also helped to reduce expressions of personal bias.

Quantitative measures of reliability.

When a participant completes the survey instrument it should have approximately the same levels of responses each time the test is completed. Heal and Twycross (2015) identify homogeneity, stability and equivalence as three attributes of reliability in the administration of the research instruments. Homogeneity in responses to the survey were ensured because the same survey instrument was administered to all participant groups. While participants were completing the survey, some individuals requested clarification regarding questions in the survey, due to their personal interpretation of what the survey question was asking. The researcher provided clarification in all cases, and all other participants were able to hear the response of the researcher. The semi-structured interviews were less predictable and less equivalent in structure due to the overall path or progression of each interview, which was based on the participants' answers and explanations. Overall, the key questions identified in the Interview Questionnaire (Appendix F) were addressed consistently, but the method of application was different for each interview, due to personal communication styles of the participants, and the general flow of the interview.

Quantitative measures of validity.

Winter (2000), provides definitions of validity, which are concerned with two common strands: First, the researcher must ensure the means of measurement are accurate; second, the researcher must ensure the research is actually measuring what it is intended to measure.

Validity was achieved in this study through the consistent manner in which the survey instrument was delivered and the data gathered. The descriptive script of the research project was applied consistently for each group of students in each classroom visited, and each group of participants were able to complete the survey under the same environmental (classroom) conditions. The survey findings are generalized over the participant audience because they are all students, and each participant was the owner of their own ePortfolio. Regarding the semi-structured interviews, although the three professionals were not students, all interview participants maintained their own ePortfolio. Evaluative validity is revealed through the data analysis and data synthesis, which identifies similarities and the differences between the participant groups.

Qualitative Measures of Research Trustworthiness

Since qualitative studies do not use instruments with established metrics about validity and reliability, it is important to address how qualitative researchers establish that the research study's findings are credible, transferable, confirmable, trustworthy and dependable (Morse, et al., 2002; Kornbluh, 2015; Trochim, 2006). This study incorporated member checks when coding and utilized confirming techniques with participants to establish trustworthiness. Credibility and dependability of the research are also described in addressing the trustworthiness of this research.

Member checks were conducted, which involved the researcher possessing an understanding the population, as both a student and a professional, and by consistently comparing the themes or major findings in the research data. In addition, the allocation of participant responses to the major findings in the data was continually reviewed.

Confirming with interview participants established neutrality in the research findings. This helped to ensure the findings were based on participants' responses and not any potential bias or personal motivations of the researcher. Although I believe ePortfolios can help people enhance their employment opportunities, I was not expecting the results of my research to confirm this. When

interview participants were asked to comment on their level of success relating to the use of their ePortfolio and employment opportunities, confirmation was applied in several of the interviews to ensure the participants' responses were clear, accurate and definitive.

Credibility of the research with participants was achieved through the manner in which the research was explained. Describing the research goals in person, both in class for the survey distribution and on the telephone for the interviews, supported credibility through an expression of the researcher's interest and ability to respond to any questions or concerns. Dependability of this study is reflected in the consistency of audience participation in the survey. Post-secondary students were the intended audience to engage and there was no deviation from this intended target group. Regarding the semi-structured interviews, the intended audience was also post-secondary students, however three participants who were not students contacted the researcher directly. A discussion and initial screening was conducted with these individuals, and it was determined that each of these three individuals could make a significant contribution to the study, thus they were interviewed and their contributions included in this study.

The next chapter presents the data findings gathered from the survey and interview responses. Organized into graphs and tables with narratives that highlight the significant trends from the participant responses, initial patterns are derived and identified from the collected measurements. The textual presentation of the interview data is also presented, grouped into the primary major findings that emerged from the interview question responses.

Chapter 4 – Data Findings

The purpose of using a mixed methods research approach using a convergent parallel design was to identify a broad range of students' perceptions of the practical use and benefits of ePortfolios in providing or enhancing employment opportunities. This chapter presents an analysis of the data and summarizes the key findings obtained from 209 survey responses and 12 semi-structured interviews. The survey was conducted using the SurveyMonkey survey tool, while the interviews were digitally recorded and transcribed into Microsoft Word documents for analysis.

Survey Overview

The ePortfolio survey was conducted between January 31st and March 1st 2018. Participants were provided with the following definition of an ePortfolio, including examples of ePortfolio's:

For the purposes of this research, the term “ePortfolio” is defined as an electronic collection of artifacts that individuals assemble to provide evidence of skills acquired through educational and extra-curricular activities. This also includes work and life experience, knowledge and accomplishments, and work-integrated learning.

Examples of ePortfolios include personal web page or blog, LinkedIn profile, or an ePortfolio within a Learning Management system, such as Desire2Learn.

Both credit and non-credit students were surveyed. The credit students were made up of 3rd and 4th year Education and Nursing students. The non-credit students were in various stages within their program of study, generally within business management certificate programs in the following disciplines: Construction, Risk, Project Management, Human Resource, Change Management, Health & Safety, Environmental, Hospitality and Supply Chain.

Survey Responses

Question #1

There were a total of 249 responses to survey. Question #1 validated if the participant possessed an ePortfolio so they could legitimately answer the survey questions, with 209 participants responding Yes and 40 answering No. Those who answered No were re-directed to a separate page, thanked for their interest and informed they could not complete the survey if they did not possess an ePortfolio. Table 3 provides a breakdown of the number and percentage of respondents according to Faculty/Department, gender, and average age.

Table 2. Breakdown of ePortfolio Survey Respondents

| Faculty/Department | Gender | | | | Average Age | |
|-----------------------------|---------------|----------------|---------------|----------------|---------------------|-------------|
| | <i>Female</i> | | <i>Male</i> | | <i>Female</i> | <i>Male</i> |
| | <i>Number</i> | <i>Percent</i> | <i>Number</i> | <i>Percent</i> | | |
| Education | 63 | 30% | 33 | 16% | 28 | 30 |
| Nursing | 36 | 17% | 1 | .5% | 23 | 22 |
| Continuing Education | 41 | 20% | 35 | 16.5% | 36 | 39 |
| Totals | 140 | 67% | 69 | 33% | 29 | 30 |
| Grand Totals | | | | | 209 Students | |

Question #2

This was an open-ended response asking which year participants first created their ePortfolio. There were 120 responses from credit students and 66 responses from non-credit students. The earliest year of creation reported was 2000, with the most recent year of creation being 2018. The average year that credit students created their ePortfolio was 2016, and the average year that non-credit students

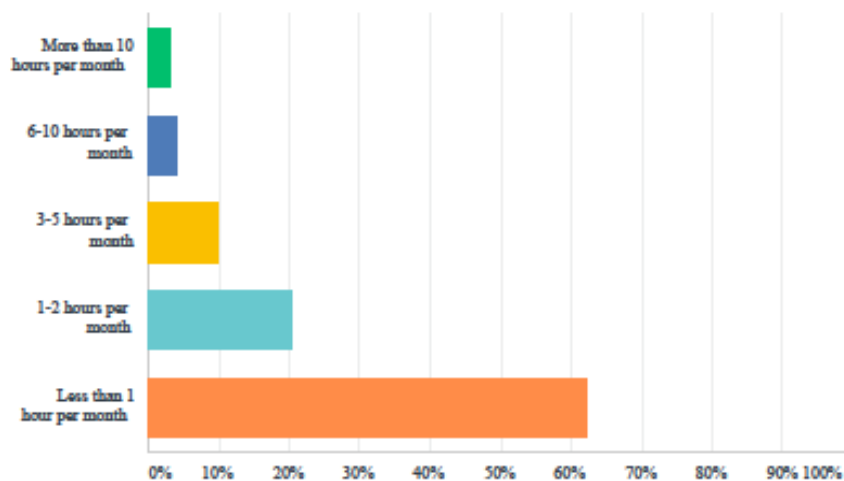
created their ePortfolio was 2011. This reflects and confirms that Continuing Education students are older than credit students.

Question #3

An overwhelming majority of respondents (62%) devote less than 1 hour per month maintaining and updating their ePortfolio. Interestingly, 7.37% of respondents indicate they spend 6 hours or more each month updating and maintaining their ePortfolio.

Q3 In an average month, how many hours do you spend updating and maintaining your ePortfolio?

Answered: 190 Skipped: 59



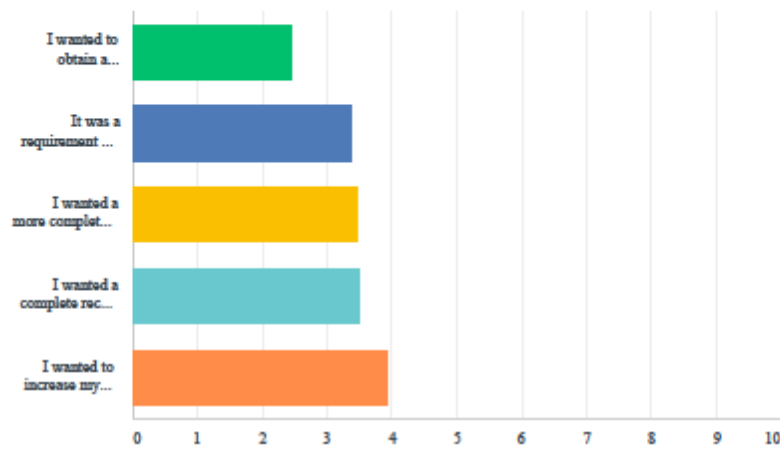
| ANSWER CHOICES | RESPONSES | |
|------------------------------|-----------|-----|
| More than 10 hours per month | 3.16% | 6 |
| 6-10 hours per month | 4.21% | 8 |
| 3-5 hours per month | 10.00% | 19 |
| 1-2 hours per month | 20.53% | 39 |
| Less than 1 hour per month | 62.11% | 118 |
| TOTAL | | 190 |

Question #4

The weighting of answers to this question was evenly distributed. The highest weighted average for participants' motivating reason to compile their ePortfolio was to increase their employment opportunities. A more complete record of formal and informal learning, and a more complete record of accomplishments were also weighted high as deciding factors to compile an ePortfolio.

Q4 Please rank your level of agreement with each of the following statements relating to your decision to compile your ePortfolio:

Answered: 192 Skipped: 57



| | STRONGLY DISAGREE | DISAGREE | NEITHER AGREE NOR DISAGREE | AGREE | STRONGLY AGREE | N/A | TOTAL | WEIGHTED AVERAGE |
|--|-------------------|--------------|----------------------------|--------------|----------------|--------------|-------|------------------|
| I wanted to obtain a promotion | 15.71% 30 | 27.75% 53 | 27.23% 52 | 9.95% 19 | 1.57% 3 | 17.80% 34 | 191 | 2.44 |
| It was a requirement of my program of study | 17.28% 33 | 15.18% 29 | 9.42% 18 | 16.75% 32 | 33.51% 64 | 7.85% 15 | 191 | 3.37 |
| I wanted a more complete record of my accomplishments (ie, additional documents, videos, etc.) | 4.19% 8 | 14.66% 28 | 24.61% 47 | 41.36% 79 | 14.14% 27 | 1.05% 2 | 191 | 3.47 |
| I wanted a complete record of all formal and informal learning, knowledge and skills. | 3.14% 6 | 16.75% 32 | 16.23% 31 | 51.31% 98 | 10.99% 21 | 1.57% 3 | 191 | 3.51 |
| I wanted to increase my employment opportunities | 3.65% 7 | 5.21% 10 | 17.19% 33 | 41.67% 80 | 31.77% 61 | 0.52% 1 | 192 | 3.93 |

This question also provided an open-ended response opportunity so participants could describe additional factors that influenced their decision to compile an ePortfolio. There were a total of 56 comments provided, of which the major themes are identified:

Employment/Employer Opportunities. Eighteen participants (32%) reinforced employment as a major factor in creating an ePortfolio, using it to help with applying for positions online, and further described through these additional comments:

It's essentially become a necessity for many jobs to even be considered. Along with the fact that most applications are done online so it must be an ePortfolio.

I truly developed my LinkedIn profile as I was teaching at a college where the students had to create a profile. In order to teach, I had to have one of my own.

Understanding that the ePortfolio would/may be called upon during an interview, so I was motivated by fear of telling interviewers that I didn't have one which would lessen my chances of success.

To browse and obtain information from relatable industries.

Job searching, quick link applications (direct through LinkedIn)

Networking. Eight participants (14%) identified networking with other professionals, as described by the following comments:

To look at other people's accomplishments

I joined LinkedIn as it became more popular because I was unaware of what it may have evolved into. I didn't want to join "late" in case it became an invaluable networking tool and thoroughly integrated into the fabric of business, careers, etc.

Online Presence/Marketing oneself. Eight participants (14%) indicated the importance of having an online presence to market oneself as evidenced by the following comments:

Nowadays if you are not in the web you don't exist.

Necessary component of marketing self

I wanted a very visual approach to showing my "résumé" and ideas.

Tracking personal growth/accomplishments and to organize. Five participants (9%) commented on using ePortfolios as a tool to track their growth and accomplishments in an organized manner:

I initially saw an ePortfolio as a method of tracking my growth as an individual (both academically and in my personal/philanthropic endeavors).

I dislike physical copies of things because they're annoying to organize.

Digital documentation as an additional evidence to hard-copy

I wanted to organize all of my artefacts into one place

Peers have an ePortfolio. Four participants (7%) responded that peer influence was a factor in creating an ePortfolio, as described by participant #18:

I thought it would be neat to have one. My peer group was doing it and I felt it was something I should look at. It was not spurred by work or school or a desire to catalogue my education. That came at a later date when I became more familiar with the workings of LinkedIn.

Academic Requirement. Three participants (5%) specifically identified academic requirements of their program of study as the major decision factor to create an ePortfolio.

Uncertainty regarding ePortfolios. Several respondents expressed their uncertainty with the value or use of ePortfolios:

I wanted to be findable when colleagues or business contacts were looking for me, and it's important that they find a hit that leads to a somewhat professional representation of you (not just Facebook or some off-hand mention on someone's personal webpage or a historical reference to some old yearbook or something like that). I also was in a movie once and all the movie-related hits made it appear I was an actor and not an IT professional. I am disappointed that LinkedIn has recently styled itself more as a Facebook style "hey look I'm at the beach!" site instead of a professional directory.

Not knowing what employers want to see in an ePortfolio, or if they want to see it, it is hard to decide how much effort to put into it. My ePortfolio to date has only been for classroom projects.

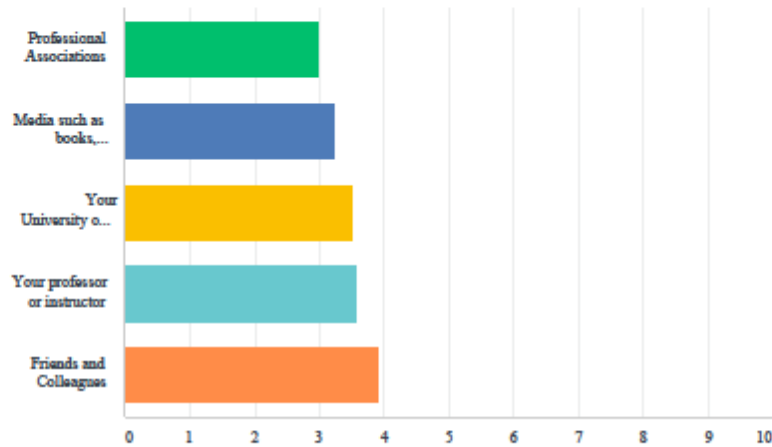
Expectations, will the future employer look for it or is it a waste of time?

Question #5

Approximately 33% of respondents frequently, or very frequently identify friends or colleagues as their primary source of information regarding ePortfolios, followed by their professor or instructor.

Q5 Please rank the extent to which you have utilized the following sources to obtain ePortfolio information:

Answered: 191 Skipped: 58



| | NEVER | VERY RARELY | RARELY | OCCASSIONALLY | FREQUENTLY | VERY FREQUENTLY | TOTAL | WEIGHTED AVERAGE |
|---|--------------|--------------|--------------|---------------|--------------|-----------------|-------|------------------|
| Professional Associations | 28.95% 55 | 10.00% 19 | 17.37% 33 | 25.79% 49 | 14.74% 28 | 3.16% 6 | 190 | 2.97 |
| Media such as books, websites, social media | 26.18% 50 | 6.81% 13 | 9.42% 18 | 35.08% 67 | 19.37% 37 | 3.14% 6 | 191 | 3.24 |
| Your University or other schools | 17.28% 33 | 8.38% 16 | 11.52% 22 | 35.08% 67 | 23.04% 44 | 4.71% 9 | 191 | 3.52 |
| Your professor or instructor | 17.37% 33 | 6.32% 12 | 11.58% 22 | 37.37% 71 | 20.00% 38 | 7.37% 14 | 190 | 3.58 |
| Friends and Colleagues | 8.38% 16 | 9.42% 18 | 9.95% 19 | 38.74% 74 | 21.99% 42 | 11.52% 22 | 191 | 3.91 |

An open-ended response provided opportunity to identify other sources of information about ePortfolios, as identified through the following responses:

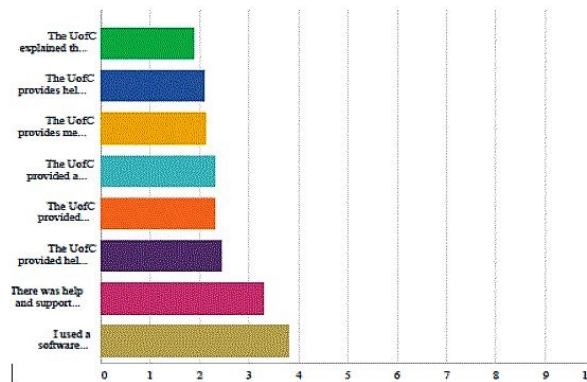
- Public library
- People who inspire me
- Our course outlines indicate material that might be useful or beneficial to include in ePortfolios
- Online samples of other ePortfolios
- LinkedIn. The other ePortfolio I have would be used 'Never' except for requirements in my current degree

Question #6

Software platforms or programs were cited as the most common source for ePortfolio information and support, followed by other types of support provided by the institution.

Q6 Please rank the extent to which you have utilized the following sources to obtain ePortfolio information and support:

Answered: 191 Skipped: 58



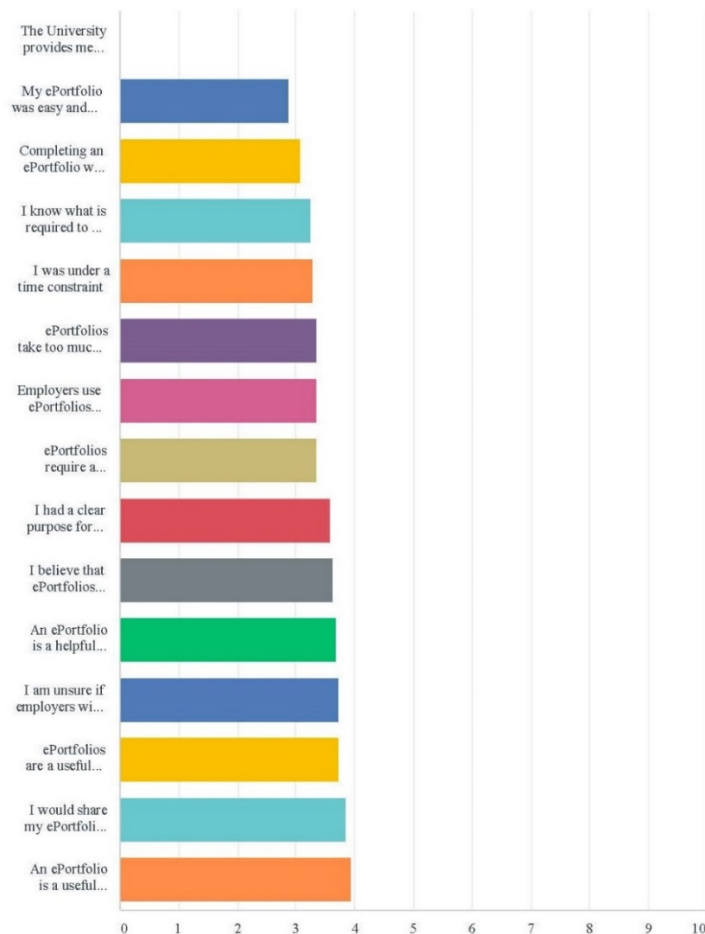
| | NEVER | VERY RARELY | RARELY | OCCASIONALLY | FREQUENTLY | VERY FREQUENTLY | TOTAL | WEIGHTED AVERAGE |
|---|---------------|--------------|--------------|--------------|--------------|-----------------|-------|------------------|
| The UofC explained the time commitment to create and maintain my ePortfolio | 58.01% 105 | 14.92% 27 | 13.81% 25 | 9.39% 17 | 2.21% 4 | 1.66% 3 | 181 | 1.88 |
| The UofC provides help and troubleshooting support | 52.46% 96 | 13.11% 24 | 14.21% 26 | 13.66% 25 | 5.46% 10 | 1.09% 2 | 183 | 2.10 |
| The UofC provides me with ample support to learn/manage my ePortfolio | 50.83% 92 | 15.47% 28 | 12.71% 23 | 14.92% 27 | 4.42% 8 | 1.66% 3 | 181 | 2.12 |
| The UofC provided a software tool or platform which I can compile my ePortfolio | 52.94% 99 | 9.63% 18 | 9.63% 18 | 14.97% 28 | 6.95% 13 | 5.88% 11 | 187 | 2.31 |
| The UofC provided instructions to compile my ePortfolio for employment purposes | 47.54% 87 | 12.02% 22 | 13.11% 24 | 17.49% 32 | 6.56% 12 | 3.28% 6 | 183 | 2.33 |
| The UofC provided help and support in the development of my ePortfolio | 42.62% 78 | 12.57% 23 | 14.21% 26 | 19.67% 36 | 9.29% 17 | 1.64% 3 | 183 | 2.45 |
| There was help and support available | 15.87% 30 | 13.23% 25 | 19.05% 36 | 32.28% 61 | 16.40% 31 | 3.17% 6 | 189 | 3.30 |
| I used a software program or website to build my ePortfolio | 28.27% 54 | 5.24% 10 | 3.66% 7 | 12.04% 23 | 23.04% 44 | 27.75% 53 | 191 | 3.80 |

Question #7

The results of this question reflect themes identified from the open-ended answers to question #4. The top ranked statement in this question relates to using the ePortfolio as a tool or platform to collect and summarize work experience and achievements. The second highest ranked statement relates to ePortfolios as a tool that aids with obtaining employment. There is a tie for third highest-ranked statement. One statement relates to using the ePortfolio as a networking tool, while the other identifies the uncertainty of participants as to whether or not employers will look at, or consider their ePortfolio as part of the hiring process.

Q7 Please rank your level of agreement with the following statements:

Answered: 190 Skipped: 59



Question #7 Data Chart

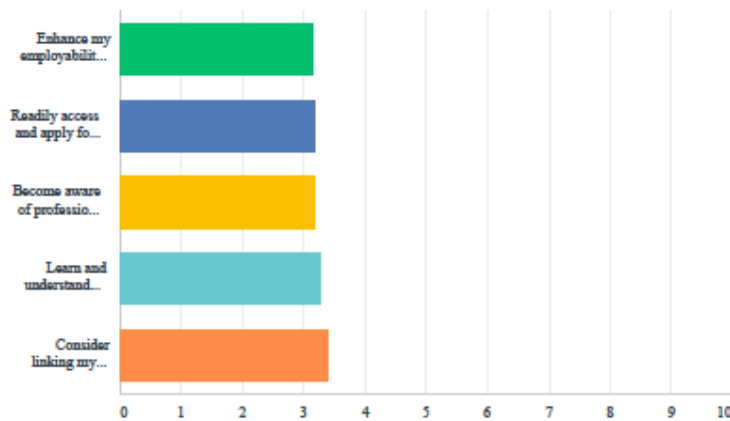
| | STRONGLY DISAGREE | DISAGREE | NEITHER AGREE NOR DISAGREE | AGREE | STRONGLY AGREE | N/A | TOTAL | WEIGHTED AVERAGE |
|--|----------------------|--------------|-------------------------------------|---------------|-------------------|-------------|-------|---------------------|
| The University provides me with ample support to learn/ manage my ePortfolio | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0.00% 0 | 0 | 0.00 |
| My ePortfolio was easy and fast to compile | 8.15% 15 | 33.70% 62 | 23.37% 43 | 28.80% 53 | 3.80% 7 | 2.17% 4 | 184 | 2.86 |
| Completing an ePortfolio was an important accomplishment for me | 7.41% 14 | 19.58% 37 | 34.92% 66 | 30.16% 57 | 5.82% 11 | 2.12% 4 | 189 | 3.08 |
| I know what is required to be included in my ePortfolio | 2.63% 5 | 25.26% 48 | 22.63% 43 | 41.58% 79 | 6.84% 13 | 1.05% 2 | 190 | 3.25 |
| I was under a time constraint | 5.88% 11 | 24.60% 46 | 16.04% 30 | 25.67% 48 | 18.72% 35 | 9.09% 17 | 187 | 3.29 |
| ePortfolios take too much time to create | 4.21% 8 | 22.63% 43 | 21.05% 40 | 35.79% 68 | 14.21% 27 | 2.11% 4 | 190 | 3.34 |
| Employers use ePortfolios when screening a job applicant | 5.85% 11 | 13.30% 25 | 33.51% 63 | 32.98% 62 | 12.77% 24 | 1.60% 3 | 188 | 3.34 |
| ePortfolios require a significant time commitment to maintain | 2.13% 4 | 27.13% 51 | 17.55% 33 | 38.83% 73 | 13.83% 26 | 0.53% 1 | 188 | 3.35 |
| I had a clear purpose for developing my ePortfolio | 3.23% 6 | 15.59% 29 | 15.59% 29 | 51.08% 95 | 13.44% 25 | 1.08% 2 | 186 | 3.57 |
| I believe that ePortfolios could help candidates gain advantage over other candidates when used as part of a job interview | 3.17% 6 | 10.05% 19 | 24.34% 46 | 46.03% 87 | 15.87% 30 | 0.53% 1 | 189 | 3.62 |
| An ePortfolio is a helpful tool to customize job applications and pull 'artifacts' from the ePortfolio to customize the resume or CV | 3.17% 6 | 9.52% 18 | 15.87% 30 | 54.50% 103 | 14.29% 27 | 2.65% 5 | 189 | 3.69 |
| I am unsure if employers will look at ePortfolio | 3.17% 6 | 18.52% 35 | 10.58% 20 | 36.51% 69 | 30.16% 57 | 1.06% 2 | 189 | 3.73 |
| ePortfolios are a useful tool for networking with potential employers | 3.17% 6 | 7.94% 15 | 20.11% 38 | 49.21% 93 | 18.52% 35 | 1.06% 2 | 189 | 3.73 |
| I would share my ePortfolio with an employer as part of the job application process | 4.76% 9 | 2.65% 5 | 17.99% 34 | 51.85% 98 | 21.69% 41 | 1.06% 2 | 189 | 3.84 |
| An ePortfolio is a useful means to summarize one's work experience and achievements | 1.07% 2 | 6.42% 12 | 10.70% 20 | 60.96% 114 | 19.79% 37 | 1.07% 2 | 187 | 3.93 |

Question #8

Responses to this question were very close, with only a marginal difference in weighted average between the highest and lowest ranked statements. Most respondents strongly disagreed with the statement that using their ePortfolio made them more aware of other professional networking platforms such as LinkedIn, Monster or Google.

Q8 Please rank your level of agreement with the following statements. Using my ePortfolio has helped me to:

Answered: 188 Skipped: 61



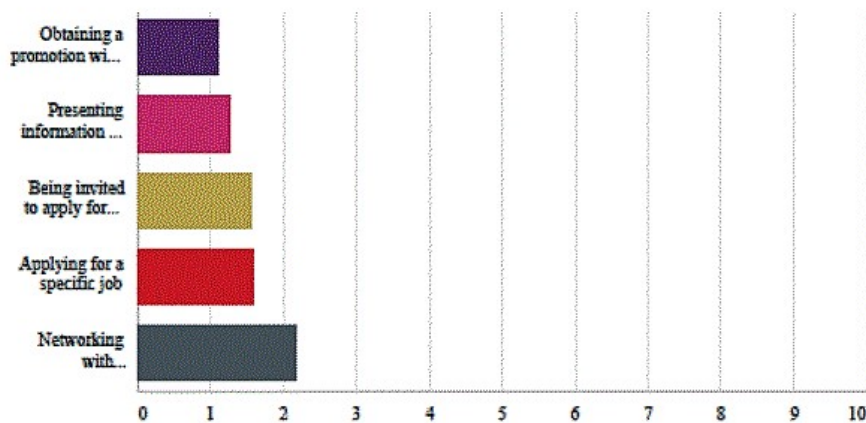
| | STRONGLY DISAGREE | DISAGREE | NEITHER AGREE NOR DISAGREE | AGREE | STRONGLY AGREE | N/A | TOTAL | WEIGHTED AVERAGE |
|--|-------------------|--------------|----------------------------|--------------|----------------|------------|-------|------------------|
| Enhance my employability skills | 7.49% 14 | 19.25% 36 | 28.88% 54 | 36.90% 69 | 5.88% 11 | 1.60% 3 | 187 | 3.15 |
| Readily access and apply for employment opportunities | 9.68% 18 | 19.89% 37 | 21.51% 40 | 38.17% 71 | 9.14% 17 | 1.61% 3 | 186 | 3.17 |
| Become aware of professional network platforms (i.e., LinkedIn, Monster, Google) | 12.23% 23 | 16.49% 31 | 15.96% 30 | 45.74% 86 | 6.91% 13 | 2.66% 5 | 188 | 3.19 |
| Learn and understand employability skills | 8.02% 15 | 18.72% 35 | 18.18% 34 | 47.59% 89 | 6.42% 12 | 1.07% 2 | 187 | 3.26 |
| Consider linking my ePortfolio within my Resume / CV | 9.09% 17 | 11.76% 22 | 19.25% 36 | 47.06% 88 | 10.70% 20 | 2.14% 4 | 187 | 3.39 |

Question #9

Respondents indicate their ePortfolio is most instrumental in networking with other professionals, with a weighted answer of 2.18 out of 10. Applying for a specific job and using the ePortfolio as a reference for additional information or support was the second most popular answer. Overall, the ePortfolio was largely unused for the reasons provided in the question.

Q9 Thinking back on your past use of ePortfolio's, please indicate the number of times that your ePortfolio has been instrumental in:

Answered: 186 Skipped: 63

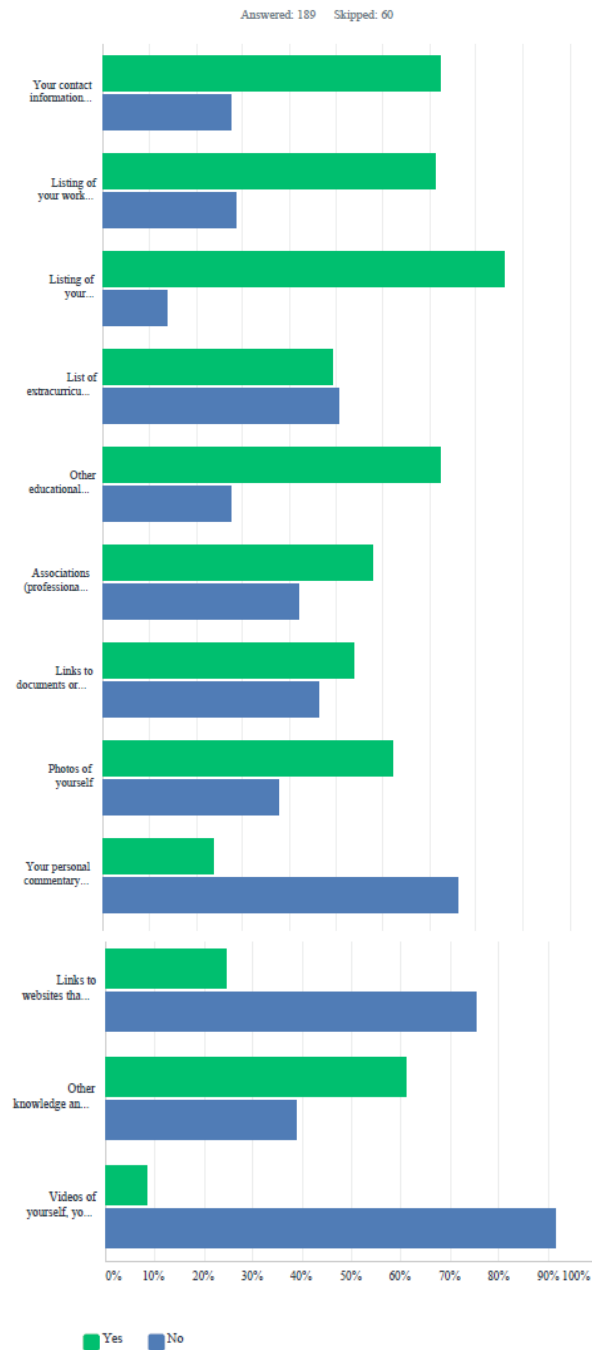


| | 0 | 1-2 | 3-4 | 5-6 | MORE THAN 6 | TOTAL | WEIGHTED AVERAGE |
|---|---------------|--------------|--------------|-------------|--------------|-------|------------------|
| Obtaining a promotion with an existing employer | 94.62% 176 | 2.69% 5 | 1.08% 2 | 1.08% 2 | 0.54% 1 | 186 | 1.10 |
| Presenting information as part of the job interview | 82.61% 152 | 11.96% 22 | 2.72% 5 | 1.09% 2 | 1.63% 3 | 184 | 1.27 |
| Being invited to apply for a job | 68.82% 128 | 14.52% 27 | 10.22% 19 | 4.30% 8 | 2.15% 4 | 186 | 1.56 |
| Applying for a specific job | 68.11% 126 | 18.92% 35 | 4.86% 9 | 3.24% 6 | 4.86% 9 | 185 | 1.58 |
| Networking with professionals | 51.08% 95 | 17.74% 33 | 9.14% 17 | 5.91% 11 | 16.13% 30 | 186 | 2.18 |

Question #10

Contact information, work and educational experience, and extracurricular activities are identified as information that respondents include in their ePortfolio, while actual videos of individuals and other knowledge or skills were as not included in ePortfolios.

Q10 Please identify if the following information is included in your ePortfolio:



Question #10 Data Chart

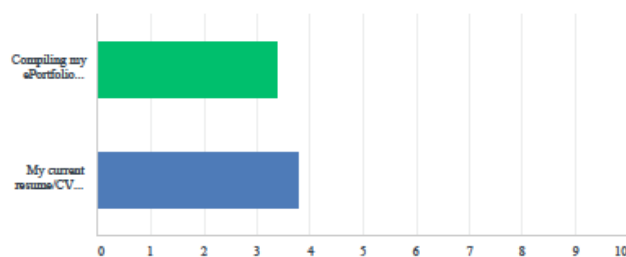
| | YES | NO | TOTAL |
|---|---------------|---------------|-------|
| Your contact information (e.g., name, phone number, email address, etc.) | 72.49% 137 | 27.51% 52 | 189 |
| Listing of your work experience. | 71.43% 135 | 28.57% 54 | 189 |
| Listing of your educational experience | 86.17% 162 | 13.83% 26 | 188 |
| List of extracurricular activities (i.e., sports, clubs) | 49.47% 93 | 50.53% 95 | 188 |
| Other educational credentials (e.g., professional certifications, professional development units, badges or micro-credentials). | 72.34% 136 | 27.66% 52 | 188 |
| Associations (professional memberships, volunteer associations). | 57.98% 109 | 42.02% 79 | 188 |
| Links to documents or websites that showcase your work, projects, and/or achievements. | 53.72% 101 | 46.28% 87 | 188 |
| Photos of yourself | 62.23% 117 | 37.77% 71 | 188 |
| Your personal commentary regarding interesting cultural, political or social topics and events. | 23.94% 45 | 76.06% 143 | 188 |
| Links to websites that highlight to your interests and personality | 24.73% 46 | 75.27% 140 | 186 |
| Other knowledge and skills such as language fluency, volunteer work, charitable causes, etc. | 61.08% 113 | 38.92% 72 | 185 |
| Videos of yourself, your achievements, etc. | 8.65% 16 | 91.35% 169 | 185 |

Question #11

Respondents indicated that their current résumé/curriculum vitae is an accurate representation of their education, work experience, etc. To lesser degree, respondents believed having an ePortfolio gave them more confidence to search for employment.

Q11 Please rank your level of agreement with the following statements:

Answered: 188 Skipped: 61



| | STRONGLY DISAGREE | DISAGREE | NEITHER AGREE NOR DISAGREE | AGREE | STRONGLY AGREE | N/A | TOTAL | WEIGHTED AVERAGE |
|--|-------------------|--------------|----------------------------|---------------|----------------|------------|-------|------------------|
| Compiling my ePortfolio helped me feel more prepared to search for work | 5.41% 10 | 16.76% 31 | 18.92% 35 | 49.19% 91 | 8.65% 16 | 1.08% 2 | 185 | 3.39 |
| My current resume/CV accurately presents to potential employers, my education, work experience, skills and abilities | 3.19% 6 | 10.11% 19 | 10.11% 19 | 57.98% 109 | 18.09% 34 | 0.53% 1 | 188 | 3.78 |

Question #12

This open-ended question allowed participants to comment on: What concerns, if any, do you have about finding employment after graduation? Out of 109 responses, the following themes emerged:

Poor Economy/Lack of full-time or permanent employment. This appeared to be the most pressing concern for participants, with 46 comments (42%), some of which were:

It is a large cohort of people graduating from the program who will be looking for jobs in the same field.

There is a large graduating class entering the job market. This is in addition to people who have already obtained an Education Degree. How much space is there in the current Calgary job market?

Saturation of teachers, not enough jobs.

The immense amount of graduating students creates lots of competition.

Already have a job/no concerns. There were 28 comments (26%) expressing no concerns with finding employment after graduation, as described by one participant:

I have no concerns about finding employment after graduation. I am confident that I will be able to find employment in my field of choice, and that I will have the skills to succeed.

Lack of experience/skills/marketability. Twenty three participants (21%) expressed concerns regarding lack of experience, skills and being marketable. Some of the comments which describe these concerns are:

That my résumé/CV/portfolio will not be eye catching/professional.

Difficult for nursing students right now as there is a hiring freeze - more competitive to find a job for new graduates as we lack work experience.

I'm always concerned about not finding a job at least within 6 months of graduation because there is a high demand for registered nursing jobs but little supply in Calgary. I'm also worried I do not have the credentials that make me stand out as a candidate.

Whether or not employers will actually look at my portfolio and be interested in what I put in there.

Having my e-portfolio ready in time. Still a work in progress.

Uncertainty. In various forms, nine respondents (8%) expressed uncertainty and lack of clarity in how they obtain employment, as detailed by the following comments:

Will I be able to find employment? Will it require significant upheaval (will I have to move?).

There is no clear-cut list of what employers want - some boards and schools want to see your ePortfolio, others don't care for it, etc.

I am transgender.

There is limited support in following deadlines and finding appropriate documentation required to apply for jobs.

All boards have different platforms or ways of acquiring the necessary information. Working through all the requirements can be difficult and confusing since none are aligned.

Ability to find meaningful employment. Although there were only three participants (3%) who expressed concerns over finding meaningful employment, these comments describe the importance of finding meaning in one's job:

I greatly fear being recruited into a company with no heart / culture. I'm an outgoing, extroverted social person, who feels that employees NEED to talk to each other and know each other, and I fear being hired by someone who views employee's talking as "a waste of paid time".

Impersonal interviews, showcasing what I want to do when I have only had the chance to do what partner teachers want to do in their class, limited number of jobs.

Questions #13, #14 and #15

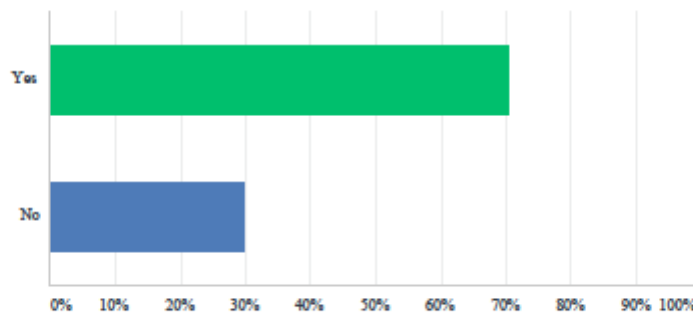
Question #13 asked participants their age, and question #14 asked participants their gender. The results of these questions were used to inform Table 2. Breakdown of ePortfolio Survey Respondents. Question #15 asked participants what their cumulative GPA is, with over 56% between 3.6 – 4.0 GPA. Further analysis involving participant GPA was determined as unnecessary for the results of this study.

Question #16, #17 and #18

These three questions reveal that over 70% of survey participants are employed, with slightly over 50% of students working in part-time positions. The majority of participants (0%) have been in the workforce 10 years or less, which is reflective of the averages ages of both credit and non credit students combined, at 29 years of age for females and 30 years of age for males.

Q16 Do you have a job?

Answered: 189 Skipped: 60

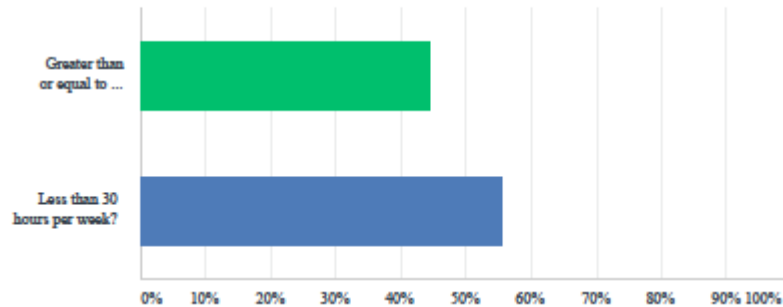


| ANSWER CHOICES | RESPONSES | |
|----------------|-----------|-----|
| Yes | 70.37% | 133 |
| No | 29.63% | 56 |
| TOTAL | | 189 |

Question #17

Q17 If yes, do you work:

Answered: 139 Skipped: 110

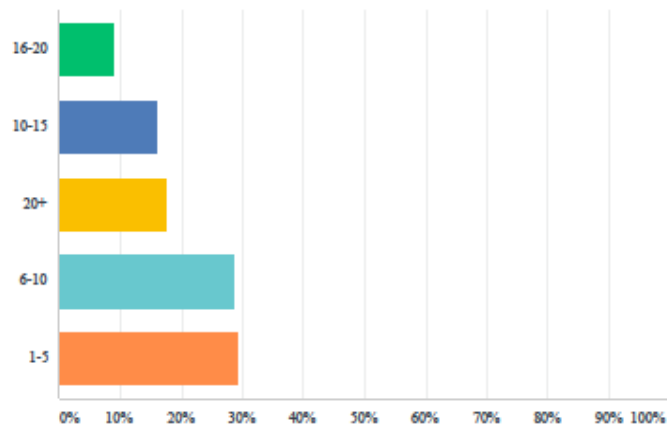


| ANSWER CHOICES | RESPONSES |
|---|-----------|
| Greater than or equal to 30 hours per week? | 44.60% 62 |
| Less than 30 hours per week? | 55.40% 77 |
| TOTAL | 139 |

Question #18

Q18 Approximately, how many years have you been in the workforce?

Answered: 182 Skipped: 67



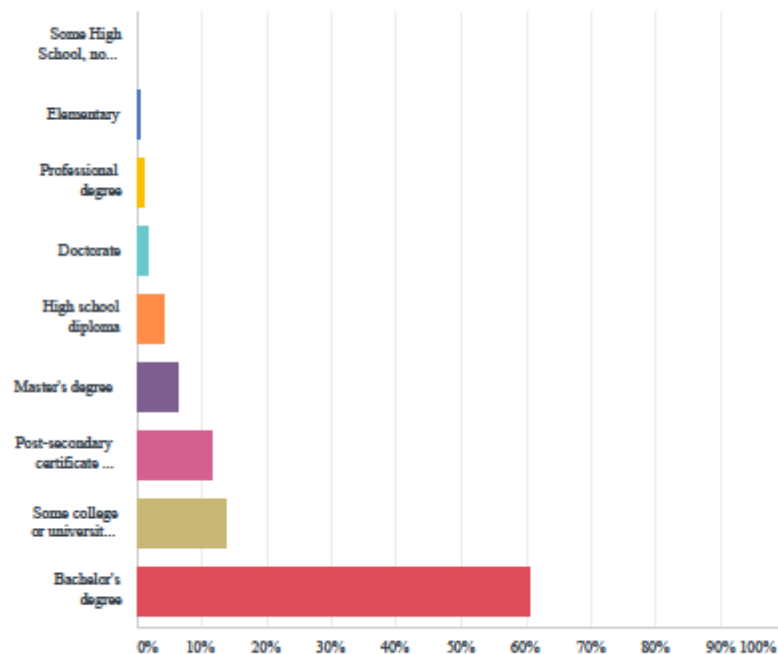
| ANSWER CHOICES | RESPONSES |
|----------------|-----------|
| 16-20 | 8.79% 16 |
| 10-15 | 15.93% 29 |
| 20+ | 17.58% 32 |
| 6-10 | 28.57% 52 |
| 1-5 | 29.12% 53 |
| TOTAL | 182 |

Question #19

The majority of participants (60%) indicate they have a bachelor's degree as the highest level of education. Although it is likely that most of the participant student's have not formally graduated from their degree program, they are likely identifying as completed because the credit students who were surveyed were in their third or fourth year of their program.

Q19 What is your highest current level of education attainment?

Answered: 188 Skipped: 61



| ANSWER CHOICES | RESPONSES | |
|---------------------------------------|-----------|------------|
| Some High School, no diploma | 0.00% | 0 |
| Elementary | 0.53% | 1 |
| Professional degree | 1.06% | 2 |
| Doctorate | 1.60% | 3 |
| High school diploma | 4.26% | 8 |
| Master's degree | 6.38% | 12 |
| Post-secondary certificate or diploma | 11.70% | 22 |
| Some college or university, no degree | 13.83% | 26 |
| Bachelor's degree | 60.64% | 114 |
| TOTAL | | 188 |

Question #20

This question asked participants to indicate the total value of scholarships received to date.

Almost 25% of respondents received no scholarship money. Most students received between \$1,000 - \$2,999 (19.25%) and between \$3,000 - \$4,999 (19.25%) of scholarship money. This data was originally intended to identify those students who obtained scholarships as preferred candidates for participation in the semi-structured interview, as they might be high-achievers who are more detail oriented, potentially owning a more robust ePortfolio and thus making stronger interview candidates. This data was not used for that purpose as finding participants for the semi-structured interviews proved to be a significant challenge. As a result, any consenting student who would respond and participate in the semi-structured interview was accepted.

Question #21

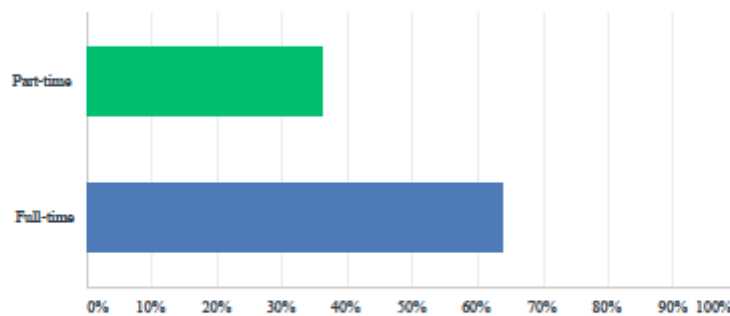
This question informed Table 2. Breakdown of ePortfolio Survey Respondents, identifying which students were in Education, Nursing or Continuing Education programs of study.

Question #22

Just over 60% of the participants were full-time students, while just over 36% were part-time students. This coincides with the number of credit and non-credit students who participated in the survey, as highlighted in Table 2. Breakdown of ePortfolio Survey Respondents.

Q22 Are you a full-time student or a part time student?

Answered: 188 Skipped: 61



| ANSWER CHOICES | RESPONSES | |
|----------------|-----------|-----|
| Part-time | 36.17% | 68 |
| Full-time | 63.83% | 120 |
| TOTAL | | 188 |

Questions #23 - #28

These questions were specific to ascertaining if participants were willing to participate in a short interview regarding ePortfolios (question #23), of which 39 respondents expressed their willingness to participate in an interview. Question #24 collected participants first name, email address and phone number as contact information so that the interview could be arranged to take place. Question #25 obtained permission to be audio recorded during the interview, of which 85% agreed to be audio recorded. Questions #26 and #27 asked participants if they wished to remain anonymous, and referred in the research with a pseudonym, and question#27 provided opportunity to provide the pseudonym to be used. Question #28 asked respondents if the researcher could quote participants and use their first name when presenting the qualitative semi-structured interview results.

Semi-Structured Interview Results

The purpose and intent of conducting the semi-structured interviews was to probe deeper into the use and benefits of ePortfolios regarding individuals' employment outlook or situation. The interviews sought to determine if any participants realized positive employment-related outcomes as a result of using an ePortfolio. Uncovering details as to how the ePortfolio may have benefited participants regarding their professional networking and/or employment prospects was a major goal of conducting the semi-structured interviews.

Although there were 39 survey participants who provided their consent to participate in the interview, it was difficult to connect with them, resulting in many unanswered telephone calls, messages and emails. Ultimately, most of the interviews were established through word of mouth. Most participants contacted the researcher directly, or contact was established through a mutual connection between the participants and the researcher.

Participant Overview

Of the 12 interviews conducted, three participants were non-credit continuing education students, six were credit students, and three were working professionals. All interviews were conducted in person or with a telephone, digitally recorded and transcribed into Microsoft Word.

The non-credit continuing education students were each at various stages of their educational journey, each with a different educational focus and goals. One participant was a housekeeping manager with a hotel, who was taking professional human resource related courses. The second non-credit student was a facilities supervisor, who was taking general management courses, and the third a pipeline control systems specialist, who was employed with a major pipeline company in Calgary, Alberta Canada.

Of the credit students, one was a graduate student in the University of Calgary Faculty of Education, one was a fourth year undergraduate student with the Faculty of Education, and two

participants were Faculty of Nursing students (3rd and 4th year). Another participant was a first-year Southern Alberta Institute of Technology (SAIT) student in the Mechanical Engineering program, and one was a recent graduate of the Bachelor of Communications and Journalism program from Mount Royal University.

The three working professionals were important interviews and were included in the research because of their knowledge and affiliation with ePortfolios. Although these professionals were unplanned contributors, they were screened for their potential contribution to the research, and deemed as valuable inclusions to the study. The criteria used to evaluate their contribution to the research was based on their experiences relating to ePortfolios and employment, their affiliation with post-secondary education, and whether their perceptions and experiences would enhance the research study. The researcher was contacted by two of the working professionals, while the third working professional was introduced to the researcher by the second working professional. One of the working professionals was a recent graduate and budding entrepreneur who created an ePortfolio for the purposes of showcasing and marketing her services. The second professional was an instructor with two colleges in southern Ontario, Canada. This individual teaches both LinkedIn and ePortfolios to students as mandatory requirements in the business-related courses she teaches. This individual also provided a connection with the third professional, an individual who works for LinkedIn. The connection to the individual who works for LinkedIn proved to be invaluable, providing valuable insight into the company, its philosophy, data collection and analysis and other services that the company provides.

Major Findings

The qualitative interview data is categorized into themes based on the direct responses from the participants, with researcher interpretation to create the common groupings that emerged to form the major findings. The themes were reviewed repeatedly until the major findings emerged. The major findings describe the commonality of the participant responses. The major findings are presented as representational groupings of the common perceptions that relate to ePortfolios and employment.

Finding 1: Participants successfully obtained employment as a result of having an ePortfolio.

The findings of this theme identify examples in which the ePortfolio has generated employment opportunities for individuals. As individuals shared their stories of ePortfolios, no hard evidence emerged to confirm that using LinkedIn led to employment opportunity or success, but there is anecdotal evidence based on their personal experiences. In addition, there is evidence from the LinkedIn company which describes how they use complex algorithms to analyse their data to produce economic graphs.

Descriptive details from the participants are presented here:

I was looking for a job in that field...then I researched with companies and I started to research who works in that company. I found a couple of people who work there by advertised profession or one of the companies, so, I start to send them my invitation to see if I can be part of their LinkedIn. I followed these people to see what his interests, his hobbies were, and I just tried to meet him -- in those places. So that guy tells me to meet the general manager and later-on, one of these companies...I receive a call from them. I am not sure completely sure if one of these guys recommended me to work there. [Carnot – non-credit student]

So, as someone who has been using LinkedIn, I'd say, extremely effectively for the last number of years -- it does work for me. One of the students came up to me and she said, "Oh, I really would love to work for this company and I found this guy on LinkedIn that I think would be perfect for me to talk to. How should I approach him?" So, I said, "Well, here's what you should say." So right there, while we were chatting, she sends him a message. Two seconds later -- like, literally, two seconds later, he responded saying, "Hey. How can I help you?" Because she was looking for an internship, and she goes, "Oh, my God. He responded to me." I have a lot of stories of people who have been very successful using LinkedIn, but I don't know if -- I mean, it's not hardcore data, but I certainly can tell you that as someone who promotes it heavily. [Susan – working professional].

I have had a few people contact me, um...but it is a bit difficult with LinkedIn because I feel you need to take some of those with a grain of salt, because I think they have a lot of kind of, almost roaming like, bots that will pick up your portfolio and kind of send out these mass emails about jobs. So I think I have maybe had probably, one genuine um... kind of job interest kind of come my way

through LinkedIn, out of maybe six or seven that have felt like a--like a mass email, “We really just need to find employees,” - kind of thing [Will – credit student].

My team -- or my teams -- are in customer success. So, the company buys a solution from us. We do talk about the number of confirmed hires. So, in your case, you work for company XYZ today, you perform engagement online, you're doing your thing, you're clicking on jobs, you're clicking on ads, you're clicking on different investment opportunities that companies are taking advantage of. And then, three months later, you change your profile to now say to work work at company ABC. We have an algorithm that runs in the background that says, hey, do we know that the work that a company -- that ABC is doing on LinkedIn influenced you to you to change your profile? Then we can come up with a number that says, yes, with reasonable certainty, we know that's not the only reason but we know that it's a significant contribution (See Appendix G – LinkedIn Statistics). [Perry – working professional]

We have the economic graph (see Appendix H – LinkedIn Economic Graph | Canada), which is, essentially, a combination of all the activity that happens on LinkedIn, overlaying with some of the things that we know are happening in the industry. So, on a very basic level you could use Calgary as an example. We know of all the people in Calgary, here are the top skills that have been listed on people's profile. We also know because of some of the changes in which we post jobs on LinkedIn, we know the list of required skills for companies who are hiring in Calgary. And we can overlay them -- and we produce reports that say, here are where the gaps are, here are where the surpluses are, as it relates to LinkedIn data. It can help governments and organizations make informed decisions using data, as opposed to you making decisions with either gut feel or relying on lobby groups or older, traditional ways of making economic decisions. [Perry – working professional]

The first and second excerpts describe students experience using LinkedIn to make professional connections within a company, potentially leading to employment opportunities. The second excerpt demonstrates how LinkedIn provides functionality to target individuals that meet certain qualifications to apply for specific jobs. The third and fourth excerpts describe how LinkedIn can track changes to member profiles which indicate job and employment status changes, thereby demonstrating changes in employment within regions and detailing economic activity and skills requirements. This functionality in reporting has the potential to help close the employment skills gap.

Finding 2: ePortfolios provide indirect leads and opportunities for employment.

In this theme, participants describe how their ePortfolio provided indirect connections and market knowledge that was beneficial in finding and obtaining employment. Employer market knowledge was identified as using the ePortfolio to understand the skillsets that employers are looking for. For the individual, the ePortfolio is regarded as a supplemental resource, to aid in reminding and affirming themselves of their skillsets. Descriptions which reinforce this theme are as follows:

So the closest I have gotten to having, more of that employment opportunity would be, I could see which employers are looking at my profile, and I have gotten sense of what businesses they are in, which gives me a sense of what skills I have or it could give me some insight of what skills I have that employers are probably interested in. I have been sent back some career advice or feedback that might make sense for me, but then reach out to some of those companies that are, obviously looking at my profile, and maybe see if I can make a connection that way. I have not had someone ask me for an interview or anything like that from my LinkedIn profile, but I do find it encouraging that, you know, employers are looking and that I am turning up in searches at the very least. [Mel Vee – working professional]

For me, it was more of a chance. One: for me to kind of reflect on all [sic] everything I have learned, seeing if I am able to kind of articulate that. Then two: just in case someone happened to ask, “Oh, do you have an online portfolio that we can look at?” [Will – credit student]

It was after applying for positions that--if the résumé was good enough to peak interest, then they would go further into looking into the ePortfolio side of things. One specific case was a job that I accepted last year...they had mentioned the website in the actual interview process, saying that they had viewed it and looked through some of the stuff on there. Basically, it just helped them to understand exactly what my capabilities were and my style, whether it would be in graphic design or in videography, or writing, or whatever else they were interested in looking at from my years in the journalism program. So, that is what they had mentioned, was that they had viewed those specific items and the items that they thought would be beneficial to the position that I was applying for at the time. I think it definitely played a factor in getting me the position, but I don't think it was the driving factor in doing so. [Jesse – credit student]

The first excerpt describes how LinkedIn members can monitor how others examine their profile which helps them to make adjustments or improvements on specific components of their LinkedIn ePortfolio. The second and third excerpts identify the mitigation of risk by having a LinkedIn profile if called upon or required as part of the job interview process. The ePortfolio is there if needed, and when needed, we see that it provided additional views into the skills and competencies that the potential employee could bring into the organization.

Finding 3: Participants had positive experiences, and place high value in their ePortfolio.

The primary finding of this research theme is that participants placed high value in their ePortfolio regardless of whether it played a role in helping them improve their employment opportunities or prospects. Several participants had both a LinkedIn ePortfolio and a personal ePortfolio, and they used both to network with various individuals, helping those individuals make connections with potential employers or contacts within organizations. Learning about different companies and the individuals who worked for them was also regarded as providing high gratification for ePortfolio owners.

Participants expressed this in the following ways:

I think just to network and gain information. I found some very interesting articles and things that tend to come up on a regular basis from people in the industry. I would say I have been contacted for employment opportunities from other people who are looking to work in the industry...I think being able to reach out or other people reach out to me that I normally would not run into. So, I just think opening up that avenue is important because I have learned through some articles and things that get posted, things that I normally would not have found had I not browsed on LinkedIn. I definitely think it is has been beneficial... I definitely think it has been worth the time. [Dayle –non-credit student]

I realized that LinkedIn was an excellent long-term networking tool for me; focusing more on my work than my personal life. I have had people contact me, and said, “Oh, I am looking for a job,” and-- it is implied, the fact that you have an active LinkedIn account, that you are open to talk about employment opportunities if others are looking or if somebody wants to potentially hire you. [Christina – credit student]

I would say positive, and I say positive because I have had so much resistance to having the ePortfolio...or having, you know, a website partly because, when the technology was really coming into its own, I had a couple of websites where I dealt with as a teenager when you still had to do all the HTML code yourself, and all that fun stuff and it definitely was not as straight forward as it is today. [Mel Vee – working professional]

These excerpts identify the experiences individuals have had making connections with other professionals, which has the potential to lead to other connections and potential employment opportunities. Excerpt #2 presents an underlying assumption that having a LinkedIn profile assumes an openness to communicate and collaborate regarding employment opportunities. This describes a community of professionals helping each other find employment opportunities while exercising basic human kindness in helping others succeed.

Finding 4: LinkedIn and/or personal web pages are the ePortfolio platforms utilized, with recognition that time and effort invested in the ePortfolio is related to successful employment, networking, marketing, and personal growth opportunities.

When participants were asked about the time and effort invested in creating and maintaining their ePortfolios, and if they felt that time and effort was worth it, they were engaged and descriptive in their responses. The greatest discovery in this theme is the expressions of personal value and personal growth that the ePortfolio has provided some of the participants. However, not all respondents view the ePortfolio as valuable or contributing platform for their personal or professional growth, as evidences by the last participant's comments, as presented in this theme:

Right now it [LinkedIn] is current, up to date. Things that I should put in are more descriptions around what--maybe what my innate skillsets are and things like that. Right now, it is more of a historical repository of everything I have ever done and wherever I have been. I worked for eighteen years with an inmate education program. In December someone contacted me, he found me on LinkedIn and asked me if I would become a board member. Now I actually have more of a professional linkage to that area, and I will have that for the next five years, because I am on the board for the next five years. So, for me it was so advantageous. [Christina – credit student]

I will start with what motivated me: really, it was organization and having everything in one place. I realized that there is so many different kinds of things that I am interested in, and would like to offer. Why not just have this in one place to make it easy for myself and really, anyone who would be interested in my services. I wanted to have something that I could, you know, send to people or let people know; just so that I can get the feel for what it is like to have--to have a web address or a website. I kind of spruced up a little bit, changed up some of the wording and now, I am starting to appear in those searches, which is relatively new after the last couple of months. It does really make a difference to look at it closely and have selective wording. I realize how vital it really is to at least having a presence and letting people know that I take myself seriously as an artist and as a creative person. So, from that angle, I would say definitely--definitely a positive experience [Mel Vee – working professional]

I found going through it [the ePortfolio], I was actually able to really revisit that scenario and actually gain more from it knowing what I know now, versus what I knew then. I think as long as you come at with a very purposeful meaning in mind, I feel it can be something that is really helpful in kind of looking back and seeing all you have done, because I find sometimes we do not give ourselves enough credit for how much work we have actually done. I think initially the investment is quite large because of--just the process you need to go through to understand what your best characteristics are and what you want to showcase, and not only what you want to showcase, but who is going to be looking at this portfolio. But like I said, the ability to revisit that kind of information through a reflective manner, made it seem more beneficial than just kind of, plugging in hours. I was not only creating a resource for myself to showcase and hopefully get job opportunities, but I was also

revisiting what I had done and how much I had grown throughout the process, which really took the daunting task of creating a website and made it a little easier to deal with. I think especially with the ePortfolio, you get about as much into it as you decide to put into it. So, for me, I thought it was quite beneficial. I think the hardest part is starting it. Now that I have created this website or this ePortfolio, the ability to go in and modify it is much, much easier than the initial investment of what it took to create. Now I can go in and I can tweak things because I put so much time at the beginning. [Will – credit student]

In terms of the actual work itself, it just depends on how much work I've done, whether I update it or not...and when I was at the peak of it, which was when I was doing newsletters every month, I would say that it was pretty much every month that I was updating, at least upload one of the newsletters so people can see as a preview, kind of thing. In terms of the maintaining side of things, if I was guessing, I'd probably say, it's two to three hours a month, so... we are looking at probably, about thirty hours a year max., I would guess. I guess the biggest challenge likely, for most people would be to continue to update it and to continue to go back to it at least every once in a while. [Jesse – credit student]

I teach ePortfolios in a couple of my courses that I teach. LinkedIn is mandatory for all programs, and the ePortfolio is a little bit more program specific, whereas LinkedIn is for everybody. The one element I kind of play with and I'll comment if it's good, but I don't necessarily mark it if they don't have it, is a background. I prefer if they could also show a career direction. So, if they were interested in the marketing field, that they would have a background that shouted out marketing (see Appendix I – LinkedIn Grading Sheet). [Susan – working professional]

I hesitate to use the term social media for LinkedIn, although, of course it is. I have resisted viewing LinkedIn as something akin to Facebook, but I think since Microsoft purchased it they have been trying to move in that direction. Microsoft, I think, regrets that they were not the ones to invent Facebook and when I look at LinkedIn now, it is different than it was five years ago. People are posting pictures of their visit to the beach, and talking about recipes, and all sorts of -- what I think in a business sense, as nonsense. I don't go on LinkedIn for such purposes. I make sure that my name and a little bit about what I do is represented there, so when people in the professional world look for me, and they will; especially when I am doing contracting...they will find some credible presence and see a little bit of history on me. I wish that LinkedIn had not become so tawdry, if that makes sense? [Kyle –non-credit student]

The responses and descriptions provided within the above excerpts relate to the secondary research question of identifying the best method or tool to showcase skills competencies and knowledge. The first three excerpts refer to a repository and a way to manage content they think employers may wish to see. The ability to reflect on previously collected accomplishments and the acknowledgement of up-front effort as providing an advantage today of being a maintenance mode to keep the ePortfolio current are described in excerpts four and five. The final excerpt describes the risk that LinkedIn members may face if they attribute it as a social media tool, rather than a professional one.

Finding 5: The majority of participants believe their ePortfolio will play an ongoing and integral role in helping them to seek or obtain employment in the future.

Participant were engaged and happy with the opportunity to comment on current applications of their ePortfolio, including their vision of how they will use it in the future. These comments reveal participants believe there is a longevity in the ePortfolio, which includes helping them apply for jobs and prepare for interviews.

I would like [to do] something related with what I am doing right now and then I will put my management certificate up. So that it can give me a little jump to the job. So, yes, I am going to use this to contact human resources people as I try to find a possible path that I would like to work for. Then I will try to create a lead or get connected to people who are in management. [Carnot – non-credit student]

I wanted to have a place that I could just refer people so that it will be even easier for people to keep me on their minds or have that web resource. So, really, it was an extension of what I was already doing, and I think it will really improve the quality of my work and my time management, it is just so much easier to have it all in one place and then, people who want to book me can just go to the website and it is all there. [Mel Vee – working professional]

I think it is a personal belief set because of my education and my own values. I think LinkedIn is really valuable as a historical repository of where you have been and what skills you have, if you use it properly. I really should have been putting my skills in over these years because you forget. [Christina – credit student]

I think most of my focus on the ePortfolio through was based towards what a potential employer might like to see out of my experience in the education program and prior. [Will – credit student]

I think I might review things like reading through my instructor evaluations would help me talk about what I have experienced. So, through interview skills, maybe talking about what I specifically experienced on the unit and things like that. I do have some reference letters in there as well, so I would be using those if asked. I could see myself going back to it. I think that they [ePortfolios] would be really helpful especially in the job market nowadays, everyone has such unique qualities and experience to offer, but it is hard to showcase those on a résumé. [Morgan – credit student]

I definitely think it [ePortfolio] will be beneficial in helping me out when I graduate, like, bring it to a potential employer if I get interviewed. It helps me remember things that I could bring up to employers, saying “Yes, I was involved in this...” or, “I actively participated in this...” At the end of the day, it is about the stuff that you do for your patients, and I think that this is a really good way of tracking that, which is more what I have done. So, adding nursing experience into LinkedIn is going to help me find those nursing jobs through LinkedIn. [Jennifer – credit student]

I don’t know if it [ePortfolio] is always going to play an integral part in finding or applying for positions, but I personally think that it is a really good way of referencing, especially in my program

of study. Every time you apply for a job, they ask for samples of work that you have done in the past and instead of saving it as text files on your computer and having it in a really boring medium. I'd like to think...to actually be able to go through your website and be involved with the actual process of looking through each one of your stories, each one of your pieces of work instead of just opening a document and scrolling through it. So, for that specific reason, I think I would continue to use it [ePortfolio] regardless of whether it would be an integral part in getting a job. [Jesse – credit student]

It's [the ePortfolio] a good way for employers to look at all of your history. I mean, yes, you can cover that in a résumé, but it might be a little bit more engaging if you have an ePortfolio that attracts the eye of an employer. I do think it could possibly help you get a job with an employer if it covers everything there. It can add a little bit more than what you can put on your résumé. [Travis – credit student]

One of the things that we try to gear the student for is career success and finding jobs. At the college level, one of the reasons students, especially postgrads, come back here is to get better technical training so they can really get jobs. Also, our career services areas support it through LinkedIn workshops. LinkedIn is one aspect, and then the ePortfolios are just sort of the next step. When you look at an ePortfolio, you can go back and look at the LinkedIn profile, so that you could see that should be similarities between the ePortfolio and LinkedIn profile. In fact, employers do look for that similarity to see if there is consistency. In my classes, I do have professionals that come in from the recruitment world and every single one of them said, you must have a good LinkedIn profile because we all check it out. [Susan – working professional].

We certainly have a pretty comprehensive microsite. I think its students.linkedin.com. It really is a microsite that specifically talks to the actual students themselves about ways in which they can leverage the LinkedIn platform to help them (See Appendix J – Students.LinkedIn.com). [Perry – working professional]

LinkedIn is more for social media aspect side of things whether it be like networking or anything like that. I know a lot of people use it as part of their professional résumé as well and they actually apply to positions using it, just like a résumé. But for myself, I also have a résumé so anything that I would apply for, I use the résumé form instead of the LinkedIn profile. But on the résumé, there is a link on the bottom of LinkedIn profile obviously, so that if there is any further information that is new to them, then at least they can go to that area. [Jesse – credit student]

This theme addresses the secondary research question of whether or not participants perceive the ePortfolio as a replacement to the curriculum vitae. While they see the ePortfolio as an important tool, they do not see it as a replacement for the résumé or the curriculum vitae.

The next chapter presents a further refinement of the data and the major findings through a detailed analysis, which is represented in the form of analytic categories. The discussion section brings together key points from the data and literature to address the “so what” and “what now” implications for those who are considering using and maintaining an ePortfolio

Chapter 5 – Analysis and Discussion

The purpose of this research study was to identify the practical use and benefits of ePortfolios for employment purposes among undergraduate and continuing education students. If the ePortfolio can enhance an individual's ability to react to economic uncertainties and improve one's marketability, then there it could be reasonable to conclude that there is value to be gained through the use of ePortfolios.

This research used a mixed methods approach through the use of a survey to collect both quantitative and qualitative data, as well as semi-structured interviews to collect additional qualitative data. The intent of using this research methodology was to identify the factors that influence the beliefs and perceptions students have regarding how ePortfolios could assist them to become more effective in showcasing their skills and knowledge, thereby improving their employment opportunities. The study was based on the following primary research question and three secondary research questions:

Primary Research Question:

What are the practical uses and benefits of ePortfolios for employment purposes among undergraduate and continuing education students?

Secondary Research Questions:

What are the factors that influence undergraduate and continuing education student's beliefs that ePortfolios may/may not enhance their employment opportunities?

Given the variety of influences and options that learners and workers have to improve and showcase their skills, knowledge and experience, what is the best method or tool individuals should use to showcase their skills, competencies and knowledge?

Can ePortfolios become the new replacement for the résumé and curriculum vitae (CV)?

The intent of conducting the semi-structured interviews was to probe deeper into the use and benefits of ePortfolios regarding individuals' employment outlook or situation. The interviews also served to either reinforce or weaken the results from the survey through the enhanced narrative of those who maintain and utilize their ePortfolio.

Analytic Categories

The survey results were structured, analyzed and presented with graphs and data tables to express total number of responses, including rankings of the responses based on percent and weighted overall average for each question. Textual data from open-ended questions was also presented in the survey and the participant responses were coded, analyzed and categorized by major themes. The semi-structured interviews were transcribed from the digital voice recordings of the interviews, reviewed, analyzed, coded and organized into the five major findings. The consolidated results of the survey, including the major themes were categorized and described in chapter 4: Data Findings. While chapter 4 depicts the research findings as visual displays and categories of the participant narratives, this 5th chapter seeks to provide “a secondary level of analysis, where the relevant theory and research are tied-in, as these themes are compared and contrasted to the literature” (Bloomberg & Volpe, 2016, p. 253).

Based upon the results of the relevant survey questions and the major findings identified from the semi-structured interviews, analytic categories are identified to present an integrated and layered synthesis that portrays a complete narrative of the research. Table 3 identifies The Analytic Category development tool as modeled by Bloomberg and Volpe (2016), which follows the logical flow and development of the analytic categories from the research questions, to the findings, the outcomes and the consequences of the research. The principle findings from this study reveal that some students believe ePortfolios provide direct and indirect employment opportunities, and they place high value in their ePortfolio. This is supported by survey question #4 where 73% of respondents agree or strongly agree that their decision to compile an ePortfolio was because they wanted to increase their employment opportunities. This is also supported by the interview data in which participants describe how they successfully made connections within organizations to create employment opportunities, and how LinkedIn can track employment changes to member profiles, identifying regional employment activity.

Analytic category 1 describes an understanding of participant motivations, expectations, experiences and outcomes from owning an ePortfolio, which is derived from findings 1, 2 and 3. There are several ePortfolio platforms and options available, and a decision to use the most popular ePortfolio platform is likely driven by a sense of conforming to the actions of the majority. In addition, participants perceive that success is achieved through investment of time and effort in maintaining and updating the ePortfolio. Analytic category 2 is derived from finding 4, where unpacking the perceptions of using ePortfolios and distinguishing between conformity and necessity of owning an ePortfolio.

Students perceive that their ePortfolios have permanence in helping them achieve their employment-related goals by enhancing or augmenting their CV, but not replacing it. Through the students examples, there is a sense of hope regarding the value that ePortfolios can provide in the job search. Analytic category 3 is defined from finding 5, through the clarification of purpose, and the application of ePortfolios for the purpose of helping students achieve success in their search for employment.

Table 3. Analytic Category Development Tool

| Research Question | Finding Statement | Outcome/Consequence | Analytic Category |
|---|--|---|---|
| What are the practical uses and benefits of ePortfolios for employment purposes among undergraduate and continuing education students? | Findings 1 and 2: Participants believe ePortfolios provide direct employment opportunities, as well as indirect employment leads and opportunities. | Participants are motivated to create, promote and maintain ePortfolios because they believe the ePortfolio provides positive personal and professional benefits. | Category 1: Understand participant motivations, expectations, experiences and outcomes of creating and maintaining an ePortfolio. |
| What are the factors that influence undergraduate and continuing education student's beliefs that ePortfolios may/may not enhance their employment opportunities? | Finding 3: Participants have had positive experiences that influence their motivation to create and maintain an ePortfolio, and they place high value in their ePortfolio. | | |
| Given the variety of influences and options that learners and workers have to improve and showcase their skills, knowledge and experience, what is the best method or tool individuals should use to showcase their skills, competencies and knowledge? | Finding 4: LinkedIn and/or personal web pages are the ePortfolio platforms utilized, with recognition that time and effort invested in the ePortfolio is related to successful employment, networking, marketing, and personal growth opportunities. | ePortfolio platforms are utilized because of a sense of conformity (e.g., peers use LinkedIn), commitment to invest time in the ePortfolio, although uncertainties about ePortfolios exist. | Category 2: Describe perceptions of ePortfolio's, distinguish between conformity and necessity. |
| Can ePortfolios become the new replacement for the résumé and curriculum vitae (CV)? | Finding 5: Participants believe ePortfolios will play an ongoing and integral role in helping to seek or obtain employment, enhancing or augmenting the CV, but not replacing it. | Longevity of ePortfolio use by participants in helping them achieve their goals. | Category 3: Clarify purpose and application of ePortfolios. |

Analytic category 1 – Understand participant motivations, expectations, experiences and outcomes of creating and maintaining an ePortfolio.

The first and second research questions were asked in order to determine if there were practical uses and benefits from ePortfolios related to employment opportunities, and the influencing factors that led participants to believe ePortfolios may or may not enhance their employment opportunities. The literature supports a connection between ePortfolios and not only employment success, but supporting other practical uses, such as extra-curricular activities, life experiences and work-integrated learning. ePortfolios can help individuals with self-promotion and marketing, highlighting the importance of life and career competencies to achieve meaningful employment in the 21st century (Alexiou & Paraskeva, 2013; Cambridge, 2008; Chambers & Wickersham, 2007; Ferns & Comfort, 2014; Jenson & Treuer, 2014).

There is evidence that employers use social and networking media to aid in the recruiting process (Hensvik & Skans, 2016; Acquisti & Fong, 2015), with 35% of employers indicating they would like to see the students' work in ePortfolios (Rhodes, 2010). While it was younger employer-respondents that were the most enthusiastic toward the use of ePortfolios, Rhodes suggested that viewing students' work via ePortfolio will be more in demand in the future. I predict that in the future, with a large component of the workforce made up of Millennials, growth in the frequency of job searching via the Internet has increased, and will continue to increase as online information about jobs and workers increases, at a lower cost point. Lievens (2014) identified the positive effects of using technology to match quality between employer and employee, including lower unemployment levels, reduced transaction costs of matching, and enhanced mobility of workers who can more easily engage in an on-the-job search. LinkedIn is the example of technology that Lievens refers to. LinkedIn produces economic data for municipal regions which can assist governments and organizations in making informed decisions relating to employment programs, as described in the LinkedIn employee interview:

We know of all the people in Calgary, here are the top skills that have been listed on people's profile. We also know because of some of the changes in which we post jobs on LinkedIn, we know the list of required skills for companies who are hiring in Calgary. And we can overlay them -- and we produce reports that say, here are where the gaps are, here are where the surpluses are, as it relates to LinkedIn data. [Perry – working professional]

The question remains as to whether or not students equate owning an ePortfolio to employment success. When students were asked to identify their primary motivating decision factor in creating an ePortfolio, 73% of respondents agreed or strongly agreed they created an ePortfolio because wanted to increase their employment opportunities (survey question #4). Students further elaborated through open-ended comments by describing the value of having an ePortfolio as “a necessity for many jobs to even be considered...along with the fact that most applications are done online so it must be an ePortfolio.” Students are also motivated by an “understanding that the ePortfolio would/may be called upon during an interview...and motivated by fear of telling interviewers that I didn't have one which would lessen my chances of success” (survey question #4). Over 50% of students surveyed are willing to share their ePortfolio with an employer as part of the job application process, with over 54% acknowledging that the ePortfolio is a helpful tool to customize job applications and use artifacts from the ePortfolio to customize their résumé or CV (survey question 7). For one student, having a LinkedIn ePortfolio was a requirement of teaching at a college because the students had to create an ePortfolio themselves, effectively demonstrating that an ePortfolio was a requirement of employment. Obtaining information from related industries and using quick-link applications directly through LinkedIn, further describe some students' use and awareness of the motivating factors that necessitate the need to own and maintain an ePortfolio.

Although interview participants were clear about the expected value and return on investment of maintaining an ePortfolio, some also express uncertainty regarding the value that employers place on ePortfolios. Some questioned the investment of time, “not knowing what employers want to see in an ePortfolio, or if they want to see it, it is hard to decide how much effort to put into it”, while another

student expressed concerns regarding employer “expectations, will the future employer look for it or is it a waste of time?” (survey question #4). This uncertainty is further supported by 67% of survey respondents agreeing or strongly agreeing with the statement: “I am unsure if employers will look at my ePortfolio” (survey question #7).

By contrast, it would seem that individual LinkedIn ePortfolios can draw attention, however in some cases this attention is met with skepticism, as described during one of the semi-structured interviews:

...it is a bit difficult with LinkedIn because I feel you need to take some of those with a grain of salt, because I think they have a lot of kind of, almost roaming like, bots that will pick up your portfolio and kind of send out these mass emails about jobs [Will – credit student]

The semi-structured interviews also reveal how participants have experienced success in creating employment opportunities through their ePortfolio, with a personal example from one participant who created networking and employment opportunities through the use of LinkedIn:

I start to send them my invitation to see if I can be part of their LinkedIn. I followed these people to see what his interests, his hobbies were, and I just tried to meet him -- in those places. So that guy tells me to meet the general manager and later-on, one of these companies...I receive a call from them. [Carnot – non-credit student]

The interview with the college instructor provided the most direct example of use of LinkedIn and employment contact, describing how one of her students created an “instantaneous” employment opportunity through the use of LinkedIn by simply making a connection and sending a message:

I have a lot of stories of people who have been very successful using LinkedIn, but I don't know if -- I mean, it's not hardcore data, but I certainly can tell you that as someone who promotes it heavily [Susan – working professional]

With insights directly into LinkedIn from a current employee, when asked to comment on whether or not LinkedIn tracks evidence of employment success through the use of LinkedIn, the response describes how LinkedIn can help track hiring activity within specific regions:

We do talk about the number of confirmed hires...we have an algorithm that runs in the background that says, hey, do we know that the work that a company -- that ABC is doing on LinkedIn influenced you to you to change your profile? Then we can come up with a number that says, yes, with reasonable certainty, we know that's not the only reason but we know that it's a significant contribution. [Perry – working professional]

Major Finding #2 identified participants' indirect employment leads and opportunities, as a result of their ePortfolio experiences. From the literature, Hasse (2016) offers various suggestions as to enhancing the ePortfolio experience, such as connecting the ePortfolio within social media pages and adding a link to one's ePortfolio on résumés, covers letters, and e-mail signature. Additionally, referring to appropriate sections of the ePortfolio during job interviews using an iPad, tablet or smart phone to “show and tell” the ePortfolio; and referencing appropriate sections in thank-you notes and follow-up correspondence with prospective employers. Three of the interview participants shared a sense of connecting, learning, preparing and presenting with potential employers, as evidenced by the following statements:

I could see which employers are looking at my profile, and I have gotten sense of what businesses they are in, which gives me a sense of what skills I have or it could give me some insight of what skills I have that employers are probably interested in [Mel Vee – working professional].

...just in case someone happened to ask, “Oh, do you have an online portfolio that we can look at?” [Will – credit student]

One specific case was a job that I accepted last year...they had mentioned the website in the actual interview process, saying that they had viewed it and looked through some of the stuff on there. Basically, it just helped them to understand exactly what my capabilities were and my style [Jesse – credit student]

Completing this analytic category is providing insight into the experiences and outcomes that lead to some of the participants placing a high value in their ePortfolio. A proportion of participants appear to understand the value and opportunities that ePortfolios provide which they would not be afforded otherwise, as described by two participants in the interviews:

I would say I have been contacted for employment opportunities from other people who are looking to work in the industry...I think being able to reach out or other people reach out to me that I normally would not run into. I have learned through some articles and things that get

posted, things that I normally would not have found had I not browsed on LinkedIn. I definitely think it is has been beneficial... I definitely think it has been worth the time. [Dayle – non-credit student]

...it is implied, the fact that you have an active LinkedIn account, that you are open to talk about employment opportunities if others are looking or if somebody wants to potentially hire you. [Christina – credit student]

The literature identifies career ePortfolios with showcase ePortfolios because they show the owner's achievements in relation to particular work or developmental goals. One of the primary goals of the ePortfolio is to provide individuals with a tool for showcasing their achievements to employers (University of Waterloo, 2017).

Analytic category 2 – Describe participants' perceptions of ePortfolios and distinguish between conformity and necessity.

The third research question was to identify the best method or tool that individuals should use to showcase their skills, competencies and knowledge. This led to Finding 4 of the research, and the outcome or consequence which revealed LinkedIn and personal web pages as the de facto standard employment related e-platforms. In addition, some individuals are motivated to create a LinkedIn ePortfolio because of a sense of conformity. Similar to the widespread use of Facebook for social networking, LinkedIn has widespread adoption for professional networking. As appendix H identifies, the use of LinkedIn in Canada is substantial. With approximately 15 million LinkedIn member profiles, and a total population of approximately 36 million people, 42% of the population of Canada has a LinkedIn profile. Given this high percentage of LinkedIn members, it would seem reasonable to conclude that some of the individuals who created a LinkedIn profile did so because many of their peers already had one.

The literature recognizes the growth in the popularity of ePortfolio's, but some are questioning if ePortfolios are providing the advantages that many claim they do:

Eynon, Gambino and Török (2014) believe the ePortfolio movement is at a crossroads, with more than 50% of U.S. colleges and universities now offering some form of ePortfolio experience, ePortfolio innovators are increasingly asked: What differences can the ePortfolio make? Is the ePortfolio worth an investment of institutional resources?

The ePortfolio has the potential to play a vital role in the evolution of higher education, but the advancement of the ePortfolio field is dependent on the collective ability of the educational industry to gather, analyze, and share evidence of the success of ePortfolio initiatives. Flanigan (2012) identified universities with formal programmes to assure students, upon graduation, have prepared initial career portfolios. One example is of the Florida State University Career Center where employers assess students' portfolios. Through their assessment, employers reported that their knowledge of the potential employee was enhanced. Tubaishat (2015), found that students “like the idea of e-Portfolios when it is presented to them as a career showcase rather than a process for documenting learning” (p, 193). He further identified that a career center can use e-Portfolios as a tool to help students find a job.

The line between conformity and necessity can be a thin one. Do individuals conform to an activity because they see others performing the same activity? Does conformity to participate in an activity change to a necessity over time? In distinguishing between participants' perceptions of conformity or necessity related to the ownership of an ePortfolio, we consider both the literature and the feedback of the participants. The following statements from three participants relate to the conforming aspect of why they created an ePortfolio:

I joined LinkedIn as it became more popular because I was unaware of what it may have evolved into. I didn't want to join "late" in case it became an invaluable networking tool and thoroughly integrated into the fabric of business, careers, etc. [survey question #4]

I thought it would be neat to have one. My peer group was doing it and I felt it was something I should look at. It was not spurred by work or school or a desire to catalogue my education. That came at a later date when I became more familiar with the workings of LinkedIn. [survey question #4]

I think I succumbed and created one [LinkedIn profile] in 2009, and then I – you know, I became convinced that yeah, this was the right thing to do [Kyle – non-credit student]

There is some evidence that ePortfolios are a necessary requirement for academic and employment purposes. The academic necessity stems from meeting course requirements, where some participants specifically identified academic requirements of their program of study as the necessity to create an ePortfolio. One individual pointed out the “course outline indicates material that might be useful or beneficial to include in ePortfolios.” For another participant, the course requirement of creating an ePortfolio “would be used 'Never' except for requirements in my current degree”.

The necessity of having an ePortfolio for employment stems from employer preferences, being organized and prepared for employment interviews or opportunities. From the literature, employers use social and networking media to aid in the recruiting process (Hensvik & Skans, 2016; Acquisti & Fong, 2015). Okoro, Washington, and Cardon (2011) foresee that individuals need to be prepared to use ePortfolios during their careers to help them secure or to have mobility in their work. I agree with this prediction in that individual pursuing certain careers, such as artistic or literature-based careers could benefit from having an ePortfolio to more easily provide examples of their previous work. The [ePortfolio] platform can motivate learners to increase their skills through formal learning or certification paths, which can make their profiles (portfolios) more appealing in the employment market (Ravaioli, 2015).

From the interviews, the following statements impress upon the necessity of having an ePortfolio to help achieve employment success:

It's essentially become a necessity for many jobs to even be considered. Along with the fact that most applications are done online so it must be an ePortfolio [open-ended survey response]

Necessary component of marketing self [open-ended survey response]

I teach ePortfolios in a couple of my courses that I teach. LinkedIn is mandatory for all programs, and the ePortfolio is a little bit more program specific, whereas LinkedIn is for everybody. [Susan – working professional]

The research also revealed that the ePortfolio tool or platform by itself, does not guarantee success. Participants identified employment, marketing, networking, and personal growth success as a

direct result of the time and effort invested in the ePortfolio. LinkedIn helps members to increase the strength of their profiles through a ranking system. From 1) Beginner, to 2) Intermediate, 3) Advanced, 4) Expert, and 5) All-Star; LinkedIn will apply one of the rankings to the member profile dependent on how “complete” it is. LinkedIn also provides automated suggestions to help members improve the status or image of their profile (LinkedIn, 2018). In the competitive job market, it is all about creating impressions and image, so it stands to reason the more time invested in creating a personal image, the greater the attention that can be realized.

When asked the number of hours participants spend per month updating and maintain their ePortfolio, the vast majority (60%) spend less than one hour, 20% of respondents spend between 1-2 hours per month, and 10% spend 1-3 hours per month. The balance of responses indicate just over 4% of respondents spend 3-5 hours per month and just over 3% spend greater than 10 hours per month updating and maintaining their ePortfolio (survey question #3). The literature does not identify specific time commitments required to develop an ePortfolio, however it is recognized that the time to create a robust ePortfolio can be a barrier in the adoption of ePortfolios. Perlman, Christner, et al. (2014) point out that configuration of ePortfolio software and applicable training are essential for a successful ePortfolio implementation within the institution, also identifying faculty time and effort required to understand the use and goals of ePortfolios. Survey participants were asked to identify the extent of information and support provided to them in creating their ePortfolio. Approximately 32% acknowledged occasional help and support was available to them, however almost 43% of respondents confirmed their own institution never provided any help and support; with 48% of respondents indicating there was no ePortfolio instruction provided by their institution. Almost 53% of respondents indicated their institution never provided a platform to compile their ePortfolio or help with troubleshooting and support, and 58% of respondents received no explanation of the time commitment required to create and maintain their ePortfolio (survey question #6). Given the lack of support afforded

by the institution to students in creating their ePortfolios, respondents had to seek guidance and inspiration from other sources, such as friends and colleagues, online examples, and other institutions (survey question #5).

While it is clear that student perceptions suggest a lack of support from the institution when developing their ePortfolios, as with any worthwhile endeavor, the realization of independent accountability prevails. Some interview participants rationalized the time commitments they invested, and dedication to their ePortfolios, in order to realize success:

I think the hardest part is starting it. Now that I have created this website or this ePortfolio, the ability to go in and modify it is much, much easier than the initial investment of what it took to create. Now I can go in and I can tweak things because I put so much time at the beginning.
[Will – credit student]

In terms of the maintaining side of things, if I was guessing, I'd probably say, it's two to three hours a month, so... we are looking at probably, about thirty hours a year max., I would guess. I guess the biggest challenge likely, for most people would be to continue to update it and to continue to go back to it at least every once in a while. [Jesse – credit student]

Although most students were clear on their perceptions relating to the return on investment of maintaining an ePortfolio, some students expressed uncertainty regarding the value that employers place on ePortfolios. One student questioned the investment of time, “not knowing what employers want to see in an ePortfolio, or if they want to see it, it is hard to decide how much effort to put into it” (survey question #4). Another student expressed concerns regarding employer “expectations, will the future employer look for it or is it a waste of time?” (survey question #4). This uncertainty is further supported by 67% of survey respondents agreeing or strongly agreeing with the statement: “I am unsure if employers will look at my ePortfolio” (survey question #7). By contrast, individual LinkedIn ePortfolios can draw attention, however in some cases this attention is met with skepticism, as described during a semi-structured interview:

...it is a bit difficult with LinkedIn because I feel you need to take some of those with a grain of salt, because I think they have a lot of kind of, almost roaming like, bots that will pick up your portfolio and kind of send out these mass emails about jobs [Will – credit student]

Uncertainty regarding employment within the job market is causing concern for some students, mostly regarding saturation and applicable experience, as expressed by the following open-ended comments to survey question #12, What concerns, if any, do you have about finding employment after graduation?:

It is a large cohort of people graduating from the program who will be looking for jobs in the same field.

There is a large graduating class entering the job market. This is in addition to people who have already obtained an Education Degree. How much space is there in the current Calgary job market?

Saturation of teachers, not enough jobs.

The immense amount of graduating students creates lots of competition.

Difficult for nursing students right now as there is a hiring freeze - more competitive to find a job for new graduates as we lack work experience.

I'm always concerned about not finding a job at least within 6 months of graduation because there is a high demand for registered nursing jobs but little supply in Calgary. I'm also worried I do not have the credentials that make me stand out as a candidate.

If we consider the relationship between students' concerns regarding saturation of graduates and the value of having an ePortfolio, the concerns are legitimate and speak to the necessity of standing out to employers, above other candidates. The ePortfolio has been described as a tool that helps individuals stand out, enabling them to organize and showcase themselves (Chambers & Wickersham, 2007; Ferns & Comfort, 2014; Jenson & Treuer, 2014). This is a benefit of maintaining an ePortfolio; it can help individuals market themselves, regardless of whether employers look at ePortfolios or not, it can serve as an organizing tool by helping the student to present the best image of themselves as possible, referencing a repository of their skills and accomplishments.

Analytic category 3 – Clarify the purpose and application of ePortfolios

The fourth research question asks if ePortfolios can become the new replacement for the résumé and curriculum vitae (CV). Finding # 5 of the research identifies the role that ePortfolios can play for

individuals as they seek employment opportunities, describing the long-term use of ePortfolios throughout their career. The purpose and application of ePortfolio's is described by correlating the literature to participant responses.

There is evidence in the literature that employers place value in applicants who can provide an ePortfolio reference, which reinforces the purpose for maintaining an ePortfolio over the long-term: "In addition to a résumé or college transcript, more than four in five employers say an electronic portfolio would be useful to them in ensuring that job applicants have the knowledge and skills they need to succeed in their company or organization" (Hart Research, 2013, p. 3). Flanigan (2012) describes how ePortfolios and technology can be customized for careers, and over the length of careers. ePortfolio technology is advantageous over traditional or paper-based portfolios because the artefacts within it are digitized. This process allows original documents to be preserved and assures the integrity of historical materials, serving as snapshots of a discrete period in a person's career development. The ePortfolio then provides students the ability to better showcase their skills and be prepared for an interview situation. Heinrich et al. 2007 identify how ePortfolios help to can make the individual stand out and create a favourable opinion before the start of an interview. Employers recognize and credit the effort an individual has put into constructing an ePortfolio because it shows that the individual has been proactive and organized. An ePortfolio can make the selection of who to invite for an interview easier and can tip the balance on a close decision.

Participants also recognize the connection between the ePortfolio and being prepared for the job interview. Survey question #4 provides evidence of this purpose and application with over 62% of respondents agreeing or strongly agreeing with the statement that a decision factor in creating their ePortfolio was they wanted a complete record of all formal and informal learning, knowledge and skills. This identifies the ePortfolio as a repository that goes beyond what the résumé or CV can offer. This is further supported by greater than 55% of respondents agreeing or strongly agreeing with the statement

from survey question #4: I wanted a more complete record of my accomplishments (i.e., additional documents, video, etc.). When provided with opportunity to identify additional factors that influenced their decision to create an ePortfolio, open-ended survey responses were as follows:

I wanted a very visual approach to showing my "résumé" and ideas

I initially saw an ePortfolio as a method of tracking my growth as an individual (both academically and in my personal/philanthropic endeavors).

Digital documentation as an additional evidence to hard-copy

I wanted to organize all of my artefacts into one place

Survey question #7 further describes the purpose and application of ePortfolios for participants, where over 80% of respondents agree or strongly agree with the statement: An ePortfolio is a useful means to summarize ones work experience and achievements. Participants also believe that: ePortfolios could help candidates gain advantage over other candidates when used as part of a job interview, with 62% of respondents agreeing or strongly agreeing with this statement (survey question #6).

With regard to helping participants find employment, over 57% of respondents agree or strongly agree that they would consider linking their ePortfolio within their résumé / CV, and over 54% agree or strongly agree that their ePortfolio as helped them to learn and understand employability skills (survey question #8). The ePortfolio serves as a repository of artifacts for individuals, or as a destination of referral that others can view, as evidenced from the semi-structured interviews:

I wanted to have a place that I could just refer people, so really, it was an extension of what I was already doing, and I think it will really improve the quality of my work and my time management, it is just so much easier to have it all in one place and then, people who want to book me can just go to the website and it is all there. [Mel Vee – working professional]

I think LinkedIn is really valuable as a historical repository of where you have been and what skills you have, if you use it properly. I really should have been putting my skills in over these years because you forget. [Christina – credit student]

There is long-term value and application of the ePortfolio for individuals because they require a stable platform that links achievements to work skills, which may be tailored or simplified to suit the

particular job application. This can help to close the skills gap, because it allows individuals to self-assess quickly to determine if they have the skills to match the position:

I could see myself going back to it [ePortfolio]. I would say I think that they [ePortfolios] would be really, really helpful because especially in the job market nowadays, like everyone has such unique qualities and experience to offer, but it is super hard to showcase those just on a résumé.
[Morgan – credit student]

I definitely think it [ePortfolio] will be beneficial in helping me out when I graduate, like, bring it to a potential employer if I get and interview. It helps me remember things that I could bring up to employers, saying “Yes, I was involved in this...” or, “I actively participated in this...”
[Jennifer – credit student]

Although participants believe the ePortfolio is a beneficial tool that can support employment search activities, participants do not believe the ePortfolio will replace the résumé or the CV, but they do see themselves referring to their ePortfolio in the foreseeable future:

I’d like to think... to actually be able to go through your website and be involved with the actual process of looking through each one of your stories, each one of your pieces of work instead of just opening a document and scrolling through it. So, for that specific reason, I think I would continue to use it [ePortfolio] regardless of whether it would be an integral part in getting a job.
[Jesse – credit student]

It’s [ePortfolio] a good way for employers to look at all of your history. I mean, yes, you can cover that in a résumé, but it might be a little bit more engaging if you have an ePortfolio that attracts the eye of an employer. I do think it could possibly help you get a job with an employer if it covers everything there. It can add a little bit more than what you can put on your résumé.
[Travis – credit student]

There is limited research that has been done to understand employers’ perceptions about ePortfolios, however both employers and post-secondary institutions recognize that current and future generations of students are always connected, communicating and utilizing different types of ePortfolios (Okoro, & Washington et al., 2011). This participant teaches in the college sector in southern Ontario, and teaches the creation of ePortfolios to her students in several of her courses. Part of her instruction includes demonstration of the importance of having an ePortfolio through guest lecturers who reinforce the need for students to have a LinkedIn profile:

When you look at an ePortfolio, you can go back and look at the LinkedIn profile, so that you could see that should be similarities between the ePortfolio and LinkedIn profile. In fact, employers do look for that similarity to see if there is consistency and what are they actually saying. In my classes, I do have professionals that come in from the recruitment world and every single one of them said, you must have a good LinkedIn profile because we all check it out. [Susan – working professional].

Discussion

The section advances the results of the analysis to consider the implications for individuals who have, or are considering integrating an ePortfolio into their professional networking and employment seeking endeavors. Grouped into discussion categories, each category captures the overarching opinions and perception of the research participants, providing insight into how the results of the research can be applied for individuals, helping to inform future actions and activities with ePortfolios.

Varied opinion as to whether or not the ePortfolio helps with employment.

The research confirms the majority of respondents (73%) identify a primary reason for creating an ePortfolio was to increase employment opportunities. With employment as the primary driver for creating an ePortfolio, how and when it is used by individuals to enhance their employment opportunities is important to understanding why there is value in owning and maintaining the ePortfolio. The undergraduate population of students who participated in the research had limited experience or opportunity to prove or disprove if their ePortfolio could assist in obtaining employment because they were mostly focused on completing their program of study. Through the research these students were able to express their hopes and expectations of how their ePortfolios could serve them after graduation. The part-time continuing education students were more actively engaged in the workforce, with one individual describing how he utilized his ePortfolio to make connections with employees who worked in a company that he also wanted to work for. The participant described a situation where the ePortfolio was used to obtain, or at least enhance success in obtaining employment, and it supports the argument that ePortfolios can help individuals achieve or improve employment success. It is important to understand that in this example the ePortfolio itself was not the measure of success, it was the use and

application of the ePortfolio platform (LinkedIn), and the tenacity of the individual who established professional connections within the company. This led to establishing a favorable position with the right employees who were working for the company, and ultimately led to consideration for a job.

The research also identified greater than 50% of students indicated they are willing to share their ePortfolio with an employer as part of the job application process. What is not identified are the number of students who actually did share their ePortfolio with employers, or why an almost equal number of students were unwilling to share their ePortfolio with employers. Some students questioned the value of investment of time in creating and maintaining an ePortfolio, with one respondent commenting “not knowing what employers want to see in an ePortfolio, or if they want to see it, it is hard to decide how much effort to put into it.” This uncertainty is further supported by 67% of survey respondents agreeing or strongly agreeing with the statement: “I am unsure if employers will look at my ePortfolio”. This uncertainty can potentially manifest itself as reluctance to share with prospective employers if individuals have unfinished or poorly developed ePortfolios.

Traditional recruitment practices do not utilize ePortfolios in any substantive manner as part of the hiring process, although LinkedIn is used by some individuals to help obtain employment, and by some recruiters and employers to help find the optimal applicant for a job. Over 54% of students acknowledge the ePortfolio is a helpful tool in the employment application process, and that artifacts they collect in their ePortfolio help them to customize their résumé or CV to the job they are applying for. There is some evidence that employers use social and networking media to aid in the recruiting process (Hensvik & Skans, 2016; Acquisti & Fong, 2015), with 35% of employers indicating they would like to see the students’ work in ePortfolios (Rhodes, 2010). Laurikainen and Kunnari (2018) performed research in five European countries and six higher education institutions on the perspectives of students, employers, and teachers as to whether ePortfolios can increase the potential for matching skilled employees with companies that are recruiting. They sought to determine what employers’ value in

ePortfolios, and they summarized their finding in three main points: 1) concise and formulated personal evidence of competences, with the ability to dive deeper into different layers of information; 2) selection of evidence or materials, where the content of ePortfolio should match the specific position or work profile including other material such as voluntary work or evidence of personal characteristics; and most importantly, 3) the person behind the CV, as employers are looking for the right kind of person who has the right kind of attitude and work ethic, including personal dreams, visions, and motivations.

Based on the above examples, there are implications for employment-related ePortfolio adoption in the future. It is likely that personal and professional ePortfolios will continue to grow in use and popularity over time. The next generation workforce are comfortable operating in digital environments, where even from their early years of education having a digital presence is normal to them. Increasingly, technology in society and the workplace requires an emergence of individuals who possess technology management skills in order to present competencies and a personal identity within digitized environments. At some point, the ePortfolio could evolve to encompass greater adoption by education, industry, and government if the platforms and technology continue to improve the matching of employee to employer. Over time, the usability of the ePortfolio platforms will also improve, making it easier for individuals to create and maintain an ePortfolio. With a large component of the workforce made up of Millennials, it is likely that growth in the frequency of job searching via the Internet will continue to increase as information about jobs and workers becomes more readily available, at a lower cost. For the individual who is contemplating the value of investing in creating and maintaining an ePortfolio, the research shows those who gain the most value from ePortfolios do not associate it with only employment-related opportunities. Ultimately, the adoption and use of ePortfolios for employment purposes is a personal choice. Individuals should make their own informed decisions as to the value an ePortfolio can provide them once they have satisfied their own curiosity through personal research and communication with other ePortfolio owners who have similar motivations.

Motivations for owning and maintaining an ePortfolio.

It is important to understand the motivations that students have for creating and maintaining an ePortfolio because they reveal the psychological or existential needs that drive individuals to reach for personal or professional achievement. Examining the reasons and rationale students have for creating an ePortfolio is reflected in the perseverance they exhibit, including the frequency and intensity with which they utilize the ePortfolio in the pursuit of their career goals and aspirations.

The research suggests there is a psychological line individuals straddle between necessity and conformity in possessing and maintaining an ePortfolio. With 42% of Canada's population owning a LinkedIn ePortfolio, it seems reasonable that some individuals conformed to create an ePortfolio because so many others have one. Participants describe conformity as a motivating factor, with one individual commenting: "my peer group was doing it [creating ePortfolios] and I thought it was something I should look at...it was not spurred by work or school or a desire to catalogue my education." Another participant makes a similar comment relating to conforming as a motivating factor to create a LinkedIn ePortfolio: "I think I succumbed and created one [LinkedIn profile] in 2009, and then I – you know, I became convinced that yeah, this was the right thing to do."

Other participants are motivated to possess and maintain an ePortfolio because they believe it is a necessary tool in the employment search process, as described by one participant as "a necessity for many jobs to even be considered"; and by another participant as a "necessary component of marketing oneself." However, this study also identified that having an ePortfolio on the platform (LinkedIn) does not guarantee employment success. It is the quality of one's ePortfolio that matters, and the manner in which the LinkedIn platform is utilized which plays a role in achieving employment opportunities.

Those who are seeking justification of the merits in creating or maintaining an ePortfolio for employment purposes should also consider the broader applicability of ePortfolios, such as the personal collection of artifacts that can be maintained and an ability to organize them. Whether an individual is

convinced they should have an ePortfolio out of conformity or necessity, it is important to consider the economic drivers which also influence personal motivation. Most employers who require résumés expect you to have a LinkedIn profile, and if possible, to point the LinkedIn profile to the employer applicant tracking systems (Tunkelang, n.d.). Additionally, if individuals want to have a chance of being recruited as a passive candidate (i.e., the company or recruiter comes to you), then LinkedIn is the platform where they will most likely look. For white-collar professionals with a desire to leverage a professional identity and network, LinkedIn is the most widely accepted platform for this purpose (Tunkelang, n.d.). It is important to use LinkedIn effectively, else searches, messages, and other activity on the platform can take considerable time. It is also important to ensure the ePortfolio is accurate and current. When utilized correctly, LinkedIn can help with career development, as recruiters and employers both use LinkedIn to source candidates for employment (Doyle, 2016).

It is also important to understand that LinkedIn is not the perfect platform for all individuals. As with any medium where identities are shared on a large scale, it is important to understand the risks and limitations of engaging in these type of global platforms. Santiago (2018) does not like LinkedIn, citing personal beliefs and reasons, such as people who are viewed as “better candidates” because they have a more impressive and sophisticated LinkedIn profile, when people list skills they do not actually have just to make themselves more impressive. Santiago does not like it when LinkedIn users post photos of themselves and associates this to risk of stalking, where she identifies receiving connection requests from older men she has never heard of before. She also provides reference to the argument of conformity to use LinkedIn, where “not having a LinkedIn profile is assumed to be unprofessional”, and does not like feeling as if she has to go along with something just to show she “play’s the game”.

When individuals are deciding if an ePortfolio is an appropriate fit for them, they should ensure they are comfortable with their decision, whether it is because of conformity, necessity, or some other reason. Individuals may wish to consider their own personality type, how they see or believe themselves

to be, such as an introvert or extrovert, the psychological or existential needs they have, and the level of interaction and connections they wish to make. It is also advisable to identify the value and expectations that one can reasonably expect to achieve from an ePortfolio, set a realistic time frame with which to achieve results, and then reflect upon the outcomes. Other than time, there is no cost to create an ePortfolio, and it can always be shut-down or deleted if the outcomes do not meet the desired results.

Purpose, design and application of the employment ePortfolio.

Both the literature and the data analysis identify the merits of creating and maintaining an ePortfolio for employment purposes, including examples of the types of artifacts to include in the employment ePortfolio. The data analysis also provides a synopsis of the major categories that describe the perceptions that participants have for their intended or current use of the ePortfolio. Examples of the research participants' rationale, intention, and perseverance in using and maintaining an ePortfolio are captured and presented in the analysis. Over 62% of respondents agree or strongly agree with the statement that a decision factor in creating their ePortfolio was they wanted a complete record of all formal and informal learning, knowledge and skills. This identifies the ePortfolio as providing those who possess an ePortfolio an ability to maintain a repository that goes beyond what the résumé or CV can offer. In addition, over 80% of respondents agree or strongly agree with the statement: An ePortfolio is a useful means to summarize one's work experience and achievements. The majority of participants (62%) also believe that ePortfolios can help them gain advantage over other candidates when used as part of a job interview. The ePortfolio is a concept and a medium that allows individuals to show-off their skills to recruiters, human resource managers and other employers. It may even lead to contracts if individuals have a side company, service or passion project that they manage in addition to their full-time job (Elder, n.d.). The ePortfolio can create additional, unexpected employment opportunities because of the additional information and artifacts it can capture, which go beyond what the traditional résumé can contain.

The ePortfolio is an expression of both the human being and the professional being. Not all ePortfolios should look or read exactly the same because we are all unique individuals, and it is our uniqueness which defines our strengths and our weaknesses. Newsham (2010) offers some key design tips that should be included in most every ePortfolio, to ensure those who view the ePortfolio can get the most out of it. The ePortfolio must be simple and well organized, with the résumé provided in multiple file formats, and thumbnails that are easy to locate and easy to see. Providing details and descriptions of what the viewer is looking at, what has been created, the medium used to create it, and how the final product came to fruition, paints a picture of the work and thought patterns of the individual. Equally as important, individuals should create their e-Portfolio themselves, including a self-composed description of their personal and professional summary. This will give viewers a glimpse into the personal style of the ePortfolio owner, and allow viewers to make their own related connections. The work displayed on the ePortfolio should be the best examples of work which provide the widest example of the diverse abilities the individual has, and the examples should be presented in the highest definition and quality.

Based on the evidence provided from the literature, Hart Research Associates (2013) found more than four in 5 employers identify the e-Portfolio as being useful to them in ensuring job applicants have the knowledge and skills they need to succeed in their company or organization. In addition, Newsham (2010) identified how employers want prospective applicants to present the artifacts in an applicant's ePortfolio. Employers only want to see items they care about, they do not want to do any work to find where the artifacts are located. If someone does not see something eye catching in the first 10 seconds, they typically move on to another ePortfolio. The information in the ePortfolio must be easy for viewers to absorb, else there will be a gap in the messaging and viewers will not understand the information contained in the ePortfolio. Although the literature provides some evidence of ePortfolio adoption by employers, the research is based in other geographical regions, primarily the United States and Europe. Calgary is a highly-connected city, with a strong digital infrastructure that supports a modern, tech-

savvy economy and workforce. It is easy to assume that employers are equally as receptive to e-Portfolios in Calgary as other parts of the world, however formal research studies in this area would help in understanding the potential for growth in ePortfolio use. Research that studies the employer population would be beneficial, including different sector industries, such as construction, arts and entertainment, oil and gas, financial services, technology, real estate, transportation and manufacturing.

Understanding the best purpose, design and application of the employment ePortfolio is important for recent graduates who are looking for work, for workers who are seeking better jobs, for employers who are seeking skilled employees, and for governments who want to support these groups to be successful. The ePortfolio can be better utilized if the groups who use them can accept common ePortfolio standards and platforms. There is little risk or negative outcomes that have been reported from utilizing employment ePortfolios. If we refer to the popular media and ask ourselves to compare negative publicity of employment ePortfolios with positive reports, the negative publicity regarding ePortfolios is minimal compared to positive, affirming research and news about employment ePortfolios. If ePortfolios created negative outcomes for those who have one, subsequent negative publicity would ensue, and individuals would close or delete their LinkedIn profiles. We see examples of this in the social media realm: “Facebook users are deleting their accounts after it was revealed their data was used in the 2016 US election” (Dudley-Nicholson & AAP, 2018), however we do not see this in the professional networking realm. It is also important to note that LinkedIn is utilized for business to business (B2B) purposes as well. With over 26 million companies represented, the vast majority of marketing executives (91%) list LinkedIn as the top place to find quality content. More B2B leads originate from LinkedIn (80%), vs. Twitter (13%) and Facebook (7%); and LinkedIn generates three times more conversions than Twitter and Facebook (Gallant, 2019).

The implications for new graduates, existing workers, employers and government, are economically based and driven. There is evidence of ePortfolio platforms providing channels of

employment as evidenced in appendices G, H and I. There is evidence the college sector is adopting ePortfolios and teaching students how to create and manage their own professional ePortfolio to obtain employment results. Individuals should identify and understand their needs and goals when considering using a professional networking platform such as LinkedIn. Individuals who believe in digital professional networking, and are looking for employment opportunities, should consider maintaining a professional ePortfolio.

This chapter provided a secondary level of data analysis, where the relevant theory and research were tied-in as the major themes, and the major findings from the surveys and interviews were compared and contrasted to the literature. Analytic categories were defined to present an integrated and layered synthesis that portray a more complete narrative of the research. The discussion that followed advances the results of the analysis to consider the implications for individuals who have, or are considering integrating an ePortfolio into their professional networking and employment seeking endeavors. The next chapter discusses the limitations, conclusions and recommendations that result from the research study, including recommendations for future research.

Chapter 6 – Limitations, Conclusions and Recommendations

The conclusions and recommendations from this study flow from the primary and secondary research questions which produced the major finding statements from the data collection. Further data analysis and synthesis was conducted in chapter 5 to identify the outcomes or consequences of the major findings. Then, analytic categories were defined to conduct a secondary level of analysis, where the relevant theory and research are tied-in together as themes, which are compared and contrasted to the literature (Bloomberg & Volpe, 2016).

While many research study limitations are outside of the researcher's control, sometimes affecting the results of the study and the conclusions drawn, we use this understanding to restrict us from using the words "prove" or "disprove" with respect to the findings. It is important to recognize that future research may challenge the findings or conclusions of this research, or the opposite may occur where subsequent studies may overcome limitations that exist within this study (Simon & Goes, 2013).

Research Limitations

The University of Southern California (2017) presents common researcher limitations, which are also addressed in relation to this study. Access to a wide population of participants was limited, due to time restrictions with which to complete the study, and the scale and permission limitations related to the project. The window of data collection for this project was September 2017 – March 2018. Contact with the Faculties of Education and Nursing, and with the department of Continuing Education was established, and permission to conduct research with these groups of students was achieved. Contact with the Faculty of Arts was also attempted, but permission to engage was not realized.

Longitudinal effects relate to the time required in which to complete the research project. Survey and interview data collection occurred between January – March, 2018. Due to the structure of academic semesters and the constrictions instructors faced relating to mid-term exams, student project

work, and final exams, the window of opportunity to visit classes and engage students in the research was limited, requiring quick and reactionary responses by the researcher.

Cultural and other types of bias was a limitation because, as the primary researcher, conducting all of the data collection, personal bias was inevitable and could be conscious or unconscious. Attempting to reduce bias included a conscious effort to remain neutral in how the interview questions were asked and in how the answers were clarified.

Methodological limitations.

Sample size did not prove to be a limiting factor of this study, with over 200 responses to the survey achieved. The reason for this success was the result of the first class visit conducted, and the approach to every class visit thereafter. In advance of the first class visit, the researcher contacted the instructor to ask permission to speak to their class, obtain written consent from the students and mail them a link to the survey at a later time. The instructor asked the expected duration of time to complete the survey, which was approximately 15 minutes. The instructor suggested that the students complete the survey in class immediately after consent was achieved, else the response rates would be low if students were emailed a link to the survey at a later time or date. This first class recorded 18 responses to the survey, and this became the model in which the researcher conducted all class visits. The researcher asked the instructors for permission to not only obtain participant consent, but allow time for the students to conduct the survey within the classroom, on their laptop or smart phone. Over 200 responses to the survey yielded close to 40 survey participants who provided their consent to participate in the semi-structured interview. Through word of mouth, there were additional inquiries regarding the research as well as expressions of interest to participate in the study.

Prior research studies on the topic.

While there is a lack of historical research specific to ePortfolios and employment, there are some related studies which have been conducted recently. For example, Tubaishat (2015), conducted a

survey to examine whether an ePortfolio development process could be used as a beneficial tool to help find relevant jobs; and Cülcüloğlu's (2013) master's thesis assessed the advantages and disadvantages of using social media in recruitment, studying the changing trends, preferences of sites used for recruitment, methods of using different social media and the extent to which the methods and media are an improvement over previous ones. Hartwick and Mason (2014) explored whether or not there is a more effective way to develop and present portfolios to make them more meaningful and usable in the hiring process. They specifically identified ePortfolios, and they described the increasing use of ePortfolios within the domains of business and teacher education.

There is important work that is still required to be completed in this area. Given the plethora of professional networking ePortfolio tools such as LinkedIn, Twylah, Opprtunity, PartnerUp, VisualCV, Meetup, Zerpily, AngelList, and BranchOut (Costill, 2013), exactly how effective are these ePortfolio tools in helping their users create or obtain enhanced employment opportunities? To what extent are employers utilizing ePortfolios to find the best candidates?

Research Delimitations

Delimitations are the boundaries that are part of this research, and include objectives of the research and the research questions. The researcher chose to restrict the research to adults and their perceptions and experiences with ePortfolios and enhanced employment outcomes. The three professionals who participated in the semi-structured interviews were unplanned contributors, but were evaluated for their potential contribution to the research, and deemed as valuable contributors to the study. Although it is important to also research employers, the overall scale of the research project and the timelines with which to complete it, identify this delimitation. The choice of the number of research questions was made to attempt to strike a balance between making the survey appealing through a short time commitment, so the participants would complete the survey, and to obtain a sizable amount of data.

Conclusions and Recommendations

A discussion of the conclusions and recommendations are drawn from, and based upon the analytic category analysis and synthesis. Table 4 is the If/Then/Then/Therefore/Thus Matrix (Bloomberg & Volpe, 2016), where the research findings are interpreted for meaning, the conclusions are drawn from the interpretations, and the recommendations are drawn from the conclusions. The recommendations are the actionable items, and also identify the implementation authority.

The conclusions identified in Table 4 are grouped into three main concluding categories. The first category recognizes the perceptions individuals have regarding the use and value of ePortfolios. This is described through the motivations they have in owning and maintaining an ePortfolio, the beliefs they have relating to the value employers place on ePortfolios, and the value they realize from engaging in communities of other ePortfolio owners. The second concluding category is a grouping of participant beliefs toward the use of a common or popular ePortfolio platform, characterised by high adoption of ePortfolios, although participants perceive there are gaps in the ePortfolio support available to them. The third concluding category identifies the benefits participants describe from ePortfolios serving as an employment assistance tool.

Table 4. If/Then/Therefore/Thus Matrix

| Findings | Interpretations | Conclusions | Recommendations |
|---|---|---|---|
| Participants successfully obtained employment as a result of having an ePortfolio. | <ul style="list-style-type: none"> • ePortfolios are an effective tool in helping individuals obtain employment. • Individuals believe in the value of ePortfolios in finding employment. • Employers may or may not be adopting ePortfolios for the hiring process. | <ul style="list-style-type: none"> • People have various motivations as to how and why ePortfolios might help them gain employment. • It is not clear if employers will increase their adoption of ePortfolios for the hiring process. | <ul style="list-style-type: none"> • All graduates seeking employment have an ePortfolio. • Further research into employer perceptions of ePortfolios required. |
| ePortfolios provide indirect leads and opportunities for employment. | <ul style="list-style-type: none"> • ePortfolios have multiple uses and applications, related to, but not directly tied to employment. • Professional and personal connections are made and maintained through ePortfolios. | <ul style="list-style-type: none"> • Understanding the multiple uses and applications of ePortfolios is important to understand user motivations for having one. • There are communities of individuals who share common traits or experiences through common ePortfolio platforms. | <ul style="list-style-type: none"> • Additional research required regarding the various applications and uses of ePortfolios for employment, organization, archiving, and professional networking purposes. |
| Participants had positive experiences, and place high value in their ePortfolio. | <ul style="list-style-type: none"> • Current and future generations of students are increasingly connected through ePortfolios. • ePortfolios have a positive standing with users, despite limited support at the university-level. | <ul style="list-style-type: none"> • The ePortfolio “movement” will continue to grow organically. • Understand why gaps exist in promoting and supporting student ePortfolios for employment is important. | <ul style="list-style-type: none"> • Universities integrate career and professional ePortfolios into undergraduate studies. • Understand perceived or real gaps in ePortfolio support within University of Calgary to close the gaps. |
| LinkedIn and/or personal web pages are the ePortfolio platforms utilized, with recognition that time and effort invested is related to employment, networking, marketing and personal growth opportunities. | <ul style="list-style-type: none"> • LinkedIn is the widely accepted standard for professional networking. • People will invest in ePortfolios if they believe it a worthwhile investment of their time. | <ul style="list-style-type: none"> • LinkedIn will continue to dominate as the professional networking platform. • ePortfolios are a worthwhile investment of time and effort. | <ul style="list-style-type: none"> • University promote and encourage ePortfolio use to students. • LinkedIn members ensure they are maximizing the features available in LinkedIn. |
| The majority of participants believe their ePortfolio will play an ongoing and integral role in helping them to seek or obtain employment in the future. | <ul style="list-style-type: none"> • Over time, ePortfolios will grow in use, application and longevity. | <ul style="list-style-type: none"> • Together, government, industry and post-secondary should embrace and promote the ePortfolio as an employment-assistance tool. | <ul style="list-style-type: none"> • Further research on potential integrations between government, industry and post-secondary to utilize ePortfolios as a tool to help close the skills gap. |

Conclusion 1 – Perceptions individuals have regarding the use and value of ePortfolios

The first major finding of this research is to create an understanding of individual perceptions regarding the use and benefits of ePortfolios for employment purposes. The conclusion drawn from this finding uncovers the motivations ePortfolio users have, and how those motivations cross over multiple motivating categories. The primary motivating category is employment-related, where the perceptions students have relating to ePortfolio's and employment outcomes are both definitive and doubtful. The definitive perceptions are described by the successes students have experienced in obtaining employment opportunities with the aid of their ePortfolio. While there is some evidence that a few students who use ePortfolio's have realized success related to employment opportunities, there is also uncertainty and doubt as to employer adoption and use of ePortfolios, so why invest the time and effort? Not all participants had direct employment success with ePortfolios, yet they still maintained positive affinity toward having an ePortfolio. This is where other motivating factors became apparent, providing an understanding that individuals who expressed higher satisfaction with ePortfolios consider employment outcomes as only one factor of success from owning and maintaining an ePortfolio. Tracking and organizing one's history of skills, interests, knowledge and accomplishments are legitimate reasons to maintain an ePortfolio. There are benefits to using ePortfolios in this manner, from quickly assembling and customizing the résumé or CV to match the job requirements, to having an additional platform which allows students to showcase themselves, to simply providing students with confidence because they have a collection of skills and knowledge that they can draw from.

Additional rationale for conducting this study was because there is a lack of literature and evidence identifying employers' adoption of ePortfolios to aid in the recruiting process. There are those who recognize this gap in the literature and are making efforts to close it, however additional research in this domain is still required. One possible barrier to the adoption of ePortfolios by employers is because of time constraints that they face when conducting the recruitment process. The time investment to

review multiple applicant's ePortfolios can seem daunting. With each ePortfolio being somewhat unique to the creator, how does one know they are comparing "apples to apples", and how do they make the comparisons quickly and easily? Understanding the power of ePortfolio "systems" such as LinkedIn can help inform to make the best match of employee to employer. A conclusion from the literature review as evidenced from the study is over time, employers will see an increase of applicants' ePortfolios as links to the ePortfolios are included in résumés and CV's. There will also be an increase of referrals of applicants and employers through ePortfolio technologies and platforms. I predict a grassroots movement of increasing ePortfolio growth through innovative uses of technology will encourage employers and agencies to recognize and adopt ePortfolio's in the recruitment process and employee development programs.

Conclusion 2 – Growth of ePortfolio use although perceived gaps in ePortfolio support exist

This research identified the majority of participants' use LinkedIn as the primary ePortfolio platform, with some who also have a personal ePortfolio; typically a personal web page or blog. The wide acceptance and use of LinkedIn is attributed to users' perceptions of necessity and/or conformity. Perceptions of necessity exist because of requirements of academic programs, recruitment, and perceptions that an ePortfolio is a must-have for marketing and networking opportunities. Perceptions of conformity is the other driver for adoption and use of ePortfolios, originating from the substantial use of LinkedIn by a large percentage of the population, and perceptions of "missing-out" if one does not have an ePortfolio. A conclusion from this finding is the adoption and use of ePortfolios will propagate over time because they are perceived as an important and/or necessary requirement.

Another conclusion in this category is that students' view ePortfolio's as a worthwhile investment of time and effort. As evidenced through data finding #3 and further described in analytic category #1, participants have had mostly positive experiences, harnessing the ePortfolio to obtain direct or indirect employment opportunities, professional networking opportunities, or personal development

and growth. A limiting factor of the research is the possibility that only those participants who had positive experiences with ePortfolio's were willing to devote their time to share their stories. It is possible that those who have had a negative experience or no virtually no experience to speak of regarding ePortfolios, did not wish to participate in the semi-structured interview. Although over 20% of survey respondents agreed to a follow-up interview, most were unreachable in that they did not return telephone messages.

The majority of participants identified with having positive experiences from their ePortfolio, however this study also identified students perceive a significant gap exists regarding ePortfolio training and support provided by their institution. There are number of factors that influence this perception, one of which is lack of awareness of resources available to help with creating and managing their ePortfolio. For example, at the University of Calgary, both the Taylor Institute for Teaching and Learning and the Career Centre offer ePortfolio training options, however these resources were not identified by students as resources they were aware of. In addition, Faculties define their own priorities on the inclusion of ePortfolio into programs of study, personal development, employment after graduation, or all three. The gap that is evident is most faculties have not formally incorporated ePortfolios into their undergraduate curriculum. This study identified how ePortfolios are integrated at the college level, where students are tasked with creating a LinkedIn profile that is formally assessed. In addition to this, the value of the ePortfolio is reinforced through guest lectures delivered by recruiters who attest to the importance of ePortfolios for employment success. A conclusion from this is there may exist a general lack of understanding of ePortfolios across the university, and a low adoption rate of ePortfolio in the curriculum. This potentially places students at risk of not obtaining the same or similar opportunities as those students who have a robust ePortfolio.

Conclusion 3 – Embrace and promote the ePortfolio as an employment assistance tool

The last major finding from this research describes student perceptions regarding the longevity that ePortfolios will have in helping them seek employment. ePortfolios can play a role in not only finding employment opportunities, but helping individuals better prepare for the interview so they successfully obtain the job. A number of participants indicated that there is a connection between the ePortfolio and being organized and prepared for the job interview. Similarly, there is some evidence from the literature that employers have a positive outlook on ePortfolios and recognize the value-add they can provide to the recruitment process (Heinrich et al., 2007). The conclusion from this finding is I predict ePortfolios will grow in use, application and longevity, both on campus in undergraduate programs and by employers in the job market.

Currently, the economic climate in the region and the country is reflected in how the government provides monetary grants to students and institutions in order to influence the delivery of skills training opportunities, particularly in the information technology sector. Both government and industry have a desire that the post-secondary education sector be responsive and adaptable to economic fluctuations. Post-secondary education is increasingly under pressure to create employment-ready graduates, which includes enabling graduates to be marketable to employers (Docherty, 2014). LinkedIn is widely accepted as a professional networking ePortfolio tool, collecting substantial amounts of data on the activities of employers and individual members. Using this data, LinkedIn produces economic reports, connecting and comparing employment demand with workers' skill-availability. Based on the related associations between governments, industry, post-secondary education and LinkedIn, these sectors should work together to embrace and promote the ePortfolio as an employment assistance tool to help close the skills gap. Although the literature identifies how employers have or may adopt the ePortfolio into the recruitment process, I remain skeptical that employers are practicing this, necessitating the

recommendation that further research on employer perceptions of ePortfolio use and value in the recruitment process, be conducted.

Recommendations

From Table 4, the recommendations are drawn from the conclusions, and these are the actionable items that result from the research study. These actionable items should also describe the implementation authority (Bloomberg & Volpe, 2016). Recommendations can also identify future research that can be considered.

The first recommendation is that all graduates seeking employment should consider possessing an ePortfolio. Based on the research from this study, a significant number of participants are LinkedIn users who have positive perceptions, and have had positive results from maintaining an ePortfolio. They believe the ePortfolio can play a role in helping them obtain direct and indirect employment opportunities. Careers within artistic or literature fields can realize the benefits of having an ePortfolio, where they can retain and quickly retrieve examples of previous work or accomplishments. ePortfolios allow students to develop and promote their personal brand equity, their professional digital identity, and they can help individuals organize and prepare for employment interviews or networking events. As online information continues to be accessed as part of the employment process, ePortfolios are a mechanism for individuals to successfully develop an online presence that showcases their competencies including communication, academic grades, creativity and key digital literacy and other related employability attributes.

The second recommendation is all Faculties include ePortfolio development into the undergraduate curriculum, to facilitate learning goals and employment outcomes. This study identified how ePortfolios are incorporated into the teaching and learning within some Faculties and the college sector, with an example of how the ePortfolio helped a student generate a connection with an employer. ePortfolios provide a platform for both students and faculty to learn about, and track milestones,

achievements and other notable outcomes. Students can plan their own academic pathways as they learn what they need to know and are able to organize their learning deliverables. If students obtain a broader and more integrated learning experience that prepares them for their professional life, they have the potential for improved employability upon graduation. With the encouragement of their respective faculty or department and with overall institutional support, ePortfolio's should be infused into the curriculum, with distinct focus on the academic and career benefits that ePortfolios can provide. Students will be receptive to creating and maintaining an ePortfolio if it can benefit both their academic experiences and their employment opportunities after graduation.

Continuing Education should develop ePortfolio short courses, with a particular emphasis on professional networking through LinkedIn. As evidenced within the college sector, courses and programs which focus on skills training and professional development are intended to help the individual enhance their employment outlook. These courses can help the student enhance the possibility of success by teaching them to maintain a robust, professional networking ePortfolio. Students can potentially observe and witness how strong ePortfolios can be utilized, such as how employers might distinguish between equally competitive job applicants; how the ePortfolio can be shared with prospective contacts for an informational interview; how individuals can witness one's own changes in thinking and quality of work over time; how the ePortfolio can make connections between different academic courses and disciplines; and how students can share with peers and colleagues for social learning and networking ("ePortfolios for your Course(s)", n.d).

It is also recommended that LinkedIn members ensure they are maximizing the features which are available to them within LinkedIn. A complete and robust ePortfolio that is setup with the appropriate and relevant notifications and features enabled will help individuals to be recognized and successful. Incorporating keywords into the LinkedIn ePortfolio, having recommendations and endorsements, acquiring your own unique universal resource locator (URL), connecting with other

relevant members, and joining relevant groups (Brinkman, 2014), are examples of ways to maximize the features of LinkedIn. It is possible that Continuing Education could develop introductory and advanced ePortfolio short courses, with the advanced course focussing on the advanced features of LinkedIn.

The final recommendation is that government, industry and post-secondary education work together in utilizing ePortfolios as an employment tool for students to assist in closing the skills gap. As previously identified in the literature, the Learning Innovations Forum (LIflA) proposed to develop and stimulate support for an ePortfolio environment that targeted skilled immigrants and potential employers. The vision of LIflA was to ensure all Canadians had access to a digital identity and a digital record of formal and non-formal learning, calling on government to initiate a national funding strategy to establish a program that would achieve “an ePortfolio for every citizen” and “one ePortfolio for life” (Barker, 2006, p. 5). I suggest there is opportunity for government, industry and post-secondary to work together to improve the marketability of workers, and benefit society.

Combined, these recommendations can benefit the groups identified in Chapter 1, by increasing the adoption and use of ePortfolios overall. Working adult-learners and recent graduates can make themselves more confident and marketable; employers can hire high quality candidates with the right skills; Continuing Education can enable learners to achieve greater employability; post-secondary leadership can improve the learning experience for students; and various government agencies which focus on skills growth and job development can utilize the technology to help people find work in the markets and locations that require specific skill sets.

Recommendations for future research.

It is recommended that research on employer perceptions of ePortfolio use and value in the recruitment process, be conducted. This future research is a natural follow-up to this study on student perceptions of ePortfolios and employment. With student perceptions of ePortfolios and employment defined, employer perceptions of ePortfolios and recruitment should be examined and further defined,

building off of existing, but limited research in this area. In 2017, Leahy and Filiatrault studied employers' perceptions of the benefits of employment electronic portfolios when evaluating potential job candidates. Eighty-five recruiters completed a survey, revealing that recruiters with less than two years of recruiting experience were more likely to visit ePortfolio links on students' cover letters or e-mail signatures than recruiters with three or more years of experience recruiting. In addition, 85 percent of recruiters reported that if students followed up with them via e-mail with a link to a relevant part of their ePortfolio, they would visit the link. Leahy and Filiatrault (2017) concluded that recruiters had moderately favorable perceptions of the use of ePortfolios in the job search process. An additional research question that would enlighten this discussion could be: What is the future role of ePortfolios in post-secondary education, from an employer's perspective? Valid methods of assessing ePortfolio use by employers would include a mixed-methods, convergent parallel design study which includes survey and interview methods for data collection and analysis. The same survey and interview questions utilized in this study could be modified to conduct research on the employer population of the local economy in Calgary.

Conducting research to understand the gaps or restrictions that exist within Faculties supporting and incorporating the ePortfolio into curriculum, is also advised. With a goal of helping students realize employment success after graduation, the post secondary institutions should commit to understand the ePortfolio instruction and support gaps that may exist, as well as the reason for the gaps, and work toward closing the gaps. Successes that have been realized from other post secondary schools regarding incorporating ePortfolios into the curriculum for employment related applications, could help to inform other schools, faculties or departments. Hinton, Towell, MacFarlane, Refling, and Amesbury (2017), conducted a study on student, faculty and employer perspectives on the value of ePortfolios in assessing the development of essential employability skills. They acknowledge that academic learning environments continue to explore applications and strategies to promote ePortfolios as a learning

strategy, while less is known about how ePortfolios can be utilized for assessment and employability from the perspective of employers. Given the significant investment of time and effort developing an ePortfolio, students would like to have some confidence that the ePortfolio will be of value to potential employers. Hinton et al. (2017) identified how Faculty reported the ePortfolio as a useful as a method of assessment, and was beneficial in helping students reflect, organize and prepare for job applications. Faculty also identified that they did not have enough information on employers' uses or requirements for ePortfolios. Additional research to close the awareness gaps between faculty and employer relating to ePortfolio application, and whether a stronger employment focus is advisable, should be conducted.

Additional research can be conducted regarding various applications and uses of ePortfolios relating to the use of ePortfolios for workforce development, such as organization, archiving, and managing employee growth and development. Lievens (2015), conducted a case study on ePortfolios in the workplace for human capital management. Out of five different organizations, ePortfolio's enabled two of the organizations to enhance their talent management and performance appraisal practices. Success factors were identified, including linking the ePortfolio with business objectives, identifying information requirements and selecting a suitable system, managing the implementation with appropriate and dedicated staff, and ensuring that employees have ownership over their ePortfolio profiles. Further research questions which could be explored are: Are specific industries more likely to have greater success with workplace ePortfolios than others? Can workplace ePortfolios enable employees to better manage their workplace training, health care and education benefits?

Final Reflections

In the 20-plus years I have been an adult educator, I find the greatest reward is helping people to better their situation, realize their goals and obtain economic or personal success. Just as is the case for myself, little has changed regarding the needs of the adult learner who works full-time and studies part-

time. They require coaching, advising, goal setting, confidence building and personal-marketability, yet there is limited access to these resources.

The idea of studying adult ePortfolios originated from a discussion regarding the creation of a joint presentation with my former supervisor, Dr. Jo-Anne Willment for the annual conference of the Canadian Association of University Continuing Education (CAUCE). It would seem there is a lack of a “one-stop-shopping” service for lifelong learning at the local or post-secondary level, and this is a continuing challenge for adults seeking after-program services. Continuous learning ePortfolios were identified as one possible way to help represent continuing education services. By working collaboratively, continuing education services with career and work-employment internships can serve adults in the development of ePortfolios which are useful for external community-business-industry environments.

The objective of my research journey started at the desired future state of intending to integrate ePortfolios into continuing education (CE) programs of study with the goal of helping CE students close the employment-skills gap. While I believe the vision of reframing ePortfolios for the adult continuing education learner will become a component of some programs of study, I refined my objective to the use and benefits of ePortfolio’s for employment purposes. My research goal evolved to benefit the undergraduate student who develops an ePortfolio, as well as the working adult who is seeking to enhance their skillset and employment opportunities.

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Appendix A: Participant Recruitment Script

Thank you _____, for allowing me to address your class.

Hello,

My name is Robert Wensveen. I am a graduate student in the Werklund School of Education at the University of Calgary. I am contacting you because I am conducting research on the practical use and benefits of ePortfolios, and I would like to ask if you would be interested in participating in my research.

For the purposes of my research, ePortfolios are a mechanism for individuals to assemble and showcase artifacts that provide evidence of skills acquired through educational and extra-curricular activities, such as life experience and work-integrated learning.

My research project seeks to better understand the awareness, knowledge, use and outcomes of ePortfolios across different segments of the population. I am particularly interested in determining how ePortfolios can serve as a foundation for individuals to obtain, or enhance, opportunities toward meaningful employment.

Examples of ePortfolios include: LinkedIn; personal web page or blog; ePortfolio through a system, such as the Desire to Learn (D2L) Learning Management system.

This study requires your participation in one, or both of the following activities:

- 1) Completion of a Web-based survey (approximately 10 - 15 minutes)

AND, for some individuals,

- 2) Participation in an interview (in person, via telephone, or virtual meeting such as Skype), regarding ePortfolios (approximately 20 minutes)

If you are interested in participating, please complete the attached consent forms, including your name, signature and email address. Please sign BOTH copies of the consent form. One copy is for you, and one is for myself.

Thank you for your consideration.

Appendix B: One Page Project Description

Research Project: ePortfolio Uses and Benefits

The primary purpose of this research project is to determine how ePortfolios can serve as a foundation for individuals to obtain, or enhance, opportunities toward meaningful employment. The question that I will use to direct this undertaking is: What are the Practical Uses and Benefits of ePortfolios?

ePortfolios are a rapidly emerging, powerful, iterative form for capturing student work that includes accredited evidence for lifelong learning in both academic and professional contexts, highlighting the importance of life and career competencies for the 21st century (Alexiou & Paraskeva, 2013). They also provide individuals with opportunities to manage self-directed learning for personal and professional growth, helping to achieve meaningful employment. (Cambridge, 2008; Chambers & Wickersham, 2007; Ferns & Comfort, 2014).

This project will utilize a mixed methods approach, which entails a convergent parallel design that will compare and contrast the results to look for patterns or contradictions. The descriptive design is represented through a Web-based survey that will highlight the scale, scope, awareness, and use of ePortfolios by students, employees and employers. The grounded theory design will utilize participant interviews to describe, through axial coding techniques, the way in which communities of users make use of ePortfolios, the goals they expect to achieve, and the outcomes they have experienced (Sauro, 2015).

The survey questionnaires will provide context and description of the application and use of ePortfolios, and will be summarized in both quantitative and qualitative representations. Participant interviews will be semi-structured to allow for deeper questioning by the administrator and deeper reflection by the participants.

For more information about this project, please contact:

Robert Wensveen
 Doctoral Student, Werklund School of Education
 University of Calgary
 [REDACTED]

Supervisor
 Dr. Margaret (Peggy) Patterson
 Professor, Werklund School of Education
 University of Calgary
 [REDACTED]

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Appendix C: Participant Recruitment Form

Hello,

My name is Robert Wensveen. I am a graduate student in the Werklund School of Education at the University of Calgary. I am contacting you because I am conducting research on the practical use and benefits of ePortfolios, and I would like to ask if you would be interested in participating in my research.

ePortfolios are a mechanism for individuals to assemble and showcase artifacts that provide evidence of skills acquired through educational and extra-curricular activities, such as life experience and work-integrated learning. They are used by colleges, universities, governmental agencies and individuals to facilitate lifelong and life-wide learning, capturing assessment, accomplishments and accountabilities. ePortfolios are a rapidly emerging, powerful, iterative form for capturing student work that includes accredited evidence for lifelong learning in both academic and professional contexts, highlighting the importance of life and career competencies for the 21st century (Alexiou & Paraskeva, 2013).

ePortfolios can exist in different contexts or formats, depending on the application and the intended outcomes. My research project seeks to better understand the awareness, knowledge, use, and outcomes of ePortfolios across different segments of the population. I am particularly interested in determining how ePortfolios can serve as a foundation for individuals to obtain, or enhance opportunities toward meaningful employment.

This study involves your approval to participate in one of two activities:

- 1) Completion of a Web-based survey

AND, for a few individuals,

- 2) Participation in an interview (in person, via telephone, or virtual meeting such as Skype), regarding ePortfolios (you must have an existing ePortfolio)

Selection of your participation in either the Web-based survey or interview will be made through random selection, and based on your consent. The interview requires that the participant has an existing ePortfolio (e.g., LinkedIn profile, personal web page or blog, or an ePortfolio within a Learning Management system, such as Desire to Learn).

This study will run from September 2017 to March 2018. There is no financial remuneration for participating in this study.

I wish to assure you that the study has been reviewed and received ethics clearance through the University of Calgary. However, the final decision to participate is yours. If you are interested in participating, please review the attached consent form, providing your email and telephone contacts, and your signature.

Sincerely,

Robert Wensveen

Doctoral Student, Werklund School of Education
University of Calgary
[REDACTED]

Supervisor:
Dr. Margaret (Peggy) Patterson
Professor, Werklund School of Education
University of Calgary
[REDACTED]

Reference:

Alexiou, A. & Paraskeva, F. (2013). Exploiting motivation and self-efficacy through the implementation of a self-regulated oriented ePortfolio. International Conference on E-Learning in the Workplace, New York, NY. Retrieved from
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Appendix D: Participant Consent Form



Name of Researcher, Faculty, Department, Telephone & Email:

Robert Wensveen, Werklund School of Education, Graduate Programs Division, [REDACTED]
[REDACTED]

Supervisor:

Dr. Margaret (Peggy) Patterson, Professor, Werklund School of Education [REDACTED]
[REDACTED]

Title of Project:

The Practical Uses and Benefits of ePortfolios

This consent form, a copy of which has been given to you, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study.

Purpose of the Study

ePortfolios are used to assemble and showcase evidence of skills obtained through educational and extra-curricular activities. Examples of ePortfolios include: LinkedIn; a personal web page or blog; or ePortfolio through a system, such as the Desire to Learn (D2L). The purpose of this research project is to determine if ePortfolios can help individuals obtain or enhance employment opportunities.

What Will I Be Asked To Do?

This study requests your participation in one, or both of the following activities:

- 1) *Completion of a Web-based survey (approximately 10 - 15 minutes).*
- 2) *Participation in an interview (in person or telephone), regarding ePortfolios (approximately 20 minutes)*

An example of the types of questions in the Web-based survey are as follows:

Please rate on a scale of 1-5, your agreement with the following statements:

| | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree | Not applicable |
|---|-------------------|----------|---------------------------|-------|----------------|----------------|
| The ePortfolio is a useful means to summarize one's work experience and achievements | 1 | 2 | 3 | 4 | 5 | 6 |
| The ePortfolio is a helpful tool to customize job applications and pull 'artifacts' from the ePortfolio to customize the resume or CV | 1 | 2 | 3 | 4 | 5 | 6 |

The survey also contains the following question, asking if you are willing to participate in a follow-up interview: Are you willing to participate in a short, 15-minute follow-up interview regarding ePortfolios?

Interview participants will be requested to be recorded and their responses transcribed so they can be compared with other responses.

An example of the types of questions in the interview include: Please describe for me the context of your development of an ePortfolio. Why and how did you first develop an ePortfolio? How has your ePortfolio evolved over time?

Participation in this study is voluntary. You may refuse to participate altogether or you may refuse to participate in parts of the study. You may decline to answer some or all of the questions, and you may withdraw from the study at any time, without any further obligation to you.

What Type of Personal Information Will Be Collected?

Should you agree to participate, you will be asked to provide your gender, age, academic major and current level of education.

If you choose to participate in an interview, you will be asked to provide your first name (or pseudonym) and email address so I can arrange for the interview. Interviews will be recorded on digital audio so that responses can be transcribed and compared with other responses. The recordings will not be shared and only used for comparison and analysis.

Are there Risks or Benefits if I Participate?

There are no foreseeable risks for participating in the study. Your time in answering the survey and (possibly) participating in an interview is the only commitment requested of you.

What Happens to the Information I Provide?

Only the principle investigator and the study coordinator will have access to the information collected from the surveys and interviews.

Survey responses will be anonymous unless you choose to be contacted to participate in an interview. If you choose to participate in an interview, you will be asked to provide your name or a pseudonym of your choosing, and contact information, (email address or phone number)

If you decide to withdraw from the survey at any time, you may do so. Participants will be permitted to withdraw from the study by exiting the survey up until the point that they press the “submit” button. Once the submit button is pressed, survey data of participants cannot be withdrawn from the study because the survey is anonymous.

If you decide to withdraw from the interview at any time, simply request to withdraw from the study and the interview will end immediately. Data collected from the interview can be withdrawn from the study, if requested.

Only principle investigator and the study coordinator will be allowed to see or hear any of the answers to the questionnaire or the interviews. The anonymous data will be stored on a secure University server under password protection.

Signatures

Your signature on this form indicates that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project. Upon signing this consent form and providing your email address, a survey link will be emailed to your email account, inviting you to participate in the survey.

In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your participation.

Participant's Name: (please print) _____

Participant's Signature: _____ Date: _____

Participants email address: _____

Researcher's Name: (please print) Robert Wensveen

Researcher's Signature: _____

Date: _____

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

Robert Wensveen
Doctoral Student, Werklund School of Education
University of Calgary
[REDACTED]

Supervisor
Dr. Margaret (Peggy) Patterson
Professor, Werklund School of Education
University of Calgary
[REDACTED]

If you have any concerns about the way you've been treated as a participant, please contact the Research Ethics Analyst, Research Services Office, University of Calgary at [REDACTED]
[REDACTED].

A copy of this consent form can be provided for you to keep for your records and reference. Please contact the investigator (Robert Wensveen) if you wish to receive a copy of this consent form. The investigator will also keep copy of the consent form.

Appendix E: Survey Questionnaire

ePortfolio Survey

Thank you for your time.

For the purposes of this research, the term “ePortfolio” is defined as an electronic collection of artifacts that individuals assemble to provide evidence of skills acquired through educational and extra-curricular activities. This also includes work and life experience, knowledge and accomplishments, and work-integrated learning.

Examples of ePortfolios include personal web page or blog, LinkedIn profile, or an ePortfolio within a Learning Management system, such as Desire to Learn.

1. Do you have an ePortfolio?

☐ Yes ☐ No (if No – Thank you very much for your time. This survey is intended for those who have an ePortfolio)

2. Approximately, when did you start your first ePortfolio?

Year: _____

Month: _____

3. In an average month, how many hours do you spend updating and maintaining your ePortfolio?

- ☐ Less than 1 hour per month
- ☐ 1-2 hours per month
- ☐ 3-5 hours per month
- ☐ 6-10 hours per month
- ☐ More than 10 hours per month

4. Please rate on a scale of 1-5 your level of agreement with each of the following statements relating to your decision to compile your ePortfolio:

| | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree | Not applicable |
|--|-------------------|----------|---------------------------|-------|----------------|----------------|
| It was a requirement of my program of study | 1 | 2 | 3 | 4 | 5 | 6 |
| I wanted to increase my employment opportunities | 1 | 2 | 3 | 4 | 5 | 6 |
| I wanted a more complete record of my accomplishments (ie., additional documents, videos, etc.) | 1 | 2 | 3 | 4 | 5 | 6 |
| I wanted to obtain a promotion | 1 | 2 | 3 | 4 | 5 | 6 |
| I wanted a complete record of all formal and informal learning, knowledge and skills. | 1 | 2 | 3 | 4 | 5 | 6 |
| If there were other important factors in your decision to compile your ePortfolio, please describe those factors here: | | | | | | |

5. Please rate on a scale of 1-5 the extent to which you have utilized the following sources to obtain ePortfolio information:

| | Not utilized at all | Utilized occasionally | Utilized to some extent | Utilized a fair amount | Utilized extensively | Not applicable |
|--|---------------------|-----------------------|-------------------------|------------------------|----------------------|----------------|
| Professional Associations | 1 | 2 | 3 | 4 | 5 | 6 |
| Friends and Colleagues | 1 | 2 | 3 | 4 | 5 | 6 |
| Your professor or instructor | 1 | 2 | 3 | 4 | 5 | 6 |
| Media such as books, websites, social media | 1 | 2 | 3 | 4 | 5 | 6 |
| Your University or other schools | 1 | 2 | 3 | 4 | 5 | 6 |
| If you have access to other sources of information about ePortfolios, please specify here: | | | | | | |

6. Please rate on a scale of 1-5, your agreement with the following statements:

| | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree | Not applicable |
|--|-------------------|----------|---------------------------|-------|----------------|----------------|
| I used a software program or website to build the ePortfolio | 1 | 2 | 3 | 4 | 5 | 6 |
| I was under a time constraint | 1 | 2 | 3 | 4 | 5 | 6 |
| It was easy and fast to compile | 1 | 2 | 3 | 4 | 5 | 6 |
| There was help and support available | 1 | 2 | 3 | 4 | 5 | 6 |
| I had a clear purpose for developing my ePortfolio | 1 | 2 | 3 | 4 | 5 | 6 |

| | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree | Not applicable |
|---|-------------------|----------|---------------------------|-------|----------------|----------------|
| The ePortfolio is a useful means to summarize one's work experience and achievements | 1 | 2 | 3 | 4 | 5 | 6 |
| The ePortfolio is a helpful tool to customize job applications and pull 'artifacts' from the ePortfolio to customize the résumé or CV | 1 | 2 | 3 | 4 | 5 | 6 |
| I believe that ePortfolios could help candidates gain advantage over other candidates when used as part of a job interview | 1 | 2 | 3 | 4 | 5 | 6 |
| ePortfolios are a useful tool for networking with potential employers | 1 | 2 | 3 | 4 | 5 | 6 |
| I would share my ePortfolio with an employer as part of the job application process | 1 | 2 | 3 | 4 | 5 | 6 |

7. On a scale of 1-5, please rank your level of agreement with the following statements:

| | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree | Not applicable |
|---|-------------------|----------|---------------------------|-------|----------------|----------------|
| ePortfolios take too much time to create | 1 | 2 | 3 | 4 | 5 | 6 |
| ePortfolios require a significant time commitment to maintain | 1 | 2 | 3 | 4 | 5 | 6 |
| I know what is required to be included in ePortfolio | 1 | 2 | 3 | 4 | 5 | 6 |
| I am unsure if employers will look at ePortfolio | 1 | 2 | 3 | 4 | 5 | 6 |
| The University provides me with ample support to learn/manage my ePortfolio | 1 | 2 | 3 | 4 | 5 | 6 |
| Completing an ePortfolio was an important accomplishment for me | 1 | 2 | 3 | 4 | 5 | 6 |
| Employers use ePortfolios when screening a job applicant | 1 | 2 | 3 | 4 | 5 | 6 |

8. On a scale of 1-5 please rank your level of agreement with the following statements:

| | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree | Not applicable |
|---|-------------------|----------|---------------------------|-------|----------------|----------------|
| The UofC provided help and support in the development of the ePortfolio | 1 | 2 | 3 | 4 | 5 | 6 |
| The UofC provided a software tool or platform which I can compile my ePortfolio | 1 | 2 | 3 | 4 | 5 | 6 |
| The UofC provided instructions to compile my ePortfolio for employment purposes | 1 | 2 | 3 | 4 | 5 | 6 |
| The UofC provides help and troubleshooting support | 1 | 2 | 3 | 4 | 5 | 6 |
| The UofC provides me with ample support to learn/manage ePortfolio | 1 | 2 | 3 | 4 | 5 | 6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| The UofC explained the time commitment to create and maintain my ePortfolio | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|

9. On a scale of 1 – 5, please rate your level of agreement with each of the following statements.

Preparing and updating my ePortfolio has helped me to:

| | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree | Not applicable |
|---|-------------------|----------|---------------------------|-------|----------------|----------------|
| Become aware of professional network ePortfolio platforms (i.e., LinkedIn, Monster, Google) | 1 | 2 | 3 | 4 | 5 | 6 |
| Learn and understand employability skills | 1 | 2 | 3 | 4 | 5 | 6 |
| Readily access and apply for employment opportunities | 1 | 2 | 3 | 4 | 5 | 6 |
| Enhance my employability skills | 1 | 2 | 3 | 4 | 5 | 6 |
| Consider linking my ePortfolio within my Résumé / CV | 1 | 2 | 3 | 4 | 5 | 6 |

10. Thinking back on your past use of ePortfolio's, please indicate the number of times that your ePortfolio has been instrumental in....

| | | | | | |
|---|---|------|-----|-----|-------------|
| Networking with professionals | 0 | 1 -2 | 3-4 | 5-6 | More than 6 |
| Applying for a specific job | 0 | 1 -2 | 3-4 | 5-6 | More than 6 |
| Presenting information as part of the job interview | 0 | 1 -2 | 3-4 | 5-6 | More than 6 |
| Being invited to apply for a job | 0 | 1 -2 | 3-4 | 5-6 | More than 6 |
| Obtaining a promotion with an existing employer | 0 | 1 -2 | 3-4 | 5-6 | More than 6 |

11. Please identify if the following artifacts are included in your ePortfolio:

| | |
|--|--|
| Your contact information (e.g., name, phone number, email address, etc.) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Listing of your work experience. | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Listing of your educational experience | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| List of extracurricular activities (i.e., sports, clubs) | <input type="checkbox"/> Yes <input type="checkbox"/> No |

| | |
|---|--|
| Other educational credentials (e.g., professional certifications, professional development units, Badges or micro-credentials). | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Associations (professional memberships, volunteer associations). | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Other knowledge and skills such as language fluency, volunteer work, charitable causes, etc. | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Links to documents or websites that showcase your work, projects, achievements. | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Links to websites that relate to your interests and personality | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Videos of yourself, your achievements, etc. | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Photos of yourself | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Your personal commentary regarding interesting cultural, political or social topics and events. | <input type="checkbox"/> Yes <input type="checkbox"/> No |

12. On a scale of 1-5, please rate your level of agreement with the following statements:

| | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree | Not applicable |
|---|-------------------|----------|---------------------------|-------|----------------|----------------|
| Compiling my ePortfolio helped me feel more prepared to search for work | 1 | 2 | 3 | 4 | 5 | 6 |
| My current résumé accurately presents to potential employers, my education, work experience, skills and abilities | 1 | 2 | 3 | 4 | 5 | 6 |

13. What concerns, if any, do you have about finding employment after graduation?

14. What is your age? _____

15. What is your sex?

☐ Male

☐ Female

16. What is your current cumulative GPA?

- ☐ Below 2.5
- ☐ 2.6 - 3.0
- ☐ 3.1 - 3.5
- ☐ 3.6 - 4.0
- ☐ Do not know
- ☐ Not Applicable

17. Do you have a job? ☐ Yes ☐ No.

If yes, do you work:

- ☐ Greater than or equal to 30 hours per week?
- ☐ Less than 30 hours per week?

18. Approximately, how many years have you been in the workforce? _____

19. What is your highest current level of education attainment?

- ☐ Elementary
- ☐ Some High School, no diploma
- ☐ High school diploma
- ☐ Some college or university, no degree
- ☐ Post-secondary certificate or diploma
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Professional degree
- ☐ Doctorate

20. Approximately, what is the total value of scholarships you have received to support your post-secondary education?

- ☐ Zero
- ☐ More than zero and up to \$999

- ☐ Between \$1,000 and \$2,999
- ☐ Between \$3,000 and \$4,999
- ☐ Between \$5,000 and \$6,999
- ☐ Over \$7,000
- ☐ Not Applicable

21. What is your program of study: _____

NOTE: If the programs of study are known (e.g., Nursing, Education, Communications), list the programs of study rather than having the participants identify program of study

22. Are you a full-time student or a part time student?

- ☐ Full-time
- ☐ Part-time

23. Are you willing to participate in a short, 15-minute follow-up interview regarding ePortfolios? If yes, please provide your first name, email and I will contact you.

First name: _____

Email: _____

Telephone Number: _____

Appendix F: Interview Questionnaire

Thank you for your time.

The intent of the interview is to continue the conversation on ePortfolios that began when you filled out the survey. Here, I will seek to gain a deeper understanding of your experiences creating and using an ePortfolio, and explore your beliefs and perceptions regarding ePortfolios and employment opportunities.

For the purposes of this research, the term “ePortfolio” is defined as an electronic collection of artifacts that individuals assemble to provide evidence of skills acquired through educational and extra-curricular activities. This also includes work and life experience, knowledge and accomplishments, and work-integrated learning.

Examples of ePortfolios include personal web page or blog, LinkedIn profile, or an ePortfolio within a Learning Management system, such as Desire to Learn.

1. Introduction

- Please tell me a little about yourself, with a focus on your current program of study at the University of Calgary, and on your career experiences and goals.
 - Ask follow-up questions to probe, as necessary, for information about where the student is at in their program of study, and the nature and scope of their labor market experience to date.

2. Nature / characteristics of ePortfolio:

- Please describe your ePortfolio to me, in enough detail so that I would know what sort of information it includes and how it is organized.
 - Ask follow-up questions to probe for additional details until you have a clear description of the characteristics of the ePortfolio.
- (Alternative): note that instead of asking interviewees to describe their ePortfolios, it would be possible to ask them for permission to access their ePortfolio, or to ask them to demonstrate the contents of their ePortfolio during the interview.

3. Background to the creation of the ePortfolio:

- Please describe for me the context of your development of an ePortfolio. Why and how did you first develop an ePortfolio? (If applicable) How has your ePortfolio evolved over time?
 - Ask follow-up questions to probe for any additional information necessary to understand fully the context in which the interviewee’s ePortfolio was developed.

4. Uses of the ePortfolio

- How and for what purposes have you used your ePortfolio?
 - Probe to make sure you understand the employment-related uses of the ePortfolio, along with gaining a sense of how often the interviewee has made use of it.

5. Outcomes of ePortfolio use

- Have you benefited from developing an ePortfolio? If so, then please tell me about some of the outcomes or benefits that you attribute to your ePortfolio.
 - Ask follow-up questions to probe for the nature and scope of employment-related benefits attributed to ePortfolios (e.g., have they ever been contacted by a potential employer, or offered a job, as a result of their ePortfolio).

6. Costs and benefits

- What would you say are the key costs and benefits of developing, maintaining, and using an ePortfolio?
 - Probe as necessary for clarification or more information.

7. Final reflections

- Is there anything else that you could tell me to help me understand your experiences with using an ePortfolio, or your opinions about the use of ePortfolios?

Thanks for taking part in this interview.

Appendix G: LinkedIn Statistics

Economic Graph

- More than 575M members
- More than 26M companies are represented on LinkedIn
- More than 15M open jobs on LinkedIn Jobs
- More than 60K schools listed
- 50K skills listed

Jobs

- More than 15M active job listings
- The number of visitors to Jobs has increased more than 35% YOY, with more than 25M job-seekers visiting LinkedIn jobs every week
- Job applications on LinkedIn have grown more than 40% YOY, now seeing nearly 18M applications per week
- There are more than 400M job page views every month
- More than 20M members have opted into Open Candidates, signaling they're open to new opportunities
- Members who have opted into Open Candidates are 2X more likely to receive relevant opportunities from recruiters
- There are more than 20M companies on LinkedIn
- Confirmed hires are up 37% YOY
- More than 100% YOY increase in jobs viewed on LinkedIn's flagship application
- More than 40% of all job views on LinkedIn are on mobile
- Job applications on mobile have grown more than 60% YOY

Hire/LTS

- 100% of Fortune 100 companies in the U.S. use LinkedIn Talent Solutions
- 195K+ Recruiters send InMails every week
- 150K+ companies around the world use LinkedIn's recruiting tools to discover and hire talent.
- 2.8M+ talent professionals actively use LinkedIn everyday
- 350K+ talent professionals use LinkedIn recruiting tools to discover and hire talent.

Appendix H: LinkedIn Economic Graph

Powering the Economy | Canada

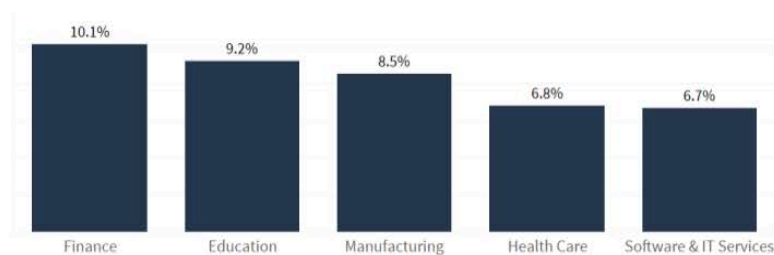


LinkedIn is developing the world's first economic graph - a digital mapping of the global economy - to create economic opportunity for every member of the global workforce. Insights from the Economic Graph can help you grow your region's market, fill open jobs, and build the workforce.



1. UNDERSTAND YOUR ECONOMY

Top 5 industries on LinkedIn by percent of total employment in the region

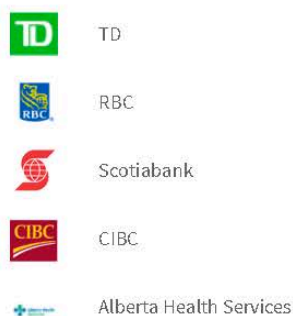


Companies in **Finance** and **Education** employ the most workers in your region on LinkedIn.

Finance had the largest increase in net hires last year.

Largest employers

Top employers by headcount



Others: Bell, BMO Financial Group, TELUS, Rogers Communications, Desjardins

Growing employers

Companies with the highest number of net hires last year

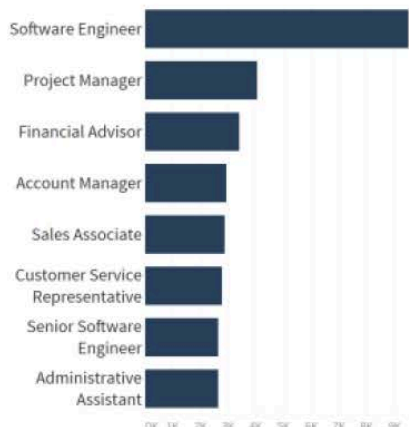


Others: Desjardins, Government of Alberta, Hydro-Québec, Canadian Natural Resources Limited (CNRL), TELUS

2. FILL OPEN JOBS

Top In-Demand Jobs

Occupations with most job postings in the past 12 months



Top In-Demand Skills

Skills with highest hiring rates in the last year

Mass Market

- 1 React.js
- 2 TypeScript
- 3 Android Studio
- 4 Scheme
- 5 HootSuite

Medium Market

- 1 Racket
- 2 Firebase
- 3 DoubleClick
- 4 HubSpot
- 5 RStudio

Niche Skills

- 1 ARM Assembly
- 2 Model United Nations
- 3 Google Tag Manager
- 4 Gitlab
- 5 Kubernetes

3. ATTRACT AND RETAIN TALENT

Top places you are gaining workers from and losing workers to

● Net Gain ● Net Loss
Bubble size represents magnitude of net gain or loss of workers



TALENT GAINS

Top Sources

- 1 India
- 2 Brazil
- 3 France
- 4 Iran, Islamic Republic of
- 5 United Arab Emirates

Gained Skills

- 1 Management
- 2 Project Management
- 3 Customer Service
- 4 Leadership
- 5 Team Management



TALENT LOSSES

Top Destinations

- 1 United States
- 2 Germany
- 3 Indonesia
- 4 Antarctica
- 5 Puerto Rico

Lost Skills

- 1 Scientific Writing
- 2 Neuroscience
- 3 Religion
- 4 Loss Prevention
- 5 Theology

Insights in this report infer workforce representation through LinkedIn data. Data is influenced by LinkedIn's geography or industry penetration. LinkedIn is committed to helping policymakers around the world create economic opportunity. For more information visit economicgraph.linkedin.com

Q4-2017

Appendix I: LinkedIn Grading Sheet

WORK 5570 Industry Seminar: **LinkedIn Assignment**

Due Date: June 5th

Value: 30%

LinkedIn Site

Minimum Assignment Expectations:

1. An appropriate photo
2. A informative forward looking profile headline
3. A professional summary
 - a. target the industry you want to get into
4. Work Experience &/or school projects
5. Education
 - a. Undergrad and Post Grad / University city or location
6. Key Skills and Strengths “Specialties with key words”
 - a. Highlight SAR stories/skills and strengths
7. Volunteer Experience, Interested Causes & Memberships
8. Industry Related content (relevant)
 - a. Influential organizations / associations you follow in your field
 - b. Awards, achievements
9. Claim your unique LinkedIn URL
10. Flawless spelling and grammar are expected – use Writing Centre
11. CONNECTIONS



RECOMMENDED FOR LATER

1. Get recommendations
2. Share your work
 - a. School projects
 - b. Visuals of your Internships
3. CONNECT with Industry influential
4. Post – enrich your network

Submission:

Submit via Blackboard (your picture must be visible) / Late submissions will lose two marks per day

Appendix J: Students.LinkedIn.Com


The Student Job Hunting Handbook Series


Packed with insights and tips from our 400 million+ members, this series is designed to help students move into the professional world with confidence. Whether you're in your senior year or a few semesters out, this series will give you the preparation you need to start your career.

Part 1: How to Kick Start Your Career

In Part 1, we explore ways for you to think about your career, like the difference between a job and career. Tips for your LinkedIn profile and for how to get started with networking all lay the groundwork for a successful job search.

[Download part 1](#)





Part 2: Job Searching Skills for Students


Part 2 is all about the details. We share tips on how to make the most of LinkedIn in your job search, including templates for you to use when you message others on LinkedIn.


[Download part 2](#)

Part 3: Interviewing Tips for Students

In our last part, we dive into interview tips and ways to answer common questions. We also share advice on how to use the people you know to help you during the job search.

[Download part 3](#)





LinkedIn is the perfect place to find your dream internship or job.

50,000+

internships and jobs for students

All superstars start somewhere

There are thousands of internships and entry-level jobs at amazing companies on LinkedIn. Search by company, industry or location and apply with one click.

[See all the student jobs](#)

Curious about how to create your profile or add connections on LinkedIn?

Our tip sheets and videos will help you get started.

[See the tips](#)