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CAPSTONE ELECTRONIC PORTFOLIOS OF MASTER'S STUDENTS:

AN ONLINE ETHNOGRAPHY

BY

RITA ZUBA PROKOPETZ

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Approval of Dissertation

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CAPSTONE ELECTRONIC PORTFOLIOS OF MASTER'S STUDENTS: AN ONLINE ETHNOGRAPHY

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Dedication

To my parents, for modeling the way I live my present. To my sons, for helping me learn how to use different lenses to envision my future.

Acknowledgement

I have been privileged and honoured to be a part of the Athabasca University since May 2015, when Cohort 8 had its first Adobe Connect synchronous session. I have also been fortunate to have as my supervisor Dr. Debra Hoven, a rounded individual with a lively personality, a highly-regarded scholar with several published resources, and a conscientious educator with enough energy to cater to her various groups of learners.

For her ongoing support, I would like to thank Dr. Hoven, whose intellect, expertise, guidance, and timely remarks have been of assistance to me since we met in August, 2015. She has guided me, mentored me, and travelled on this road with me every step of the way. I extend my deepest gratitude to my esteemed committee members, Dr. Jane Arscott, Dr. Pamela Walsh, and my external, Dr. Susan Crichton for agreeing to be on my candidacy examination committee, and for their meaningful feedback, helpful suggestions, additional recommendations, and, most importantly, for being so willing to hear what I had to say about portfolios in their digital format. I would like to thank Dr. Angie Abdou for her role as the neutral representative from my institution during my candidacy examination.

Deepest gratitude is extended to my dissertation committee members, Dr. Jane Arscott, Dr. Pamela Walsh, and my external, Dr. Norman Vaughan, who, along with my supervisor, Dr. Debra Hoven, provided me with necessary guidance during the final phase of my journey. I would like to thank Dr. Kam Jugdev from the Faculty of Business for her role as the neutral chair during my final defence.

I thank my employer, Red River College, and the Language Training Centre and Teacher Education departments, which have allowed me to cause the occasional

In EDDE802, Dr. George Siemens immersed me in a world of philosophical discourse that helped shape my thought process throughout this EdD journey, and which guided me during the narrowing of my research questions, the crafting of my research design, and the cultivating of my bonding with online ethnography as a methodology that seemed to have chosen me as its apprentice craftsperson.

In EDDE803, a course on learning theories and instructional design (topics I thought I already knew something about), Dr. Susan Moisey covered much more than theoretical perspectives and course design. She introduced me to the concept of negative-feedback mechanisms, and to the importance of allowing the students to enter a state of disequilibrium during the feedback experience to enable them to gravitate toward intermittent stable equilibrium. These concepts have enriched me intellectually and pedagogically, and have sparked my interest in pursuing the alignment of feedback with elements in Bloom's Taxonomy of the Affective Domain, as they relate to the development of reflection in this elegant, technology-enabled emerging pedagogy, which is becoming a movement in and of itself – the electronic portfolio.

In EDDE804, Dr. Susan Bainbridge guided me through my own positioning amidst the multitude of leadership theories, which helped me visualize not only the application of many of these theories in distance education projects, but also the alignment of some of their theoretical perspectives with the various learning theories.

In EDDE805, Dr. Debra Hoven, my supervisor, introduced the course participants to some of the required readings several months before the course start date. As a result, I was able to devote the month of July 2017 to internal dialogues, where many scholars would occasionally drop by to curtail some of the tumultuous mental activities that took

place throughout every hour of every day during a four-week period. When I finally had something to contribute, Dr. Hoven would spend time with me to help me shape my ideas, guide my thought process, and contain my excitement.

By the time I started my penultimate course in the EdD program, I already had a mental picture of

- what I wanted to research (reflection and peer-feedback interaction during the capstone eportfolio project development);

- where and with whom I was hoping to conduct my study (master's level participants in a fully online post-secondary institution in western Canada);

- when the project timelines would align with my personal, professional, and academic course schedules (2018-2019);

- how I would conduct my study (an online ethnography as an observer and a participant in a community of students developing their eportfolios as an instance of Internet culture); and

- why I wanted to pursue studies of a specific manifestation of eportfolio Internet culture with students in an online university (gain an insight into this culture-sharing group; describe, and interpret their experiences in an online community; and make a contribution to the field).

In EDDE806, Dr. Susan Bainbridge provided the guidance I needed as I searched for information that would enable me to travel the road ahead. I relied on her experience and modeling, as I prepared for not only my candidacy examination (July 2018) but also for my AU *3 Minute Thesis Competition* presentation (March 2018).

interest in my research, and for providing me the necessary time and space to enable me to pursue my studies.

I extend my appreciation to the scholars at the Association for Authentic, Experiential, & Evidence-Based Learning (AAEEBL) as well as the editors and reviewers of the *AAEEBL ePortfolio Review* for assisting me with my first two publications (Zuba Prokopetz, 2018a, 2019). My gratitude is extended to Dr. Li-Shih Huang, and the *TESL Journal* editorial office for their guidance during the submission process of my paper on professional self-development meditated by eportfolios (Zuba Prokopetz, 2018b).

My final thoughts go to my parents for raising me in a very small town in the interior of Brazil, where little seemed possible, but nothing was considered impossible through their eyes. Although my current views, perceptions, ways of looking and seeing may now differ from what they once were, my "past is fixed" (Rickey, 1967, p. x), and I continue to find ways not to dismiss its import in all that I do personally, academically, and professionally.

Abstract

My exploratory ethnographic study examined the development of reflection among master's students as they completed a capstone electronic portfolio, or eportfolio, project in an online post-secondary institution in western Canada. These eportfolios were developed by the students both individually, and also in collaboration with their peers, while they engaged in feedback-giving and feedback-receiving interactions at various stages of the eportfolio development process. My study considers, through the lens of an Internet subculture, aspects of eportfolios related to pedagogy, technology, interaction, and reflection within a community of learners. The methodology for this study was an ethnography, in which the eportfolio interactions, and student presentations were observed. Triangulation of data collection was established through surveying six students in a written questionnaire with closed- and open-ended questions and interviewing the same six students in semi-structured interviews of open-ended questions. Data were also collected from twenty-one archived student eportfolio presentations. The eportfolio pages became the focal point for the community of learners to gather, which resulted in increased student engagement, further interaction (with peers, instructor, and course resources), and gradually led to the development of reflection. As a form of both affirmation and reassurance, students sought the opinions of one another on the pages of their eportfolios. Since each course provided access to examples of eportfolios from previous cohorts, there was an evolution in the responses of the students who participated in the courses. The rich data rendered findings that elucidate the experiences of master's level students in the three iterations of this course.

Keywords: eportfolio, learner engagement, online ethnography, peer reflection,

Preface

The rationale behind this section is to provide additional information about my personal standpoint, my role as a researcher, my experience with electronic portfolios, and my ongoing quest to know more about learning online by understanding about the learners and their learning at a distance (Levine, 2005). I was fortunate to discover the pedagogy of distance learning in 2005, when I was first introduced to a five-module course being facilitated by professors in three different continents (Africa, North America, and South America). Six years later, I was introduced to the eportfolio pedagogy, as I was completing my graduate program of studies at a distance. These experiences have been rich, complex, and transformational (involving gradual transformation in my thinking process) and transformative (causing significant changes in my learning and teaching). Since then, I have longed to learn more, take more courses, and immerse myself in all aspects of online learning to enable me to offer the same opportunity to my students. However, at that time, in a bricks-and-mortar environment with neither classroom computers nor Internet connection, I channelled my parents' foresightedness – to make possible what seemed impossible – in order to help my students to learn with the limited resources at hand. In a learning environment where little seemed to be possible, nothing was impossible through the eyes of my students. As a consequence, an optional, extra-curricular eportfolio project, afforded by *Web* tools, was thus initiated in the early 2010s (Zuba Prokopetz, 2018a). This experience served to solidify my views on learning with technology-enabled tools, and to further strengthen the notion that "our conceptual world view of knowledge … is in the process of being replaced by a more dynamic and multi-faceted view" (Siemens, 2006, p. 3), as I

experienced during the development of my first eportfolio as a capstone project in my graduate studies (Zuba Prokopetz, 2019).

Having by-passed what Peters (1988) called the industrial model of providing instruction at a distance, I was fortunate to immerse myself in the world of online learning during the fourth generation of distance education (Taylor, 1995), when the *World Wide Web* on the Internet made affordances for educational technology pedagogy. These online instructional tools facilitated learning at a distance, and enabled students to no longer rely on the efficiency of an assembly line for the production, and subsequent distribution of their learning resources (Byrne, 1989; Taylor, 1995).

I experienced from the onset the alliance of technology, pedagogy, and reflection. Together, these concepts helped cement my views on how to both observe and participate in what Kolb (2015) described as experiential online learning. Going through the process and many of its associated emotions have helped me understand learners at a distance and their learning processes. I recall immersing myself in the world of my students (albeit at a distance), and being able to comprehend their frustrations, intimidating moments, and ongoing turmoil with the development of their projects. In addition to experiencing these learning moments in my graduate studies, I also felt an inexplicable burning desire to learn more, accomplish more, see more, and be able to do more regarding how to learn, think, and reflect more deeply. I saw first-hand that in eportfolio Internet culture, learning is, as Siemens (2006) described, diverse, messy, ongoing, co-created, and integrated. Although initially I felt unable to articulate what my students were experiencing, I visualized myself as being well positioned to one day "share the goal of understanding the complex world of lived experiences from the point of view of those who live it"

(Schwandt, 1994, p. 121). In order to do so, I knew I had to learn about how "people produce culture to gain an understanding of each other and act together" (J. P. Marshall, 2010, p. 1). I had to prepare myself mentally, emotionally, and intellectually as a learner (doctoral student), educator (language instructor), and researcher (online ethnographer). This meaningful, fully online four-year journey necessitated that my information processing capabilities be focused (mental toughness). It also required that my ability to express feelings be readily available to me, as I processed emerging experiences (emotional strength). And most of all, my insightful journey required that I demonstrate my potential to develop social competence while engaging in reflective thoughts during my research (intellectual, cognitive stamina).

I leveraged on what I had to offer to my research study (experience with eportfolios with three different groups of students who were language learners, college educators, and graduate students). I relied on my personal desire to both learn about and contribute to the field of online learning and eportfolio pedagogy. I recognized that "a deeper level of learning would avail itself to me in my engagement with rich descriptions of the story-telling of others" (personal notes), as in an online ethnographic approach to research. Therefore, in July 2018, I proposed my online ethnographic research study to enable me to work alongside members of a community during the development of their capstone eportfolio projects in an instance of Internet culture. My four-year journey, as mentioned to my supervisor in our final meeting after my defence (July 19, 2019), was "wonderful, meaningful, and insightful. I loved the entire process of my four-year ride." I am hereby presenting you with portions of a story as perceived by the students and me.

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Definition of Terms

Affective Domain: Part of a system, internal to the learner that includes the learners'

awareness and understanding of their own thought processes, or metacognition,

and their interests, attitudes, values, and development of appreciations and

judgement.

Affordances: Inherent properties of our environment that learners, and individuals in

general, may perceive or not, and may act upon or not, and which are subject to

constant, and yet subtle change.

Artefact: An object, a sample, or an item located in an electronic portfolio (or

eportfolio) collection of pages that functions as a vehicle for students to reflect on

the attainment of program competencies and their learning over time.

Capstone ePortfolio Project: A compilation of student selected or curated artefacts

housed in an electronic-enabled learning site that students develop, revise, and

submit during their final course in their program of studies.

Community: Comprised of a group of learners who share common interests and

common activities while developing their eportfolios.

Culture: The learning and sharing within a community comprising students in

consecutive courses, and courses in different semesters. It strengthens with each

successive course, as students rely on the eportfolios and legacy of learners in

previous courses.

Ecological Constructivism: A contemporary approach to a theory of learning that

highlights the mutual interaction of systems within and external to the learners to

help explain their experiences.

Ecosystem: A resilient and diverse network of systems in the capstone eportfolio course, and eportfolio process, that includes critical reflection, communication, interaction, and reflective feedback giving and receiving.

Electronic Portfolio (eportfolio): A technology-enabled learning site where students reflect and document their journey and learning growth over time. It is a reflective, curated repository, which is then mediated through interaction with instructors and peers.

ePortfolio as a Subculture of Internet Culture: A vehicle for culture sharing among students as a subculture of a much vaster space which is Internet culture.

Field Notes: A set of personal notes that function as memory joggers for an introspective view of my thoughts, and further interpretation of my experiences, after my visits to the field site.

Field Site: The online course which includes the learners, the instructor, posts in the Discussion Forum, the synchronous sessions with the instructor via Adobe Connect, and the presentations of the students' capstone eportfolio projects.

Internet Culture: A virtual location with various subcultures defined by sets of goals and common interests of the members.

Online Ethnography: An approach to ethnographic research located in an online field site, where the researcher is a participant-observer, as in the case of the capstone eportfolio project course.

Chapter 1. Introduction

ePortfolios are technology-enabled learning sites where students reflect and document their journey and learning growth over time. They are reflective, curated repositories, which are then mediated through interaction with instructors and peers. ePortfolios emerged as a powerful tool in the institution of education during the mid-1990s with the birth of Internet based web technologies, and have become a key aspect in curriculum updates and innovative assessment forms. They are positioned within the online activities of courses and programs of universities, which are a subset of Internet learning spaces. These interactions are located virtually on the Internet and foster the development of various subcultures. The digital format of learning portfolios has undergone various versions and is also referred to as a webfolio (Lorenzo & Ittelson, 2005), web-based portfolio, electronic portfolio, efolio, and digital portfolio (Lorenzo & Ittelson, 2005; Pitts & Rugirello, 2012). This study used the term eportfolio. This term was aligned with the name of the course in which my research data originated, and how the participants referred to their capstone projects. In addition, eportfolio is the term used in Jafari and Kaufman's (2006) *Handbook of Research on ePortfolio,* and also in the *International Journal of ePortfolio* (IJeP), which was established by AAEEBL in 2011.

My exploratory ethnographic study examined the development of reflection among master's students as they completed capstone eportfolio projects in an online post-secondary institution in western Canada. The students were enrolled in a master's level cohort-based online course, in which they were required to complete capstone eportfolio projects that reflect the cumulative learning of each student. These eportfolios were developed by the students both individually, and also in collaboration with their

peers, while they engaged in the feedback-giving and feedback-receiving interactions at various stages of the eportfolio development process. My goal as a researcher was to gain an understanding of the concerted meanings of the course participants who shared a culture. This online ethnographic approach to research enabled me to examine the overlap of the cognitive and affective domains (Anderson, Krathwohl, Airasian, Cruikshank, Mayer, Pintrich, & Wittrock, 2001; Bloom, Englehart, Furst, Hill, & Krathwohl, 1956; Krathwohl, Bloom, & Masia, 1964) during the activities of the students, as they learned to rely on their capabilities.

Background and Statement of Problem

Our ability to connect electronically through World Wide Web tools on the Internet since the early 1990s has given rise to new forms of community (Kirmayer, Rikhel, & Rahimi, 2013), where the members, as "citizens of the Internet," establish a sense of collectivity and belonging (Porter, 1997, p. xiv). Culture is defined in anthropology as a group of people who share something in common and described as "learned traditions of past and present ages" (Harris, 1927, p. 2). Internet culture is an emerging cultural phenomenon (Kirmayer et al., 2013; Porter, 1997). Learning spaces within Internet culture consist of communities that serve as a locus where pedagogy, technology, and knowledge converge as part of digital ecosystems (Fullan, 2013), and enable the establishment of subcultures.

In spaces of the Internet, there are cultures and subcultures characterized by how we act, interact, and present ourselves (Kirmayer et al., 2013; Porter, 1997). The students in my study exhibit Foster's (1997) characterization of a subculture as being the common goals shared by the members, the relationships generated and nurtured in the group, and

the interactions originated among peers. As illustrated in Figure 1, eportfolios can be positioned within the online activities of courses and programs of universities, which are a subset of Internet learning spaces. Each of these interactions is located virtually on the Internet and fosters the development of various subcultures.

Internet Culture

Learning Space

Universities

Programs

Courses
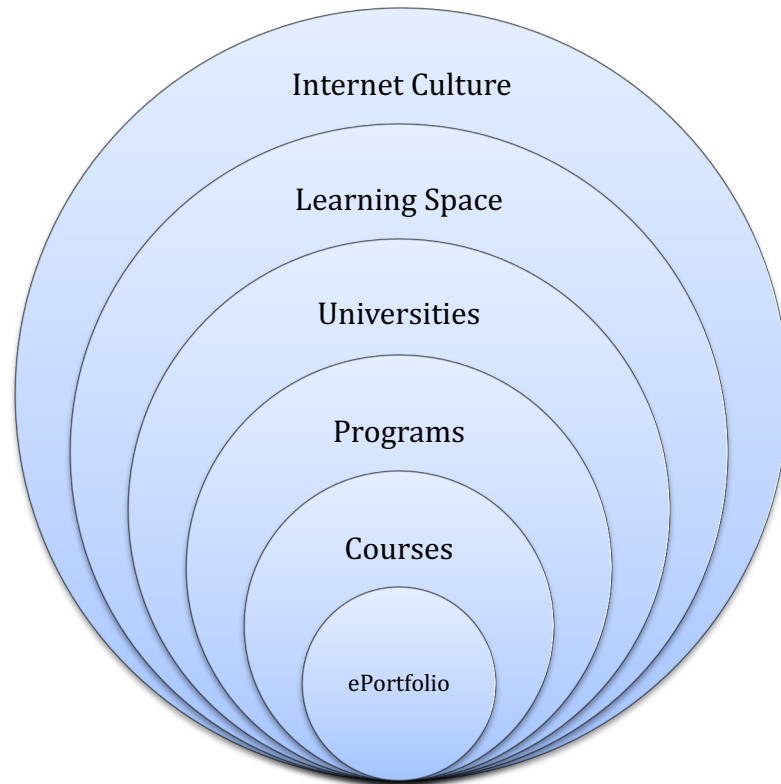
ePortfolio

Figure 1. ePortfolio as an Internet subculture.

Description of a culture is the result of ethnography, and such description can only emerge from a lengthy period of intimate study in a given social setting (Van Maanen, Dabbs, & Faulkner, 1982, p. 694). For four years, I was immersed in the online course site as a direct participant-observer in various roles, including intern, volunteer tutor, and researcher. In order to capture some of my moments during the various stages of my project, I engaged in a reflective journaling activity on which I relied throughout

my research process. I initially I thought this study would be autoethnographic, so I could tell my story. However, as I wrote in my reflective journal, I soon realized that "a deeper level of learning would avail itself to me in my engagement with rich descriptions of the story-telling of others." The Internet learning spaces that housed the community of learners I was observing made it possible for me, as a learner, educator, and researcher, to immerse myself in an online ethnographic study. I immersed myself in my ethnography in three ways, mentally (my information processing capabilities), emotionally (my ability to express feelings as I processed emerging experiences), and intellectually (my potential to develop social competency while engaging in reflective thoughts during my research).

In doing so, I began to see the diverse, messy, ongoing, co-created, and integrated learning (Siemens, 2006) of members in this community as being fostered by an eportfolio as a subset of Internet culture. The research problem emerged from my observations of this community of learners creating and discussing their capstone eportfolio projects for the course.

In my study, students develop, revise, and submit their capstone eportfolios during the final course in their program of studies. Each capstone eportfolio project is a compilation of one student's selection of artefacts, curated into a collection of pages, and housed in an electronic-enabled learning site. My study considers aspects of eportfolios as they relate to the pedagogy that undergirds the learning and reflective process; the technology that enables feedback interactions; and the development of reflection afforded by the combination of the two. As an Internet technology-enabled learning site, eportfolios foster active learning, learner engagement and the process of reflection (C. E.

Watson, Kuh, Rhodes, Light, & Chen, 2016). During the development of the eportfolios, students in my study formed a community, where they interacted with one another, and shared common interests and activities. As posited by Fullan (2013), technology is what transports the students from one learning stage to the next; however, "pedagogy is the driver with student learning at the center" (p. 51). My study considered the connections between eportfolios as an emerging pedagogy and the process of reflection by students. The interactions enabled by the eportfolios further fostered learning among community members, and reflection on the artefacts displayed on the collection of pages. The eportfolio technology became the vehicle for culture sharing among students as an Internet subculture. This online engagement positioned the eportfolio as a significant part of the subculture, where pedagogy, technology, interaction, and reflection worked in tandem within the eportfolio over the various iterations of an eportfolio course in my role as a volunteer, intern, participant, observer, and finally in my role as researcher.

During my observations, I noticed that many students developing their capstone eportfolio projects had difficulty thinking through not only what and how they did certain things, but also why they made certain decisions throughout their educational journey. For this group of students, the importance of feedback interactions, and value of self-reflection and peer-reflection was unknown. This study sought to elucidate the role and importance of these constructs, as the students experienced the creation of their eportfolios.

Purpose

The purpose of this exploratory ethnographic research study was to gain insights into the experiences of students developing their eportfolios and participating in self-

reflection and peer-reflection in an online learning community. The research design was chosen to meet all ethical requirements to conduct research involving humans in Canada. By observing, surveying, and interviewing students, this study engaged in the academic rigour necessary to contribute meaningful results to the broader research literature on the use of eportfolios in higher education. Collectively, these aspects established the purpose of my research.

Research Questions

The research questions were borne from the observable communications between students in the course and their communicated struggles with the capstone eportfolio project. The questions are:

1. What are the overall perceptions of the development of reflection in an online eportfolio project by master's level students participating in a capstone project as an instance of Internet culture?

2. What value do students perceive of the reflective process as they develop their capstone eportfolio project?

3. To what extent does the giving and receiving feedback provide students with a sense of being part of a subculture of an online community of learners?

4. How do students perceive their experiences as peer-feedback givers in the development of reflection as they participate in an online master's capstone eportfolio project?

5. How do students perceive their experiences as peer-feedback receivers in the development of reflection as they participate in an online master's capstone eportfolio project?

These questions formed the two layers of this study. The first layer raised Questions 1 & 2 about reflection. The second layer explored peer-to-peer interaction through Questions 3, 4, and 5. Answers to these five questions were pursued through a suite of data collection techniques comprised of direct participant observations as recorded in my reflective journal; recordings of the student presentations of their eportfolios; questionnaires with closed- and open-ended questions; and semi-structured interviews with open-ended questions.

Delimitations and Limitations

Two sets of factors that may impact the findings and interpretations of the study are delimiters, which are within the control of the researcher, and limiters, which are beyond the control of a researcher (Baron, 2008). Delimiters helped me to delineate the boundaries of my study. The focus of the study was on students enrolled in three iterations of the same online university course using eportfolios, thus impeding the generalizability of the results to all uses of eportfolios in higher education due to the relatively small participant pool size. There were sixty-five students enrolled in the three courses. I chose to limit my research to those participants who had completed their eportfolio projects, which reduced the number of possible study participants to fifty-seven students. To complete this research in a reasonable timeframe for personal reasons, I sought to conduct the questionnaire and interview data collection phase from October 2018 to March 2019.

One type of limitation of this research is the response rate to the invitations to participate in the questionnaire and semi-structured interview. Initially, only two study participants provided their informed consent, which was a less than ideal sample size for

this study. However, after a second recruitment call from the institution, four more participants joined the study resulting in a total of six respondents to the questionnaire, and six interviewees. In choosing an ethnographic research methodology, I relied heavily on my personal experiences as a direct participant-observer and on maintaining field notes to render rich data in the form of thick descriptions (Geertz, 1973). As cautioned by Mouly (1978), personal experiences are the simplest and most basic form of wisdom. As such, in order to help me think through my own biases and assumptions influencing my field notes, I relied on a reflective journal where I posted my thoughts and later reflected on them. This ongoing process of using field notes and a reflective journal to think about my thinking at various stages helped me reformulate my interview questions (see Appendix G), so they could more adequately address the questions my study sought to answer, and also provide the participants a broader choice of themes to address in their responses to the interview questions. Initially, I saved all notes, symbols, and thoughts as part of my personal notes; under careful consideration, these notes were later categorized as passages for my journals (during moments of reflectivity and reflexivity), and research notes with data from the field. To help me minimize inevitable biases, I triangulated my sources of data from questionnaires, interviews, observations, and archived student presentations of eportfolios.

Personalizing My Ethnography

My reflective journal and personal notes were also a rich data source on which I relied to reduce the influence of my perception (and personal bias) on my interpretation, and possible impact on my relationship with the students. As I maintained an etic view during my observations, "I aimed to focus on what the community members did rather

than on what they said they did" (personal notes) as suggested by Margaret Mead when she states that "What people say, what people do, and what they say they do are entirely different things." I recall discussing Mead's quote with my supervisor during our first *Skype* meeting on May 05, 2017 when she helped me consider key aspects of my ethnography in terms of: voice (the participants' and mine), reflexivity in social research, and my non-traditional form of inquiry and expression. Resulting from that meeting and subsequent ones that year (May 18, July 14, July 31, October 22, and December 20, 2017), I began to understand that my ethnography necessitated a research journal that was not only organized and detailed, but also readily available during my data collection, analysis, and reporting. By then, I had already been observing the eportfolio development projects of students for more than two years, and I was beginning to conceptualize my study. I also knew I needed to learn more before beginning my full immersion in the field site during the three iterations of the course from which I would be collecting my data.

The sessions with my supervisor had been crucial, and after each of them "I felt the need to look back at both the literature and also my research questions in order to have a place on which to anchor the multitude of ideas that permeated my thinking" (personal notes). As a coping mechanism, I later realized, I began to engage in internal dialogues (following my readings) in which "scholars would gradually become part, and more often than not, help me curtail some of the tumultuous mental activities every hour of every day during my research design phase" (personal notes). When I finally had something to contribute, my supervisor would meet with me to help me shape my ideas, guide my thought process, and contain my excitement.

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The "complex (and sometimes complicated) philosophical discourse in the second course of my program of studies helped shape my thought process. My meetings with my supervisor helped me solidify my ideas and question my enthusiasm. This transformational experience, however gradual, provided me with guidance during the narrowing of my research questions, the crafting of my research design, and the cultivating of my bonding with a methodology that seemed to have chosen me as its apprentice craftsperson—an online ethnography" (personal notes).

At this point in my research study journey (February 17, 2018), my supervisor asked to view the concept map of *what* I planned to do, *how* I was going to effectuate my plan, and *why* I had chosen this design for my study. It was then that I began to compare the eportfolio process (the reflective element) and product (the chosen platform) with my ethnography. Conquergood (1991) refers to ethnography both as a method (the fieldwork process) and as a product (the published monograph). Ethnography is a method that originates from the discipline of anthropology but is applicable to other disciplines. It differs from other research designs due to its in-depth study of an aspect of a culture, such as the eportfolio subculture in the vast spaces of Internet culture, which became my field site. Conquergood (1991) further posits that ethnographic rigour, disciplinary authority, and professional reputation are established by the length of time, depth of commitment, and risks taken by the researcher (emotional risks, rather than physical, in my online study) in order to acquire cultural understanding. Professional standards of ethnographic fieldwork were established by Malinowski (1922/1961) who recommended participation in addition to observation to intensify cultural understanding, as discussed by Roldán (2003).

Since the site of my fieldwork was an online course, I returned to the literature to find out more about ethnography in virtual, online, or digital spaces. Hine (1994) introduced a new form or way of conceiving ethnography, virtual ethnography which was developed in response to a need to study communities in spaces of the Internet. A little more than a decade later, Kozinets (2010) referred to his online ethnography as netnography, a method, he posits, designed specifically for the study of cultures and communities online.

I also felt the need to return to the literature to learn more about the embodiment of the fieldwork by the researcher, and better understand how Malinowski revolutionized the way of doing ethnography. Such revolution resulted from Malinowski's praxix in the field (Roldán, 2003), and it "comprised of uniting the fieldworker and the theorist in a single body, such as that the one who went, saw, and reported was also the one who analysed" (Kuper, 1983). By modifying his behaviour in the field, Malinowski was able to experience this single-body experience. Among the modifications he made regarding his behaviour in the field included: extending period of time in the field; focusing research on a few specific individuals; studying the participants in their present existence; speaking the local language; increasing the number of observations; and changing his style of reporting (Roldán, 2003).

As I delved more deeply into the literature of both traditional and contemporary forms of ethnography, I was able to gain a better understanding of the representation of ethnography and its three stages, as suggested by Van Maanen (1995/1988). He purports that the first stage is data collection, which in my study resulted from my ongoing immersion in the field site during three course iterations.

The second stage is the writing of the ethnography, which started with my initial notes when I attended my first two capstone eportfolio project presentations in September, 2015; these notes later became personalized reflective passages in my journal.

The third phase mentioned by Van Maanen is the actual reading of the ethnography, and the way it is received by various audiences. The focus in my writing has been on the emic or insider view and on my interpretation and representation of my understanding by means of rich descriptions. As a result, I am able to situate myself in my personalized writing of my ethnography, and thus provide readers with an understanding of what I experienced.

Embodiment. My "embodiment of myself as a researcher in the communities" that I observed also necessitated a "considerable amount of time to facilitate my embracing of experiences as they happened" (personal notes). This realization came to mind during the penultimate course in my program of studies, in which I was required to assemble and post in the forum what was to become my proposal, and later the first three chapters of my dissertation. A passage in my reflective journal under Learning to Reflect states that "in the summer of 2017, I spent the month of July entirely by myself immersed in my own thoughts. I allowed myself to have the time and space to think, gather resources, return to previous learnings, make connections with new knowledge, and maintain awareness of everyday thoughts." It was during these moments of solitude that I fully understood my connection with ethnography. I visualized it both as a product (my writing of my experiences) and a process (the procedures I would follow). I began to sense that this innovative methodology seemed to have selected me as the story-teller of the activities of the learners in a community of eportfolio creators.

This embodied sensory experience, albeit a semester before I was officially declared a researcher in an eportfolio community in a university in western Canada, capacitated my going beyond the here and now and further prepared me to conduct my research. In order to maintain academic rigour, "[a]s I reviewed literature, I added new sections in a draft table of content, as I needed a place to temporarily park my thoughts, ideas, and themes that kept emerging. On occasions where I would find myself away from an electronic device, I relied on the post-it-note technology to give continuity to my recording of my perceptions—anywhere and anytime" (personal notes). These feelings and emotions that permeated every minute of every day during those four weeks

triggered moments of reflexivity (thinking about what I was experiencing) and reflectivity (examining my way of doing) (Hibbert, MacInstosh, & Coupland, 2010). I began to view myself as a key component of my research study, since "my ethnography [would make] it possible for me to be both a data-gatherer in spaces of the Internet, and a social being in my capacity as observer of the community activities" (personal notes).

Observation is a mundane activity, one that is quintessentially human and highly personal. By participating inside the culture, "I engaged in a gratifying way of knowing of others amidst others, and thus began to embody the very essence of the culture—the emotional and intellectual aspects of a learning community with a common goal" (personal notes).

Outcomes and Significance of Study

During my observations, I noticed that the students sought the opinions of one another and of the course instructor on the eportfolio pages as a form of both affirmation and reassurance. The learning and sharing within the community of students in consecutive courses, and courses in different semesters strengthened with each successive course. As such, students in subsequent course iterations began to rely on the eportfolios and legacy left by the learners in previous courses. There was a gradual evolution in the responses of the students who participated in the three courses.

The community gatherings revolved around the comments made on the eportfolio pages, which resulted in student engagement, further interaction (with peers, instructor, and courses resources), and gradually led to the development of reflection. Although challenging (and even stressful) at first, these peer interactions seemed to bring forth a certain level of comfort among the learners, which resulted in the creation of more

spontaneous peer-feedback interactions. After receiving initial comments on their first artefacts, the students were more willing to offer their analysis on the initial pages of the eportfolios of their peers.

In an effort to visualize what the students were experiencing at every stage of my data collection. I created word cloud representations to help me capture the frequency of keywords in student responses. Figure 2 is an example of my visualization. It displays the 200 most frequent words used in the aggregated responses of (a) the first two study participants in response to the open-ended questionnaire questions and (b) similar questions in 21 archived audio-recordings of student presentations. The three open-ended questionnaire questions were

- What were your overall perceptions of the development of reflection during your experiences with your capstone eportfolio project?
- How did you perceive your experiences as peer-feedback giver in the development of reflection as you participated in a capstone eportfolio project?
- How did you perceive your experiences as peer-feedback receiver in the development of reflection as you participated in a capstone eportfolio project?

The size of the font of each word in a word cloud represents the comparative frequency of the words in the responses with the most frequent ones being in the largest font and the least frequent ones in the smallest. In descending order, the top nine words in Figure 2 were group, eportfolio, strong, feedback, course, think, experience, meaningful, and sharing.

Figure 2. 200 most frequent words in responses to open-ended questionnaire questions (2, 4, 5) by two students and to the same questions in 21 student presentations.

The group of words illustrated in Figure 2 are at the core of an eportfolio journey, where the group of learners undergo meaningful experiences during the feedback sharing of project development.

At every stage of the eportfolio development, the attitudes and values of the students, along with their interests, needs, motivators, and appreciations, contributed to their comprehension and subsequent application of new knowledge, as depicted in Bloom's taxonomy of the affective domain (L. W. Anderson et al., 2001; Bloom et al., 1956; Krathwohl, Bloom, & Masia, 1964). I perceived that there was an overlapping of aspects of the cognitive and affective domains for students while they provided and received feedback during the development of their capstone eportfolio projects. These theories along with ecological constructivism (Hoven & Palalas, 2011) inform the design

and implementation of my research. My contribution to the research literature is on the use of eportfolios in higher education as I present a thick description of non-generalizable data. The findings may stimulate discussions on the interplay of eportfolios and contemporary learning theories. The results may be informative to future redesigns of the course under study.

Summary

This study originated from observations during my four-year immersion in the field site during various iterations of a capstone eportfolio course. An online ethnographic research approach emerged as a suitable methodology to describe the online activities of a community of learners through the lens of an Internet subculture. My interest lies in how eportfolios foster the development of self-reflection by students and peer-reflection among students in this online community. The critical reflection on the learning experiences, which includes both *aha* and *oh, no!* moments, is the core element that is positioning this type of eportfolio prominently in higher education.

The six chapters of this dissertation detail my research study. *Chapter 1*: *Introduction* provided a brief description of the context of the research and my motivation to pursue this research topic. *Chapter 2*: *Review of the Literature* introduces literature on research studies conducted on eportfolios as a pedagogy that promotes the development of reflection, and makes affordances for collaboration, and peer-feedback interaction. The chapter also presents information on eportfolio landscape, and evolution of the terrain. *Chapter 3: Research Methodology and Procedures* provides an overview of the theoretical underpinnings of my study and how they inform my mixed-method online ethnographic research design. *Chapter 4*: *Research Findings* presents my data

analysis, details what was unveiled, and demonstrates how the research questions were addressed. *Chapter 5*: *Discussion* presents factors emerging from my study, and how my research findings relate to previous studies. *Chapter 6*: *Summary and Future Directions* draws conclusions on the significance of my research findings, presents study participant recommendations, offers additional insights from the researcher's perspective, suggests areas for future research, and elucidates how this study may be used in a broader higher educational context.

Chapter 2. Review of the Literature

There is a large body of literature pertaining to eportfolio types, applications, pedagogical benefits, and relationship with assessment and evaluation (Buzzetto-More, 2010). Literature also covers the many uses for eportfolios in higher education among educational institutions around the globe. The focus of this literature review is on the versatility of eportfolios and the relationship to pedagogy, technology, interaction, and reflection.

Pedagogy

ePortfolio pedagogy not only enriches student learning, but also helps connect practitioners with their daily practice of teaching students, and facilitating their learning (Eynon & Gambino, 2017). This innovative pedagogy came as a surprise to initial users and implementers, as there was little literature or prior work done in the field at the time (Danielson & Abrutyn, 1997). Since there was no previous research on this powerful pedagogy, early proponents had a "feeling hampered by no prescription or even direction" of what might emerge when they attempted to implement eportfolios in their practice (D. Cambridge, Cambridge, & Yancey, 2009, p. 2). Educators in various fields of practice (engineering, nursing, business) continue to seek ways to learn more about how to apply eportfolio projects not only to help students learn better, but also support reflection. ePortfolios are an educational innovation that fosters new uses (e.g., as a capstone project of culminating experiences), and leads to new research findings (e.g., evidence-based eportfolio as a high-impact practice) (Association of American Colleges and Universities, 2008; Kuh, 2008). When I began my literature review, my view of eportfolios placed them as a technology-enabled pedagogy, and as a key part of a digital

ecosystem in a specific instance of Internet culture. My perception evolved as my study progressed. As such, I continued my ongoing quest for knowledge about this education innovation. Consequently, I began to understand the importance of professional self-development mediated by eportfolios (Zuba Prokopetz, 2018b) to help educators and learners attain the higher-order level of competencies required for the digital society. With the rapid development of information and communication technologies (ICT), the learning and teaching of these competencies is now essential, which poses a challenge for institutions worldwide, since educators may find themselves unable to properly prepare their students (Benito-Osorio, Peris-Ortiz, Armengot, & Colino, 2013). As posited by Benito-Osorio et al. (2013), universities currently have challenges in preparing academic staff for the evolution of the Web.

For example, during the Web 1.0 period, the read-only one-way interaction Web, the soap-box lecturing style was prevalent in higher education. In the second generation, the Web 2.0, the read-write online social network Web, teaching, rather than lecturing, became student-centric and collaborative. The third generation, or Web 3.0, began to allow data to be used across applications and community boundaries, which enabled machines to not only understand but also respond to human requests. With the mobile Web, or Web 4.0, consumers were able to connect their devices in real time. The fifth-generation Web, of Web 5.0, however, is more sophisticated; it is open, linked, and intelligent. As the emotional Web, it will require a higher level of competence, since it connects users with one another via data placed on the Web by the users themselves. The linked data are based on documents, places, people, products and events; the more connections provided by the data, the more powerful the data will be (TED, 2009). This

new generation is evolving the Web into a world data space (TED, 2009), thus

positioning eportfolios as a sophisticated and suitable field of research for the future.

 The twenty-year evolution the *web of content* to *web of thoughts* parallels the

evolution of types of pedagogy applied in higher education from teacher-controlled

lecturing to guided student-managed production of learning. The fifth-generation web in

this era of sensory and emotional knowledge necessitates that educators "develop

emotional competences and transmit them to their students in order to produce graduates

who will be more adaptable to new socio-professional contexts" (Benito-Osorio et al.,

2013, p. 274). In order for online educators to develop the interpersonal and intrapersonal

competencies required for the emotional web, policy makers in colleges and universities

must engage in discourse about pedagogy in learning and teaching with information

communication technology (ICT). In order to do so successfully, educators will need to

revisit and review learning theories to find their positionality within the various camps,

and thus demonstrate their authenticity and comfort as online educators.

 Learning theories. Learning theories undergird the various stages of the

development process of eportfolios. As a technology-enabled learning site, eportfolios

provide students with introspective learning experiences that can be translated into overt

behaviours, such as attitudes and expressions of satisfaction or frustration. This aspect of

the eportfolio experience, or affect, enables the user to emotionally interpret knowledge

connected not only to information, but also to individuals (Huitt & Cain, 2005).

 These corresponding behaviours align with information processing theory which

frames the individual as a processor of information, and social cultural theory which

values the social environment and its influence on perceptions.

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My epistemological approach in my study rested in part on ecological constructivism and how the learners perceived the affordances in their environment; it also included the affective domain of the learners and their ability to internalize their needs, make choices, and express feelings. The eportfolio in capstone projects have now become a substrate for a variety of learning behaviours among students, which include

- stimuli-response behaviour (Skinner, 1953; E. L. Thorndike, 1932; Pavlov, 1927),

- modeling behaviour (Bandura, 1977; Schunk, 1981; Zimmerman,1998),

- information processing behaviour (J. R. Anderson, 1990; Baddeley, 2001; Loftus, 1991),

- individual and social constructivist behaviour (Bransford, Derry, Berliner, & Hammerness, 2005; Bruner, 1966; Hatano & Ignagaki, 1991; Piaget,1970),

- acts of reflecting on experiences in the environment (Hoven 2008; Hoven & Palalas, 2016), and

- social cultural behaviour (Gauvain, 2001; Lave & Wenger, 1991; Rogoff, 1990; Vygotsky, 1978).

Although the theoretical focus of my study was on the affordances of the learning environment and on aspects of the affective domain, many learning theories align with the various phases of the capstone projects (see Table 1).

Table 1

Learning Theories: Possible Alignment with ePortfolios

Theories	Theorists		Alignment with eportfolios
Behaviourism	Ivan Pavlov B.F. Skinner Edward Thorndike	(1927) (1953) (1932)	• Stimulus, response and reducing unproductive behaviours

Behaviourism main metaphor: Black box   (Showcasing artefacts)
• Role of performer: Student obtains and shows use of knowledge
-ePortfolio: Showing behaviours that lead to certain outcomes

Social Learning Theory	Albert Bandura Dale Schunk Barry Zimmerman	(1977) (1981) (1998)	• Modeling, incentives and reciprocal causation where behaviour is controlled by self through cognitive processes, environment, social events

Social learning theory main metaphor: Video camera   (Reproducing information)
• Role of observer: Copies knowledge from others
-ePortfolio: Modeling during peer-feedback interaction to help trigger reflection

Information Processing Theory	Joan Anderson Alan Baddeley Elizabeth Loftus	(1990) (2001) (1991)	• Individual (similar to a computer) is a processor of information • Possible to study the internal mental processes that lie between the stimuli (environment) and the output (response)

Information processing theory main metaphor: Computer   (Choosing what to apply)
• Role of processor: Strategizes to obtain and use knowledge

-ePortfolio: Learning the technology to develop the capstone project

Constructivism – individual and social constructivism	John Bransford Jerome Bruner Giyoo Hatano Jean Piaget	(2005) (1966) (1991) (1970)	• People construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences • People understand better together
Ecological constructivism	Debra Hoven	(2008)	• Engagement in the internal reflection aspect of learning • Perception of the affordances in the environment
Social Cultural Theory Vygotsky's Theory of Cognitive Development	Mary Gauvain Jean Lave Lev Vygotsky Barbara Rogoff	(2001) (1991) (1978) (1990)	• Importance of social environment in one's development • view of how cultural backgrounds influence thoughts, behaviours, perceptions

Constructivism main metaphor (cognitive and social): Rhizome   (Reaching out to others)
• Role of explorer (cognitive): Discovers knowledge by interacting with the environment and others in it
• Role of collaborator (social): Makes sense of knowledge by negotiating, collaborating, interacting socially
-ePortfolio: Finding congruence in their own experiences with the affordances of the environment

Note: Adapted from Christensen (2008, p. 27), Hoven (2008), and Ormrod (2009, pp.19-20).

Educators in U.S. have become vocal about the need to include new skills in education, and advocates are contemplating a new curriculum (Facer & Sandford, 2010, pp. 74-75). As a disruptive pedagogy and an innovative assessment tool, eportfolios capacitate students to create content; to shape their own learning trajectory; and most importantly, to reflect on what and how they learn.

As a process, the eportfolio reaches beyond the curriculum to deepen learning, facilitate reflection, and promote collaboration (T. Batson, 2015b). Courses that include eportfolio projects as one of their assignments provide students the opportunity to conduct research, demonstrate self-management skills, develop socio-emotional competencies, and reflect critically on their learning.

An eportfolio project is multilayered and involves learning about learning, deep immersion in thought processes, and relationship building. Just as the Web 5.0 will revolutionize how we currently conduct research, so will the eportfolio continue to gather momentum to position itself as a sophisticated pedagogy, an elegant research site, and a technology-mediated professional self-development site.

During their creation of the project, curation of pages, interaction with community members, inclusion (or not) of feedback on the work completed, eportfolio creators immerse themselves in a virtual world of discernment and awareness as they become part of an Internet subculture.

Educational capstone eportfolio project development enables learners and educators to experience critical competencies (Gardiner, 1994). In addition, this educational technology, as suggested by Greenberg (2006), provides the users the ability to create, curate, publish, and share their media-rich collection of pages.

The process eportfolio in a capstone project enables students to critically reflect on what happened (reflectivity) and how they saw what happened (reflexivity). Similar to an ethnographer's fieldwork activities, eportfolio experiences necessitate sufficient amount of time to make it possible for students to make connections and engage in participation inside the community, within their eportfolio subculture. This discernment between being reflective and engaging in reflexivity seems to start when we begin questioning our assumptions (Hibbert, 2013).

When learners and practitioners become reflexive, they think about what they are experiencing as "a complexification of thinking and experience, or thinking about experience" (Hibbert et al., 2010, p. 1). During moments of reflection, posit Hibbert et al. (2010), we observe our practice, and facilitate engagement and observation with our own ways of doing. These covert and overt behaviours present themselves in various learning experiences and align with principles of the classic and contemporary theories, as presented in Table 1.

In a behaviouristic perspective, students developing their eportfolios tend to reproduce behaviours that help lead them to a satisfactory completion of their projects; consequently, they opt to reduce the behaviours that lead to a less satisfactory outcome. As a social learning event, eportfolios foster peer-interaction during the giving and receiving of feedback. Peer feedback modeling among students in a learning community helps trigger reflectivity and reflexivity. McDonald and Kielsmeier (1972) argue that processes link the model's observable action (stimuli) and the observer's reproduced action (response). They further posit that such connection may be a form of "non-

observable representations of the model's action within the system of the learner," which would likely be in storage within the learner's information processing system (p. 99).

My research approach facilitated my writing about what I saw and when I saw it from etic and emic perspectives in alignment with the theories of learning.

Similar to what is experienced in an information-processing learning episode, the students in my study learned and subsequently demonstrated their knowledge of the procedures that would lead to the completion of their projects. Moreover, in this culture-sharing group, the social and cultural aspects were not only relevant, but also necessary to facilitate the construction of knowledge, and build capacity within the community.

Ecological constructivism. Constructivism and social constructivism are learning theories that share underlying assumptions, and an interpretive epistemological position that knowledge is acquired through the involvement with content rather than by rote memorization.

In individual constructivism, learners create knowledge through their interaction with the environment, whereas in social constructivism, students, who work in groups of two or more, gain a better understanding of concepts than students who work alone (Ormrod, 2009). Unsatisfied with finding a theory which would be a good fit for my study, I enabled what Gibson (1986) called *vista*, or another way of seeing, to cast a wider net to find a fitting theoretical underpinning for my design. Further literature review revealed the best match because "ecological constructivism (derived from individual construal of affordances in the environment) is the theory of learning proposed as having the facility to describe and explain both the learning that is experienced while working alone and also while working with others (Hoven and Palalas, 2016, p. 5).

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Affordance, a term coined by Gibson (1986), is a key determinant of what an environment can offer, or afford, and is directly related to the "composition and layout of surfaces" (Gibson, 1986, p. 127). Affordances in an educational environment are inherent properties of that environment that learners may or may not perceive or utilize. These affordances, which are subject to constant, and subtle change, are facilitated by the eportfolios during the feedback-giving and feedback-receiving of the students. They are viewed by Gibson (1986) as a complementarity of the actors and their surroundings.

Aligned with my interest in peer-interaction among learners developing their eportfolio projects, I focused the second layer of my study on the extent to which giving and receiving feedback provided students with a sense of being a part of a community. Feedback interaction and reflection, the focus of my two overarching research questions, are integral to learning, and eportfolios are the catalyst for such reflective episodes (Henry, 2006).

My alignment of the eportfolio pedagogy with the learning theories enabled me to view the eportfolio feedback interactions through various theoretical lenses, which both facilitated and guided my fieldwork. As I continued to observe the groups of learners in three iterations of the course, it became evident that the underpinnings of my project rested in part with a social constructivist / interpretivist paradigm, and more specifically, with the concept of ecological constructivism.

This contemporary approach to a theory of learning helped me explain, as posited by Hoven and Palalas (2016), the systems operating within and internal to the students during their learning experiences. This approach to constructivism presented itself as being a more suitable underpinning, as it helped me describe what I perceived during the

interactions of the students participating in their eportfolio projects. This ecological set of lenses helped me see and understand what Hoven and Palalas (2011) describe as the formation of an ecosystem in an environment with networks of fluidly inter-linked contexts that facilitated the co-creation of knowledge among students (p. 706). Table 2 shows the alignment of the theoretical characteristics of ecological constructivism with my online ethnographic study.

Table 2

Alignment of Ecological Constructivism with ePortfolios

Characteristics	Ecological Constructivism	Electronic Portfolios
Affordances	• Inherent properties of our environment • Subject to constant, subtle change	• As a learning site, they make affordances for the development of reflection (Gibson, 1986)
Learners	• Capable of perceiving, construing • Able to act purposefully either alone or in collaboration	• As a vehicle for culture sharing, they enable creation both as a group experience and as an individual one
Learning	• Emergent from the perceived environment • Afforded by novel experiences and technologies	• As a technology-enabled learning site, they afford new *vivencia*, or life experiences (Fals Borda, 1997), as well as learner-learner and learner-instructor interactions
Knowing	• Co-creation either alone or in collaboration • Perceived novel affordances enabled by interaction	• As an emerging pedagogy, they make affordances for collaboration, foster peer-interaction, enable sharing and co-creation of knowledge
Environment	• Networks of fluidly inter-linked contexts • Formation of open and permeable system – an ecosystem	• As a research area, they situate proponents in an "imagined ecology" (T. Batson, 2015b, para. 4).

Note: Adapted from Hoven and Palalas (2011, p. 706).

In this study, elements of ecological constructivism included the learners' internal self-reflection, and external peer-reflection with other students. By undergirding my research in part with this paradigm, I incorporated into my fieldwork the principles of

- affordances created by eportfolios (Gibson, 1986);

- type of learning, knowing, and *vivencia*, or life experiences (Fals Borda, 1997) afforded by eportfolio technology and pedagogy; and

- situatedness of eportfolio creators (students) in this "new and imagined ecology" of learning, teaching and knowing (T. Batson, 2015b, para. 4).

This new ecosystem, where students engage in reflective learning, peer-interaction, and modeling during feedback giving and receiving, required a broad view of the ongoing activities among the students. During the various stages of the eportfolio development, I also perceived a connection of the dimensions of the affective domain (emotions, feelings, attitudes, and beliefs) with the effective application of technology (Tomei, 2005) among the students in the community.

Bloom's taxonomy of affective and cognitive domains. Six decades ago, Dr. Benjamin Samuel Bloom, an American educational psychologist, made substantial contributions to the field of education.

Under his leadership, the Taxonomy of Learning Domains was created after interest in a theoretical framework was expressed at the 1948 American Psychological Association Convention in Boston (Bloom et al., 1956). The purpose of the framework was to provide assistance and facilitate communication among assessors. Discussions among scholars on the various concepts related to teaching, learning, curriculum, and

assessment gave birth to the development of the theoretical framework under

consideration.

In the early 1960s, Bloom's Taxonomy aligned well with the instructional

objectives movement (Airasian, 1994; Mager, 1997; Marzano & Kendall, 2007), and it

strongly influenced the original attempts to organize programmed instruction. The

taxonomy has three domains cognitive, affective, and psychomotor. Bloom's Taxonomy

is usually associated with the cognitive domain, as it was the one that formed the basis of

the seminal study (Bloom et al., 1956; Lynch, Russell, Evans, & Sutterer, 2009). In

order to facilitate the study of the behaviours, there was a need to conceptually separate

the affective and the cognitive behaviours into two distinct domains (Table 3).

Table 3

Affective and Cognitive Domains: Rationale for Domain Separation

Affect	**Cognition**
• Affective behaviours are difficult to conceptualize and evaluate	• Cognitive behaviours are easier to specify, operationalize, and measure
• Belief that affective goals are intangible	• Recognition that cognitive goals are measurable
• Curricula projects paid little attention to the affective aspects	• Curricula projects focused on cognitive aspects: skills, strategies, and knowledge

Note. Adapted from Martin and Briggs (1986, pp. 12-13).

Once the domain separation rationale was identified, researchers and practitioners sought

to remove the artificial barriers between the domains (Martin & Briggs, 1986).

There is a myriad of ways one can approach domain integration, suggested

Martin and Briggs (1986), from broad frameworks (e.g., philosophy, biology) and from

perspectives that cross these frameworks. One of these approaches is from a

physiological psychological perspective. Important for the discernment of domain integration, the left and right brain concept is beyond the scope of my study. The psychomotor domain is equally important for education and training, but also beyond the scope of my study; these are areas for research that will help us better understand learning in the current century.

Caution is required when confronting "false preconceptions about brain-based pedagogy" (Carew & Magsamen, 2010, p. 686). Inaccuracies related to myths about a learner being labeled as right brain or left brain (Society for Neuroscience, 2009) still exist, and they resemble the decades-old domain separation discourse (Martin & Briggs, 1986). Other misnomers include the notion of teaching the *basics*, having all the *right answers*, and providing *delayed gratification*; learning that is mindful occurs during moments of awareness of content, context, and the changing environment around the learners (Langer, 1997).

The integration of the affective and the cognitive domains is important in the areas of instruction and educational research (Martin & Briggs, 1986). Jacob's (1957) studies questioned the tenability of the assumption that with the development of cognitive objectives, there would be a corresponding development of appropriate affective behaviours; his work also highlighted the need for further studies in the affective domain. The rationale behind viewing the cognitive and affective domains working in tandem is that "knowledge and skills alone do not imply their right use" (Lynch, Russell, Evans, & Sutterer, 2009, p. 47), especially when it includes technology-mediated learning tools, such as eportfolios.

The separation of the cognitive, affective, and psychomotor domains was arbitrary as was the division of human learning and learning outcomes—a convenience for theory, research, and curriculum development, and difficult to happen in a practical learning experience (Inglis, 1989).

Krathwohl, Bloom, and Masia (1964) built on Jacob's work and observed that when appropriate learning experiences were provided for students, affective behaviours developed much in the same way that learning experiences helped them develop cognitive behaviours. There is thus a clear need for experimentation and research on the relations between these two domains. This study adopts this approach. However, without a clear definition of the various concepts, it continues to be problematic for scholars to understand the place of affect in learning and instruction (Reigeluth & Carr-Chellman, 2009).

Difficulties in defining affect are due to broad and unfocused concepts with which it is associated (Martin & Briggs, 1986). The construct of knowledge, for example, is associated with the cognitive domain, as are mental or intellectual skills. Manual or physical skills are associated with the psychomotor domain. All other behavioural aspects not associated with these two domains, are, therefore, placed under the umbrella of a third domain. The affective domain, as Ringness (1975) described, "contains the feelings or emotional components of our lives. Thus, positive and negative feelings, as well as emotionally toned attitudes, values, interests and appreciations, morals and character, and even personal and social adjustment fall within that domain" (p. xi). By default, the affective domain includes a variety of terms ranging from attitudes and beliefs to personal growth and personality (Martin & Briggs, 1986). Problems in defining

affect have hindered proper measurement of the domain and caused inadequacy for the translation of affective behaviours into classroom practices (Martin & Briggs, 1986).

5.0 Characterization by a value complex		4.0 Organization		3.0 Valuing			2.0 Responding			1.0 Receiving		
5.2	5.1	4.2	4.1	3.3	3.2	3.1	2.3	2.2	2.1	1.3	1.2	1.1
						Adjustment						
						Value						
						Attitudes						
						Appreciation						
						Interest						

Figure 3. Affective Terms measured against the Taxonomy Continuum.

Adapted from Krathwohl, Bloom, and Masia (1964, p. 37).

Another area of difficulty, claimed Krathwohl, Bloom, and Masia (1964), was the wide range of meaning associated with terms commonly used, such as interest, attitude, appreciation, and value. Furthermore, each term took on a meaning over a section of a continuum (see Figure 3). Areas of the affective domain such as intent, appreciation, attitude, and values are now necessary to help complement the cognitive due to current cognitive innovations resulting from the application of educational technology (Lynch et al., 2009). There is a gap in literature as it pertains to the affect. Recent literature places emphasis on cognitive research rather than on further exploring the affective domain and the importance of its dimensions, such as emotions, feelings, attitudes, and beliefs on the effective application of technology (Tomei, 2005). This gap in literature is particularly

important as educational institutions in the 21st century aim to graduate professionals who can internalize a certain value related to what they learned, and express that value in a professional action, rather than just apply their knowledge *about* something (Lynch et al., 2009).

The objectives in the affective domain were imprecisely stated; as a result, educators found it hard to align learning experiences with these objectives (Bloom et al., 1956). In the affective domain, feelings and emotions are of equal importance as are the manifestations of overt behaviours. As emphasis of initial research studies was placed mainly on the cognitive domain, the testing of procedures for the affective domain remained in their early stages (Bloom et al., 1956). A condensed version of the Affective Domain of the Taxonomy of Educational Objectives is presented in Figure 4.
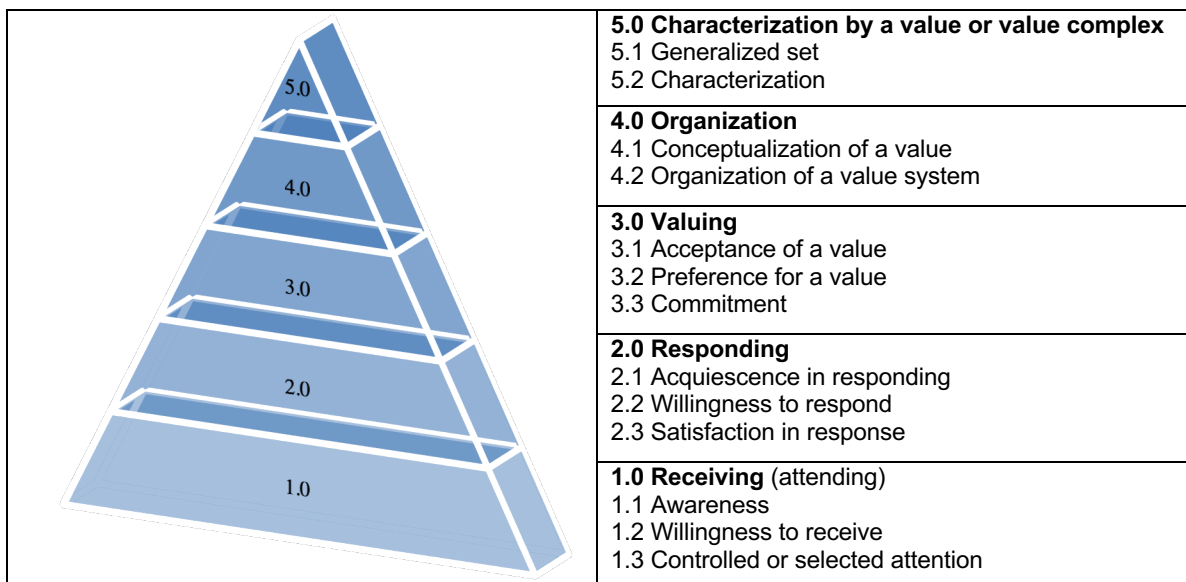
Figure 4. Affective domain of the taxonomy of educational objectives.

Adapted from Krathwohl, Bloom, and Masia (1964, pp. 176-185).

In each of the five categories listed in Figure 4, there are sub-categories that further outline the type of external or overt behaviour associated with the internal or covert feelings. As displayed in the first domain, the learners need a sense of awareness, attentiveness, and willingness to receive new information or knowledge. The second domain, parsed aspects of a learner's capacity to provide response. This study explored eportfolios as appropriate learning experiences for the development of affective and cognitive development.

Technology

There are many technologies that make it possible for students to showcase their achievements and for their instructors to conduct assessments. ePortfolios, a form of "non-traditional learning" (Wedemeyer, 1981, p. 219), have emerged as a technological tool that has many purposes. The three main types of eportfolios are

- assessment eportfolios enable teachers to assess their students,

- showcase eportfolios help students to showcase their achievements, and

- process eportfolios make affordances for the process of reflection.

ePortfolio implementers such as Light, Chen, and Ittelson (2012) recognize that "pedagogy *must* lead the technology" (p. 148), as students are undoubtedly the most important stakeholders in an eportfolio development process. Eynon and Gambino (2017) caution that learning the technology on its own does not enrich student learning. Therefore, it is important for eportfolio implementers to be cognizant of the ways technology may help or hinder the eportfolio development process of their students.

Internet culture. As a technology and a reach beyond border, the Internet is riddles with an intricate collection of communities. Some are vibrant and active, and others are extinct, was was the case of the "virtual village" originally created for a community of readers based on a book series (Wilbur, 1997, p. 6).

The communities of learners connected via eportfolios are growing globally in both importance and numbers, and have the potential to become a key aspect of the cultural mosaic of the collaboratory agency of worldwide connections, a concept brought forth by Wulf (1993).

These collaboratory eportfolio communities represent, T. Batson (2018) argues, an exemplar of what is learning, creating, and working in imaginative spaces, where the members stay connected socially, extend networks, and engage in global thinking.

In my role as a participant-observer of students who were creating projects and working with each other in spaces without defined borders, I allowed myself to gravitate from the outskirts of this learning space to its core element. I viewed my participation in each of the courses as being cyclical—from my being an outsider to the community in each course to identifying my place in the community and finally becoming one of its members. Similar to the process that eportfolio creators undergo, for the participant-observers, there is also a feeling of vulnerability that undergirds the initial rituals embedded in community building.

Figure 5 presents my ethnographic approach, with my many roles as a researcher, and the eportfolio as a subculture of learning spaces within Internet culture.

Online ethnographic approach	ePortfolio as a subculture of Internet culture

Etic view

Emic view

Reflective journal

Reflexive journal

Rich description

ePortfolio subculture

Capstone course

Program

Institution

Learning spaces within Internet culture
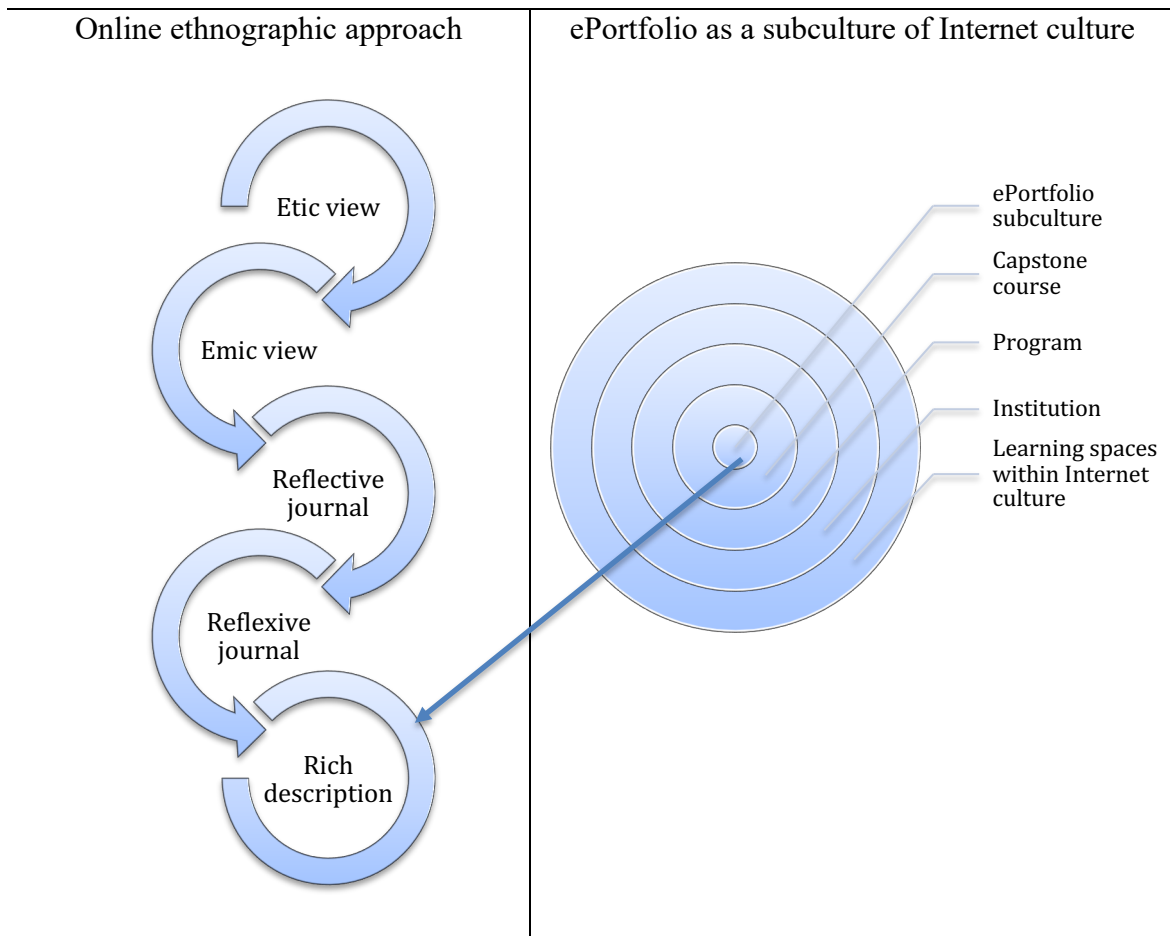
Figure 5. My online ethnography with the eportfolio at the centre.

As a researcher using the online ethnographic approach, I let my observations guide my interpretation of what I was seeing, hearing, and experiencing in this learning space. I brought my outsider perspective (etic view) to the field site, and enabled myself to see commonalities with the insider perspective of the learners (emic view) in this community. I used introspection, a personal process (Doane, 2003), and applied it, as suggested by Arvey (2003), in a broader sense during my creative meaning making journey with the students. In consequence, I gained insights into the community. My aim was the study of a culture, so my choice of "ethnography as a way of doing legitimate

qualitative research in education" (Eisner, 1998, p. 15) was natural in the learning spaces of Internet culture.

As a subculture of Internet culture, the eportfolio site is a place where students learn to interact with one another, thus building, maintaining, and strengthening a community. Bruner (1996) refers to these efforts as being aligned with a "subcommunity [that] specializes in learning among its members" (p. 20); these subcommunities seem to become a locus where students interact, and help each other acquire various forms of knowledge to facilitate the development of their projects. As purported by Wiggins and McTighe (1998), students can experience knowledge of self, which may then strengthen their ability to explain, interpret, apply, empathize, and have perspective of what they understand during the feedback interactions. Feedback is an essential condition for the development of a community of learners and is the basis for positioning the study as being within a subculture of the Internet. This will be elaborated upon later in this chapter.

Reflection

Reflection is the "active, persistent and careful consideration of any belief or supposed form of knowledge" (Dewey, 1933, p. 118). Reflection involves more than thinking; it requires time and effort. It seems to be triggered, as I have had the opportunity to observe, during trying times in our educational journey. Reflection requires more than the quietness of everyday life, and as suggested by T. Batson (2018), is becoming a necessity in the world we live today. Learning how to reflect, however, is not compatible with the contemporary structure and practice of higher education (T. Batson, 2018). This study explored eportfolios as a means to foster reflection in learning.

Reflection, as suggested by Rose (2013), involves more than just a careful thought, as "it connotes quietude, solitude, and a leisurely involvement of ideas" (p. 2). Reflection seems to appear when conditions of learning are such that they evoke our inner-most thoughts about our own learning. As posited by Hoven (2018, January, 8), "reflection is what happens in the interstices in our minds between stillness and cognition. It is where creativity and deep understanding emerge – including creativity of thought and ideas."

During these moments of calmness, we find ourselves engaging in thoughts, some of which are quite difficult for us to properly explain (Dewey, 1933). As I learn about the various definitions of reflection and interrelated concepts such as thinking, thought process, critical reflection, and reflective process, I further understand Rodgers' (2002a) description of reflection as "a skill that is vaguely defined" (p. 842), and I begin to view the concept of reflection as being often misunderstood, and sometimes even improperly applied. Reflection is sometimes inaccurately referred to as critical thinking, which is a purposeful, reasoned, targeted, and goal-oriented endeavour (Rose, 2013), or as reflective thinking, which is a part of critical thinking that "consists of a succession of things of thought" (Dewey, 1933, p. 114). Reflection, according to Jacoby (2011), is more than, "a neat and tidy exercise that closes an experience with a nice, tidy, little bow. Rather reflection is ongoing, it's often messy, and it provides more openings than closings" (p. 5).

As educators, we may consider transforming the current structure and practice of higher education to make room for reflection, a fundamental thinking ability that continues to present itself as a necessity in this ever-changing world (T. Batson, 2018). In

order to do so, we must first grasp the meaning of what the concept of reflection represents. In the past two decades, boards and foundations have identified systematic reflection "as a standard toward which all teachers and students must strive" (Rodgers, 2002a, p. 842). However, achieving such a standard has proven to be a difficult undertaking, since it is unclear "what reflection looks like," thus making it hard to assess.

During my observations and participation in a community where the members were developing their eportfolios, I noticed the serious attempts made by the students to immerse themselves in reflective thoughts described by Rose (2013) as an ongoing "habit of the mind" (p. 9). During these moments, the students focused on their thinking to facilitate their immersion in deeper thought processes in order to reflect critically

Engaging in critical reflection. Based on my observations, those students who completed their projects earlier in the course were among the ones who had engaged early in their eportfolio development process, attended the scheduled information sessions, and interacted with their peers. As a result, meaningful thoughts emerged when they

- created a collection of pages that included an ongoing consideration of both thoughts and actions (Dewey, 1933);
- examined their own learning systems, attitudes, and beliefs (Brookfield, 1995);
- explained the rationale behind their choice of artefacts–reasoning to make meaning (Kitchenham & Chasteauneuf, 2009);
- engaged in the peer-feedback interactions as both feedback-giver and feedback-receiver; and
- incorporated the necessary changes to their eportfolio pages.

When the students engaged in what would benefit them during their projects, they began their reflection-in-action, and when they looked back to make discoveries of possible outcomes, they engaged in reflection-on-action (Schön, 1983).

Students who choose to be involved in reflection-in-action, as posited by Schön (1983), engage in thoughts which benefit them at that point in time. These are thoughts that may have been neither properly formulated nor noticed (Barrett & Richter, 2018). On the other hand, when they consider further involvement in their thinking and reflecting (e.g., after the completion of a program of studies), they choose to be involved in reflection-on-action; they begin to engage in an after-the-fact reflecting that allows for their thinking back and their making of discoveries of possible outcomes (Schön, 1983).

Reflection-in-action, reflection-on-action, and reflection-then-action. Three types of reflection are differentiated by the temporal relationship between an action and the reflection related to that action.

Schön (1983) posits that reflection-in-action engages thoughts that are beneficial at that point in time because the action and its reflection occur simultaneously. These thoughts, as purported by Barrett and Richter (2018), may not have been previously articulated, properly formulated or even perceptible. Thinking back after the completion of an action and then reflecting on it was differentiated by Schön (1983) as reflection-on-action. Rose (2013) posits that reflection-then-action uses reflection as the basis for taking action. This may "give rise to small, everyday initiatives and undertakings that, in their cumulative effect, restore personal and social balance, perspective, and mindfulness, thus creating more space for reflection" (Rose, 2013, p. 31). I have experienced and observed all three forms of reflection in online communities of eportfolio users.

Rose's (2013) views on reflection are not always aligned with those of other scholars. Mezirow (1990) purports that "critical reflection addresses the question of the justification for the very premises on which problems are posed or defined in the first place" (p. 12). Critical reflection would then surpass our routine reflecting, as it requires careful examination of action and its underlying circumstances in an attempt to explicate the reasons behind the actions (Mezirow, 1990).

Rose's (2013) views are aligned with Hoven's (2018, January 8) description of moments of "stillness and cognition" that lead to a mindful creation of even more room for reflective thinking. As Homes (2015) explained, the act of reflecting places emphasis on "calm and patience"; however, it can be experienced while exhibiting "signs of confusion: nervous laughter, embarrassed smiles, muttered apologies, stutters, hesitations, and perplexed glances" (p. 2). As articulated by Dudley Hershbach, the Harvard University Nobel Prize winner, experiencing a state of confusion may almost be a pre-requisite for the students to be able to "reach a new level of understanding anything" (as cited in Bain, 2004, p. 143). Shepherd and Bolliger (2011) argue that even during the challenging times of an eportfolio project, students tend to demonstrate the ability to help each other in the eportfolio development process of their peers. Once educators understand what critical reflection is, or is not, they can provide proper guidance and support to the learners.

During my experiences as an eportfolio user, implementer, and also as both observer and participant in an online community, I noticed the presence of Schön's (1983) reflection-in-action and also reflection-on-action. I have also been able to experience that "reflection-then-action may give rise to small, everyday initiatives and

undertakings that, in their cumulative effect, restore personal and social balance, perspective, and mindfulness, thus creating more space for reflection" (Rose, 2013, p. 31).

Jacoby (2011) describes critical reflection as, "the powerful process of making meaning out of a purposeful combination of experiences and academic content. It adds depth and breadth to meaning by challenging simplistic solutions, comparing varying perspectives, examining causality, and raising more and more challenging questions" (p. 2). This marriage of academic and experiential learning evidenced in a reflective project, as stated by Jacoby (2011), is an active process of learning, knowing, thinking and reflecting. It affords not only the teaching of knowledge, but also, the inculcating of a skill (Arendt, 1968). Barrett and Richter (2018) succinctly framed the value and challenges of reflection in student created portfolios. They posited:

> Reflection is the hallmark of many thoughtfully developed portfolios. Reflections on the products within a portfolio allow the audience to understand why these items were chosen to represent the student and his / her capacities and can provide some of the best indicators of student growth. However, many students often have a difficult time thinking about their own learning when confronted by teachers to do so without guidance or support. When asked to reflect on their learning, students often don't know quite what to say or write–as much of the thinking that has gone on has been either subconscious or nonverbal. (para. 2)

Awareness of the range of manifestations of reflective opportunities have strengthened my views on the interconnectedness of reflection with feedback interaction, and on their importance in the development of eportfolios.

Feedback

One way of exposing educators and students to reflection is by means of assessment and feedback interaction with oneself and others. Feedback, as defined by Hattie and Timperley (2007), is a conceptualization of comments from one person to another, where the provider of the feedback (the feedback giver) may be another person, a technology, an experience, or even oneself. These aspects will be discussed as self-reflection and peer reflection respectively. Self-reflection, the assessment of self, or one's thoughts about one's actions, can also be referred to as metacognition (Blackburn & Hakel, 2006). The eportfolio development facilitates metacognition since it enables the creators to engage in self-assessment and self-reflection (Commander & Valeri-Gold, 2001; Hamm & Adams,1992). This type of self-reflective learning is also evident during the feedback interactions among peers in an eportfolio community of learners. Peer reflection, the interactive feedback from others, is an instructional tool with great impact on the development of eportfolios and learning.

Alternative ways of conceptualizing learning outcomes may also assist with the effective use of feedback in the teaching-learning process. For instance, feedback received on an assessment is viewed as a corrective measure, whereas feedback received from a peer translates as a learning strategy. Whether students incorporate or not the comments made by a peer, they are still required to articulate directly on the eportfolio pages the rationale for their choice of accepting or not the suggestions made. This activity on its own leads to moments of self-assessment, but not to peer-to-peer engagement. Vaughan, Cleveland-Innes, and Garrison (2013) suggest the use of peer review to promote student engagement and reduce instructor presence. They recommend

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proper understanding and application of the inquiry cycle (social, cognitive, emotional, teaching presences). This line of thinking aligns with some of the principles of transactional distance defined by Moore (2007) as a space that engaged learners cross and instructors observe in the online learning process in order to reduce instructor presence while maintaining teaching presence. When the process is successful, it brings together structure, interaction, and autonomy (Wedemeyer, 1981), as demonstrated in peer-to-peer online interactions.

  In other words, when students recognize and respond to feedback from their peers on various artefacts of their collection, they demonstrate knowledge utilization and analysis of information. The feedback concept as an instructional tool is complex, and as a learning strategy, it is emotionally laden for both the givers and the receivers. Attentiveness and willingness of the feedback-receivers, along with their disposition on a particular day, are important elements to consider during the accepting and subsequent incorporating of the feedback received. Subsequently, students engage in monitoring the execution of knowledge by organizing their actions and demonstrating their readiness to change their behaviour in light of knowledge, thus exemplifying beliefs about efficacy and importance of knowledge.

  Awareness, attentiveness, and willingness of peer-feedback giving and receiving are in alignment with affect because, as posited by L. W. Anderson et al. (2001), many of the cognitive objectives connect with an affective component. A study by Blinkhorn (1999) found students who completed a portfolio expressed perceiving an increase in their self-esteem and awareness of their own learning, exemplifying cognition and affect

working in tandem to make learning conscious. This close association between elements

of the affective domain and of the new taxonomy is presented in Table 4.

Table 4

Brief Overview of the Affective Domain and the New Taxonomy

Bloom's Taxonomy of the affective domain		Marzano & Kendall's New taxonomy elements	
Characterization by a value or valued complex	Demonstrated readiness to modify behaviour	Self-system	Believing in efficacy and importance of knowledge
Organization	Organized actions to apply feedback	Metacognition	Monitoring execution of knowledge
Valuing	Valued experience	Cognitive system	Analysis of information
Responding	Giving peer-feedback		Knowledge representation
Receiving	Receiving peer-feedback		Knowledge utilization

Note: Adapted from Krathwohl, Bloom, and Masia (1964, pp. 176-185) and from

Marzano and Kendall (2007, p. 13).

Students engage in meaning making during their social dialogues with peers and

their interactions with their learning environment (Vygotsky, 1978). Opportunities for

social dialogues among course participants are provided in various formats, including

feedback giving and receiving, which is a skill required in not only one's academic life,

but equally important on a personal and professional level (Brown, Rust, & Gibbs, 1994).

When students engage in peer review, they develop as reflective learners while

constructing knowledge when they read critically and evaluate deeply the artefacts of

colleagues (Rowland, 2000). Similar to peer reviews of scholarly articles which have

multiple reviewers, eportfolio creators also benefit from receiving comments from

multiple sources on their artefacts for both relevance and cogency. Peer review is an acquired skill; it requires guidance, and may need to be introduced in the early stages of a course or a program of studies.

As a myriad of new concepts emerge in the daily lives of students, they make a conscious effort to carefully select which ones are essential to understand, apply (Bloom et al., 1956), and build upon at each stage of their learning journey. Feedback is a powerful instructional tool in a community of learners. It continuously aims to gradually align small chunks of new knowledge to the current body of knowledge (Bateson, 1972; Capra, 2002), thus enabling the students to draw upon previous purposeful "poking and prying" during the initial stages of their "formalized curiosity" (Hurston, 1984, p. 127) in order to critically reflect on their learning. In consequence, this consciously orchestrated alignment of effective peer-feedback (on the eportfolio pages), and learning previously experienced (in the master's program) can now be analyzed, synthesized, criticized, or modified and even discarded as the students continue to be exposed to new forms of knowledge production in the development of their eportfolios.

Community of learners. Communities are comprised of actors who share a particular interest and engage in a similar activity.

Communities are formed in different spaces, for various reasons, and their members share common goals during either a temporary or prolonged period of time. Capstone eportfolio projects provide the means and motivation for learners to engage through peer-feedback to form communities of learners. This feedback process involves mental, emotional, and intellectual discernment, and, as suggested by Dewey (1938), a continuous spiral process of peer-interaction activities.

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Online social interaction in the form of peer-feedback is an activity that may be overlooked by the students in terms of its importance. The peer-feedback interactions tend to be perceived by students as a time-consuming activity deficient in purpose. Constructive and meaningful feedback necessitate a pedagogy that fosters reflection, discernment, and knowledge construction (personal communication with Dr. S. Crichton, 2018). In order to be properly applied, feedback-giving and feedback-receiving may need to be taught. Students, who participate in a capstone eportfolio project course, become aware of the requirements of meaningful feedback interactions with peers, and gradually learn to incorporate these learning activities in their journey. This level of recognition leads to moments of self-reflection, which, when noticed and nurtured, are precursors to meaningful critical reflection on one's educational journey.

Often during the engagement of peer feedback interactions, students' perspectives change (T. Batson, 2018). During the development of their projects, students, who initially felt confused, gradually gained appreciation for peer-feedback interactions, both as givers and receivers, when they began to experience a new "way of seeing things which were previously overlooked or bypassed" (von Bertalanffy, 1972, p. 424). These actions, interactions, and reactions, much like in homeostasis, created an ideal opportunity for the students to enter a state of disequilibrium (confusion) during the peer-feedback experience, and to gravitate toward intermittent stable equilibrium (appreciation).

ePortfolios

The educational portfolio idea, adopted in writing and composition in the 1980s, first gained prominence in the education field in mid 1990s in a paper-based format (T.

Batson, 2015a, 2018; D. Cambridge, 2010; Danielson & Abrutyn, 1997; Eynon & Gambino, 2017; Ravet, 2005). Since then, the educational portfolio has evolved into electronic formats with a "surprising variety of uses academics are discovering for portfolio technology" on campuses around the world (T. Batson, 2010, para.1). In the early 2000s, there was a rise in the number of eportfolio users in Europe, Australia, the United States, and Canada, a global phenomenon accounting for hundreds of thousands of users at the time (Ravet, 2005, Introduction).

Although placed among the technology-enabled learning tools, eportfolios are less about the technology itself, and more about "the ways the eportfolio technology is used and the significance of those uses" (T. Batson, 2015b, para. 1-2). In 2005, Ravet purported that the eportfolio was becoming a necessary tool for the knowledge economy. Ravet also suggested that in addition to building communities of learners with similar competencies, interests, and abilities, eportfolios enabled students to engage in life-long and life-wide learning as a result of their feedback interactions. Ravet further argued that, as an evolution and a transformation of past practice, the eportfolio had reached beyond the initial field of education in nations like Wales and England and had been included in their discourse related to national learning policies.

A conscious effort has been placed on collecting evidence of eportfolio impact on learning and on building a dynamic group of eportfolio users (B. Cambridge, 2009). The eportfolio community encompasses not only researchers and scholars, but also classroom instructors and administrative staff, who have experienced in their institutions, both challenges and benefits of this innovative technology (Eynon & Gambino, 2017; Light et al., 2012). As the field saw a steady growth, the need for an organization emerged.

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ePortfolios became more prominent in American colleges and universities after the analysis from the 2003 Campus Computing Project Survey showed that the time had arrived for educators to consider eportfolios as more than just an interesting classroom innovation, and for scholars to recognize the need for research to catch up with practice (B. Cambridge, 2009). The survey resulted in the formation of the Inter/National Coalition for Electronic Portfolio Research (INCEPR) in 2003.

As interest in eportfolios increased among eportfolio users in educational settings in the United States, researchers and professionals in the field needed a national organization to help with the promotion of eportfolio learning as a means to bring forth transformational higher education to students. Consequently, the Association for Authentic, Experiential and Evidence-Based Learning (AAEEBL) was established in 2009 (J. W. Batson, 2012; T. Batson, 2018), and it now holds conferences in various parts of North America every year. In addition, AAEEBL also established the International Journal of ePortfolio (IJeP) in 2011 to foster research on pedagogical practices related to the use of eportfolios in education. These significant changes in the industry have contributed to a more vibrant community of eportfolio users. The birth of the eportfolio coalition (INCEPR) and the eportfolio organization (AAEEBL) created opportunities for members to conduct research studies, present at conferences, and publish articles.

INCEPR, for example, selects, on a yearly basis, ten institutions that work on their individual institution-wide projects as a three-year cohort to provide answers to questions related to eportfolios. The researchers work on uncovering evidence-based data on the types of learning taking place in each of the ten institutions over a three-year

period. AAEEBL established the *International Journal of ePortfolio* (IJeP), in 2011, and

in 2016 the AAEEBL ePortfolio Review (AePR) journal. As an eportfolio proponent, and

a member of the eportfolio community, I have contributed to the AePR both as copy

editor and also as author (Zuba Prokopetz, 2018a, 2019).

AAEEBL, the organization and its group of scholars are also engaged in direct

research. A comprehensive survey conducted among institutional members of AAEEBL

revealed more than sixty uses of eportfolios in the campuses among the twenty

institutions that completed the survey (T. Batson, 2010). The findings showed that the

main purpose of eportfolios in graduate programs (nursing, dentistry, medical education,

and teacher education) is for documentation of a practicum component, and for reflection

on professional ethics. The survey further reported on the significant number of programs

that were introducing an eportfolio course where students were able to integrate prior

knowledge and skills from the various courses in their program. The eportfolio project is

defined as a culminating academic, intellectual, and reflective learning experience that

students undergo as they complete their academic program of studies (AAC&U, 2008;

Kuh, 2008; C. E. Watson et al., 2016).

Definitions. The difficulty in identifying a clear definition for an eportfolio,

argues T. Batson (2015b), lies not only in its versatility, but also in its situatedness.

Since eportfolios are used across a diverse range of disciplines, the context of use

influences how eportfolios can be defined. Barrett (2010) describes eportfolios as a

combination of a process and a product, highlighting the underlying difficulty,

significance, and need to properly define eportfolios. Those who advocate for eportfolios,

position themselves psychologically and pedagogically in a new imagined ecology that necessitates a modified curriculum to deepen learning, facilitate reflection, and promote collaboration and interaction in a "new imagined ecology" (T. Batson, 2015b, para. 4).

ePortfolio proponents belong to a rapidly growing group of professionals worldwide who see eportfolios as part of "a learning ecology where knowledge is not rare but abundant and where knowledge is not a thing but a process" (T. Batson, 2015b, para. 4). In my study, the eportfolio development includes both thinking about and articulating the alignment of course competencies, and also the development of reflection; the compilation of artefacts in a collection of pages is an act that enables students to think, focus, learn, and develop their reflective skills.

Barrett (2010) describes an eportfolio as a collection or digital archive of personal information that documents growth over time and enables reflection on the evidence of why certain choices were made during its development process. Barrett further suggests that in order to properly define an eportfolio, there is a need to focus on the "modifier or adjective that describes its purpose," as the many purposes for eportfolios (financial, artistic, employment, etc.) complicate both research and literature regarding their use in education (Barrett, 2007b, p. 436). This need for a definition is significant during a review of literature for a research study, as the definition with which I associated the eportfolio became a determinant of how I analyzed the literarture that I reviewed for my project.

More than a decade ago, a group of researchers defined eportfolios as "a purposeful selection of evidence by the learner at a point in time, with a particular audience in mind" (Hartnell-Young, Harrison, Crook, Pemberton, Joyes, Fisher, &

Davies, 2007, p. 1). A year earlier, an eportfolio proponent defined a portfolio, in either paper or electronic format, as "a collection of evidence that is gathered together to show a person's learning journey over time and to demonstrate their abilities" (Butler, 2006, p. 2). Over the subsequent years, as scholars searched for other definitions, they engaged in discussions that turned their focus to the technology supporting the eportfolio (T. Batson, 2015b). In 2019, despite decades of research, eportfolios were still perceived by many as a mere technology tool, whereas a small but growing community of academics viewed eportfolios as a powerful emerging pedagogy in global higher education (T. Batson, 2018). There is an increasing acknowledgement of eportfolios as a substrate for learner engagement, learner autonomy, and reflective learning.

As more proponents join the community of eportfolio users, discussions are expanding on what eportfolios are, how they are used, and why they are applied in higher education. In the education context, the portfolio was originally used mainly for assessing and documenting learning evidence. However, the terrain in the landscape of eportfolios has evolved, and as previously mentioned, it now comprises organizations, associations, communities of practice, conferences, international journals, and university courses. ePortfolios have seen a steady growth worldwide, and they have become a sophisticated field of inquiry attracting the interest of scholars in various fields (D. Cambridge, 2010; Ravet, 2005).

Although eportfolios are not always designed to support the instructional process, they are an effective instructor planning and management tool, and can inform and support the process of instruction in a number of creative ways (Sherman, 2006). As the eportfolios continue to gather momentum, and evolve and transform, so too, do their

definitions. Barrett (2004) and Ravet (2005) endorse a much broader definition of eportfolios, which is aligned with the one put forth in 2003 by the National Learning Infrastructure Initiative (NLII), and it describes an eportfolio as:

> a collection of authentic and diverse evidence, drawn from a larger archive representing what a person or organization has learned over time on which the person or organization has reflected, and designed for presentation to one or more audiences for a particular rhetorical purpose. (Barrett, 2004, p. 4)

Upon closer examination, we notice that the above definition comprises key aspects of eportfolios, which are

- evidence (authentic and diverse),

- source (larger archive,

- authorship (an individual or a group of individuals),

- process (selection, creation, curation, reflection, interaction, presentation),

- audience (various), and

- purpose (various).

The definition I associated with the eportfolio determined my analysis of the literarture; as such, my choice of eportfolio definitions placed myself within an eportfolio ecological system (T. Batson, 2015b), where the eportfolio is positioned as both a technology enabled learning tool, and as an emerging pedagogy. I view eportfolio technology and eportfolio pedagogy as being collocated, as suggested by T. Batson (2015b), with a modified curriculum, and thus necessitate a broader definition. During the various phases of my research, I made an effort to conceptualize the vast spaces of Internet culture with the eportfolio as a subculture at the core. In my study, the eportfolio

as a technology-enabled learning site provided students with a learning space where they could gather and build a community while they learned to interact, reflect, and subsequently, document their journey and learning growth over time. For clarity, I will use the term *portfolio* to refer to the paper-based format and *eportfolio* for the electronic version.

ePortfolios in education. Colleges and universities in face-to-face, hybrid, and totally online settings have relied on the application of eportfolios.

In 2017, Eynon and Gambino reported that in the United States, eportfolios had become prominent in higher education, and were being used in more than half of the college campuses. The field of education has been ahead of other fields in adopting eportfolios and continues to grow and advance in its thinking about and the use of eportfolios (Butler, 2006). Since the wide adoption of the World Wide Web in the mid-1990s, there has been a shift in teaching and learning paradigms that are partly underpinned by technology enabled learning tools. In order to avoid a technology push, it is crucial that the perspective of both learner and educator be considered; therefore, a solid foundation in the preparation of student-teachers is necessary (Aalderink & Veugelers, 2006).

In the creative arts field, for example, the complexity involved in the production of eportfolios, initially unnoticed by both artists and teacher-artists, may only become apparent when problems arise during the various stages of their development (Aalderink & Veugelers, 2006).

In the nursing profession, however, eportfolios have become prominent, and are being used regularly by student nurses and nurse practitioners. These eportfolios provide

nurses, students and professionals, a place to record their professional growth over time not only for themselves, but also for their employers, and peers (Green, Wyllie, & Jackson, 2014).

Regardless of the discipline or field of studies, eportfolios have the capacity to provide educators and learners with a learning space where they can demonstrate the achievement of core competencies (skills, knowledge, ability) required in their field of practice or program of studies. ePortfolios belong to the ICT, a suite of tools applied in the storage, management, communication, and dissemination of information. These tools can be used to enhance the quality of education (Kale, 2015), and to enable educators to gain understanding of how students are learning in the 21st century (Finger & Jamieson-Proctor, 2009). In consequence, instruction and assessment can be based on the "creation and the selection of powerful approaches that use the affordances of ICT to assess students and provide a diverse range of evidence of the students' learning journey" (Finger & Jamieson-Proctor, 2009).

ePortfolio pedagogy is part of a growing movement that includes instructional practices that are aligned with the 21st century. The eportfolio is prominently positioned as an innovative way for educators to design learning and facilitate instruction. The next-generation eportfolio practice may include techniques to facilitate data analytics as a part of their digital ecosystem (Eynon & Gambino, 2017). As such, future research is required to determine the benefit of next-generation eportfolios for both researchers and students as related to the inclusion of analytics. This section draws upon the eportfolio practices and research literature on the use of eportfolios within education in order to make a contribution to the scholarly basis of this study.

The field of education emphasizes three types of portfolios, which are credential, learning, and showcase (Zeichner & Wray, 2001). With the emergence of eportfolios, Barrett (2010) described a fourth type called process that encompasses a variety of activities that facilitate the development of reflection of students. Process eportfolio is the type used in my study. Butler (2006) identified the different audiences for eportfolios as being teachers, lecturers, mentors, employers, and individuals themselves.

Butler (2006) documented the field of teacher education as being the leader in the use of eportfolios. An example of the implementation of this innovation is the use of credential portfolios by student-teachers to demonstrate that they have fulfilled the requirements for a standardized level of teaching proficiency (Snyder, Lippincott, & Bower, 1998). Candidates for a teaching license use the teaching portfolio, also referred to as the learning portfolio (Wolf & Dietz, 1998), to show that they have completed the requirements for licensure. These types of portfolios are used as an assessment of the readiness of future teachers as they prepare to receive their teaching license (Zeichner & Wray, 2001). When teachers go into the job market, however, they use the showcase portfolio to display the classroom materials they have developed in prior positions and the information on their professional self-development experiences. In the field of teacher education, it is common for universities to require separate portfolios for different purposes; as a result, the teaching portfolio for employment purposes has become very popular in recent years, and it is now referred to as the showcase portfolio (Snyder et al., 1998; Zeichner & Wray, 2001).
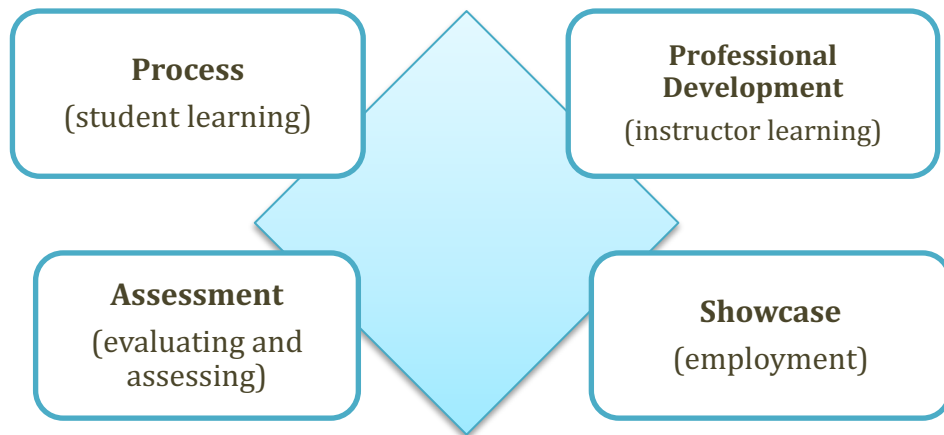
Figure 6. Four purposes of eportfolios in tertiary education.

Adapted from Butler (2006), Chang (2001), and Wade, Abrami, and Sclater (2005).

In tertiary education, these various eportfolio types and audiences can be synthesized into four purposes eportfolios (See Figure 6). They are

- *process* documenting the student's learning journey,

- *professional development* documenting the learning of the instructor,

- *assessment* for the accreditation of the student's work, and

- *showcase* used by individuals seeking employment.

I have direct experience with each of these four areas in my roles as a learner and educator (Zuba Prokopetz, 2015, 2016, 2018a, 2018b, 2019).

As a pedagogy and a ground-breaking and innovative technological tool, as suggested by Chattam-Carpenter, Seawel and Raschig (2010), eportfolios have the potential to enable higher education professionals to conduct their classroom assessments, meet institution-wide standards, experience enhanced learning in their classroom, and help students increase their employability. In Table 5, I differentiate the implementation of eportfolios in higher education at the course, program, and institutional levels. I further disclose that

my direct experience is only at the course and program levels. These experiences

strengthened my capacity to adequately conduct this in-depth research into the use of

capstone eportfolios in master's level courses.

Table 5

My Experience with three Levels of ePortfolios in Higher Education

ePortfolio types	Explanation
Course level	• Assembled by students in a course • Used for part of, or all course assessment • Experience with ESL students and college educators (2013-2018)
Program level	• Assembled by students over the course of an entire program • Used as a requirement for graduation, as in my study • Experience with masters-level students (2015-2018)
Institutional level	• Assembled by employees in a department • Used by mentors to view achievements • No experience to date using eportfolios at institution level

Note: Adapted from Stefani, Mason, and Pegler (2007, p. 11).

ePortfolios for assessment. The assessment portfolio, initially used in writing

classes, emerged in the context of education in the late 1980s (Barret, 2007; T. Batson,

2018).

Since then, they have been used in various disciplines as a means not only to

facilitate and support various types of assessment, but also to provide the accountability

required by the institution (Barrett, 2007; Light et al., 2012). The arrival of the

accountability movement coincided with the technological development of eportfolios

because eportfolios enable a document trail of artefacts of learning from each unit of the

course (T. Batson, 2015a). These artefacts may be in visual, textual, or audio formats.

Through an eportfolio, the students, their peers, or the instructor can conduct assessment of the student's performance. In their capacity to facilitate and promote accountability, eportfolios provide some evidence of the teaching that has occurred over a period of time. The assessment of what has been learned is an instructional tool that, when applied by both students and classroom instructors, may help students with their development of reflection. These assessments of learning, as explained by Mezirow (1990), may cause students to experience the emergence of straightforward reflection as they begin to analyze the post-mortem results of work completed under certain conditions. Similarly, evaluation of instruction, or accountability of what has been taught, is also a strategy that may help trigger the development of reflection in instructors. The impacts of self, peer, and teacher assessments are aligned with Brookfield's (1995) lenses of critical reflection. Brookfield suggests that educators consider four lenses in their process of critical reflection (pp. 1-2), which are

- autobiographical / self-reflection,
- evaluation by their students,
- peer-mentoring and feedback on their teaching, and
- learning from scholarly literature.

In an eportfolio project, all four lenses play an important role in the provision of the required guidance for the students (see Table 6).

Table 6

Four Lenses in a Process of Critical Reflection in ePortfolios

Engaging Activities	Guiding Principles

Autobiographical / self-reflection	Introduction, learning goals, courses and their semesters, choice of five artefacts and rationale for their choice
Evaluation by peers and instructor	Review of feedback from peers and instructor
Peer-mentoring and feedback	Provision of constructive feedback
Learning from scholarly literature	Acquisition of knowledge, deep thinking

Note: Adapted from Brookfield (1995, pp. 1-2).

The autobiographical or self-reflection lens aligns with the introductory page of the projects in this study. On the front page of the collection, students present their personal, academic, and professional information to introduce themselves to the community. Evaluation, by self, peers and instructor help students discern what to include or modify on each page. Finally, scholarly literature, the fourth lens of critical reflection, helps students engage in deep thinking about their experiences. Deep learning can occur when students engage in all four lenses of activities.

The Association of American Colleges and Universities (AAC&U) affirmed capstone eportfolios as a high-impact instructional practice based on the research showing the benefits to students go beyond their educational journey (Kuh, 2008; C. E. Watson et al., 2016). Their educational value resides in the process that students experience during their completion.

Some critics argue that there must be accountability for quality of design and layout, not just academic standards of composition, as the concern is that students may submit a substandard product (Capstone Project, 2016). Capstone projects are culminating experiences in which students engage as they approach the final weeks of a course, or the final year of a program. These terminal projects vary in format. Four listed by Kuh (2008) are

- a well-researched paper on a topic of interest to the student,

- a problem-based performance focused on a real-world issue,

- an artistic display of work completed, and

- an eportfolio capstone project.

Literature shows that these projects, when properly implemented, make it possible for students to show evidence of their learning, for instructors to connect with the students and their learning artefacts, and for students to collaborate, and offer feedback to their peers (Kuh, 2008; Eynon & Gambino, 2017).

A recent pilot project in an undergraduate capstone eportfolio program in the northeast United States shows that in addition to promoting reflection, critical thinking, digital literacy, and composition, eportfolio projects can also promote the integration of curricular events (Morreale, Zile-Tamsen, Emerson, & Herzog, 2017). That study, conducted with students from different backgrounds academically and demographically, revealed that both instructors and students perceived the eportfolios to be of value not only for the integration of general education curriculum, but also for the demonstration of higher-order thinking skills in a digital space.

The careful scrutiny of student eportfolios in the Morreale et al. (2017) study revealed the emergence of various themes, as eportfolios were analyzed individually, and re-analyzed as a group with a set of codes for appropriate fit. Such analysis showed evidence of the varied levels of both reflection, and integration of curriculum among students, as demonstrated in their eportfolios. The study findings led to a real-world application of the results, and data gathered was subsequently used as a framework for a semester-long undergraduate program at a large Association of American Universities

research institution. The results of that study exemplify the type of research the eportfolio field provides, and the benefits that can be reaped by institutions not only in their undergraduate programs, but also post-graduate and beyond

The literature presents eportfolios as an educational innovation that fosters new uses (e.g., as a capstone project of culminating experiences), and leads to new research findings (e.g., evidence-based eportfolio as a high-impact practice) (AAC&U, 2008, Kuh, 2008). The essence or core value of an eportfolio is predicated on one's ability to reflect on one's learning history.

The steady and ongoing research over the past decade has documented the effectiveness of the eportfolios resulting in it being added, in 2016, to the list of high-impact instructional practices (AAC&U, 2008; Kuh, 2008).

Table 7 displays the current list of eleven high-impact practices.

Table 7

High-Impact Practices and Their Impact on Learning

High-impact Practice	Impact on Learning
First-Year Seminar and Experiences	Emphasize critical inquiry, collaborative learning, and other skills that develop intellectual and practical competencies
Common Intellectual Experiences	Combine broad themes with a variety of curricular and co-curricular options (e.g., technology and society)
Learning Communities	Encourage integration of learning across courses and student involvement in what matters beyond the classroom
Writing-Intensive Courses	Emphasize writing in various forms for different audiences, and repeated practice producing, and revising
Collaborative Assignments and Projects	Combine learning to work and solve problems with others, and learning to understand the insights of others
Undergraduate Research	Involve students in inquiries, observations, cutting-edge technologies, and systematic investigation experiences
Diversity / Global Learning	Emphasize the exploration of cultures, life experiences, and different worldviews (e.g., human rights, power)
Service Learning, Community-Based Learning	Foster the real-world application of classroom instruction, and subsequent reflection in a classroom setting
Internships	Give students direct experience in a work-setting usually related to their career interests
Capstone Courses and Projects	Provide opportunity for the creation of a project where the student integrates and applies what was learned
ePortfolios	Foster learner engagement, and reflection on the artefacts, learning experiences, and the process of learning

Note: Adapted from Kuh (2008, pp. 104-105) and from C. E. Watson et al. (2016, p. 65).

These insightful findings place the eportfolio not only as an impactful instructional practice, but also as a sophisticated area of research, where rich data and meaningful experiences are abundant, observable, and educational for both participants and observers. The benefits of capstone eportfolios are twofold: they provide opportunities for students to reflect on both their studies and careers, and for institutions to learn about what students have learned throughout the curriculum. Additional research is required to enable educators to learn how to apply eportfolios not only to help students learn better, but also support reflection (Eynon, Gambino, & Török, 2014). ePortfolios have been deployed to serve specific purposes in various fields, such as accreditation and prior learning recognition, due to their ability to store and showcase student performance over a period of time.

Evidence-based research results confirm that student development is a cumulative process, which comprises a variety of learning events, as demonstrated in an eportfolio project (Kuh, 2008). Additionally, the eportfolio as a capstone project can be considered more than solely an educational practice that is of high impact for the students. It represents much more, since it is now positioning itself as a meta high-impact practice (T. Batson, 2015a). These eportfolio projects are able to integrate other high-impact educational practices, which require not only time and effort on the part of the students, but also decision-making and personal investment in each of the tasks (Kuh, 2008). Reflective capstone projects strengthen intellectual and practical skills, deepen personal and social responsibility, and provide practice for integrative and applied learning (Kuh, 2008).

Metacognition in eportfolio creation. Our process of thinking, cognition, metacognition, and reflection appear to interconnect in a seemingly complex way.

The act of reflecting, as presented by Stanford University (2003), can be expanded to include metacognition, which involves our stepping back to view our doing, as it happens. Metacognition, however, or our thinking about our own thinking, involves both reflection, which is thinking about *what* we know, and self-regulation, which is managing *how* we go about our learning. Therefore, metacognition refers to "the process of stepping back to see what you are doing, as if you were someone else observing it" (pp. 157-158).

When students develop their eportfolios, they begin an introspective journey that leads to their ability to write not only about themselves, but also about their learning goals coming into their master's program. This set of usually three-five learning goals can be viewed as bookends in the capstone projects (personal conversation with Dr. S. Moisey, January 2018). The students are required to list their learning goals on the first page of their projects (introduction), and once again on the last page (conclusion). These goals, which may be modified at the end of the journey, become the focus point during the final presentations. Goal setting is key in a learner's journey in any program of studies, and there is extensive body of research that demonstrates its positive effect on learning. When students set realistic, manageable, and achievable goals, they begin to self-regulate (regulation of thoughts and actions) in order to reach them; consequently, they engage in motivation, task engagement, and metacognition (Paris & Paris, 2001).

The eportfolio as a capstone project enables their creators (students) to immerse themselves in a meaningfully introspective journey replete with deep thoughts of their

learning experiences. As the students begin to conceptualize how to develop their

projects, they go back in time. As a consequence, they are better equipped to carefully

select artefacts that illustrate portions of their learning journey, whether in a course,

program, or an inter-disciplinary semester at an institutional level. These student-selected

artefacts are a portrait of significant learning not only about self but also about the

process of learning; they also demonstrate growth of the creators as students (in their

approach to learning), and as professionals outside the academy (in compliance with 21st

century competencies).

As a final project in a program of studies, capstone eportfolio projects include

elements of the cognitive system, self-system, and metacognitive-system as displayed in

in the matrix of the new taxonomy in Figure 7.

Self-System	Beliefs about the importance of knowledge		
	Beliefs about efficacy		
	Emotions associated with knowledge		
Metacognitive System	Specifying learning goals		
	Monitoring the execution of knowledge		
	Monitoring clarity		
	Monitoring accuracy		
Cognitive System	**Knowledge Retrieval**	Recall Execution	
	Comprehension	Synthesis Representation	
	Analysis	Matching Classifying Error Analysis Generalizing Specifying	
	Knowledge Utilization	Decision Making Problem Solving Experimental Inquiry Investigation	
Knowledge Domain			Psychomotor Procedures Mental Procedures Information

Figure 7. Matrix with structural elements of the new taxonomy.

Adapted from Marzano and Kendall (2007, p. 13).

As posited by T. Batson (2015b), eportfolio activities are part of a powerful pedagogical approach and require a modified curriculum to facilitate deeper learning, reflective moments, and proper collaboration and interaction. The process eportfolio in a capstone project enables learners to engage in critical reflection, thus commencing an analysis of their experiences in their various courses in the same program. Subsequently, they begin to explicate both their learning and attainment of competencies, which is a meta-analytical approach of what they have learned. Student development is a cumulative process, which comprises a variety of learning events, as is evidenced in an eportfolio project (Kuh, 2008). When I completed my first eportfolio project, I experienced a gradual development of reflection that spanned from specifying my learning goals (metacognitive system) to a range of emotions associated with knowledge (self-system). During those learning endeavours, I also perceived, as posited by Richardson (2010), the way my own learning deepened and evolved—strong evidence of the transformative nature of eportfolios.

Benefits. There are potentially powerful consequences of using eportfolios. Table 8 presents benefits of eportfolios as adapted from the research on educational portfolios by Danielson and Abrutyn (1997), which was built upon the research by Mitchell (29912).

Table 8

Powerful Consequences of Portfolio Use

Categories	Consequences of Portfolio Use
Assessment	• Document student learning • Assess beyond prescribed outcomes
Communication	• Information on student performance • Shift of responsibilities to students themselves
Instruction	• Engage in using and learning with it • Foster student reflective learning
Professional Development	• Support educators in professional self-development • Develop a locus for teacher-authored content • Facilitate instructor process of reflection
Research	• Afford opportunities for both researchers and practitioners • Increase number of practitioners conducting research

Note: Adapted from Danielson and Abrutyn (1997) and Mitchell (1992, pp. 103-108).

Mitchell compiled a list of consequences of portfolios into four salient categories of use, being assessment, instruction, professional development, and research. Danielson and Abrutyn (1997) separated out a fifth category being communication, as displayed above.

Additionally, there is a positive impact of eportfolio use for both learners and educators. Case studies of eportfolio use in adult, community, continuing, and higher education suggested that the benefits of eportfolios were more prominent when the they became a joint teaching and learning approach (Becta, 2007). These studies found that eportfolios impacted both learning outcomes and learning processes. The findings also highlighted other impactful areas such as the receiving of feedback from teachers and peers, and the development of reflection in capstone projects. Capstone eportfolio courses benefit students in a myriad of ways as they also provide "learning community students with opportunities to reflect and develop higher order thinking skills associated

with deep learning" (Eynon & Gambino, 2017, p. 198). Capstone courses align well with eportfolio pedagogy resulting from their integrative and reflective nature; moreover, they help students reflect on how their reflective eportfolio experiences changed them (Eynon & Gambino, 2017).

Challenges. As with any digital learning tool, the implementation and the need for proper support of eportfolios may present challenges for educators, students, and administrators.

The three main challenges faced by students, educators, and administrators are the logistics concerns of content selection, content documentation, standardization, and storage; maintenance concerns of allocating time for upkeep; and measurement considerations deciding how to avoid conflicts between instruction and assessment (Danielson, & Abrutyn, 1997). Ternan (2018) suggests that communication skills may also pose challenges for some of the students as they make the online postings, comments, and feedback that become a part of the eportfolio pages. Ternan further explains that those students who feel inadequate in their own communication skills may become frustrated as they attempt to develop their eportfolios. Having observed the eportfolio development process of several groups of students, even before the eportfolio course was credited, I understand the value of Ternan's assertion. Yet, this area is beyond the scope of my current research.

Another area that presents itself as being a challenge for the students is the creation of the collection of pages, which is one of the requirements for the process eportfolio utilized in this study. The initial difficulty during the creation of the collection of pages sometimes owes to the fact that the students often change their minds regarding

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what to include. These collections, as described by Heath (2004), are "all in a virtually constant state of flux" as new artefacts are added and are "all in a state of scrutiny" by the creators, their peers, and their instructors (pp. 1-2).

Such collections of task-performance products may contain artefacts from a single project, an entire course, various courses, and, as in this study, the culminating experiences of students completing their eportfolio projects as a graduation requirement for their degree. Each page in the collection includes one or more artefacts that help trigger reflection on the learning that occurred during a course, a project, or an experience. These artefacts provide the platform on which the students rely when they begin to share with their audience the application of their academic learning in their personal or professional life.

Some critics suggest that the collection of pages and artefacts, however weak at times, must be guided by a set of specifications related to the items students should include, the quantity of each type of artefact, and the criteria to be met prior to inclusion of the items in the portfolio (Kane & Mitchell, 1996). The criteria used in the courses I observed included that the artefacts be (a) directly associated with a course in the program, such as an assignment or a group experience, and (b) aligned with core competencies in the reflective passages displayed on each page of the collection.

Other critics, such as Barrett (2004), argue that an eportfolio collection of pages may be meaningless to others, just like any other collection that we may have picked up as a hobby in our lives. Collections of any kind share similarities with the collection of pages in an eportfolio, for both endeavours include our engagement with thinking about, choosing categorizing, displaying, organizing, and presenting artefacts. The collection of

pages, albeit challenging for the students, are continuously evolving, as the students engage with their eportfolios, thus allowing their peers to provide timely feedback (Heath, 2004).

To varying degrees of difficulty, students address technical, conceptual, maintenance and analytical challenges. Technical challenges are rooted in the student needing to learn to use the ICT tools employed by the course. Conceptual challenges require students to sufficiently comprehend the pedagogical process to follow course guidelines.

The application of learning and articulation of competencies are examples of maintenance challenges. Analytical challenges are those which the student must overcome in order to reflect on what was learned, how it happened, and why learning did or did not occur.

In terms of practicality, some factors that users tend to consider during the development of their eportfolios are related to purpose, content selection, documentation, choice of platform, accessibility, and storage (Danielson & Abrutyn, 1997). The areas of challenge mentioned in this section align with the observations students in my study made as they initiated their eportfolio development.

Summary

This chapter provided information on the evidence-based theoretical constructs undergirding my project, as well as the depth of my direct practical experience using and implementing eportfolios. The chapter introduced various types, purposes, stakeholders, applications, challenges and benefits of eportfolios. As as a high-impact educational practice, the capstone eportfolio project explored in my study enables graduate students to think about the culmination of their learning efforts as they complete their program of studies. The chapter concludes by presenting the benefits and the technical, conceptual, analytical, and maintenance difficulties associated with eportfolios.

Chapter 3. Research Methodology and Procedures

This chapter presents my research paradigm along with my positionality in my study. It re-introduces the research questions guiding this study, explains my research design, and provides an overview of my research methodology and the rationale behind my choice. It discusses my research roles, procedures, timelines, data collection and analysis. This chapter concludes with ethical considerations, verification and trustworthiness of the study.

Research Paradigm

This study used an online ethnographic research design that enabled me to observe, explore, and examine cultural phenomena of the development of reflection in capstone eportfolio projects from the perspective of the participants who were master's students. This mixed methods study has qualitative and quantitative methods. The qualitative approach provided guidance, insight, and knowledge (Nelson, Treichler & Grossberg, 1992) for the design of analysis of the rich data collected during my fieldwork through the course site. The quantitative methods were used in the collection and analysis of closed-ended questionnaire data. Just as there is no single picture of the world, there is no single blueprint for an ethnographic research (Cohen, Manion, & Morrison, 2011). Moreover, as purported by Preissle (2006), there are many varieties of qualitative research; the source of such information includes oral and written data drawn from direct experience and meanings which may take a different shape depending on the qualitative research being undertaken.

Ethnography enables a type of investigation that depicts the ways of life of the writer and those whom the writer is observing (Denzin, 1997). The field site of my

ethnography was an online master's degree course with a capstone eportfolio project, the borderlines of which, as Denzin (1997) suggests, transcend physical space, as there has been an electronic transportation of its periphery. My research design necessitated that my thinking go further afield (Appadurai, 1993), and that my observations move beyond one local group (Denzin, 1997) as the focus of inquiry. Therefore, in addition to my observations, questionnaire, and interviews of students in this course, I also collected data from the archives of three iterations of this course.

My personal biases and my assumptions of nature of reality were crucial not only in my research design, but also in my methods of data collection; as such, they worked in tandem throughout my project as an inductive analysis guided process. As suggested by Hitchcock and Hughes (1995), epistemological assumptions, which emerge from ontological assumptions, have methodological implications related to the data collection techniques. This complex set of assumptions impacts the way the investigation is designed, conducted, and reported (Creswell, 2013; Hitchcock & Hughes, 1995).

I recognized that the students in this study might change the way they viewed the development of reflection based on the various stages of their project development. The ontological view of what is known may change. As a result, I was open to reformulating my research questions, modifying my research techniques, and to adapting the reporting on my findings. This recognition of multiple realities gave rise to my need to focus on the personalized views of the eportfolio creators who are the students as members of a community of learners. The epistemological view of how knowing occurs was also flexible in this study. This multiplicity of views of reality influenced my relationship with participants, the data, the analysis and what I value as knowledge. Acknowledging

the presence of my personal bias, as explicated by Creswell (2013), facilitated my

recognition of the value-laden nature of my research.

Table 9

Philosophical Assumptions and Implications for Practice

Assumption	Characteristics	Implications
Ontological	*Reality* – seen through many views	Reporting on – differences in perspectives as themes develop
	Recognizing that students' perspectives may vary	*Observer:* adapting reporting; flexible reformulating of the research questions
Epistemological	*Knowledge* – subjective evidence from participants	Relying on – quotes as evidence from participants
	Heeding the students' views at various stages	*Participant:* reducing perceived distance in my role as a full participant
Axiological	*Values* – presence/role of bias in interpretation	Discussing – value interpretation of both researcher and participants
	Acknowledging presence of bias, feelings, ideas	*Researcher:* being reflexive; including personal views to help interpretation
Methodological	*Process* – emerging design and inductive logic	Describing – details that lead to revision of questions
	Using inductive logic to enable an emerging design	*Ethnographer:* revising questions to reflect experiences from the field

Note: Adapted from Creswell (2013, pp. 20-21).

An overview of these philosophical assumptions, their possible impact on

practice, and possible implication in my study are presented in Table 9. As an observer, I

required flexibility to reformulate questions if necessary, and adapt my reporting of my

findings. As a participant, I aimed to reduce perceived views of my being distant from

the community members. As a researcher, and a key technique in my project, I became

reflexive, and relied on my personal views to assist me with my interpretation. As an ethnographer, I revisited my research questions, reflected on the experiences from the field, and reported on my findings. My positionality as it relates to my ontological, epistemological, and axiological assumptions is further explicated below.

Ontology. As a philosophical and ontological view on the access to reality, interpretivism aligned with my seeing the reality of the participants through many perspectives.

My fieldwork activities encompassed many realities constructed through interactions with the students, as members of a community, and aligned with a social constructivist approach (Creswell, 2013). This sense of being there, a significant aspect of my ethnographic methodological orientation, allowed for a direct, embodied experience of the field, and prevented a possible reliance on summarized versions of second-hand accounts of these rich activities (Hine, 2016). In my role as a participant-observer, I immersed myself in the *vivencia,* or life experiences (Fals Borda, 1997) of this online community. This full immersion enabled me to have rich insights during my fieldwork on the online course site, as facilitated by my ongoing direct participation in this online territory. This is a research approach encouraged by Glassman & Erdem (2014) and Hine (2016). When themes emerged, my personal way of seeing contributed toward a more authentic report on the different views of our realities (Creswell, 2013).

Epistemology. As a proponent of constructivism / interpretivism, my epistemological view on the nature of knowledge is that it is subjectively experienced by the participants.

My epistemological belief during my fieldwork enabled me to experience the co-creation of knowledge by the master's students, the instructor, and me as a participant-observer. Knowledge can be shaped by individual efforts (Creswell, 2013) at each stage. As such, I aimed to understand, from the point of view of the students, the complexities of their activities (Schwandt, 1994), as they developed their eportfolios. My alignment with a constructivist / interpretivist theoretical paradigm thus enabled me to develop subjective meanings and seek understanding of the world in which I lived and worked. As Creswell (2013) suggests, proponents of this epistemological philosophy,

> develop subjective meanings of their experiences–meanings directed toward certain objects or things. These meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrow the meanings into a few categories or ideas. (p. 24)

I adopted the ecological constructivist approach to enable me to let go of any pre-conceived research process I may have initially had. This approach helped me ensure that I was letting the students inform my research study during all phases— fieldwork, data collection, analysis, and reporting.

Axiology. An axiological assumption, as posited by Creswell (2013), is what characterizes qualitative research, and necessitates awareness of the personal values one may bring into the study.

As a researcher using an online ethnographic methodology, I knew that my co-presence within the setting could lead to my developing a solidarity with the participants in the course (Hine, 2016). In addition, I also recognized a common tendency that researchers have of bringing certain beliefs and philosophical assumptions to the research project, as cautioned by Creswell (2013). Since I engaged in a process of reflecting on myself during my fieldwork, I was able to achieve a less partial, and yet meaningful analysis of what I was seeing, hearing, and experiencing in the field. In addition, since qualitative researchers are able to use a variety of techniques for gathering data (Cohen, Manion, & Morrison, 2011), I chose to incorporate both qualitative and quantitative data collection approaches in order to experience and later report on both my etic and emic views. In 2015, I began my reflective journal in the early stages of my study, which contained personal notes from my observations and also excerpts of my discussions with my supervisor. In 2018, I added a reflexive journal after obtaining ethics approval in order to include my thoughts on the data I was beginning to collect from the course archives.

Methodology. Ethnography is a methodology that is collaborative, participatory, and that allows for a representation of the etic or outsider view of the researcher, and the emic or insider view of the researched (Agar, 1996).

Ethnography is an intimate and respectful way of knowing about a culture-sharing group. It is a method that positions the researcher close to the participants while in the field during extended periods of time, and to write about the findings in situ (Van Maanen, 1995). Ethnography is described as a "method for getting to the heart of meaning" and for facilitating our understanding both broadly and deeply of "how people

make sense of their lives" (Hine, 2016, p. 1). This study adopts the traditional ethnographic study methods of groups, communities, cultures and subculture and then modifies it to the online environment. This contemporary readjustment of the traditional approach is fundamentally about living with a group, and this experience entails the broadening of our views to contingency, to a possible variation in meaning, and to both the routine and confusion of everyday life (J. P. Marshall, 2010).

Ethnography differs from other research approaches such as case studies and phenomenology in various aspects. The first difference is the time it takes the researcher to conduct the research. In my study, it took me from 2015-2017 to gain familiarity with the subculture before I actually immersed myself in the field site for one year in 2018 in my capacity as a researcher. Since the courses were live, I took notes after each visit, which later became part of my field notes and were also included in my reflective journal. A second aspect that distinguishes ethnography from other methodologies is that it relies on participant observation. As an ethnographer, I immersed myself in the subculture and way of life of the community of student portfolio creators, which enabled me to understand community practices from an insider's or emic point of view. A third distinction of ethnographic research is the extended periods of participant observation in the field site being used in conjunction with other data collection methods, which in my study included a questionnaire, interviews, and audio-recordings from student presentations.

My goal was to capture thick descriptions as they enable the explanation of contextual meanings from the perspective of those being observed, and the observer; as posited by Geertz (1973), "societies, like lives, contain their own interpretations. One has

only to learn how to gain access to them" (p. 453). As I was granted access to the course

site in six iterations of the capstone eportfolio projects, I was well positioned as a

participant-observer to conduct my study and pursue ethnographic findings that

facilitated my descriptions of local behaviors and truths within that context.

Table 10

Contrasting Characteristics of Two Qualitative Approaches

Characteristics	Case Study	Ethnography
Discipline Background	Psychology, law, political science, and medicine	Sociology and anthropology
Type of Problem Best Suited for the Design	Providing an in-depth understanding of a case or cases	Describing and interpreting the shared patterns of culture of a group
Focus	Developing an in-depth description and analysis of a case or multiple cases	Describing and interpreting a culture-sharing group
Unit of Analysis	Studying an event, a program, an activity, or more than one	Studying a group that shares the same culture
Data Collection	Using multiple sources, such as interviews, observations, documents, and artefacts	Observations and interviews and other sources during extended time in the field
Data Analysis	Analyzing data through description of the case and themes of the case and as cross-case themes	Analyzing data through description of the culture-sharing group, and themes about the group
Written Report	Developing a detailed analysis of one or more cases	Describing how a culture-sharing group works

Note: Adapted from Creswell (2013, pp. 104-105).

As an open-ended research approach, ethnography is not defined in terms of its

boundaries, and it enables the description and interpretation of experiences of a culture-

sharing group. It does not necessarily aim to describe and analyze a case delineated by closed boundaries, as in a case study approach.

My online "ethnography enabled me to experience and interpret behaviors, beliefs, actions, and interactions through my extended immersion in the field. My observations guided my interpretation of what I was seeing, hearing, and experiencing in this learning space" (personal notes). I brought my outsider perspective to the field site, and enabled myself to see commonalities with the insider perspective of the learners in this learning community. I used introspection and applied it to my creative meaning making journey. As a consequence, I gained insights into the interactions of the learners in the community. Table 10 presents my ethnographic approach through a comparison with the aims and purposes of an alternative research paradigm to demonstrate the appropriateness of ethnography for my study.

As illustrated, a case study has defined boundaries, and the role of the researcher is to develop an in-depth understanding of a single case or explore an issue or problem using the case as a specific illustration (Creswell, 2013). In ethnography, researchers encounter multiple perspectives along with formative and emergent characteristics among community members. Although a culture-sharing group may also be considered a case, in my ethnography, my attempt was to determine how the culture worked (Creswell, 2013), rather than to gain an in-depth understanding of a case.

Advantages and disadvantages of online ethnography

The online ethnographic approach to research has advantages and disadvantages that were suitable to my study. Ethnography embraces multiple research techniques, and is considered a way of *seeing*, and not just merely a set of techniques for *looking* into the

experiences of others (Wolcott, 1999, p. 65). This approach enables research to be an

interesting and adventurous endeavour for the researcher (Wolcott, 1999).

Table 11

Online Ethnographic Approach to Research

Factor	Advantage of Online Ethnography
Convenience	• Can be conducted entirely by one individual • Can be carried out almost anywhere • Can create an accurate record of online interactions
Time	• May take a long time or a short time (no specified minimum) • May need extended time in the field for thick data
Exclusivity	• Researcher has domain in the setting studied
Required training and skills	• Existing skills can be used to advantage • Development of new skills will transpire throughout the fieldwork
Flexibility	• Problem to be studied can be taken to the field or uncovered there • Finished product is judged in a flexible manner • Presentation style can fit the circumstances • Emphasis can be on scientific or humanistic aspects • Opportunity to integrate professional and personal life is present
Cost	• No expensive equipment is required
Contribution	• End-product is a contribution to knowledge • Rich database can be used in further research

Note: Adapted from Wolcott (1999, p. 61) and Tunçalp & Lê. (2014, p. 60).

Ethnography, such as mine that is conducted in an online space, transcends the

usual time and space restrictions imposed by the traditional format. This flexible and yet

resource-intensive approach has numerous advantages, some of which are depicted in

Table 11.

The advantages of online ethnography include cost effectiveness, ease of sample

accessibility, automatic archival of online social interactions, and unobtrusiveness of the

naturalist context (Kozinets, 2010; Murphy, 2013; Scaramuzzino, 2012). Some of the weaknesses associated with ethnography include difficulty in the interpretation of data, possible risks of misrepresentation, and complexity of ethical considerations (Garcia, Standlee, Beckoff, & Cui, 2009; Prior & Miller, 2012). There is also a concern regarding the interpretation of "mute evidence," which is data obtained from written texts rather than the spoken word (Hodder, 1994). This type of data is characterized by a separation of time and space between the researcher and those researched, as was the case with the transcription of the audio recordings of Adobe Connect student presentations. Although I attended many of the presentations by students who had completed their projects, my listening of the audio recordings contributed to a separation across space and time between the students and me (Hodder, 1994).

Research questions. The main purpose of my exploratory study was to examine how master's level students perceived the development of reflection as they completed their capstone eportfolio projects, and to what extent, peer-feedback interaction provided them with a sense of belonging to a community of learners.

In an ethnographic study, the scope of the question needs to be pared down to what a researcher can accomplish in a limited amount of time, using the chosen fieldwork techniques (Wolcott, 1999). When I was both a volunteer and a doctoral intern in capstone eportfolio projects (2015-2017), I had opportunities to brainstorm possible research questions, as themes emerged. During this period, I also became aware of the length of time as well as the techniques that I would require in my data collection. To complete this research in a reasonable timeframe for personal reasons, the artefacts of the eportfolios were not included in my data collection. However, the collection of pages for

a number of the presentations were available to me; therefore, I viewed them as a form of

triangulating what was said on the recordings and what was displayed on the pages.

Table 12

Alignment of Research Questions, Data Sources, and Techniques

Questions	Research Questions	Data Source	Data Analysis
Layer One			
Q 1 Primary central question	What are the overall perceptions of the development of reflection in an online eportfolio project by Master's level students participating in a capstone project as an instance of Internet culture?)	Questionnaire and Interview (Appendices E, F, G) AC recordings Observations Participation Personal notes Field notes	Emerging themes were identified during data collection, and assisted with data organization in *NVivo*
Q 2 Sub-question	What value do students perceive of the reflective process as they develop their capstone eportfolio project?	Questionnaire and Interview (Appendices E, F, G) AC recordings	Visualization of data in a wordle or hierarchy chart in *NVivo* assisted with data analysis
Layer Two			
Q 3 Secondary question	To what extent does giving and receiving feedback provide students with a sense of being a part of a subculture of an online community of learners?	Questionnaire and Interview (Appendices E, F, G) AC recordings Observations Participation Personal notes Field notes	Emerging themes were identified during data collection, and assisted with data organization in *NVivo*
Q 4 Sub-question	How do students perceive their experiences as peer-feedback givers in the development of reflection as they participate in an online Master's capstone eportfolio project?	Questionnaire and Interview (Appendices E, F, G) AC recordings	Visualization of data in a wordle or hierarchy chart in *NVivo* assisted with data analysis
Q 5 Sub-question	How do students perceive their experiences as peer-feedback receivers in the development of reflection as they participate in an online Master's capstone eportfolio project?	Questionnaire and Interview (Appendices E, F, G) AC recordings	Visualization of data in a wordle or hierarchy chart in *NVivo* assisted with data analysis

The aim of my online ethnography was the portrayal of events from the perception of the participants, report of multiple perspectives, and my description of a specific situation in a community of eportfolio creators. These were sought from multiple data sources. I began the questionnaire and interview data collection phase after I had listened to the audio recordings of the student presentations, so I could modify my research materials if necessary. I returned to the audio-files during my data analysis to verify the information and identify additional themes.

Table 12 presents the two layers of my study, my research questions, and data collection techniques of questionnaire, interview, audio-files of the student presentations, reflective journal, and field notes. As previously explained, the research questions driving the study were derived from an investigation of the research problem and themes that emerged from the literature. The first layer of the study sought to answer two questions about the students' experiences of the reflective process, and the primary question was:

Q1: What are the overall perceptions of the development of reflection in an online eportfolio project by master's level students participating in a capstone project as an instance of Internet culture?

The secondary question of the first phase of the study, as stated below, sought to further address the perception of the students regarding the development of reflection during the completion of the capstone projects.

Q2: What value do students perceive of the reflective process as they develop their capstone eportfolio project?

The second layer of the study sought to answer one main question and two sub-questions related to the perception of the students of their experiences with feedback giving and receiving in their online learning community. The main question of the second layer of the study was:

Q3: To what extent does giving and receiving feedback provide students with a sense of being a part of a subculture of an online community of learners?

There were two secondary sub-questions related to the perceptions of the students during their feedback giving and receiving experiences. The first sub-question dealt with experiences of the students as feedback givers, and it is:

Q4: How do students perceive their experiences as peer-feedback givers in the development of reflection as they participate in an online Master's capstone eportfolio project?

The second sub-question of the second layer of my study dealt with experiences of the students as feedback receivers and is presented below:

Q5: How do students perceive their experiences as peer-feedback receivers in the development of reflection as they participate in an online Master's capstone eportfolio project?

Together, these five research questions directed the conceptualization of the research design.

Research Design

My study originated from my observations and participation during my extended immersion in the field site of an online course). Online ethnographic research was the most suitable methodology to enable me to describe the activities in a community of

learners through the lens of Internet culture. Table 13 shows my activities in my different roles in this online community.

Table 13

Timelines: Activities Before and During Data Collection

Date	Activities
2015	Volunteer in online sessions of capstone eportfolio projects
2016	Doctoral intern in the first capstone eportfolio project as a course
2017	Volunteer eTutor and participant-observer in two course iterations
2018	Participant-observer, and then researcher in three course iterations

In order to conduct meaningful data collection and analysis of what I was proposing to research, an extension into 2019 on the final two phases of my research process was necessary (see Table14). The extension of the data collection phase, which was still within my envisioned timelines, allowed me to solve technical difficulties in the conversion of the audio-files (October 2018-February 2019). In addition, this extension of timelines provided the participants with sufficient time to submit their responses to both the questionnaire and interview (January-March 2019). As a result, my collection of data spanned from October 2018 (transcription of the initial audio-files) to March 2019 (questionnaire and interview responses from the final participants). As mentioned, I listened to the audio-files up to four times which included the times before, during and after I received the responses to the questionnaires and interviews. The rationale was threefold, to become closer to the data, to view the information from different angles, and to verify accuracy of passages transcribed by the software.

Table 14

Phases of Data Collection and Extended Timelines

Phases	Preliminary Activities	Extended Timelines
Recordings	October-November 2018	December 2018
Questionnaire	January 2019	February 2019
Interview	January 2019	February-March 2019
Transcription	December 2018-January 2019	February-March 2019
Recordings	January 2019	February-March 2019

On a personal level, in order to ensure my data collection was trustworthy, I reserved moments of solitude and quietness to enable me to concentrate, reflect, and devote the required time and effort to collect and understand my data to enable me to analyze it accordingly. Awareness of my ontological and epistemological assumptions of reality was crucial to my research design and data collection methods to ensure they worked in tandem throughout my project to offset my personal biases. Although I had been present at many of the student presentations during the three course iterations where my interview questions had been proposed to the participants, I still needed to listen to the files again after I had received the student responses of the questionnaires and interviews. This phase necessitated that I revisit the 21 student presentations available in my audio-files. This enabled me to compare the interview answers of the students to their answers to similar questions given during the final live presentations. This was informal, as a formal comparative analysis of the two sets of responses was beyond my investigation. The remainder of this chapter will detail the consideration that led to this design.

Roles of the researcher. One of the roles of a researcher in an ethnographic study is to investigate the lives of groups or individuals through intense and prolonged contact with them in their own setting.

As such, one role of the researcher, as the main instrument in the study, is to gain "a holistic (systemic, encompassing, and integrated) overview of the context under study: its social arrangement, its ways of working, and its explicit and implicit rules" (Miles, Huberman, and Saldaña, 2014, pp. 8-9). My role in this community began as an outside observer and evolved into an insider participant view after having been accepted by the students in the course.

In 2015, I began volunteering in a community of eportfolio creators, and my role was mostly that of an outsider looking into a vibrant community where its members were participating in individual, yet collaborative projects. Although as an outsider I was unsure of how my etic role as observer would change, I began gradually interacting with the community members. At the time of my initial observations, the capstone eportfolio project was not yet a credited course; however, it was a requirement for the students who had opted for a non-thesis-track master's degree.

In 2016, the capstone eportfolio project became a credited course, and I was no longer a mere observer who was immersed in the field. My emic role as an insider enabled me to gain better understanding of the intangibles, such as, beliefs, ideas, values, and perceptions of the students, in what was to become part of my data in an online ethnographic study. I was well positioned to observe what the participants did rather than having to rely solely on their recounts of what they did. Based on the research of K. Dahlberg, Dahlberg, & Nyström (2008), I focused on my reflexive journal-writing to

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help direct my energy and effort toward an open and respectful attitude to allow the students to take me beyond what my research questions initially sought to address. My conceptualization of my evolving role in my study is illustrated in Figure 8.
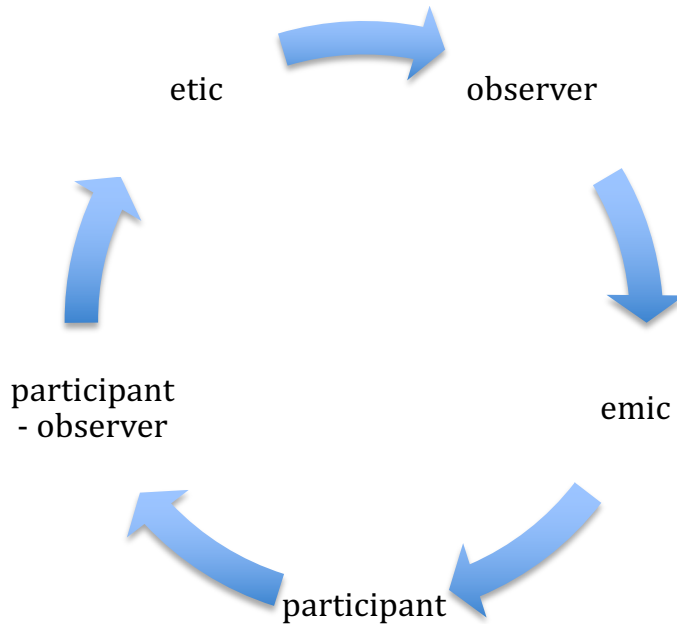
Figure 8. Role of researcher: From etic to emic.

During my four years in the field site, my role evolved from an observer to a participant, and from a reflective participant-observer to a reflexive researcher. I gained acceptance into the community after the course participants were informed by the instructor of my role in each course iteration. In order to deal with a perceived blurring of ethical boundaries, I engaged in full disclosure of my role as student-researcher who was both a course participant and a community observer. Although I provided feedback on the eportfolios of the community members, there was no blurring of power relations in my interactions with the students. The course instructor was the one responsible to post forum announcements, schedule sessions, and assign grades.

Participant observer. As a participant-observer, I became closer to the course participants, and actively engaged in their activities.

Following Seale's (2012) description of the roles of participant-as-observer and as an observer-as-participant, I was able to embrace the essence of my ethnography. Having its origins in anthropology, my ethnography enabled a more intimate study, where the members of a community gave me access to their everyday activities and allowed me to study their interactions and discuss perceptions while they were participating in their projects.

As aligned with my research approach, I became, as Lincoln and Guba (1985) describe, the primary research technique or the human instrument in my study. This notion is further articulated by Conquergood (1991), who posits that "ethnography's distinctive research method, participant-observation fieldwork, privileges the body as a site of knowing" (p. 180). He adds that the fieldwork necessitates immersion in the field for a sufficient amount of time to make it possible for the researcher to participate inside the culture. He refers to this experience as "an *embodied* practice … an intensely sensuous way of knowing," where the embodied researcher is the instrument (p. 180). It was in my participation in this way of knowing, and my subsequent questioning of my assumptions that I began to engage with the notion of reflexivity. When one becomes reflexive, one thinks about one's experience, whereas reflection provides opportunities for one to "engage in an *observation or examination of our ways of doing"* (Hibbert et al., 2010, p. 1). My evolving roles as a volunteer, intern, participant-observer, and researcher in the community of eportfolio creators is presented in Figure 9.
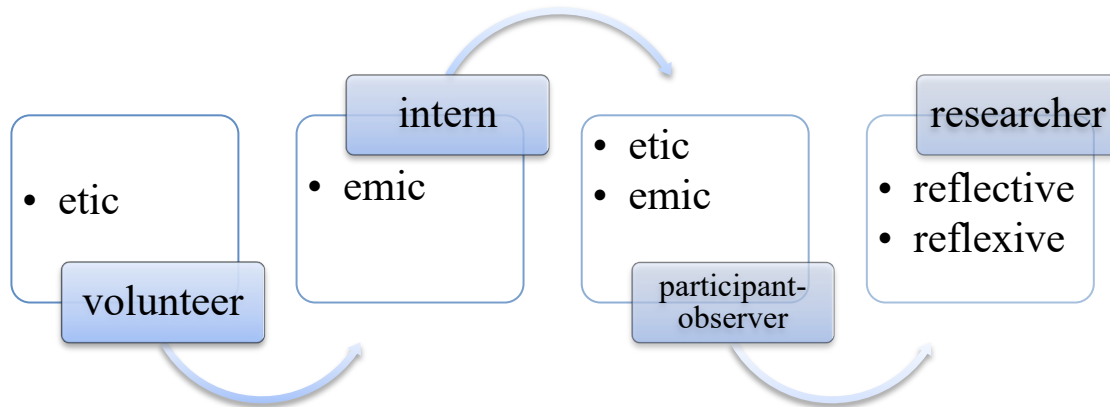
Figure 9. Role of researcher: From volunteer to researcher.

The role of a researcher as a participant-observer, as suggested by Clifford (1988), requires practitioners to experience both physically and intellectually "the vicissitudes of translation" (p. 24). In order to be able to translate what I viewed during my extended time in the field site, I took part in community events, and mingled with community members in various occasions. I was, therefore, subjecting myself, as described by Goffman (1989), mind and body to my own social situation as a doctoral student who aimed to gain better understanding of the eportfolio development. In doing so, the community members perceived me as being in close proximity while they attempted to complete their capstone eportfolio projects.

As a reflective observer and a reflexive participant, I made allowances for slowness of pace, as suggested by Rose (2013) to allow me to think-inwardly and

acknowledge possible biases and assumptions that might shape the outcome of my study.

I relied on my reflective journal and reflexive notes to guide my

- awareness of my thoughts,

- understanding of my actions,

- reassessment of my status quo at each stage of my data collection, and

- considerations to be made.

In my journaling, I proposed questions to help ground my observations. I not only

questioned what I wrote, but also allowed myself to write freely and honestly to bring

forth a more personalized ethnography, as recommended by Campbell and Lassiter,

(2015) and Van Maanen (1988).

Procedures. An ethnography, according to Silverman (1997), enables a "hybrid

approach in which the fieldworker is present in two agencies, as data gatherer and as a

person involved in activities directed towards other objectives" (p. 10).

Before obtaining ethics approval, I relied on a personal reflective journal where I

included my analysis after each visit to the field site. Once the course ended and I

received ethical approval for my research, I began to take field notes and collect data.

This rich data comprised both the context of the eportfolio project and the interaction and

reflection of the learners. As illustrated in Figure 10, in the first stage of my research

circle, my goal was to locate the research site, identify participants, and be granted access

to the field site.

Convenient sampling enabled me to draw participants from a pool available in

three course iterations. Since each course had approximately 20 participants, a minimal

number of 5-10 students initially seemed satisfactory for a study using an ethnographic

approach. In subsequent iterations of the course, I needed to establish rapport with the participants (as a participant-observer), conduct ongoing observations (as an online ethnographer), and provide feedback on eportfolio pages (as a participant in the community).
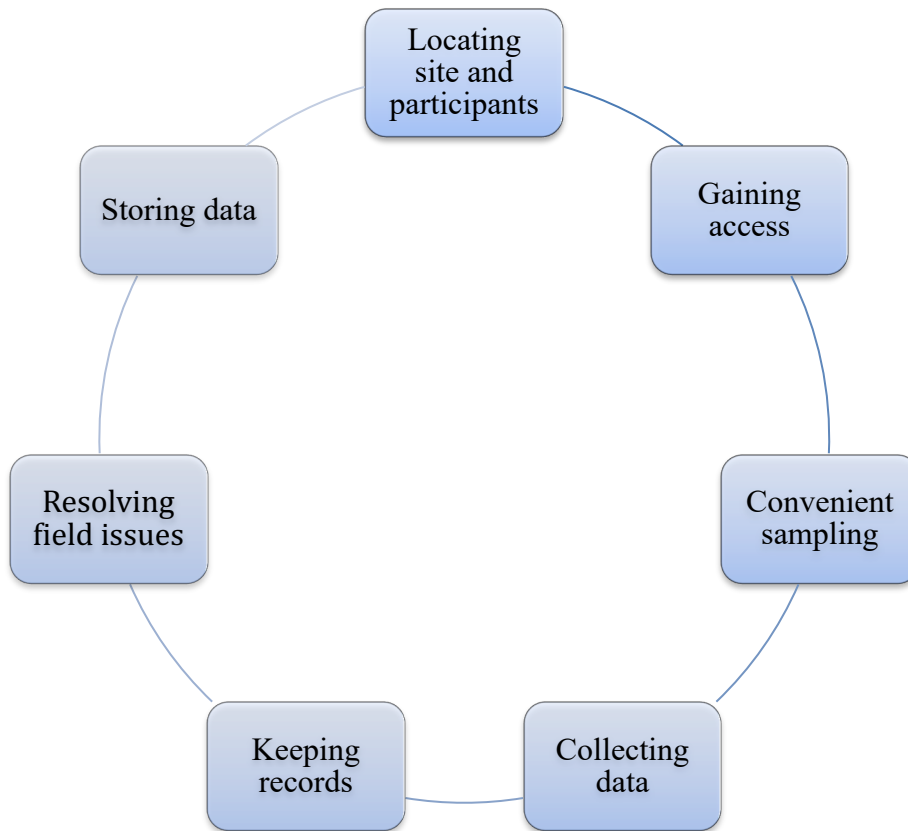
Figure 10. Interrelated activities in a data collection circle.

Adapted from Creswell (2013, p. 146).

After I passed candidacy, I initiated my research ethics application. Once it was approved, the first two of the three courses (from which my data would be collected) had ended, and all grades had been assigned to all graduates. Therefore, I was able to access resources for research purposes, recruit participants with the assistance of institutional staff, collect data using a variety of techniques, record information, verify accuracy of transcript, and resolve field issues. The final procedure in my adaptation of Creswell's (2013) data collection circle was related to the storing of research data. Since I had completed the TCPS 2 *Tutorial Course on Research Ethics* (Panel on Research Ethics, 2018) training, I understood the ethical requirements. Therefore, the storage of my data (collection, analysis, and interpretation) was in compliance with the Research Ethics Board (REB) requirements, as discussed under ethical considerations later in this chapter.

Participant sample. My study participants comprised master's level students during three iterations of a capstone eportfolio course.

There were six students from two of the three courses, three male and three female who had completed their capstone eportfolio projects. Some of the professions of the six participants included physiotherapist, paramedic, researcher, academic professional, and some who also teach at various professions. The participants were selected through convenient sampling of graduate students in three iterations of one course. This phase was completed after institutional administrative staff posted the invitation to participate message on the internal communication system (see Appendix B). Since each course iteration had a minimum of 20 participants, I had originally expected that approximately five students from each course would express interest in participating in my project. I was also cognizant of the fact that once the students

graduated from the course, they might no longer be interested in sharing their experiences.

In the end, a total of six students expressed interest in the study and contacted me after being informed of my study (see Appendices B-C). Once I received the signed informed consent forms (see Appendix D) from the students, they were invited to participate in the subsequent phases (see Appendix E-G). At each stage of my data collection, I communicated with the study participants to verify if they were still interested in continuing to contribute to my study (Appendices H-M).

Since the three courses were live at the time of my observations, I waited until the courses ended and all grades had been assigned by the course instructor before I initiated my data collection. The data was collected in the form of audio-recordings of archived student presentations; reflective journal of my experiences; field notes based on my observations; closed- and open-ended questionnaires; and semi-structured interviews. My data gathering process occurred in an inductive basis. I conducted my observations, reflected after my participation in the field, and after the course ended, I took on a reflexive role to enable me to revisit my thought process during each phase. As a human instrument in my own research (Lincoln & Guba, 1985; Conquergood, 1991), I could not fully remove myself from my data and be completely objective. As such, this aspect needed to be addressed in order for me not to let my personal biases mislead this study.

The concept of bridling, also referred to as bracketing, was a reaction to quantitative method constraints for rigorous research. As qualitative research began to gain prominence, researchers no longer needed to be apologetic for conducting their qualitative research. In other words, there was no need for researchers to bracket

themselves; instead, they could begin channelling their energy, efforts, feelings, thoughts, and emotions toward an open and respectful attitude rather than making an effort to control them (K. Dahlberg, Dahlberg, and Nyström, 2008). As a result, I included in my data sources not only the emic view of the participants, but also the etic insider view of the researcher, now considered a rich data source in qualitative studies.

I experienced a gradual realization that the infusion of quantitative data from close-ended questionnaire questions into my qualitative data collection would help offset the weaknesses in my ethnography due to the small number of study participants. Furthermore, by quantifying some of the open-ended responses, I facilitated further exploration and analysis of my findings. As such, my ethnography embraced tools and techniques available to enable data collection in various formats in an effort to report on a broader, rather than narrower, perspective of the two layers under investigation.

Ethical considerations. This study had minimal ethical risk. I understood the importance of protecting the rights of the study participants, and made concerted effort to ensure that confidentiality, anonymity, and privacy were maintained.

I observed confidentiality by keeping the information private while the study was being conducted and omitting the year or semester of specific course offerings from any of my data analysis documentation. I also maintained anonymity by replacing all names of participants with alpha-numeric codes to guarantee privacy of the participants. In order to maintain consistency, the same codes were used for my data collection in the various formats. The information from all sources was only linked to the identity of the study participants through the assigned alpha-numeric codes, which have been stored on a master list in an encrypted electronic file, separate from the anonymized data.

To ensure voluntary participation, potential participants were informed of my study via the internal communication system of the university. All potential participants, graduates of capstone eportfolio projects, received an Invitation to Participate (see Appendix B) with details about the project purpose, voluntary participation, expectations of participation, freedom to terminate participation with no consequences, and assurance of confidentiality. Students, who expressed interest in participating, received an additional Letter of Invitation (see Appendix C), and a Participant Consent Form (see Appendix D), which contained detailed information about the project to help them make an informed decision.

In terms of data storage, my study generated both electronic data and paper copies. All electronic files, including original and revised transcripts of open-ended questionnaires, and semi-structured interviews have been encrypted, and stored in a personal password-protected computer drive. The information will be stored for up to five years, at which point all information will be thoroughly and completely destroyed by damaging the memory chip on the encrypted, password-protected flash drive. Similarly, all hard copies of field notes, transcripts, or any research-generated data have been stored in a designated locked drawer in my home office and will be subsequently destroyed through shredding once the minimum storage period has been met.

As this is an online ethnography, there was no perceived risk of physical harm to the participants; however, some of the interview questions related to the perception of the students during their eportfolio development had the potential to trigger emotional responses. Therefore, careful consideration was given to the formulation and reformulation of the questions as displayed in my study materials (see Appendices F-G).

The responses to the questionnaire and interview with the first participants informed the subsequent reformulation of the interview questions. After I had read the responses from my first two participants, I saw a need to include not only additional themes but also more questions to enable the remaining participants to explore more deeply and widely in their search for information to contribute to my analysis of their experiences. Therefore, the final four participants in the questionnaire and interview phase received a more comprehensive list of questions with a wider selection of themes for their interviews, as presented in Appendix G.

The study participants were asked to not only pre-view the semi-structured interview prompts, but also to select the questions they wished to answer. It is noteworthy to mention that all six participants provided their responses to both the questionnaire and interview questions in a typewritten format, thus providing me with an accurate transcription of their answers. The participants expressed their appreciation for the written option, for it provided them with the amount of time and convenient space to formulate and reformulate their responses accordingly.

The principle of voluntary participation was observed during all phases of the study, up to and including the day when data from all sources and from all participants were aggregated in preparation for final coding into *NVivo* nodes. The dissemination of the results in various formats include a research report for my institution, and a conference presentation.

Data Collection. In order to answer the research questions and triangulate the findings, data were drawn from various sources.

First and foremost, I created personal notes in the form of a reflective journal of my research experiences and field notes of my observations within the field site of the online course.

My personal notes were written in words and symbols. These notes were a product of my ongoing participation in three iterations of the course via the discussion forum, eportfolio pages, and synchronous information sessions. I also included in my notes, excerpts of my discussions with my supervisor during my moments of awareness and discernment throughout my research process. Some of my notes were organized as journal passages (reflective and reflexive), and others as field notes. Combined, they were of great assistance to me during my analysis and interpretation of the student responses.

Written student responses to the questionnaire and interview questions were emailed to me by the study participants themselves. Audio-recordings of student presentations of eportfolios were captured using the Adobe Connect recording function. I also accessed online archives of student's eportfolios.

Writing and reflecting throughout this study kept me grounded and enabled me to maintain my alignment with my philosophical positioning, theoretical underpinnings and epistemologies of my research design.

As illustrated in Table 15, my preliminary notes, quotes, thoughts, ideas, and passages merged into a reflective journal, which I redacted and then stored in a collection of pages of my own eportfolio.

Table 15

Anatomy of my Field notes

Timeline	Evolution of my field notes	Rationale
2015 – 2018	Symbols, words, abbreviation of words after each visit to the field site	Entries in the reflective research journal. Descriptions of field site, Internet culture, eportfolio subculture, community of learners
Fall 2018	Field notes – after ethics approval	Descriptions of community events, peer-interactions (or lack of), feelings, attitudes, and behaviours
2018-2019	Research Journal (moments of reflexivity)	Alignment of research design with theoretical underpinnings, the philophical positioning, the epistemomogies, and the thematic analysis
2015-2019	Research Journal (moments of reflectivity)	Daily diary entries throughout the research process (including meetings with supervisor), and during data analysis, interpretation of findings, and reporting.

As displayed in Table 15, my initial moments of reflectivity, which represented my thinking about learning and my learning about my positionality, led to meaningful moments of reflexivity. During such moments, I was able to view the alignment of various concepts in my study.

Coding. Revisiting the recorded scholarly discussions between the professor and the students after their capstone project presentations was a meaningful part of my study.

Although I had attended many of the live presentations, I viewed the information from different angles when I listened to the recordings a second, third, or even fourth time, as required. I clustered additional themes of sentences, phrases, and words from the student responses, and created nodes for the subsequent coding of these responses. This information was added to the data obtained from the questionnaires and interviews, and the aggregated answers were organized into various themes before the coding phase

could be initiated. This phase was among the longest, as I not only renamed many of my original nodes, but also merged similar ones for easier coding.

According to Creswell (2013), a template for coding ethnographic data would start with a reference to the text about the theoretical lens used in the ethnography. In my study, it was a more contemporary theory of learning along with aspects of affect and cognition. This template would then include both the description of the culture, as in the students participating in a manifestation of Internet culture, or an eportfolio subculture as illustrated in my study, and also an analysis of the themes.

My coding process included turning on coding stripes in *NVivo* to help me not only navigate between themes, but also track my coding of each of the imported files. This process was accomplished by my merging similar themes from files in various formats (audio, Word document, PDF files) to enable me to organize the nodes and make sense of my data. I explored the information from various data sources by first coding aggregated student responses to each question separately. Afterward, I combined the student responses to similar questions but from different data sources (audio-file, interview, questionnaire) to have a better perspective of my findings in a larger scale. As a result, I was able to get the most out of the data while still maintaining integrity of my research during the analysis of my data sources.

Data analysis. With this multitude of data sources, I used the software suite of *NVivo* tools to assist me with the analysis of the data.

I used *NVivo Capture* to access all the pages of my eportfolio. I used *NVivo* for analyzing the texts of the reflective journal, field notes, the open-ended questionnaire answers and interview responses. I used *NVivo* and *NVivo Transcription* for transcribing

the audio-recordings of the Adobe Connect sessions. This phase necessitated the

allocation of sufficient time for my iterative inductive reasoning, as I was simultaneously

collecting, analyzing, and also attempting to interpret the data (O'Reilly, 2009). I used

NVivo to help me import data from various data sources, code emerging themes, create

visualizations, organize my field notes, and summarize the information. The screenshot

in Figure 11 shows an overview of my data organization for coding. The analysis of each

data source will be described separately in more detail.
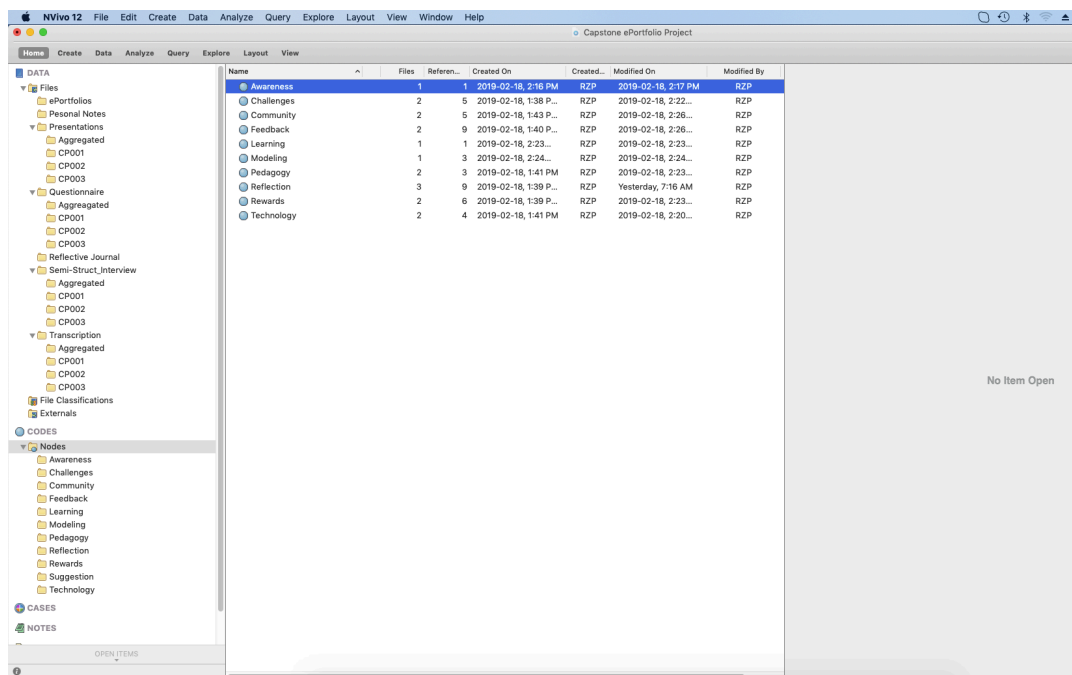
Figure 11. Screenshot of my data organization in *NVivo*.

My reflective journal and field notes were archived in a collection of pages in my

reflective eportfolio. The web browser extension *NVivo Capture* enabled me to import all

the pages of my reflective eportfolio (see Figure 12) into *NVivo*. I then conducted

descriptive coding to help me summarize in a few words the essence of each reflective

passage on the pages of my eportfolio.
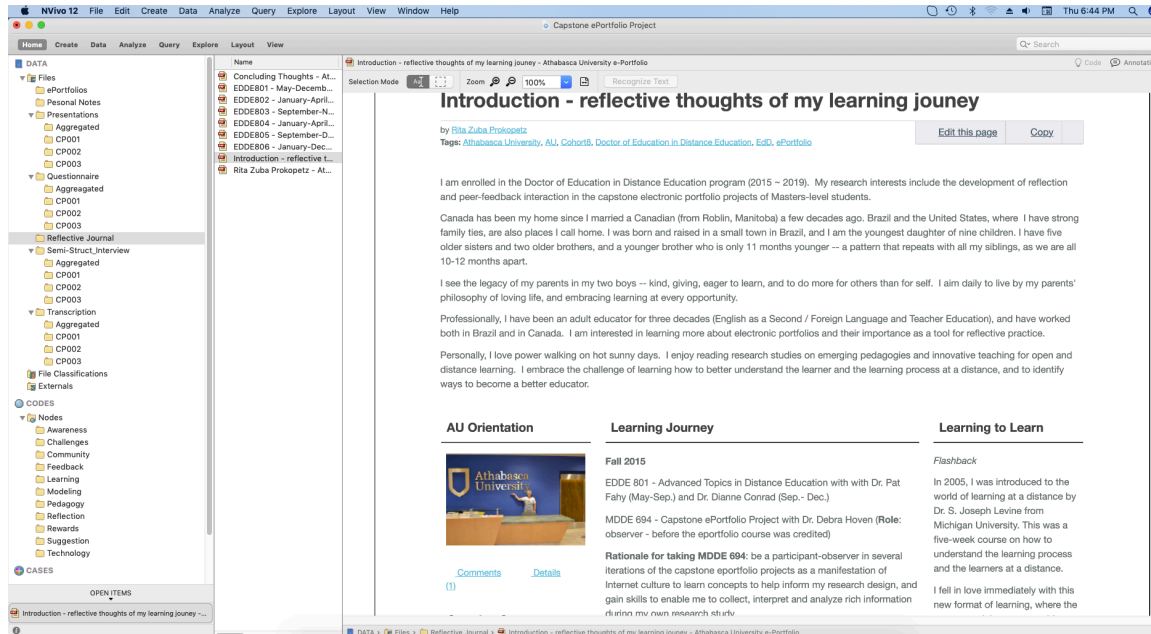
Figure 12. Screenshot of my reflective notes imported via *NVivo Capture.*

The questionnaires were administered by email. They included open-ended and

closed-ended questions. The closed- ended questions were tallied and reported by

number of responses to a given answer's option and not by percentages since the sample

was small and not generalizable. The semi-structured interviews, originally scheduled as

synchronous meetings via *Skype*, were eventually conducted by email. The participants

were provided with the full list of interview questions and given the option to choose

which questions to discuss during the interview (see Appendix F). The organization of

my raw data took longer during this phase, since not all respondents answered the same

questions. Therefore, I had to categorize the information, format the document that

would be imported into *NVivo*, and then combine the responses based on the specific

questions the six study participants had chosen to answer. I analyzed the aggregated

responses to the interview questions based on the identified themes and further explored

my data coded into *NVivo* nodes in a hierarchy chart (see Figure 13).
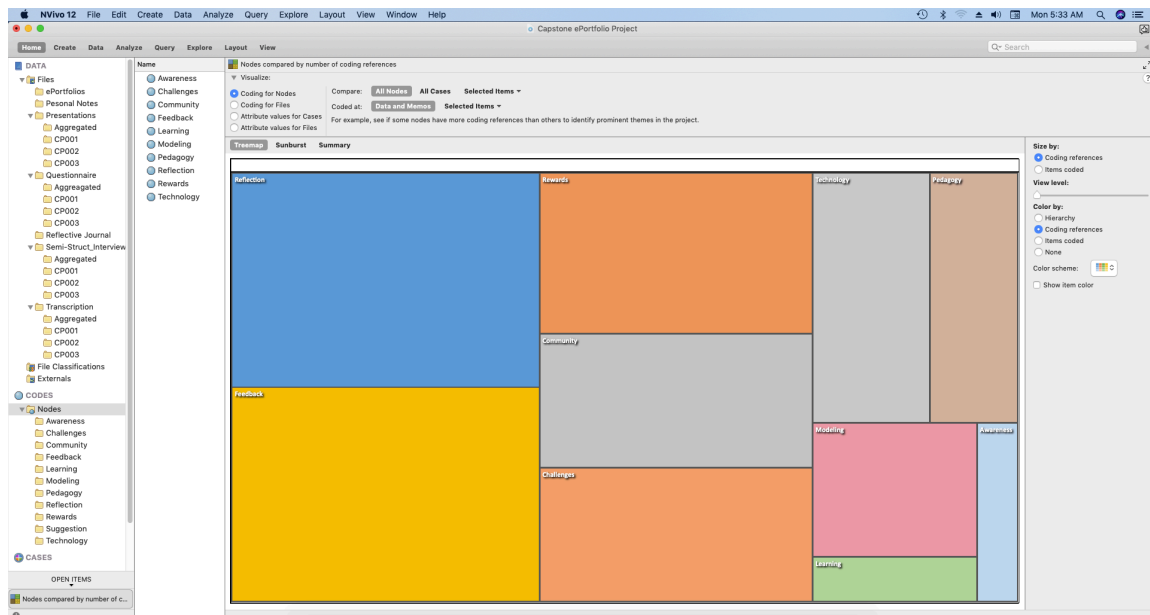
Figure 13. Hierarchy chart of interview response themes.

Throughout this phase of my study, I generated graphic representations based on

participant created data. In addition to the hierarchy and other charts created using

NVivo, I used *Wordle* software to create word cloud visualizations of textual data (see

Figure 14). These three visualization tools helped me identify aspects of the themes that

resonated the most frequently with the participants.

In Figure 14, the top nine words in descending order are feedback, eportfolio,

process, reflection, capstone project, writing, experiences, and students.

Figure 14. *200 most frequent words in questionnaire open-ended answers*.

The students reported having had meaningful eportfolio experiences related to

- understanding more about the process eportfolio and the significance of reflective writing;

- learning to both give feedback to peers and also to be equally prepared to receive it without feeling inadequate (as a feedback-giver) or attacked (as a feedback-receiver) during the interactions; and

- recognizing the value of a capstone project and the importance of writing well for students participating in capstone electronic project experiences.

Throughout this phase of my study, I continued to generate graphic representations (word cloud, hierarchy chart, pie chart) based on the responses to help me visualize which themes resonated more with the participants, and what aspects of each theme were most relevant to them.

One challenge in the data collection and analysis phase was addressing how to access the data within the Adobe Connect audio recordings of the students' final presentations of their eportfolios. A technologist from the host institution converted the original Adobe Connect recordings into MP3 format. I was then able to import that file format into the software. Using *NVivo*, I started transcribing manually pertinent passages of the recordings of the first student presentations using the software platform for my notes. Figure 15 is a screenshot of one of the audio files I had originally attempted to transcribe within *NVivo*.
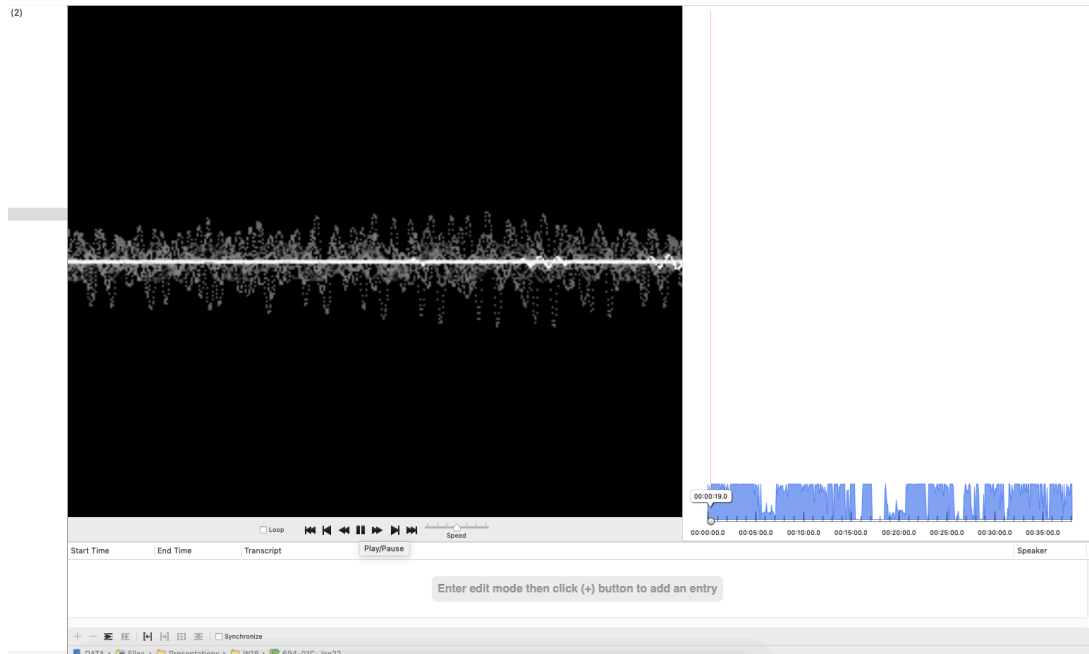
Figure 15. Screenshot of an audio file in *NVivo.*

During this phase, I made a conscious effort to attend refresher webinars to be informed of any new features of *NVivo* software. As a result, I became aware of the new *NVivo Transcription*, a feature that applies the latest technology for the provision of

automated transcription verbatim with good accuracy. Once I learned how to use this new feature, I incorporated it into my data collection and analysis. I uploaded the student recordings to *NVivo Transcribe*, where each one-hour of data took only half the time to transcribe. I reviewed and corrected errors in transcription of several passages in all 21 transcription files. I returned to the recordings of each of the sessions up to four times to verify the accuracy of my transcribed notes.

The *NVivo* training webinars I had attended highlighted that the transcription had up to 98% accuracy; however, I noticed that there were missing words in many of my presentation transcription files. In some instances, the words used by the student presenters had been replaced by others with a similar sound, yet a different meaning. As explained by di Gregorio (2018), software transcription tools are "undergoing transformation and are starting to incorporate elements of artificial intelligence" (p. 1). Therefore, the software predicts, sometimes incorrectly, the words based on previous passages. For example, there was one instance where a participant had used the word "presentation," which was transcribed by the software as "prison population." As a result, in the following passage, the verb phrase used by the presenter "be rested," was subsequently transcribed as "arrested," in alignment with the previously inaccurately transcribed portion of the presentation. Although artificial intelligence is facilitating research analyses in all fields, it still requires careful editing by a human to maintain a sufficient degree of accuracy during the transcription. Despite the various discrepancies of the transcription tool, which required additional editing, the tool was still of assistance to me. I subsequently coded (*NVivo nodes*) the information for later analysis of the themes. As I began to interpret and analyze my unstructured data, I found it reassuring to

be able to rely on a software tool that would support my analysis. I found this automated transcription assistance to be relatively fast, and simple to use.

One of the many benefits of having the text transcripts was that I ended up with additional time and energy to become familiar with my data. Consequently, I was able to pause and reflect on the content before coding the selected passages at nodes. It was during this preliminary phase of my working with the raw data that I became familiar with the content of each file, which enabled me to identify emerging themes.

As a way of triangulating what the learners did with what they said they had done during my analysis and interpretation of my findings, I viewed the artefacts of the eportfolio pages. I selected eportfolios based on my access to the eportfolio site of the students and the corresponding recording of their eportfolio presentations. Among the six respondents, only one had an accessible site. Although the artefacts on the eportfolio pages are rich in content, they are beyond the scope of my data sources, and were therefore excluded from the coding phase. These artefacts help tell the story of each learner in a meaningful way and could be used in a future study.

Interpreting data in ethnography. The difficulty in the interpretation of data in an ethnographic approach to research may rest partly in the data collection phase.

Although I had passed my ethics review and received my institutional approval to begin my data collection in early October 2018, I did not begin collecting data until two months later. I purposely did so to ensure I was familiar with the main features of the data management software I had chosen to use (*NVivo* 12), and also with the type of data I would be including in my subsequent analysis. I allowed for adequate time in this phase of my study to help me build a solid foundation for my one-on-one interaction with the

study participants during the questionnaires and interviews. In doing so, I was able to let the here-and-now moments with the students guide this important and meaningful phase of my study.

I had also allocated sufficient time in order to minimize the possibility of misinterpretation of written text (e.g., responses from the students in my transcript of the interviews, which were all submitted as written text in the end). Further clarification of my notes was also needed during this phase to ensure I had put sufficient thought and consideration in the interpretation of the findings. I accounted for, as Hodder (1994) recommends, my interaction with spoken emic insider views, those from the perspective of the students, while also considering my own etic outsider perspectives. In my aggregated data, I included information based on my own realizations resulting from my embodiment of myself as a research instrument and a site of knowing. I also unified my two roles as observer and participant within a single body of knowledge to show evidence that I was, as described by Kuper (1983), the one who went to the field site, saw the doing, analyzed it, and later reported on the findings.

In order to ensure my data stayed pristine, I counted on the voices of the study participants for each of the questions they answered in the questionnaire and interview and included direct quotes in my reporting. I aimed not to inject disproportionate accounts of self-realizations into my analysis; as such, I relied both on the literature and on my personal notes (e.g., notes from meetings with my supervisor, reflective passages of my journal). In addition, I revisited the audio-files and the transcription of the presentations to help me identify additional emerging themes.

Verification and trustworthiness. As a single researcher in this project, I relied on my organizational skills and my daily journal entries while I was collecting information, reflecting on it, verifying it through a second round of coding and queries, writing about the preliminary findings, and returning to the data as a way of triangulating the information.

I was able to verify my conclusions when I returned to the data a second, third, and even a fourth time. Figure 16 displays various phases of my research process.

observing	coding	verifying	reporting
• becoming familiar with the data • referring to the problem statement • revisiting the research questions	• identifying key themes • sorting them into containers (nodes) • visualing the data through illustration	• reviewing the steps • internalizing the intent • aligning experience with philosophical positioning	• unveiling the findings • providing accurate representation of the data • addressing the research questions

Figure 16. Analysis process in my online ethnographic study.

In order to ensure my data collection was viewed as trustworthy, I included multiple participant generated data sources (questionnaires, interviews, recording of the presentations) to allow for cross verification during the data-gathering phase. To include methodological triangulation, I maintained a research journal (with my reflective thoughts) and my field notes (along with reflexive passages) to further ensure an ongoing examination of how my research was being conducted at every stage. Additionally, I relied on the analytical software to help me both maintain documentation rigour and also provide an audit trail.

Another method of verification and trustworthiness in my study was the two layers of detail in my research questions to further demonstrate that my findings were based on the responses of the participants using the techniques that aligned with an ethnographic approach. The two layers allowed for new themes to emerge, and further confirmed the credibility of my findings.

As previously mentioned, the focus of the first layer was on the broader concept of reflection during the eportfolio development, and the second layer looked at the extent to which peer-feedback provided master's students with a sense of belonging to a community of learners.

In the coding phase, I focused first on sentences to identify themes. I repeated the process using phrases and then words to help me with my thematic analysis. Although the main themes that had emerged in my literature review were pedagogy, technology, interaction, and reflection, I continued to explore the data to help me see beyond my initial research questions.

In my inductive approach, the themes generated from the data collected and my assumptions were data-driven and based on the perception of the students. Therefore, the emerging themes, which were associated with my research questions, informed my research, and aligned with the data collected.

In order to ensure I had conducted my reflection and analysis rigorously and exhaustively, I set out timelines for each phase of my work, as outlined in Table 16.

Table 16

Research Steps Timeline

Research Steps	Date
Import data from the first course, transcribe, edit, and include findings in a journal.	October–December 2018
Import data from the second and third courses transcribe, edit, and include findings in a journal.	December 2018–January 2019
Review the work done to date, analyze the aggregated data from the three courses, and revisit research questions.	
Initiate open-ended questionnaires and semi-structure interviews phase.	January 2019
Start coding (*NVivo* nodes), verify information, study analysis to date, and begin data interpretation.	February 2019
Rely on staff assistance to reach out to participant pool once again.	February 2019
Revisit questions for the semi-structured interviews to include themes that emerged from the responses of the first group of (two) participants.	
Extend dates for the questionnaire and interview to accommodate the schedule of the second group of (four) participants.	March,2019
Review nodes, continue coding in light of new data collected, verify information, and proceed with data interpretation.	March 2019
Begin reporting on the findings to date.	March–April 2019

Creswell (2013) suggests the use of table, charts, diagrams, and figures to help with the story-telling of the events during the ethnographic analysis and representation phase.

Throughout this research, I revisited the first three chapters of my dissertation to reconnect me with (a) previous experiences as an eportfolio creator, (b) my background as an adult educator using innovative pedagogy, and (c) the rationale behind my research. Figure 17 illustrates the interconnection and alignment concepts that kept me grounded throughout my study.

Field Work
field site
accessbility
acceptance
ethics
data-rich

Researcher
background
experience
positioning
assumptions
intent

Community of Learners
culture sharing
peer-interacting
critically reflecting
internalizing
aligning competencies

Research Design
epistemologies
underpinnings
techniques
analysis
reporting
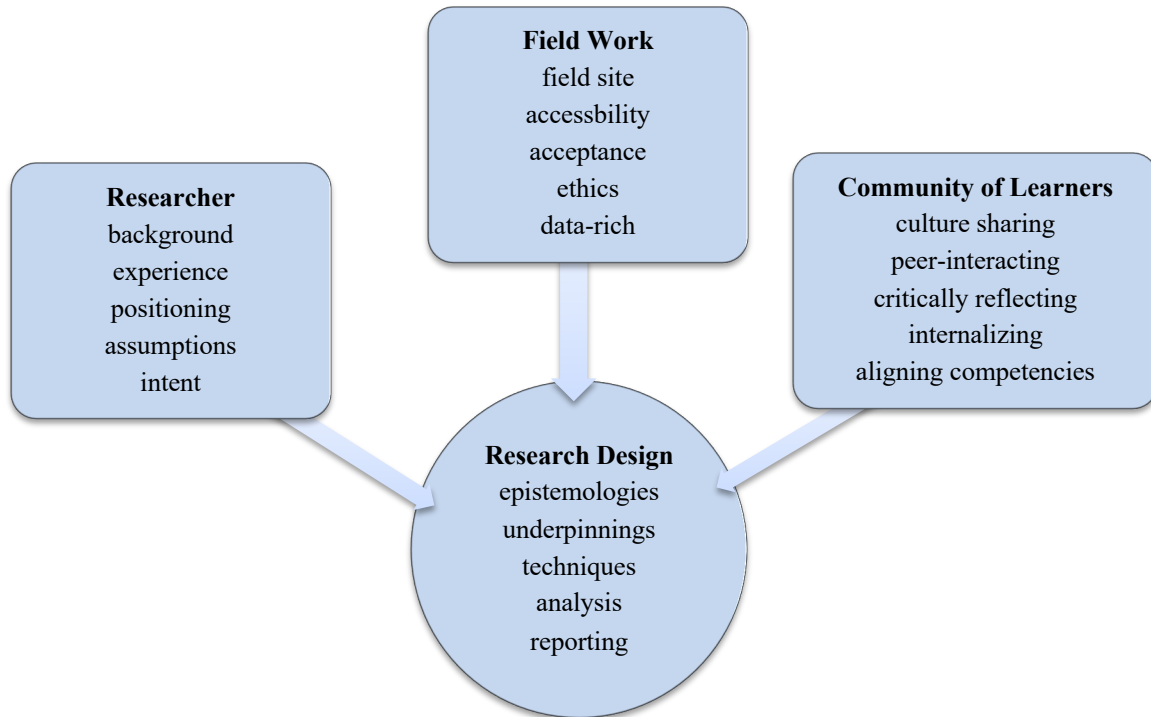
Figure 17. Alignment of key constructs in an online research analysis process.

During my data collection and analysis, I positioned myself as a researcher who, as suggested by Denzin and Lincoln (1994), was capable of four crucial facets of research. The first two were dealing with the emerging themes of a world that is active and constantly changing and interacting with each experience with a fresh outlook. The third facet was committing to the emic insider view of each situation. The final recommended facet for researchers to adopt was conceptualizing human experience in a more natural way. I add to these a fifth; it was equally important for me to understand the epistemologies in my research design that connected with me and the online course that housed a community comprised of members who shared the eportfolio subculture of Internet culture.

As illustrated in Figure 17, my vision of an alignment of key constructs in my research design connect the researcher, the fieldwork, and the community of learners. This way of seeing my research process renders the blueprint for my online ethnographic study. These constructs in the community of learners in my study are built on the theoretical epistemologies of the affordances in the environment and importance of affect.

Summary

This chapter explained my methodology based on my chosen research paradigm and demonstrated how it influenced the iterative process of data collection and analysis. Through this process, my roles and research inquiry evolved. The online ethnographic approach was discussed and its appropriateness for my study was demonstrated through a comparison with the aims and purposes of an alternative research paradigm. The methodological procedures of the various phases of the study were presented as well as key details related to the research participants, ethical considerations, my data sources, process of data collection, and subsequent analysis. The chapter presented the strength, integrity and trustworthiness of this study. Findings resulting from my extended observation and participation in various iterations of the course are presented in subsequent chapters.

Chapter 4. Research Findings

The purpose of my exploratory ethnographic study was the examination of the development of self-reflection and peer-reflection among master's students as they completed capstone eportfolio projects in an online post-secondary institution in western Canada. My study considered aspects of eportfolios as they related to pedagogy, technology, interaction, and reflection through the lens of an Internet subculture of a community of learners.

This chapter presents the findings that elucidate the experiences of learners in three iterations of a capstone eportfolio course. The student responses were sincere, heartfelt, and helped tell their stories about not only their final course in a program of studies, but also their complete master's program.

This chapter will focus on the voices of my study participants. In the discussion of this study in *Chapter 5*, I will add more of my voice as researcher.

Layer One Findings (Q1 & Q2)

In the sections that follow, I present my findings on reflection and feedback interaction based on the responses to the close-ended questionnaire questions (1, 3) and open-ended questions (2, 4, 5) by six study participants.

The findings will be presented organized by the two layers of the study. Layer one of this study asked the following two research questions:

Q1: What are the overall perceptions of the development of reflection in an online eportfolio project by master's level students participating in a capstone project as an instance of Internet culture?

Q2: What value do students perceive of the reflective process as they develop their capstone eportfolio project?

Student perceptions of layer one. Reflection, and its interconnectedness with the eportfolio development of the students, constituted the primary area undergirding this study.

There was an observable development of reflection when the students shared perceptions of course competencies (what was learned) during their final presentations. This subtle demonstration of understanding of the development of reflection was noticed when students

- expressed their role in an eportfolio community (as feedback givers and receivers),
- shared their educational experiences (how the learning occurred),
- articulated their perception of how their views changed throughout their educational journey, and
- paused to think back on their learning to date.

Data on the perception of the development of reflection, and its interconnectedness with the eportfolio development of the students were gathered through a suite of data collection techniques, which included direct participant observations, and also audio-files, questionnaires, and interviews.

Value of reflection. My direct observations revealed a gradual evolution in the responses of the students on their perception of the value of reflection.

This evolution is partly owed to the fact that with each course iteration, measures were put in place to enhance the experience of the students, which included

- presentations on critical reflection (two iterations of the course),

- sessions on mindfulness (one course iteration), and

- case study on the alignment of competencies (one course iteration).

Students in one iteration of the course were introduced to sessions on mindfulness to facilitate the critical reflection required during the development of their projects. They also engaged in the analysis and interpretation of a case study to assist with the reflective process as related to the alignment of core competencies.

Question 1 of the questionnaire was, "When you were participating in your capstone eportfolio project course, what value, if any, did you perceive regarding the reflective process?"

The responses to this closed-ended question revealed that five participants saw some value in the reflective process, whereas one expressed uncertainty (see Table 17).

Table 17

Participant Perception of Reflective Process in Capstone ePortfolios.

Closed-ended Answer (Questionnaire Q1)	n
Some value	5
No value	0
Not sure	1
Total	6

Question 2 of the questionnaire was an open-ended question, inviting participants to elaborate on their perceptions of reflection during their capstone eportfolio experiences. One of the five participants who reported some value in their reflective experience volunteered a further comment that the experience had been of a "very high value" on a personal level for various reasons. All six respondents stated that their capstone eportfolio project experiences had been reflective in nature and helped with the process of reflection. To help me visualize the data from question 2, I used a word cloud generating software to produce a series of images using all the words in the respondents' answers. These images ranged from the 200 most frequent words in the participant responses down to ten. Figure 18 depicts a word cloud of the top ten words used by respondents in answering question 2. Returning to all of the participants' responses to question 2, I identified the top three themes, which in descending order were capstone eportfolio project, process of reflection, and reflective experiences in a course.

Figure 18. Top ten words used by participants to depict perception of reflection.

Although the ten most frequent words captured in my word search are all either positive or neutral in nature, the total responses captured a wider range of expressions that merited inclusion in my analysis. These ranged from four of the six participants using the word "rewarding" to one each using the words "confusing" and "challenging."

Three of the students stated that their reflective experience during the development of the capstone eportfolio projects had been "rewarding." One expressed feeling that the experience had been "challenging" in nature. Another described it as "confusing." Students who had found the experience rewarding, and those who had found it challenging further explained that the development of the capstone eportfolio projects had helped them not only "contextualize their learning" but also "visualize application of their learning." This realization embodied the dual skills of looking backward and moving forward.

The overall reflective nature of the course had enabled the students to both recall and also "appreciate the meaningful learning" that had occurred throughout the program. These students further stated that the flexible nature of the capstone eportfolio project had not only facilitated their development of reflection but also enabled them to see their growth over time. The remaining one respondent stated having struggled; the student had found the experience confusing. Among the reasons they mentioned were dissatisfaction with the way the course is structured (flexible timelines), and their difficulty writing in a meaningful reflective way. Suggestions and recommendations obtained from the study participants are included in *Chapter 6*.

Layer Two Findings (Q3, Q4, & Q5)

Layer Two of this study asked the following three research questions:

Q3: To what extent does the giving and receiving feedback provide students with a sense of being part of a subculture of an online community of learners?

Q4: How do students perceive their experiences as peer-feedback givers in the development of reflection as they participate in an online master's capstone eportfolio project?

Q5: How do students perceive their experiences as peer-feedback receivers in the development of reflection as they participate in an online master's capstone eportfolio project?

Feedback interaction. My secondary layer of questions dealt with student perception as feedback givers and receivers in the development of reflection, and to what extent peer-feedback interaction contributed toward community building.

The data sources used to address the questions in the first layer of the study were also used to address the main question and sub-questions in the second layer. The close-ended question 3 of the questionnaire read, "To what extent does giving and receiving feedback provide students with a sense of being a part of a subculture of an online community of learners? (choose one)." The results are tallied in Table 18. Four out of six of the participants reported feedback on the eportfolio pages as contributing some sense of belonging to an online community of learners during their capstone eportfolio project course. One of the respondents expressed uncertainty in this area, and another one stated not having perceived any sense of being part of a community as a result of their interactions with peers in the course. This latter group of students further explained they had provided little feedback on the eportfolio of their peers and understood the reason why they had received very few comments on their own eportfolio pages.

Table 18

Extent to which Feedback Contributes to Sense of Community Belonging.

Closed-ended Answer (Questionnaire Q3)	n
Some sense of belonging	4
No sense of belonging	1
Not sure	1
Total	6

Community building. My initial "thoughts of what a community of learners entailed (learners in a cohort), and what I actually saw happening (interactions that contributed to community building) differed from one another" (personal notes).

My observations of the synchronous sessions enabled me to interact with the course participants, as well as view the interplay between what the online learning environment provided the students (affordances in the environment) and its impact on community building (another topic for a future study).

As articulated by the students, the community building aspect was a result of the interactions, and not a precursor to them. As posited by Conrad and Openo (2018), "healthy learning communities engender appropriate and relevant levels of interaction" (p. 12). This line of thinking helped me consider revising my initial conceptual framework (see Figure 19).

As depicted in Figure 19, my visits to the weekly Adobe Connect sessions made it possible for me to visualize the interrelationships of four key concepts—feedback giving, feedback receiving, competencies, and reflection.

Observations of peer interaction enabled by synchronous Adobe Connect sessions

- Synchronous sessions

- Peer interaction

Feedback giving

Feedback receiving

Critically reflecting

Aligning competencies

- Community building

- Affordances in environment
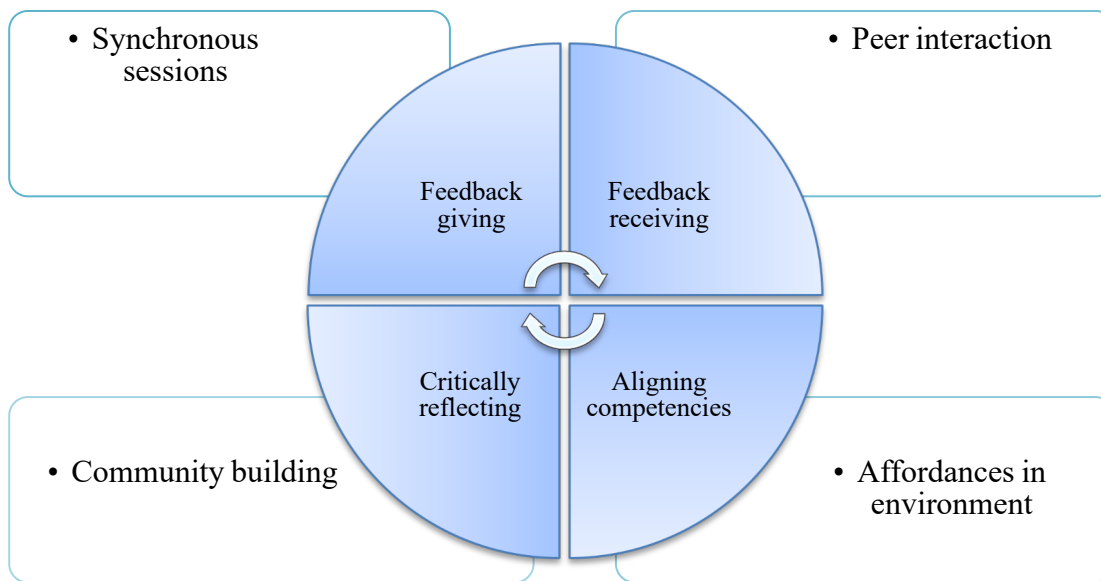
Observations of community building resulting from reliance on the environment

Figure 19. Map of interrelationships of key constructs based on my observations.

Community building was a result of eportfolio technology-enabled activities, which were then mediated through feedback interactions with instructors and peers. These activities intensified after each community gathering in scheduled synchronous sessions. During these live events, students shared their discoveries as an articulation of personal growth, through interactions with one another, the instructor, and their learning environment; my thoughts based on these events were included in my reflective journal (personal notes), which later became part of my reflexive journal (field notes).

Below are the sentiments of a study participant as a result of my request to share overall thoughts on how to build a strong group identity and a supportive cohort in the course:

First, I think by the nature of the course, [a capstone eportfolio project] lends itself to being a strong bonding experience for everyone involved. I say this because there is deep and meaningful sharing through reviewing and commenting on each other's portfolios. When the sharing of portfolios and constructive feedback is considered as an exchange of valuable insights, with no holding back, then I think the scene is set to build strong relationships and to build confidence through experiencing a mutually supportive environment – one where everyone is looking to see their classmates be successful.

What enables and enhances this process?

-I think the weekly group meetings on Adobe Acrobat … help encourage the growth of a strong feeling of class unity.

-Encouraging students to find "study buddies" and to build informal groups of "supporters."

-Ensuring that there is strong direction provided, on a timely basis, whenever there are signs of confusion and uncertainty in the process of building an appropriate and meaningful e-portfolio.

-Highlighting the benefits of sharing feedback and mutual encouragement often, and with as wide a group of fellow students as possible.

-Individually acknowledging the value of feedback given, and how it enhances every personal e-portfolio to receive careful, considered, and constructed feedback.

-Recognizing that this is not just an individual journey, but one that is enhanced and made more meaningful through interaction with the group.

Note. I had originally expected [the course] to be a mostly independent and individual experience. Instead I found that it became my most connected group experience in the entire program. I discovered that the more we shared, the closer that connection became.

Because I felt such powerful group support, my final presentation (although still stressful) felt like a team effort rather than just an individual activity. It is the camaraderie and support that I experienced that I will always remember – I consider it a most valuable gift that I was privileged to receive!

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Online interactions. There is a degree of vulnerability in feedback interaction; it is an emotionally laden endeavour for both givers and receivers.

During the synchronous sessions, students warmed up to each other, and began to identify those to whom they wanted to provide feedback—resulting in relationships being forged and additional peer sharing.

The camaraderie among course participants, and between them and the course instructor during the weekly sessions, provided the support and trust necessary for their subsequent interactions on the eportfolios pages. In addition, as students became aware of the resources available in their course, they began to rely on the exemplars of eportfolio presentations of former graduates. This attentiveness to the affordances of their learning environment and understanding of how the information could be subsequently applied in their own projects contributed to community building.

Student perceptions of layer two. Data from the open-ended question 4 of the questionnaire addressed the perception of the students regarding their experiences as peer-feedback givers.

The question read, "How did you perceive your experiences as peer-feedback giver in the development of reflection as you participated in a capstone eportfolio project?" The word cloud in Figure 20 is a visualization of the most frequent words used by the respondents to answer this question.

Figure 20. Fifteen words depicting student perceptions of feedback giving.

Responses to this question revealed that three of the respondents had found it hard to provide peer-feedback on the eportfolios of the other students in the group. They found that this undertaking was hard work, time consuming, and required certain skills for them to be able to "offer feedback that their peers would appreciate" receiving. They stated that they had found the peer-feedback writing process equally hard. The remaining three of the respondents expressed appreciation for being able to offer feedback to their peers. These respondents appreciated the opportunity to share their experiences during their feedback giving because the activity helped "validate" their reflective process. Some of the suggestions and recommendations based on peer-feedback giving provided by the respondents are shared in *Chapter 6*.
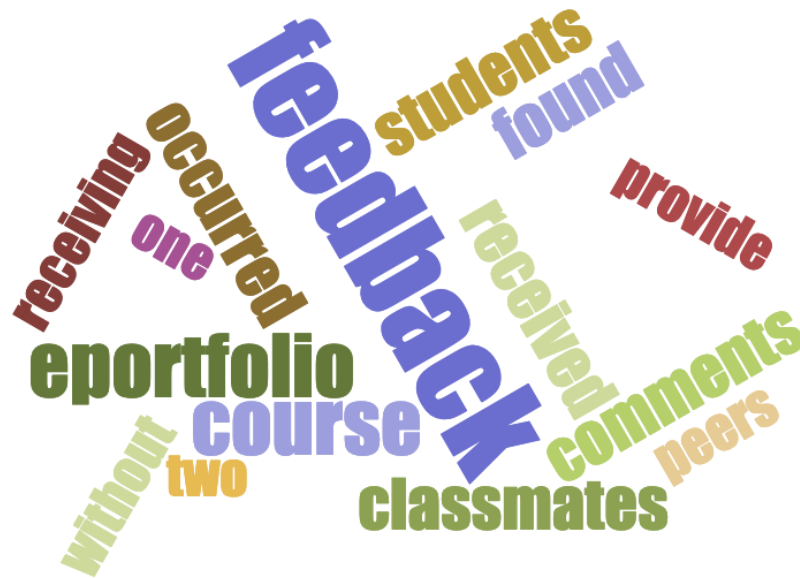
Figure 21. Fifteen words depicting student perceptions of feedback receiving.

The final question in the questionnaire addressed peer-feedback through the lenses of the receivers. It asked, "How did you perceive your experiences as peer-feedback receiver in the development of reflection as you participated in a capstone eportfolio project?" Responses to this question revealed that two of the students had found it hard to accept feedback from their classmates on their eportfolios. They argued that the feedback received had been limited to one or two classmates, and its focus had been on minor points such as grammar and layout of the page. The remaining four students found the comments they received had occurred throughout the course, both in print and in conversation with peers, and had contributed to their completion of their project. As demonstrated in the responses, the feedback concept as an instructional tool is complex, and as a learning strategy, it is an emotional endeavour for both the givers and

the receivers. The illustration in Figure 21 is based on the responses to the open-ended question 5 of the questionnaire.

The students participating in the three iterations of the course gravitated toward a discussion in the forum, or a comment made by a peer on their eportfolio pages in their active pursuit of new insights. In doing so, they interacted with one another, and began their process of building, maintaining, and strengthening their online community. The interaction with peers assisted students in their decision-making of what comments to incorporate into their collection of pages. After students received feedback from peers, among the observable behaviours and attitudes were

- heeding the new information,

- questioning the rationale behind the comments,

- analyzing the parts to ascertain their connection to the whole,

- demonstrating initiative in modifying content,

- prioritizing time to think through what portion of the new information from their peers to assimilate,

- responding appropriately, and

- feeding information back into their existing knowledge pool.

Some students, in their role as feedback receivers, chose not to heed the comments provided. Other students neither responded appropriately nor reflected sufficiently on the peer-feedback they were receiving. These choices that the students made were partly related to their not having the capacity to reflect sufficiently deeply on the feedback received. As a result, these students made a choice not to revise, refine or modify their eportfolio pages appropriately; consequently, they faced some difficulty in their attempt

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to complete their projects, as demonstrated in the participant responses. It is noteworthy to mention that after the initial comments by peers, even the disengaged students became attentive to both feedback giving and receiving. The word cloud below depicts the six most frequent words used by students in the aggregated responses to questions on giving and receiving feedback (Q4 & Q5). The responses were from the questionnaire answers from the first two participants and the responses in the 21 recorded student presentations in which similar questions were asked of the presenters (see Figure 22).

Figure 22. Six words used in student responses on feedback giving and receiving.

The students, who were among the first ones to complete and post their initial work, searched for personal areas of strength on which they could rely in order to contribute to their community. They took a more active role as a member of their learning community and began being more proactive in their acceptance and provision of comments. The natural leaders in the group began revealing their attributes during these interactions. This continuous spiral process of peer-interaction draws upon mental, emotional, and intellectual capacities.

Recorded ePortfolio Presentations

The recordings of the student eportfolio presentations included the very essence of what a process eportfolio entails, which is the story-telling of the learning journey of each student, the alignment of program competencies, and their reflection on their chosen artefacts and on their learning. Given that the sample of students who chose to participate was only 6 out of the potential 56 who were enrolled in the three iterations of the course, I realized that I had to make a trade-off. Once the questionnaire and interview data were collected, and analyzed, I returned to the audio files of student eportfolio presentations that I had obtained from the course archives. I listened to the recordings again, many of which I had already transcribed, in order to search for similar questions to the ones on the questionnaire (Appendix E). This part was relatively simple to execute, since there were very few questions in this initial phase. For the interview questions, however, the study participants had the flexibility to choose not only what questions they preferred to answer, but also what themes they were interested in discussing. In addition, they also had the option of going beyond the selection of questions I provided (Appendices F-G). Consequently, I had to view the transcription of the recordings additional times as well as listen to the original audio-files to get the most out of my data while maintaining integrity of my research.

Each hour of the Adobe Connect audio recording from the course archives represented a final presentation by a student. Since I had been invited by the course professors to propose questions after the student presentations, I was able to listen to student responses to my questions in the audio-files. As many of the questions were later included in my study materials (Appendices E-G), I relied on the information from these

audio-files as a fall-back approach. As such, I referred to the transcript to properly analyze the rate of appearance of certain themes, which I may not have otherwise identified due to the small number of participants in the one-on-one interaction phase of my data collection.

My institutional approval gave me access to the recordings in three courses, which would have been equivalent to approximately 60 hours or raw material; however, due to technical difficulties, some of the links to the recordings were no longer available. In the end, I had access to 28 hours of raw data from all three courses combined, which included 21 recordings of one-hour student presentations. The remaining hours were from the live sessions, which, although rich in data, were not included in my project.

Student Voices

The preceding sections of this chapter distilled quantitative findings. This section will provide a more qualitative perspective of the voices of the study participants. By including in my study excerpts of the information on the perceptions of the six participants, I am providing a space for expression of their voices to their experiences. This articulation of overt knowledge is based on the narratives and story-telling of students whose insightful responses contributed meaningfully to my study.

My study participants were very generous with their time, and also very kind to me throughout my data collection and analysis phase—a relationship made possible as a result of my immersion in the field for extended periods of time and my personal embodiment of the culture as a whole (replete with morals, values, beliefs, and doubts).

On capstone eportfolios. I was interested in hearing the opinion of the students regarding their capstone eportfolio projects, and the following quotes are from students in one of the three courses I observed.

One of the students stated, "using this format captured my highlights and most memorable projects I worked on during the program" and the capstone eportfolio project "has impacted my current practice in that I have added a similar e-portfolio project to a course I am currently teaching." The other student felt, "the capstone project has potential to grow into an important piece of reflective writing" and further added, "how the project was structured … was more of a method to equalize the 'workload' from the students who chose course based instead of the thesis based routes."

One of the four participants in another course considered, "this project was one of the most meaningful parts of my learning journey during the [master's] program," a sentiment that was shared by another participant who stated that the eportfolio experience was "one of the best learning activities in the entire [master's] program." There was a third participant in this course that stated, "initially, when I was required to complete the eportfolio project, I thought that it would be really easy. As I was working on the project, however, I realized that it was much more challenging than initially anticipated." This student went on to say that despite the challenges and the discomfort in "expressing myself fully," there was "a sense of relief and gratitude for the opportunity." The fourth participant stated that the eportfolio choice was enjoyable, but "improvements are always possible" although "the collegial nature of the work was pleasurable."

On technology. Students had conflicting feelings pertaining to the platform available to them in their program. They reported that the platform was "not intuitive," not easily accessible, and not compatible "in terms of its usability."

Some of the students shared their feelings in a more detailed paragraph. One of the passages is below:

> From a writing aspect I found I had to write in word, and then transfer the information into the application. I found Mahara was not intuitive in its user friendliness, and it did not easily convert images to the proper size or allow for alterations within the application. I therefore had to rework pages to make them more visually appealing and balanced. This was frustrating, and I ended up embedding images within text as a workaround. It was also not easy to move objects around the page, and having a right click function to change the layout on the fly would be better. I cannot speak to other applications though.

One other student "found the platform cumbersome and in the end chose to use a different website." Another student stated that the platform provided by the institution proved to be more of a hindrance than a helper, and as such, it may have impacted negatively the ability to reflect, as articulated below:

> I was initially not a fan of the Mahara software in terms of its usability with my technology (voice recognition software) and found using Mahara to be quite time intensive and frustrating when compared with other web development tools available. This initial frustration probably hindered my ability to move forward into deep reflection, however this proved to be only a temporary distraction and I slowly gained a better appreciation for Mahara.

The student further noted that the platform was neither user-friendly nor compatible with other software being used, as stated below:

> Mahara did not integrate well with using Dragon NaturallySpeaking voice recognition software. I had to use a lot of work-arounds (particularly cut-and-paste). As a result, I created Word files first for all components of my e-portfolio. Then I cut-and-paste them into my eportfolio. Then any edits had to be done first in the Word file and then re-pasted back into my eportfolio. Although initially appearing very onerous, this imposed a discipline upon my work that I now consider valuable (and I always had a reliable backup of everything!).

The aspect mentioned above raises the issue of accessibility and compatibility of the eportfolio platform currently being adopted for the program.

On reflection. One of the participants stated that the "requirement to reflect on [the] experiences during the … program was both challenging and rewarding … [and] the experience helped strengthen and solidify [the] use of reflection."

Another participant from the same course revealed that the reflective requirement "was an opportunity to look back at which courses had the greatest impact on [the] learning journey." One of the four participants, however, was "not sure" since the "overall perception of the development of reflection during the capstone project was mostly negative." The student further stated that there was a feeling of "respect [for] the purpose of the capstone project and the validity of reflective writing"; however, "the structure of the course and lack of expectations, exemplars, and lack of actual fluidity is what impacted [the] perception of the project." One participant "had already completed [an experiential learning course] and … found it relatively easy to resist the urge to write

in an academic, and therefore formal way." The student further stated that "having [an experiential learning course] as a prerequisite would be of value for any student doing the capstone process." The second participant posited that "[r]eflection was a tool for reviewing all of the courses and many of the concepts and interactions in them" and that "the flexible structure" of the course fostered the revision of "concepts and ideas … [that were] most relevant and useful." Although there was a perception of "some value" of reflection in the capstone project by the third participant, the student "found the criteria for reflection very confusing and often contradictory." The student stated, "it would have been beneficial for the class to be separated into small groups and complete the portfolio within their smaller groups." In consequence, the student adds, it "would have helped offer feedback more effectively as it would have been done in smaller groups."

On feedback. A participant who stated seeing "no sense" of belonging to a subculture of an online community as a consequence of giving or receiving feedback, explained that "community development and developing a sense of [belonging] were not important" for the student in that particular course or in any of the courses in the program.

The student further stated that not "every student in an online course needs these elements but opportunities for community development and a sense of belonging should always be provided in online courses for students that do want and benefit from them."

One participant who was unsure stated, "with the exception of two classmates, very few seemed to appreciate the feedback … offered" and that some of the students "took the information personally as a criticism rather than constructive" feedback despite the attempts "to 'soften' information (to the point that the professor had advised that I

was 'too nice' when offering feedback)." The student noted that some of the "peers 'criticized' [the student's] eportfolio after … feedback" had been offered and, "sometimes people would provide feedback to meet the expectation of providing feedback." The student further posited, "the giving and receiving of feedback may have been more effective if students were exposed to this throughout their studies … [some of the classmates] did take things very personally … [which] limits the meaningfulness of the intention behind the feedback." The student concluded by connecting feedback with the ability to reflect:

> With meaningful feedback, I found that I was able to express myself more effectively and I was proud of the final product. The process eportfolio capstone project allowed me to really reflect not only on my studies at [my university] but also on the meaning that it had and the context in which it occurred. For example, there was one course that I barely participated in and found significance in the learning that occurred. I was able to deeply reflect on this experience and convey it, through several re-writes, in a way that allowed me to convey my intended meaning.

The four participants who perceived that giving and receiving feedback provided students with "some sense" of being part of a subculture of an online community of learners provided rich descriptions related to peer-feedback giving and receiving and also the reflective aspect of the experience. One of the students posited, "feedback allowed me to dive deeper into the soul of my journey and draw out deeply personal reflections that I would not have shared without the feeling of comradery that developed within my core group." The student further explicated, "the peer review process is integral to the

learning journey as it allows the practice of accepting critical feedback without the emotional baggage associated with taking it as an attack." The student also put forth the following thoughts:

> As the giver of peer feedback, I found a methodical approach to be best suited to my style within the bounds of the e-portfolio. I found within my tight peer group that we were able to be honest with each other and to supply valuable insight into the work. I think the purveyor of feedback when thoughtfully applied learns as much from the process as the receiver.

This student concluded, "from a professional perspective, this is a transferable skill for anyone to strive for."

The second participant revealed having "a very hard time giving feedback" and that the "reflective writing process is very personal" and due to a lack of familiarity with some of the classes and projects from the peers, the student "had a very hard time offering feedback" and "ended up commenting on the artifacts that were the same" which facilitated the provision of feedback on "the reflective process."

The third participant revealed, "in sharing peer-feedback, I felt that I was sharing my experiences in reflection and the benefits that I saw resulting from the reflective process" and "it was a reinforcement of the reflection process both to me and those to whom I provided feedback." In terms of feedback receiving, this student posited that the peer-feedback "received was both supportive and informative" as it made it possible "to examine the depth and adequacy" of reflection and relate it to "discoveries from reflection. The student added, "the deeper [the] reflection, the more significant were [the]

discoveries." The student concluded the passage by connecting feedback with a sense of community building:

> In addition, receiving feedback from my peers reinforced my social engagement with my classmates. I was amazed to discover how much we shared in common in our learning experiences and in the challenges that we encountered. I felt well supported and included in a strong cohort of learners.

The fourth participant stated, "peer feedback was very limited to one or two classmates and focused on a couple of topics such as grammar issues or page layout. It was appreciated but with continued editing I would have ensured an error-free report." The student revealed being "enthused to see the work of the first entries that were submitted" but the viewing of the eportfolio pages of peers "became time consuming with such a large class" and the enthusiasm was also gone once the student made the final presentation.

On rewards. Two students in one of the iterations of the course described their "final presentation" as being very rewarding, and the first of the two remarked that the instant awarding of the final mark was equally rewarding.

The other participant expressed excitement during the presentation since it was easier to "verbally explain" reflective passages than in written form. The student further added that there was also value in the "questioning and questions and this led to a great discussion during the presentation moments."

Among the responses of the four students in the other course, the sharing of the journey, the feedback from the instructor and peers, and the "new insights and clarity in

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relating what [was] learned at the time to [the] current situation" were reported as being rewarding. One of the students added:

> I believe that the process of being vulnerable and articulating, clearly my reflections was the most rewarding. I have lived the majority of my career separating my personal from professional self that it was really hard to integrate the two. Through the process of doing so, I believe that I regained an integral part of myself that has improved the quality of my professional identity. I feel that I have regained myself, so to speak.

Learning portfolios "when fully embedded and supported in student learning experience, can … nurture important attributes of civic engagement, global citizenship, enterprise, empathy, and leadership" (Scully, O'Leary, and Brown, 2018, Foreword). The student authored passages in the above section exemplify this particular affordance. The quotes by the students also encapsulate the very essence of a capstone eportfolio experience.

On challenges. Meeting the deadlines and waiting for feedback were the main challenges considered by the two participants in one of the courses.

One participant in another iteration of the course described the uncertainty in pursuing "this very different kind of learning," and overcoming the difficulty by taking "considerable direction from [the] professor and [the] course supporting advisor." The second student stated, "there seemed to be a lack of clarity and direction," and "the Adobe sessions allowed students to be able to seek clarification about requirements." The third participant put forth that:

As the nature of my presentation was very personal and exposed the soft

underbelly of my life, I found that it took some time to trust in the process and to

let my guard down enough to find the true meanings and impacts of my

educational journey.

Recalling "events and artifacts … created four or five years" earlier and self-motivation

were the challenges faced by the fourth participant.

There are many other passages from the interviews and student presentations that

are equally important; however, the ones selected for inclusion here provide a

representationally rich description required to show evidence of the voices of the

participants in my study. It is worth mentioning that only two of the audio-files (among

the 21) were from my study participants. I revisited the transcripts of these two students

to both verify information I already had and also identify different angles through which

to view their stories. The audio-files for the remaining four participants were either not

available or could not be converted into a format compatible with the *NVivo* analytic

software I used.

Ethnographer Voice

When reading a research report, readers are able to "detect a pervasive stance, a

flavor, a tone that defines the relationship between writer and reader" (Miles &

Huberman, 1994, p. 300). The flavour I attempt to bring to my readers is that of a

researcher that goes beyond describing the lived experiences of the students in an online

course; "I intend to portray my experiences as an inhabitant of that cultural setting"

(personal notes). My aim with "my reporting is neither to be perceived as disembodied

from my fieldwork nor to be remembered as a researcher that obtained more from the

community than what she gave back as her contribution, once all data collection was finalized" (personal notes).

In my attempt to include my own voice in my reporting, I aim to share with my readers what I see—from within—as my personalized way of describing how I have interpreted the events that I experienced in the community.

Ethnographic expression and reporting come in many forms. By using a constructivist / interpretivist approach from the very beginning, and by resting my way of thinking on aspects of the affective domain and ecological constructivism, I was able to support my thoughts with trusses that proved to be useful throughout my study. These lenses through which ethnographic voices are portrayed influence, as postulated by Van Maanen (1988), the representation of the fieldwork (method of the study), the culture (object of the study), and ethnography, which is what binds fieldwork and culture. Some of the ways we speak to our readers in an ethnography are eloquently described by Van Maanen (1988) as voices or tales, and, as I understand, they include:

- confessional voice – fieldworker as the authority,

- impressionist voice – fieldworker as the story-teller,

- realist voice – fieldworker as the ubiquitous interpreter.

Since my study participants, along with the other participants in the course, were passionate story-tellers, the stance of a story-teller is the one I have espoused.

In my impressionist voice, I describe the actions, activities, and every-day life of the students, along with my thought process as an observer, participant, and researcher. By means of my story-telling, "I aim to convey to my readers the tales originated from my work in the field, and subsequently help them understand what I saw, how I felt

based on what I saw, and why it was important for me to experience my seeing also from the point of view of those with whom I interacted" (personal notes). In addition, since the impressionist voice is enclosed within both the confessional and realist ones (Van Maanen, 1988), I was allowed a certain degree of flexibility to help me adapt and adjust my reporting. Moreover, impressionist tales have the ability to transport the story-tellers back in time to events that may later give rise to personal understandings (Van Maanen, 1998) of my experiences in the field. In my telling of the stories of eportfolio creators, I stayed close to my data and revisited the research questions to demonstrate trustworthiness in my analysis.

      Observations on community development. In this section, I will be synthesizing my findings as a participant-observer into a single narrative that links the various details as documented in the voices of the students to support the discussion of eportfolios as a subculture of Internet culture.

      To do this, I will lay out the story of my witnessing of the development of a community of learners in three iterations of this course. The development is seen through the collaboration between the learners.

      My study participants, and their peers in the course, embody the core competencies required in the 21st century; these students are able to not only state what they learned, but are also able to internalize a certain value related to the learning that has taken place. In other words, these students are capable of expressing attitudes that reflect internalized values related to their learning. This value system, which underpins the capstone eportfolio projects, is at the core of the learning community during the eportfolio project development.

The student responses were rich and allowed for a broader rather than narrower view of emerging themes. The aggregated data were used for further analysis of the themes, and also toward a possible redefinition of my initial research questions. I revisited my notes on the perception of the students and visualized their experiences as belonging to the four quadrants depicted in Figure 23.

- learning with and about the technology

- inclusion of goals and evidence of alignment with competencies

Technology

Pedagogy

Reflection

Interaction

- internalizing experiences and thinking deeply about learning to date

- construction of knowledge from peer-feedback and affordances of the environment
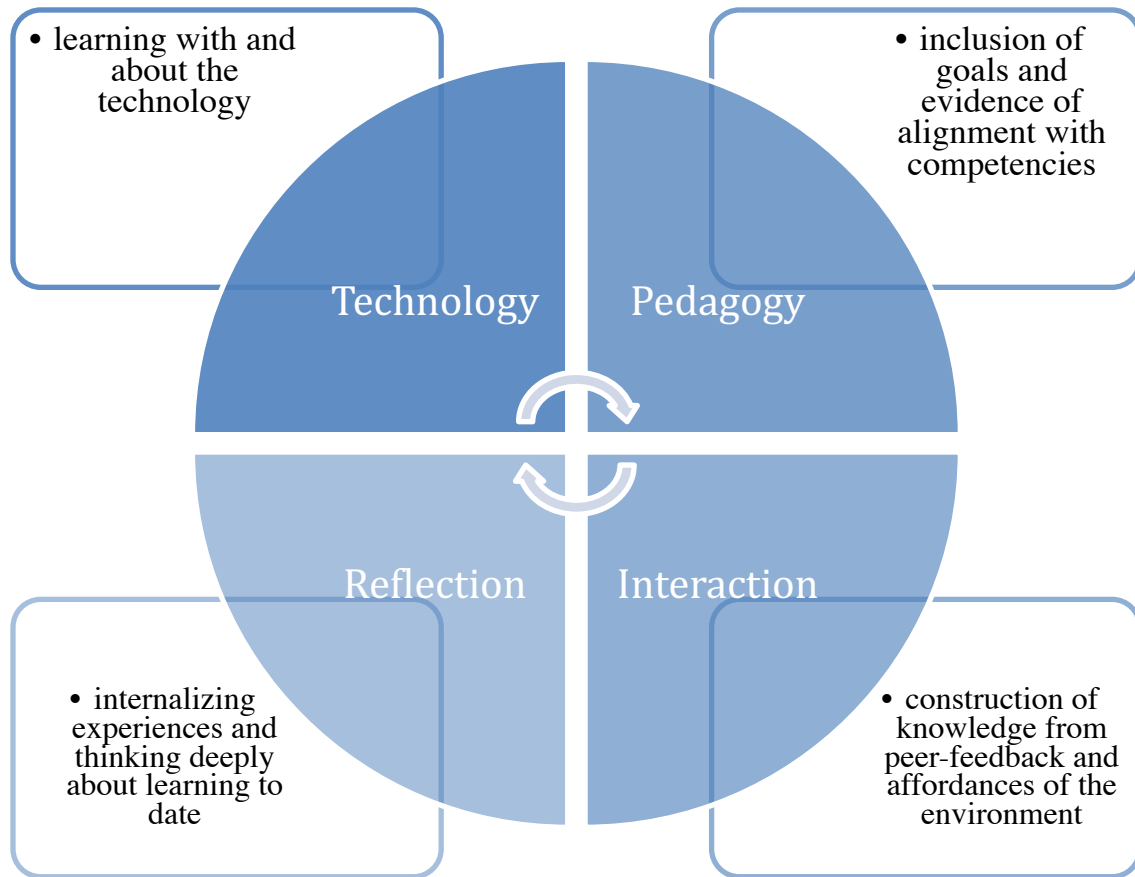
Figure 23. Four quadrants of my online ethnography of an eportfolio subculture.

The constructs depicted in these four quadrants first emerged in my initial review of literature during the meaning making phase of my study. As I continued my observations with different groups of students in various iterations of the course and in

subsequent semesters, I revisited my research questions, sub-questions, and problem statement to ensure my current thoughts were working in tandem with what I had first envisioned during the preliminary phases of my study.

As such, during the feedback giving and receiving in the eportfolio development, the students demonstrated their gradual comfort in providing feedback and also in offering their analysis on the artefacts of their peers. Furthermore, there was also evidence of how students searched for opportunities to model behaviours to help their peers complete the projects; graduating students even offered to return and share their experiences in future course iterations. Although students were initially reluctant to engage in feedback giving and receiving, as the course progressed, there was a progressive process of

- sharing (viewing of each other's pages),

- trusting (believing in the comments),

- coaching (providing some feedback), and

- mentoring (guiding during revisions).

These elements of feedback interaction brought new energy to the community, and students continued developing their projects despite the struggles encountered along the way. This aspect of online community-building was made possible by the weekly synchronous Adobe Connect sessions, where the course instructor and course participants engaged in meaningful discourse regarding the eportfolio process, the artefact selection, the reflection on the initial goals coming into the program, and on the role of feedback in a capstone project.

Collaboration. The course required that students provide feedback to their peers. This feedback component contributed to student engagement, interaction, and the development of reflection.

Constructivism is the theory of learning underpinning this learning environment where students connected parts of a whole in their meaning making process (Bateson, 1972; Capra, 2002). Peer-feedback dynamically creates content through actions and interactions (Hoven & Palalas, 2011), and I noticed how elements of the students' affect impacted the choices they made.

The feedback receiving was an emotional endeavour, and led to feelings that ranged from doubt and discouragement to delight and confidence, as reflected on the student responses to the questionnaires and interviews. Upon receiving the feedback from a peer or instructor, students acknowledged the comments, and then engaged in a process of discernment and evaluation prior to accepting or including the new information in their revisions. ePortfolio pedagogy makes affordances for the creation of, as Ragan (1999) described, educational events that cause marked and sustainable changes in student behaviour. ePortfolios, as a learning site, provide the terrain for such changes to happen. ePortfolios, as a process, foster critical reflection.

I conceptualized what I saw happening at various stages of the development of receiving and giving feedback on the artefacts. These are visualized in Figures 24 and 25 respectively. These are emergent realizations based on the observable communication among the course participants.
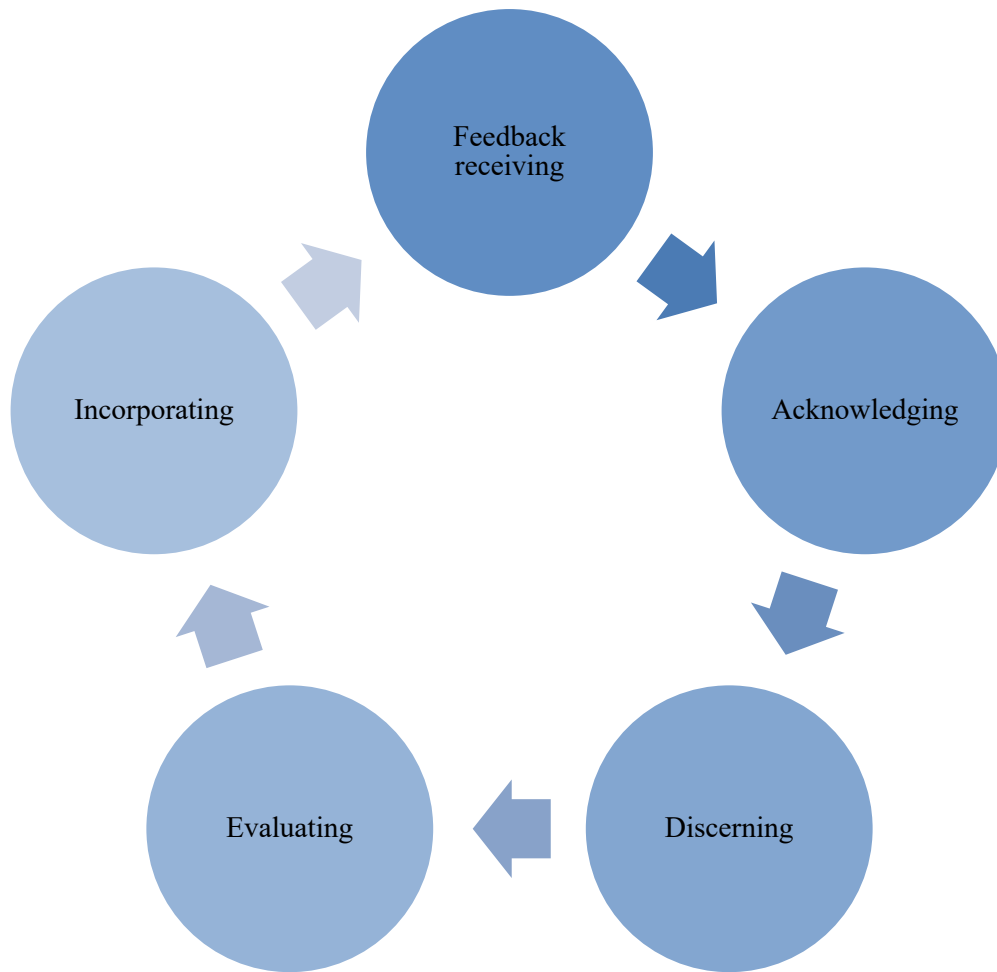
Figure 24. Feedback receiving and elements of the students' affect.

Students were required to articulate directly on the eportfolio pages the rationale for accepting or rejecting the comments made by their peers. The feedback trajectory of awareness → discernment → acceptance or not → and articulation of rationale for the decision made was part of a system of components that were interdependent and that, when working in tandem, fostered the completion of the reflective project. The initial awareness of the community members was the result of steady support from instructors who relied on the affordances of the landscape to guide the community activities.

The research approach I used in my project made it possible for me to write about what I saw from various perspectives during my visits to the community. While on the course site, I had access to the various affordances of the environment, including

- social events (live sessions),

- activities (capstone projects),

- technology (resources), and

- service providers (instructors, technical support).

These environmental affordances were interconnected and led to the successful development of the projects being housed in a subculture of Internet culture.

In my moments of reflexivity, I turned back to my seeing and my doing at particular occurrences of the feedback trajectory of students. These moments of thinking about what I saw happening made me realize the key role of the course instructor in the cycle. I finally understood that the course instructors were themselves the main source of reflective moments, much like "when light hit[s] a reflective surface" (Rose, 2013, p.1) and bounces back in a similar and yet modified version. I saw the effectiveness of a reflective cycle where moments of slowness of pace, between live sessions, provided to each architect in the eportfolio community resulted in a paradigm shift. Rather than teaching about eportfolio projects, course instructors enabled students to learn how to create their own. As Rodgers (2002b) purported, reflective cycles thrive by the slowing down of thought processes by educators to enable them to attend to the here and now rather than what they wish it were. This slowing of pace aspect, missing in the harried lives of educators and learners, is a requirement for learning and reflecting. A common scenario in the lives of both students and their instructors is further explained. On the one

hand, we have educators who busy themselves with administrative duties, and hardly have time for learning and improving their craft. On the other hand, we have students who are more concerned about marks than with the learning processes that lead them to their individual achievements.

Completing the projects is the goal of every capstone eportfolio project course participant; however, the realization of how to achieve that end result is what makes the experience meaningful. When sufficient time is provided, eportfolio creators engage and interact with each other and their eportfolios. Engagement with the project and interaction among peers gradually lead to the development of reflection and solidify the interconnectedness of all components in a feedback trajectory cycle.

The student responses to feedback received on their artefacts provided further evidence of the importance of constructive feedback and the value of the information to the receiver. This feedback interaction is an endeavour that involves the intellect and emotions and bridges the cognitive and affective domains.

The process of feedback giving was laden with emotions for the course participants, as articulated by the students during the live information sessions. When I reflected on my notes based on what I saw happening in the weekly sessions, I was able to capture some of the rich emotions overtly shared by the eportfolio creators during the initial stages of their projects (see Figure 25).

Doubt
- Am I able to do it?
- Should I attempt to do it?

Self-asssessment
- What can I offer?
- What will I gain?

Belonging
- How can I participate?
- How can I contribute?

Reasoning
- Why focus on this aspect?
- Why suggest this change?
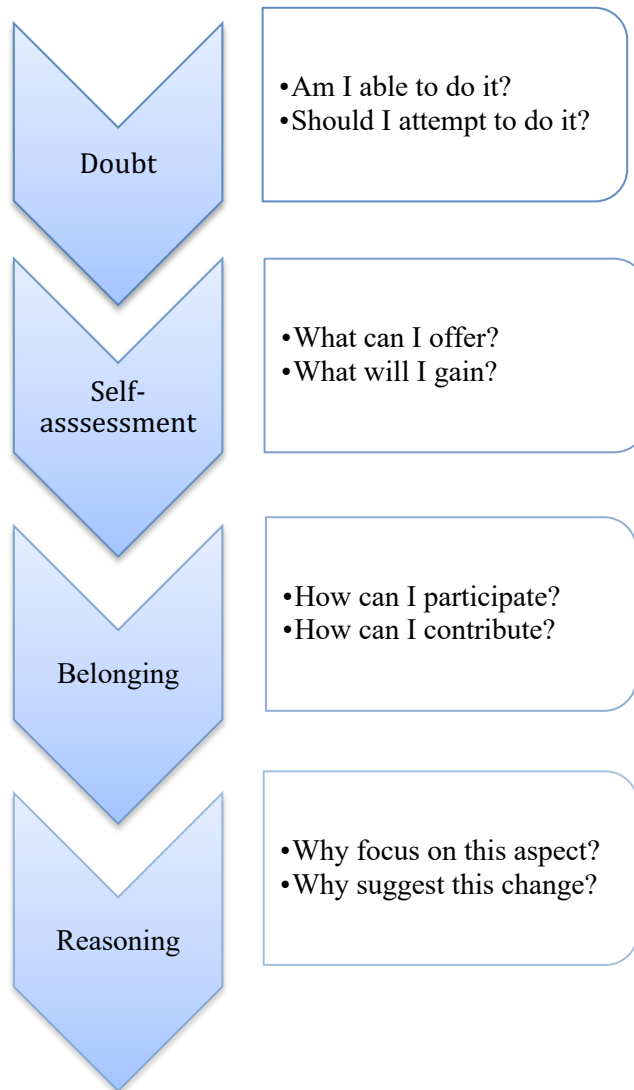
Figure 25. Feedback giving and elements of the students' affect.

This phase of the capstone projects contributed to moments of introspection, led to self-assessments, and further facilitated the development of reflection. During the synchronous sessions, the students revealed their difficulty in giving feedback to a peer. This was also documented in the questionnaire and interview responses. These peer feedback interactions and the modeling provided by the feedback-givers contributed toward a sense of belonging to a community.

As the student eportfolios were taking shape in the early stages of each capstone course, students articulated their difficulty in having to select only five artefacts for their eportfolio collection. The emergence of a common goal during these preliminary social interactions among community members helped create a sense of community building, as members sought one another for further clarification on how to build their collection. In consequence, the difficulty in discerning which five experiences to include in their projects became the focus point in community gatherings.

Once the collections started being shared in the forum, a new community goal emerged, and members began to seek comments from peers on the products they were creating. The students gradually built their online community through a shared purpose and defined space. A certain commonality was now established, and the initial difficulty in discerning how to populate the collection of pages was then overcome. The community builders now sought comments from one another on their creations. At each stage of the feedback process in each phase of the development of the eportfolio projects, peer-feedback that was carefully crafted and timely delivered brought forth in the students a need to modify their projects. However, there was a feeling of discomfort during the initial stages of feedback giving and receiving. The community needed to strengthen itself, so the members could feel comfortable, as they refined their creations. After initial comments by a peer on the first pages of a collection, peer-feedback interactions began to gain momentum. Students who were among the first to begin their collection benefitted from having a bigger number of their peers view their work; consequently, they received more comments than others on their artefacts. Students who were still unsure of how to proceed with their projects searched for their own personal

areas of strength on which they could rely in order to contribute toward the project of their peers.

During the development of their projects, students experienced bouts of critical reflection when the deep learning resulting from literature was connected with an introspective journey of self-reflection triggered by feedback. As the students engaged in inward thinking about their learning goals coming into the program, they went deeper into their learning journey in order to unpack some of their past experiences. This was revealed in the student responses to the questionnaire and interview. As a result, they began to rely more on their learning site and learning community for

- peer-mentoring and feedback on their projects,

- affordances of their learning environment, and

- actions that would trigger the development of reflection.

Data resulting from the questionnaires and interviews revealed that interactions in feedback giving and receiving triggered reflective thoughts that later translated as alignment of eportfolio reflective passages to course competencies. Furthermore, the archived eportfolio examples from previous course participants provided guidance during the initial development of the projects and insights into the type and format of information to include in each page.

In the beginning of the capstone eportfolio project course, the students were still unaware of the different types and application of eportfolios; therefore, the affordances in their environment which included the legacy left from previous learners guided their eportfolio development process. Examples, models, and exemplars are an important strategy for the acquisition of knowledge and procedural skills, as these rich learning

resources provide an illustration of the meaning, purpose, and process of a learning activity (Gagné & Driscoll, 1988).

As the instructors articulated to the students in the courses I observed, the inclusion of artefacts which contain both positive and negative experiences is an area that triggers further reflection. Similarly, the display of a variety of eportfolio exemplars on the course site, regardless of choice of layout, also help trigger student discernment on how to create one's own project regarding

- content and layout,

- use of white space,

- balance of text and visual,

- story-telling at a master's level of composition, and

- reflective passages on the alignment of competencies.

The provision of "examples and non-examples" in the course site helps learners pause, think, and decide on the final appearance of their own eportfolio according to what product they envision creating based on its application (Sherman, 2006). The interaction with peers assisted the students in their decision-making of what experiences to include in their product and what comments to incorporate into their collection of pages.

During all phases of this community building endeavour, members of this learning community engaged in a more ecological approach to construct knowledge by building on each other's strengths and also relying on the affordances of their learning environment. These affordances included the instructor, resources, and archived legacy from previous cohorts of learners. In their active pursuit of new insights, students in this eportfolio community sought discussions in the forum, or comments made by a peer on

their eportfolio pages. In doing so, they interacted with one another, and continued their process of building, maintaining, and strengthening their online community.

Disconnectedness and interconnectedness among concepts. Pedagogy, reflection, technology, and interaction, as key constructs of the eportfolio community of learners, have connections with the capstone projects through the lens of Internet culture (see Figure 26).

The conceptual framework illustrated in Figure 26 was the one on which I relied during my literature review. When I first began analyzing my data, I realized just how distant from one another each concept appeared on the diagram. I returned to the literature and to my research notes and was then able to understand the rationale for such disconnectedness among these components.
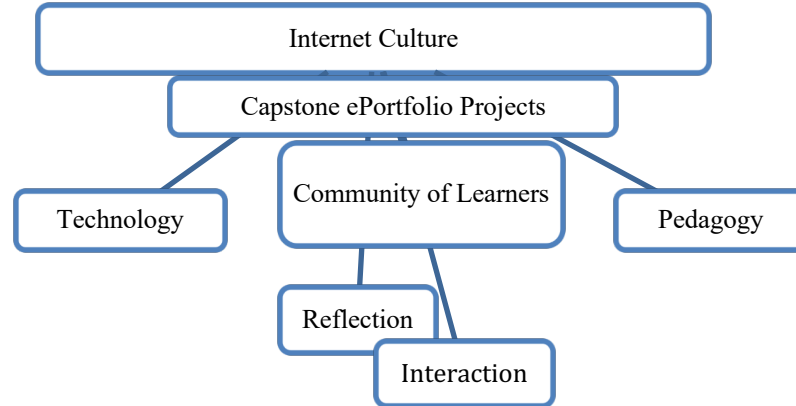
Figure 26. ePortfolio Internet culture and the interconnectedness of components.

However, after my prolonged exposure interacting with the rich student authored data from course archives and surveyed responses, my understanding shifted, and I realized that the components were more meaningfully interconnected than I had originally been able to perceive. This emerging insight in my research study is owed at

least in part to my choice of research design, as it facilitated my study of behaviours, interactions, and perceptions occurring in the learning community. In addition, as this approach to research employs a number of techniques, it enhanced the quality of my work through triangulation, thick description, and reflexivity (Reeves, Peller, Goldman, & Kitto, 2013). An ethnographer writes about people; in my research, I not only wrote about the students, but also shared my perspectives with them in the live sessions (ontological view).

My list of initial themes included feedback engagement, feedback interaction, pedagogy, process eportfolio, reflection, and technology. These themes were based on the questionnaire responses of my initial two study participants and responses to similar questions in the audio-files. It was only after I had completed the questionnaire and interview phases with the additional four study participants, after the second recruitment attempt, that I understood the importance of including many voices in a research project.

In addition to the concepts mentioned above, the list of emerging themes derived from the meaningful, rich, diverse, and in-depth participant responses included many areas worth pursuing in a future study. In alphabetical order, they are: accommodation, advice, appreciation, attitude, artefacts, challenges, community of learners, confidence, confusion, discouragement, effort, emotions, encouragement, feelings, frustration, helpfulness, hindrance, learning, learning goals, perceptions, recommendations, reward, satisfaction, suggestions, and time. Although important, these words did not appear in the word searches of the most frequent words in any of my graphic representations; as such, further investigation would be required for better insights into them.

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Summary

This chapter presented findings that lead to a growth in understanding of the impact of eportfolio pedagogy in teaching and learning. These findings are grounded in the rigorous iterative process of collecting, coding, and analyzing data to present cogent themes relevant to eportfolio use in online higher education. I balanced the voices of the students with my voice as the researcher of this online ethnographic study. The chapter concluded by explicating my stance and providing an overview of the evolution of my personal thoughts on the constructs undergirding my study.

Chapter 5. Discussion

In this chapter, I provide an overview of my analysis of the perceived experiences of learners in three iterations of a capstone eportfolio project course in a fully online institution in western Canada. Included in this chapter is my view on how my research findings relate to research undertaken by scholars in the robust eportfolio community. This chapter also discusses factors that emerged from my extended time in the field, and includes additional thoughts provided by the study participants. It also presents my new perspective on reflection and feedback interaction, and the interconnectedness of these two constructs with eportfolio pedagogy. The rich data collected on the perceived experiences of learners in three iterations of the capstone eportfolio course have

- provided me with better insights into the development of reflection from the point of view of the students,

- elucidated the importance of feedback interactions, and value of self-reflection and peer learning during the creation of eportfolios,

- contributed knowledge on the role and impact of capstone eportfolio projects on learning and teaching,

- brought forth discussion on the role of eportfolio use in assessment innovation, and

- stimulated conversations on contemporary theories of learning.

These findings confirm results of research previously done which led to the recognition of eportfolios as an impactful instructional practice and its subsequent addition to the list of high-impact practices (Kuh, 2008; C. E. Watson et al., 2016). My findings also showcase the eportfolio as a sophisticated field of research, where rich data and meaningful experiences are abundant, observable, and educational.

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Reflection

The main area undergirding the purpose of this study was the element of reflection, and its interconnectedness with various constructs throughout the eportfolio development of the students. During my initial observations of students developing their capstone eportfolio projects, I noticed the difficulty students had in thinking through not only what (cognition) and how (affect) they did certain things, but also why (conation) they made certain decisions throughout their educational journey. During the initial phases of the projects, the value of self-reflection and its connection with feedback interaction were unclear for the students; therefore, my study sought to elucidate the role and importance of these constructs, as the students began a meaningful learning journey when they immersed themselves in the creation of their eportfolios. As I continued to observe, I perceived a subtle, and yet noticeable development of reflection unveiling itself to the course participants during their sharing of

- understanding of the course competencies (what was learned),

- realization of their role as members of an online community (as feedback givers and receivers),

- articulation of their educational experiences (how the learning occurred), and

- perception of how their views changed, once they paused to think back on their learning to date (reflection on the decisions made).

These findings were based on my extended participation in the field, on the questionnaire and interview responses completed by six study participants, and also on the audio-recorded answers of 21 course participants.

The value of reflection. Participants, who had found it "relatively easy" to reflect on their learning, revealed that prior to their eportfolio projects, they had completed courses that either included assignments on reflective writing or contained information on the experiential learning theories.

These students expressed perceiving the value of reflection as a mechanism on which they relied to review concepts from previous courses as well as revisit peer-interaction experiences from various course assignments. The group of students, who had expressed their comfort reflecting, also saw a value in the capstone eportfolio project. They recognized that its development facilitated their review of concepts and ideas that they had deemed "most relevant and useful" in their educational journey. Among the students who had initial difficulty reflecting were those who had expressed their lack of information regarding the type of eportfolio in a capstone project. They had presumed that the purpose of a final project was to "demonstrate their best work," as in a showcase eportfolio; they also viewed reflection as a concept to be applied to further "explore their accomplishments." As the course progressed, these students began to realize that reflection was "more than a tool to identify accomplishments"; they expressed perceiving the concept as a powerful strategy that would enable them to immerse in deeper inward thinking, and view their own growth.

These experiences are further evidence of how powerful eportfolio pedagogy deepens learning, facilitates reflection, and promotes collaboration and interaction (T. Batson, 2015b). In addition, the type of eportfolio in a capstone project enables learners to engage in critical self-reflection, which facilitates the analysis of their experiences in the various courses in a program of studies. The process eportfolio encompasses a

holistic experience that helps students become comfortable in articulating the attainment of competencies—a meta-analytical approach of what they have learned. As confirmed in results of research studies, student development is a cumulative process, and it comprises a variety of learning events, as is evidenced in an eportfolio project (Kuh, 2008). In their capstone eportfolio project activities, students are intimately involved in the story-telling of their own learning experiences; as such, the various parts of their projects (pages in the collection) are closely interconnected.

  Reflection, affect, cognition, and metacognition. Our process of thinking, cognition, metacognition, and reflection interconnects in a complex way, and connects with our affect in a meaningful way.

  The aspect of going meta, when we engage in reflecting about our actions, requires that we step back to view our doing as it happens (Stanford University, 2003). When we think about our own thinking, we activate acts of both reflection–"thinking about *what* we know"–and self-regulation–"managing *how* we go about our learning"; metacognition therefore refers to stepping back to see the doing, as one who is simply observing it (Stanford University, 2003, pp. 157-158).

  The various layers of affect, cognition, and metacognition are displayed in Table 19.

Table 19

Affective Domain and the New Taxonomy

Bloom's Taxonomy of the Affective Domain		Marzano & Kendall's New Taxonomy Elements		
Characterization by a value or value complex	• Readiness to change behaviour in light of knowledge • Regulation of personal and civic life • Ethical principles associated with ideals	*Self-system*	• Beliefs about the importance of knowledge • Beliefs about efficacy • Emotions associated with knowledge	
Organization	• Identifying characteristics of self-interest • Forming judgment • Weighing alternative practices • Managing demands	*Metacognitive system*	• Specifying learning goals • Monitoring the execution of knowledge • Monitoring clarity • Monitoring accuracy	
Valuing	• Desire to speak and write effectively • Ability to interact with diversity • Acknowledgment of effort of others • Ability to examine issues and form opinion	*Cognitive system*	*Knowledge retrieval* *Comprehension*	• Recall • Execution • Synthesis • Representation
Responding	• Compliance with regulations • Desire to learn widely and broadly • Inclination to protect self and others • Enjoyment of self-expression • Enjoyment in interacting with others		*Analysis*	• Matching • Classifying • Error analysis • Generalizing • Specifying
Receiving (attending)	• Attentiveness to aesthetic factors • Appreciation for communication with others • Tolerance for cultural differences • Recognition of discrimination of elements • Alertness toward values and judgments		*Knowledge utilization*	• Decision making • Problem solving • Experimental inquiry • investigation

Note: Adapted from Krathwohl, Bloom, and Masia (1964, pp. 176-185) and from

Marzano and Kendall (2007, p. 13).

In order for learning to navigate from cognition (knowledge utilization, analysis, comprehension, retrieval) to metacognition (goal setting, monitoring), and subsequently to our self-system (believing in knowledge acquisition), learners require time, space, effort, self-regulation and an intrinsic desire to learn. Extraordinary things will happen in the brain of learners when they are provided with a level-appropriate subject-specific meaningful project (a capstone eportfolio project) as well as sufficient time to figure out how to proceed with the task at hand—both individually and in collaboration with peers.

As an illustration, I will refer to observations conducted in two different iterations of the same course in civil engineering in an attempt to overhaul the program. In this study, students were observed in classes where instructors deployed two different pedagogical approaches; one approach spoon fed information to the students, and the other provided opportunities for them to interact, struggle, and construct knowledge (Wieman, 2017). In both scenarios, the students had learned what they were required to do. However, in the course where the instructor provided step-by-step instruction to students and continued to think on their behalf throughout the completion of the project, the students finished the course ill prepared for their next class. Students in this course lacked the skills not only to articulate how they performed a certain task, but also to explicate why they had done it in a certain way. Results of this experiment on two teaching methods were used to compare the level of instruction in college science classrooms; the findings concluded that faculty is often unaware of the need for broad-based change to their traditional lecturing classroom techniques (Wieman, 2017). This experiment with two groups of students enrolled in the same course revealed that active learning fosters metacognition, which is a required ingredient for learning and reflecting

as well as for aligning competencies in a program of studies, as has been evidenced in capstone eportfolio projects.

My personal experiences, in addition to observing graduate students, include creating and implementing eportfolios in various capacities: as a student (in a master's and in a doctoral program), and as an instructor (of language learners and of college educators). They have provided me with empirical evidence that when learning is meaningful, it moves up gradually and steadily toward the upper layers of characterization by a value or value complex and self-system (Table 19). The emotions I associate with my online learning episodes (which include eportfolio moments) are better characterized as a thirst for knowledge that is not easily quenched, as a need to learn that ignites a flame which cannot be extinguished, and a burning desire that transcends self and spreads freely and widely to others.

When I created my first eportfolio in my master's program via distance education, I became addicted to learning. This surprising revelation presented itself to me when I realized that my instructors, who were all geographically separated from me, were *not teaching* me—yet, I was learning not only more but also better than ever before. I had finally learned how to learn—in my own time, at my own pace—and was reaching far beyond the requirements of the task to complete my coursework. After undergoing this process of reflective thinking, self-reflection, and thinking about my own thinking and my doing, I finally understood that learning comes from within; therefore, as educators, we need to rely on adequate pedagogy that embodies the learning and teaching philosophies that align with current innovation and thinking processes of our students.

Although still in its infancy as a discipline, neuro-education is attempting to combine collective fields of neuroscience, psychology, cognitive science, and education to enable us to gain "a better understanding of how we learn and how this information can be used to create more effective teaching methods, curricula, and educational policy" (Carew & Magsamen, 2010, p. 685). Memory retrieval and consolidation of learning are considered to have great potential toward altering the current structure of classroom learning; these areas are being further explored by neuroscience. Therefore, neuro-education, as a field of research would be bridging the two disciplines—neuroscience and education (Carew & Magsamen, 2010, p. 687). Similarly, further research on eportfolio pedagogy may help narrow the gap between what post-secondary education has often provided (surface learning), and what 21st century learners are entitled to experience (deep learning). As a product and a process of learning, eportfolios foster learner engagement with the utilization of feedback at a broader and deeper level, thus fostering reflective and metacognitive learning experiences.

Flavell (1979) worked with the concepts of metacognitive experience (beyond cognitive experience), metacognitive knowledge (beyond cognitive knowledge), and cognitive strategies (cognitions or behaviours to achieve a goal). He defined metacognitive knowledge as a portion of our stored world of knowledge related to our cognitive goals, actions, and experiences, and he referred to metacognitive experiences as an intellectual endeavour associated with any conscious cognitive or affective experiences. He concluded that a large number of metacognitive experiences resulted from where the individuals were at a certain point in time, and the progress they were making or were likely to make. He suggested that such experiences were more likely to

occur in stimulating situations that included "careful, highly conscious thinking: in a job or school task" that required that level of thinking (p. 908). He further added that this line of thinking tends to suggest the existence of a number of possible developments that researchers may find worthwhile to investigate.

Since metacognitive experiences are more likely to present themselves in stimulating situations, future studies may address areas related to peer-to-peer interaction that includes feedback giving and receiving.

Feedback Interaction

Feedback interaction among students was initially examined as a second layer of my study to help me better view the development of reflection in an online community of eportfolio creators.

As my study progressed, and my role as a researcher evolved, I was able to perceive the role, value, and impact of peer-feedback interactions in the development of eportfolio projects, and in the strengthening of learning communities. I perceived an evolution in awareness on the part of the students related to

- what feedback was,

- how it worked,

- why it needed to be acknowledged even when the giver was not the course instructor,

- how it could be provided (by peers, to peers), and

- how it was connected to the development of reflection.

As a technology-enabled learning site, eportfolios foster peer learning, interaction, engagement, and reflection.

The interactive peer-feedback giving and receiving on the eportfolio pages fosters reflection on the artefacts created, curated, and displayed on the collection of pages. As a technology, an eportfolio becomes a vehicle for culture sharing among students in a subculture of Internet culture.

As a product and a process of learning, eportfolios foster learner engagement with feedback at a broader and deeper level. Research findings have revealed that when learners used eportfolios across a program, the feedback they received helped trigger reflection (Peacock, Murray, & Scott, 2011). Results of this study also showed that there were students who had chosen not to engage with feedback throughout the development of their projects—an area for subsequent studies connecting eportfolio and affect.

In my study, there was a participant who stated that "most of the feedback … was on point … easy to accept suggestions," and the one occasion where there was a disagreement with the feedback received, the student reacted by "politely responding to the feedback and acknowledging it." A second student expressed:

> peer feedback can be a slippery slope as it were. As a peer feedback giver, I found that I was very careful about my feedback as I was conscious that my peers not take the feedback too personally. I was the recipient of some negative comments by one of my peers even with being as tactful as I could be. I found that the majority of my peers accepted the feedback I provided, as it was intended.

As mentioned later under recommendations, students expressed the need to learn more about giving and receiving feedback on the eportfolio pages of peers, since this aspect is an important component of the process eportfolio; this is an area of realization by the students who allow themselves to fully experience the eportfolio process.

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Although online social interaction in the form of peer-feedback is a course requirement in capstone projects, it is an activity initially overlooked by students in terms of its role and impact on their project development. Peer-feedback interactions in the eportfolio projects were initially perceived as a time-consuming activity that lacked purpose from the feedback receiver's perspective; they were also considered to be stressful from the feedback giver's point of view. As I continued to view the eportfolio pages, and to read the comments from the course participants, "I began to visualize the cycle of feedback giving and feedback receiving, and subsequently illustrated these emergent realizations of my seeing based on their doing" (personal notes). These realizations were the result of what I saw in the field, what I heard in the live sessions, and what my study participants revealed to me in their responses, which includes the one from another participant (from the same course as the two students mentioned above):

> knowing your audience is important. The writing styles and ability was not as honed for all my colleagues and their reaction to the critiques was varied. Some were receptive, gracious, and accepting of suggestions. Others were not as ready to receive feedback. Perhaps there was a little bit of a "who are you to suggest this" aspect to the receiver. Overall, I found the feedback process to be non-adversarial, and it helped me to make alterations in my own work when I discovered different ways to present information.

In order for students to incorporate feedback-giving and feedback-receiving in their eportfolio projects and learning in general, they may need to be taught about the role and value of this concept. This sentiment is illustrated by one participant who posited that:

> To build off my previous feedback, this course expects students to be very vulnerable and the process of feedback can be taken personally. I was the recipient of some very negative feedback that caused me a lot of concern and it is difficult to accept without having relationships with peers. It would have been more effective to have students create their own groups and give and receive feedback after developing a relationship.

As I have had an opportunity to observe, relationship building is the very essence of an eportfolio community, and strong relationships both underpin and are impacted by feedback interactions.

When students are introduced to capstone eportfolio projects (in a course or program), they become aware of the requirements of feedback interactions with peers. Once they begin engaging in purposeful interactions with one another, this level of awareness intensifies. The attentiveness to the comments leads to moments of self-reflection, which, when noticed and nurtured, are precursors to meaningful critical reflection on one's educational journey. Students who reach this stage in their capstone eportfolio projects begin to schedule their final presentations.

The value of understanding feedback. When feedback is properly scaffolded, it enables the feedback receivers to experience aspects of the affective, cognitive, and conative domains outlined by Huitt and Cain (2005).

As the feedback-receivers acknowledge, accept, and validate the new information (affect), and also learn from it (cognition), they experience powerful mental and emotional feelings of purposefulness (conation). Therefore, feedback giving needs to be timely, properly constructed, and purposefully and gently introduced; under these

conditions, feedback works as a shock absorber, and lessens the occurrences of possible—and sometimes inevitable—ephemeral, unpleasant moments on the part of the receiver.

There were situations when the students in my study interpreted the comments by a peer as criticism; as such, the feedback was perceived by the receivers as being an "attack" on them on a personal level. In such instances, the actors involved proceeded with their feedback interactions on a more concrete area (knowledge dimension), such as grammar and font size, rather than on more in-depth comments associated with the reflective passages on the eportfolio pages (analysis and evaluation).
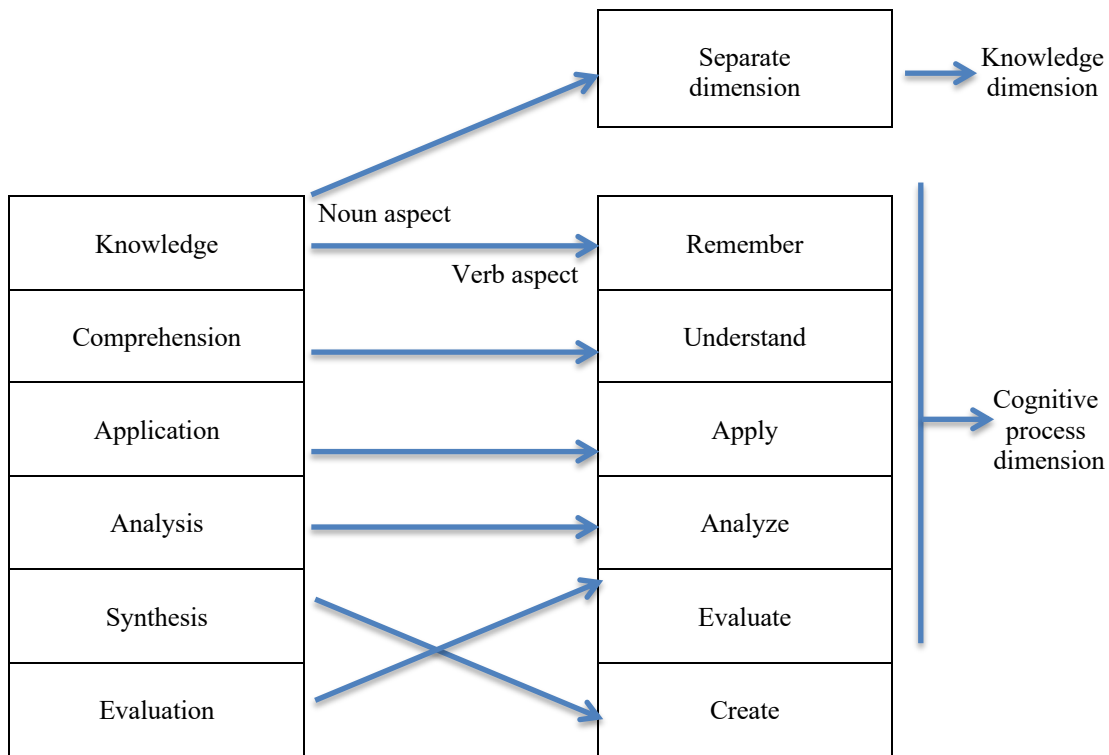
Figure 27. Original framework and the revision of Bloom's Taxonomy. Adapted from L.W. Anderson et al. (2001, p. 268).

These sentiments were followed by moments of sense-making and discernment (knowledge dimension, cognitive process dimension) pertaining to how to apply (or not) the new information, as aligned with the taxonomy levels in Bloom et al. (1956) and L. W. Anderson et al. (2001)—comprehension, application, analysis (Figure 27).

Perception of giving feedback. When asked about their peer-interactions as feedback givers (open-ended questionnaire question 4), half of the study participants revealed having had a certain level of difficulty when they were providing feedback on the eportfolio pages of their peers.

This aspect of the course, they stated, had been both hard to accomplish and time consuming; they also expressed being unable to offer feedback in a format that would be appreciated by their peers. These students, who had expressed difficulty engaging in feedback giving, found the feedback writing process equally hard, as written communication poses challenges for some students; those who feel inadequate communicating in writing may become frustrated providing comments to peers (Ternan, 2018). The other half of the respondents expressed appreciation for being able to offer feedback to their peers. These study participants appreciated the opportunity to share their experiences when they provided feedback because the activity helped "validate" their reflective process.

Perception of receiving feedback. When the study participants were asked about their peer-interactions as feedback receivers (open-ended questionnaire question 5), they stated that their feelings ranged from finding it challenging to accept feedback from peers to perceiving that comments received had been of little importance (related to mechanics).

Respondents who had received little feedback had comments made by only one or two peers and only on the first few pages of their collection (one or two artefacts). The rationale behind the limited number of comments may be due to the current course requirement which states that before the final presentation, students provide and respond to comments from at least two peers. Among the suggestions the students made in their recommendations (see *Chapter 6*) is the inclusion of a study-buddy system to ensure an equal number of comments on various artefacts of all course participants. Other respondents stated that the feedback they had received from peers had occurred throughout the course and had been both in print (comments on the pages) and in conversation with peers (in live sessions). They further added that all comments had contributed to the successful completion of their project.

Visualization of student perception. As demonstrated in my analysis of the questionnaire (questions 4-5), and interview questions on feedback, there were times when students perceived a comment made by a peer as being a criticism

In these instances, the perception was that the feedback was only provided to enable the feedback-givers to "meet the course expectation of providing feedback" to two classmates; therefore, the feedback was not perceived by the receiver as being constructive. To help me visualize these responses, I searched for expressions that the

participants had used to describe their experience. Figure 28 displays the most frequent

words from the responses to the questionnaire (questions 4-5) and to similar questions in

the audio-files; the size of the font represents their comparative frequency. The most

frequent words are in the largest font. In descending order, the top concepts are feedback

experience, eportfolio process, course work, strong group of students, peer and

classmates, and think.

Figure 28. 100 most frequent words in responses to open-ended questionnaire questions
(4, 5) by six students and to the same questions in 21 student presentations.

The words *criticism* (displayed on the lower right above the word classmates) and

constructive (displayed on the lower left under the word comments) were terms included

in the responses of one-third of the study participants. However, to enable me to

complete my study in a reasonable timeframe, a comparative study of cases was not

included in my *NVivo* analysis. Researchers who conduct future studies on the sentiments of the course participants as related to their peer-feedback engagement will be better positioned to analyze the data from different angles in order to uncover areas that may be worth their while to investigate. They may also take a different stance in their study based on their positionality as individuals and researchers, and, therefore, provide additional results.

My epistemological approach in my study aligned with the process eportfolio projects, and theoretical models undergirding the key constructs I sought to investigate:

- technology (learning the technology, and learning with it);

- pedagogy (viewing the eportfolio as disruptive pedagogy);

- interaction (giving-and-receiving feedback); and

- reflection (thinking through aspects of learning).

When I first visualized my field site with its online community of learners, I began to see my fieldwork from a more contemporary learning theory. My vision of the spaces of the Internet as my field site, and its learning community subculture helped me conceptualize the digital ecosystem of my ethnography. This was the precise time in my journey as a doctoral student when I began to see my fieldwork from a post-constructivist stance (resulting from personal communication with Dr. T. Anderson, 2015), and a more contemporary learning theory such as ecological constructivism (Hoven & Palalas, 2011) that shares characteristics of the eportfolios in my study.

Feedback interaction underpinning theories. Feedback giving is an art; one that necessitates time to be both crafted and mastered.

Feedback has the power to penetrate the areas Hoven and Palalas (2016) have described as the systems operating within and internal to the learners during their various learning experiences. This powerful instructional tool fosters a conceptualization of comments from one peer to another (Hattie & Timperley, 2007), and helps build and strengthen a community of eportfolio developers. Timely, purposeful, and action-oriented feedback evoke interest and appreciation on the receivers which, as Krathwohl, Bloom, and Masia (1964) suggest, are the first two areas involved in the receiving of and responding to new information. Consequently, the feedback receivers demonstrate their valuing and organization of new knowledge through their attitudes and commitment, which leads to an attitude adjustment on the feedback receivers, as aligned with the self-system level in the new taxonomy (Krathwohl, Bloom, & Masia, 1964).

Feedback interactions require awareness on the part of both the giver and receiver. The feedback givers have the responsibility for being attentive to the task at hand in order to view the eportfolio product (e.g., layout of pages) and the learning process (e.g., reflection on learning) of the eportfolio of their peers. In doing so, in their role as feedback-givers, the students begin to anticipate the type of comments to expect from their peers on their own artefacts in order to later discern what to modify in their own eportfolios. When timely, targeted, and action-oriented, feedback becomes a powerful instructional tool, impacts learning, and leads to the effective development of eportfolios.

In a course that includes capstone eportfolio projects, receiving feedback from many sources benefit both the students and the course instructors. On the one hand, the students gain an insight into the perspective of their peers initially on their product and

afterwards, on the process; they also experience modeling on how to become feedback providers. On the other hand, receiving feedback from various sources places less pressure on the course instructors, who can then focus their attention on the interactions in the community prior to offering their own comments on each of the eportfolio pages of the course participants.

Meaningful feedback comes from various sources (Hattie & Timperley, 2007). In a capstone eportfolio project, it comes from

- peers;

- course resources;

- course instructor; and

- self-reflection.

As the students move through the levels of cognition and affect, they begin to appreciate and respond to comments from their peers (knowledge utilization and analysis of information); consequently, they begin to value the experience. Students also begin to engage in the organization of their actions: discern what to modify (monitoring the execution of knowledge); and demonstrate readiness to change behaviour in light of knowledge (beliefs about efficacy and importance of knowledge).

Insights Emerging from the Study

There are many layers in the development of a capstone eportfolio project. In my study, this project was a final course in a program of studies, where the members of a community engaged in interaction in their attempts to complete their eportfolios. Individual and social constructivism, and more specifically, ecological constructivism, as

well as aspects of the affective domain underpinned how I viewed the eportfolio journey of the course participants.

My extended immersion in the field enabled me to observe students developing their projects (both individually and in collaboration with peers), and also engage in inward thinking to account for changes in my perception as they surfaced.

Researcher perspective. As my study evolved, I took different stances in my approach to feedback and the key constructs under investigation in my study—pedagogy, technology, interaction, reflection.

I began viewing from different angles the relationship among these concepts and the role and impact of feedback on reflection, learning, and teaching. Feedback is a key component in active learning, a method that replaces traditional lecturing with the mental engagement of the students based on challenging projects where feedback is timely and guides learner progress (Wieman, 2017), as exemplified in the capstone eportfolio project.

My perception of the constructs under investigation in the beginning of my study placed them in a rather disconnected manner. I was not yet able to see the interdependence of these concepts, and their impact on the development of reflection.

The diagram in Figure 29 shows the connectedness among interaction, pedagogy, and technology, but not with reflection.

The portrayal of these constructs as displayed below show that in order for reflective moments to occur, learners would be required to be familiar with eportfolio technology, learn about process eportfolio, and engage in peer-interaction—such is not the case, as I have recognized (see Figure 30).
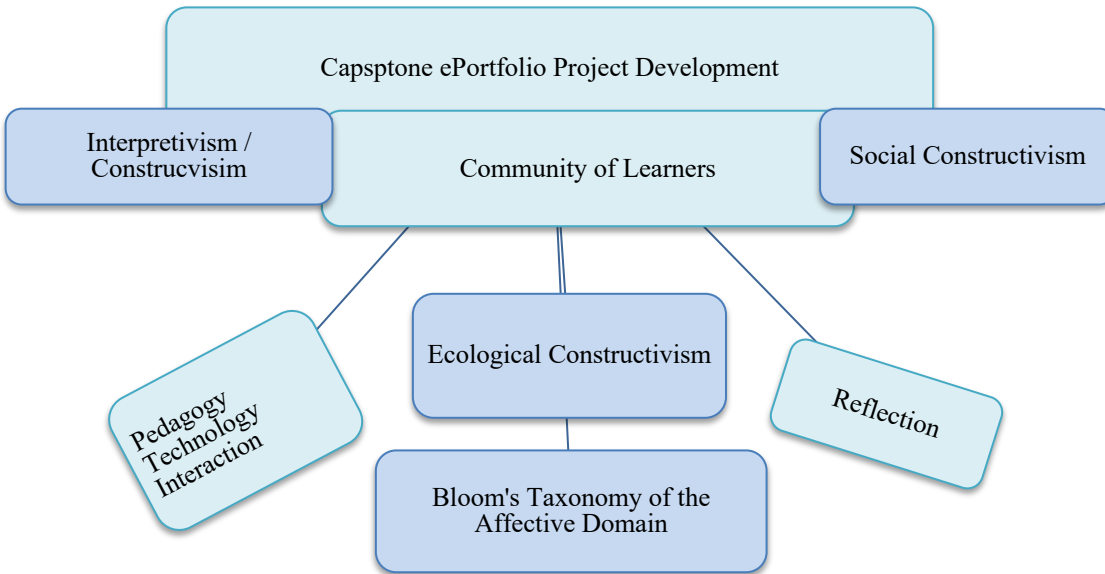
Figure 29. Theoretical underpinnings and key constructs of eportfolio projects.

As my study progressed, I began to understand that in order for me, as the observer and key research instrument, to learn about the development of reflection in eportfolio projects, I had to

- learn more about feedback interaction;

- have deeper understanding of eportfolio pedagogy; and

- let my data unveil key findings.

As my thinking evolved (see Figure 30), so did my conceptualization of the constructs in my study.
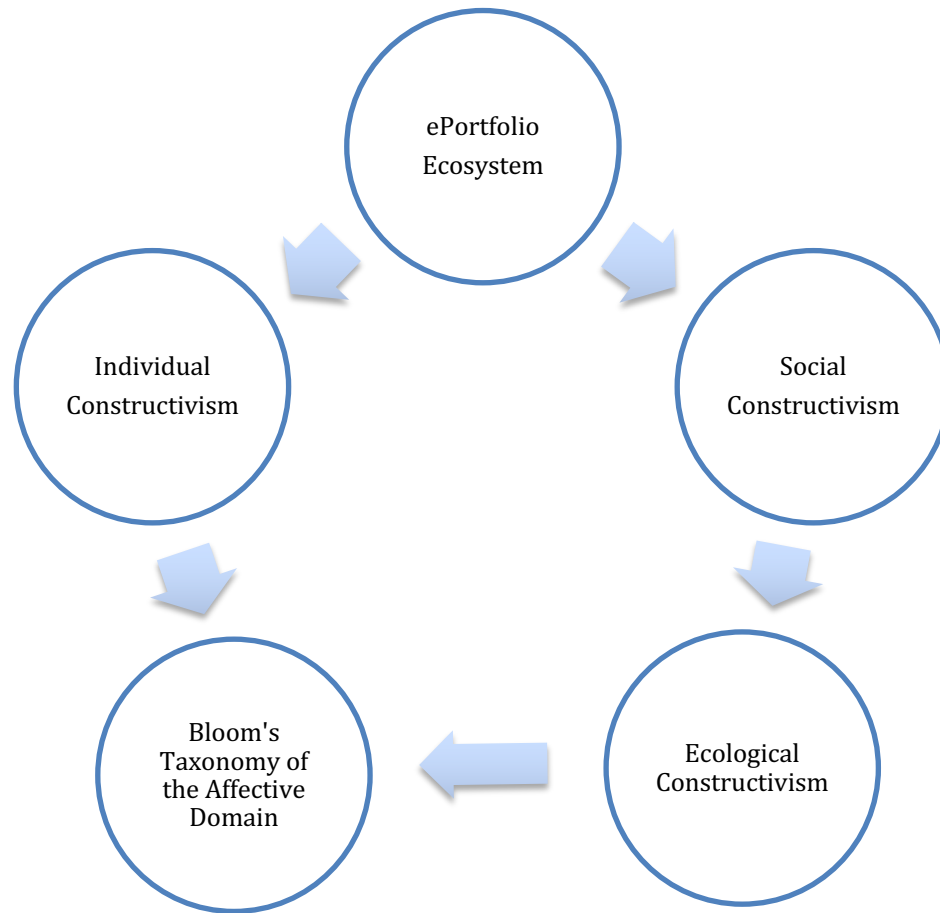
Figure 30. ePortfolio ecosystem and theoretical underpinnings.

After I reviewed the evolution of my conceptualization of my research study (during all phases of my journey), searched for further literature to substantiate my new line of thinking, and met with my supervisor to validate (or not) my transformation of thought processes, I finally became aware of what really mattered in process eportfolios

- meaningful feedback interactions in the community;

- in-depth thinking on the artefacts and learning; and

- critical self-reflection on the part of the creators.

I visualized "an eportfolio ecosystem comprised of cultures and subcultures of learners who engaged in individual and collaborative knowledge construction, and self- and peer-reflection during interactions with one another" (personal notes). Such moments are underpinned by awareness of new information provided by peers, and attentiveness to what the environment affords.

The eportfolio ecosystem, as a resilient and diverse network of systems in the capstone eportfolio course and eportfolio process, includes critical reflection, communication, interaction, and reflective feedback giving and receiving. The process eportfolio, as a holistic experience, helps learners be aware of core competencies, and become comfortable in articulating them—a meta-analytical approach of what they have learned.

My observations and my analysis of the student responses helped me view the four constructs (pedagogy, technology, interaction, reflection) as significant components in eportfolios. The eportfolio ecosystem, underpinned by construction and co-construction of knowledge, is where the members of an eportfolio community demonstrate cognition and affect, as they rely on the affordances of their learning environment to complete their eportfolio projects.

Moreover, the various forms of reflection undergird behaviours originated in the cognitive and affective domains, and impact not only feedback interactions and capstone eportfolio project development as well as the promotion of good learning. As previously mentioned under my personal thoughts in *Chapter* 4, the students underwent an evolution in each course iteration, as they learned to rely on their rich course environment to develop their projects; similarly, "as a researcher, I also experienced an evolution in my

thinking. In the beginning of my study, I viewed the eportfolio as an emerging pedagogy connected to technology, interaction, and reflection. My current views situate eportfolios as a powerful pedagogy that undergirds learning episodes in distance education as well as blended forms of instruction" (personal notes). From my perspective, when eportfolio technology is implemented appropriately, it provides the proper pedagogical terrain for the cultivation of interaction and reflection where learners can thrive.

ePortfolio Pedagogy

The eportfolios in my study, developed in a master's program via distance education, represented pedagogical strength in Internet culture. As a prominent agency in the Internet landscape, distance education is a wall-less space where, as posited by Wilbur (1997), a growing number of individuals experience close connections in communities which have no physical proximity to each other. The eportfolios in my study were an essential component of the pedagogy in Internet culture. They enabled the students to integrate resources, artefacts, multimedia and reflective comments from various courses within one organized learning framework (T. Batson, 2010; C. E. Watson et al., 2016). Although they are still viewed as one more tool in a tech-tool kit of Internet culture, they have the potential to engage students both with their own learning, and with each other. Built as a framework that allows for the organization of learning (C. E. Watson et al., 2016), the eportfolio pedagogy facilitates the type of learning that enables ongoing, anytime, anywhere interaction. C. E. Watson et al. (2016) argue that:

eportfolio pedagogy provides a set of practices that are platform agnostic and utilize a range of broadly available technologies. They are constructed within a framework for organizing learning, and not as a prescription for a single end product, and they are designed to be owned and developed by the student learner with guidance from faculty and other educational professionals (p. 65).

The course participants in my study demonstrated that their eportfolios were a locus to where they could return and think deeply about previous learning episodes, discern their importance in their personal growth, reflect on their learning, and organize their learning artefacts. As such, eportfolios are being situated as the choice of underpinning pedagogy in courses and programs in higher education.

Although technology plays a significant role in an eportfolio project, Barrett (2010) argues that its development involves more than simply choosing a certain product, as emphasis ought to be placed on the learning process. Technology-enhanced praxis has great impact on the teaching and learning endeavours in higher education; as such, the processes of learning must be the primary focus when attending to matters related to technological expansion in and out of the academy (Bates & Poole, 2003). In consequence, eportfolio technology is becoming an exemplar for connectivity and interaction in global education (T. Batson, 2018), while eportfolio pedagogy is being situated prominently in higher education. This elegant approach to learning and teaching espouses learning that is both active and mindful. It includes the thoughtful engagement of the learners with content, their questioning of the status quo, and their consideration of their own decisions, values, and positionality (Langer, 1997).

Furthermore, the adoption of collaborative approaches in both learning and teaching is among the current trends in technology in higher education; group work promotes interaction and sharing, but purposeful collaboration provides an environment that validates the construction of knowledge in blended spaces (Vaughan, Cleveland-Innes, & Garrison, 2013). As such, the implementation of an eportfolio facilitates the learning of concepts (cognition) in addition to fostering the type of attitude (affect) required in post-secondary education. These are aspects of great importance to educational institutions, as they attempt to have graduates who can not only narrate their story of their learning, but also explicate how they internalized their learning, as in an eportfolio learning journey.

Bricks-and-mortar educational institutions in various countries have experimented with online learning, and some have begun introducing eportfolios in their programming. Therefore, the time is ripe for additional research on the impact of eportfolio pedagogy on online learning and teaching experiences. Since beliefs, knowledge, and skills of educators are at the core of meaningful learning, it is important to consider that "teachers' knowledge and beliefs … be the primary area for research" (Shepard, 2000). Among the observable areas to include in a future study is the curiosity and genuine interest in learning processes by educators as well as the impact of these attributes on their professional self-development eportfolio projects.

In order to be closely connected with who I am as a scholar, researcher, and educator, I anchored my thoughts, perceptions, observations, and findings on my background, experience, and knowledge of the learning processes and their alignment with eportfolio projects. I recalled the time when I first used a paper-based portfolio

(1990s), and fast forwarded to my first experience with the tool in a digital version

(2000s) (see Figure 31).
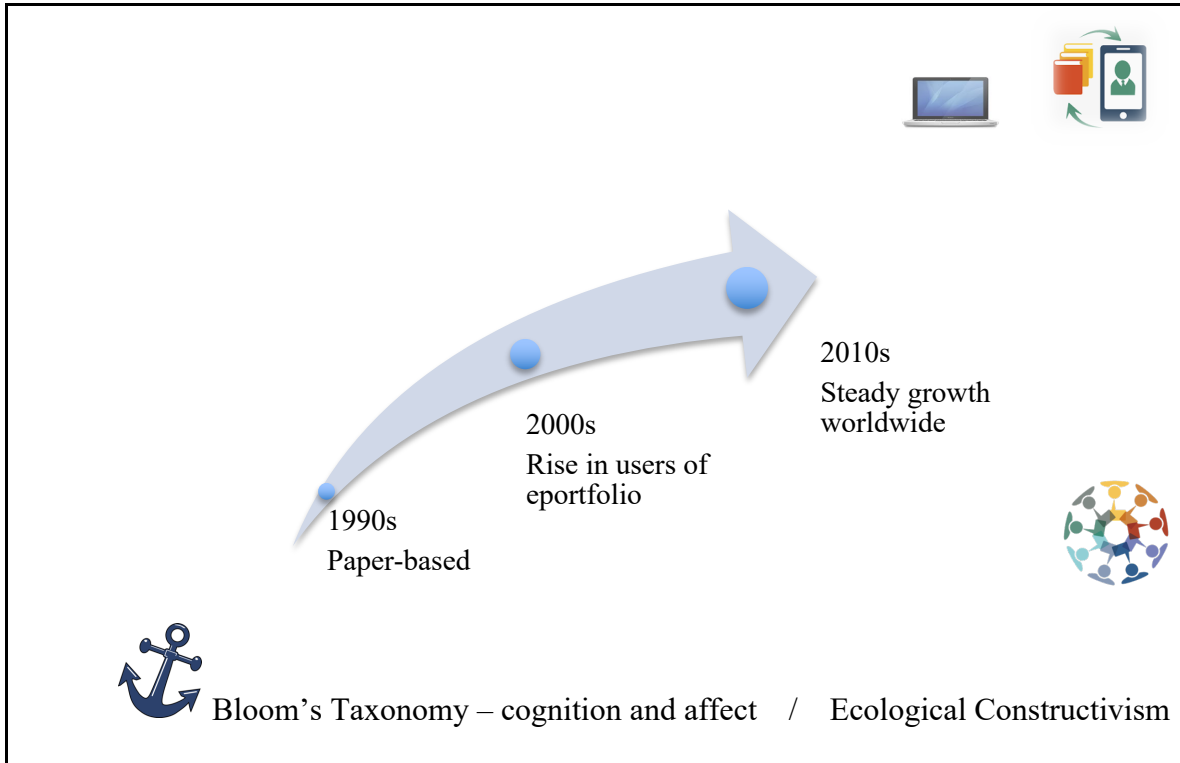
Figure 31. ePortfolio trajectory and the theoretical underpinnings during its growth.

In my eportfolio trajectory, the taxonomy of the cognitive domains undergirded

my thought processes; however, it was only after I began my observations of graduate

students that I realized the importance of not only the affect (in addition to cognition),

but also of the affordances in a learner's environment during all phases of the project

development.

The theories undergirding the various stages of the development process of

eportfolios help make observable the introspective experiences of the students, or their

overt behaviours (attitudes, expressions of satisfaction or frustration, etc.). As students

immerse themselves in capstone eportfolio project activities, they become intimately involved in the story-telling of their learning experiences, and begin connecting competencies to learning episodes. Episodes of self-reflection (inward thinking), peer-to-peer reflection (peer feedback), reflective thinking (questioning and discussing) and critical reflection (discerning and explicating) underpin our actions with origins in our cognition and affect; as such, these moments play a significant role in how the students interact with their projects, their environment, and each other. My distinctive research method privileged myself, the researcher, as a site of knowing; my extended immersion in the field enabled me to participate inside and outside the culture to give me a view of the lived experiences from various angles (Conquergood, 1991).

It was while participating in this way of knowing that I engaged in reflexivity to elicit thoughts about what I was experiencing, and to continue moments of reflectivity to enable me to examine my ways of doing (Hibbert et al., 2010). My experience with eportfolios (as a creator, implementer, and observer) has impacted my ways of doing and of experiencing learning on a personal, academic, and professional level. As a learner, I began to view eportfolios as more than a project. As an educator; I began applying this powerful eportfolio pedagogy in my lessons, assessments, activities, and programming. As a researcher, I see how this elegant learning site enables learners and educators to learn from their experiences, write about their findings, disseminate the information, and further contribute to a sophisticated field of inquiry, thus stimulating wide-ranging discourses on the transformation of post-secondary education.

Influence of instructional movement on educational programming. In the early 1960s, the taxonomy fitted nicely into the instructional objective movement (Airasian, 1994; Mager, 1997; Marzano & Kendall, 2007), and it strongly influenced the original attempts to organize programmed instruction.

Thirty years later, the paper-based portfolio, with theoretical underpinnings on the taxonomy of cognitive domains, began gaining momentum in higher education. In the 2000s, when the eportfolio emerged as a reflective pedagogy, it underwent a similar trajectory; as a disruptive technology tool, it began positioning itself in a new educational movement (T. Batson, 2015a; D. Cambridge, 2010; Eynon & Gambino, 2017; Ravet, 2005). This time, however, the theoretical underpinnings necessitated going beyond the cognitive domains in order to align with the ways of thinking and learning in the 21st century. Comparable to the influence of the taxonomy on programming in the previous century, eportfolios have become prominent enough in education to be the driving force behind collaborative efforts to organize 21st-century-compliant instruction, assessment, programming, and competency-based learning episodes. Therefore, emerging from my study is a renewed awareness of the importance of the affective domain in addition to a more ecological approach to constructivism to better align with the new thinking processes in the digital world.

When Mager (1997) was conducting his work during the instructional objectives movement in the previous century, he focused on assisting professionals who had expressed interest in the development of a methodology of programmed instruction; his work had, as its premise, hierarchically ordered cognitive tasks—from concrete to abstract; from lower- to higher-order thinking (Mager, 1997; Marzano & Kendall, 2007).

Similarly, as part of a current movement in the field of education, portfolio pedagogy has been gaining momentum since the late 1990s (Danielson & Abrutyn, 1997), and its process (knowledge, application, analysis) continues to align well with the instructional objectives movement of the current century, in parity with what Bloom's Taxonomy underwent in the previous century. The taxonomy continues to be a referential source for educators engaged in discourses related to testing and evaluation, curriculum development, and teaching and teacher education in a traditional, blended or fully online format. The taxonomy is underpinned by a set of guiding principles, which were selected by a group of scholars. These scholars contributed their diverse philosophical, psychological, and pedagogical ideas to select and classify objectives in order to make the framework relatively easy to understand and use. These guiding principles, as posited by Bloom et al., (1956), aimed to consistently

- define the terms throughout the taxonomy;

- facilitate integration of the taxonomy into educational objectives; and

- align the objectives with new understandings of pedagogy.

Based on these principles, Marzano and Kendall (2007) saw a need to revise the original taxonomy in order to add new elements that would focus more on student learning and cognitive processes as opposed to student performance and assessments (L. W. Anderson et al., 2001; Marzano & Kendall, 2007).

The new elements added to the matrix align with the theoretical positioning of innovative teaching of learning strategies, or a learning skills intervention (Hattie, Biggs, & Purdie, 1996). These learning strategies, which include various skills required in the digital world (e.g., time management, study skills, mnemonic skills) are classified into

three categories: cognitive, metacognitive, and affective (Hattie, Biggs, & Purdie, 1996; Tuckman & Kennedy, 2011).

These guiding principles underpinned revisions on the taxonomy and initiated discussions on the need for innovative pedagogy. They continue to lead scholars in the eportfolio community to advocate for the adoption of capstone projects to enhance educational practices in post-secondary institutions (AAC&U, 2008; Kuh, 2008; C. E. Watson et al., 2016). As technology-enabled learning environments emerge in a host of different places, repercussions for teaching and learning are unavoidable (K. Fisher, 2010).

Educational objectives and eportfolio outcomes. Educational objectives undergird both the design of curricula, and the planning of assessments; therefore, a theoretical framework would include a system of classification of the goals of the education process (Bloom et al., 1956).

Upon closer examination of the educational objectives, I saw an alignment of the taxonomy with the development of the collection of pages in eportfolios. These instructional objectives that underpin curricula have been defined as text or visuals, and as Mager (1997) has suggested, includes descriptors that outline

- key intents for learning outcomes;

- degree of what is intended for the learner to do;

- performance that denotes achievement of the objective; and

- both the conditions and criteria utilized for judgment.

In eportfolio pedagogy, the students continue to create their research papers, presentations, and projects to maintain the alignment of learning with the desired outcomes.

The degree in terms of what the learner is intended to do is outlined in the indicators of performance based on the skill, level, and competency for the assigned task. The conditions and criteria applied, however, differ from traditional pedagogy, since the learners and educators are now geographically separated (blended or online classes). What once was a rigid educational environment (judgement) in a traditional setting, has now become a flexible creative environment (artistry) in an online setting. In this new learning environment, the learners

- become the architects of their program of studies;

- immerse themselves in their thought processes and articulate their findings;

- move through the levels of both cognition and affect;

- rely on their learning community and online resources to co-create knowledge; and

- learn deeply and widely about a topic in order to produce an artefact worthy of being assessed (rather than judged).

ePortfolios enable learners to create drafts of their artefacts, share them with peers and instructors, reflect on comments made, and improve on their work. This innovative way of learning and teaching requires interaction and relies on the members of the community for both modeling and feedback. ePortfolio pedagogy rests on the constructivist paradigm, more specifically, ecological constructivism, and undergirds our abilities in the cognitive (intellect), affective (emotion), and conative (attitude) domains. Students experience aspects of the domains outlined by Huitt and Cain (2005)—

affective, cognitive, conative—in their feedback interactions during the development of their eportfolio projects. In their capacity as feedback-receivers, the students in my study

- acknowledged, accepted (or not), and validated comments made (affect);

- learned (or not) from the feedback provided by peers (cognition); and

- responded to the situation with feelings of purposefulness (conation).

As evidenced in the student responses in my study, the feelings of purposefulness while providing feedback did not always translate as positive. Nevertheless, since emotions are attitudes in response to a situation (Zemach, 2001) as in feedback interaction, the interplay of the various domains was observable whether the comments had been of a positive nature (of a constructive nature) or negative one (when the feedback was perceived as criticism).

Impact of eportfolio pedagogy on educational programming. Among the factors emerging from my observations are the following areas

- assessment (rather than judgment) based on reflective learning;

- artefacts (used by instructors) to assess learning; and

- artefacts (created by students) to demonstrate evidence of learning.

Figure 32 includes a list of artefacts on which instructors rely to show evidence of the learning that has occurred over a period of time, and their positionality in innovative educational practices.

Artefacts used
by instructors to assess learning,
and
by students to show evidence of learning

20th century

-rubrics
-checklists
-tests
-tasks
Reliance on critical thinking

21st century

-rubrics
-checklists
-self- and peer-assessments
-projects
Reliance on critical reflection

-what students are intended to do
-what denotes achievement
-what criteria are used for judgement
-what conditions are used for assessement

Figure 32. Artefacts used to show evidence of learning.

The above diagram includes the types of artefacts used for both demonstration of learning (by the students) and assessment of learning (by the instructors). It also provides, as Nitko and Brookhart (2011) have suggested, the descriptors that maintain

- validity–the focus on what was intended and was taught (p. 99);

- reliability–criteria and stability of measurement over time (p. 69); and

- fairness–accommodating conditions for individual students (p. 103).

These descriptors, established in the 20th century and still in effect in classrooms that use the traditional portfolios for assessment purposes, resemble the ones aligned with the eportfolio project development in the 21st century.

Although there are similarities between the artefacts, descriptors, and conditions under consideration in the taxonomy of educational objectives for both the assessment

portfolios (currently, paper-based in my industry), and the process eportfolio (as in my study), there are also differences related to the demonstration of the type of learning that has taken place.

As displayed on the diagram, assessment tools such as rubrics, checklists, and tests are often used to help assess, and in a way measure, how much learning has occurred up to that point in time. The process eportfolios, however, rely on

- development process of the collection of pages;

- creativity and artistry involved in the selection of artefacts;

- evidence in application of learning;

- transferability of skills acquired during the program of studies;

- alignment and articulation of program competencies;

- critical reflection on each of the artefacts and learning journey; and

- final presentation of culminating learning efforts.

The instructional objectives and descriptors in the taxonomy undergirded innovations in programming at the time and helped trigger the instructional movements that followed. The historical background on the original 60-year old taxonomy, and the various attempts that were made to revise it, contribute knowledge toward the need for

- educational institutions to infuse innovation into current practices;

- course designers to refer to current scholarship in the field before attempting to create programming; and

- educators to re-learn their craft and better equip themselves with the skills required to educate 21st-century minds.

Bryant and Chittum (2013) agree that in the field of education, it is not uncommon for practitioners to apply what they know about a concept before more research findings on that concept are made available. Before we introduce new technology in our practice, we need to ensure that pedagogy precedes technology; as such, we may prevent our initial enthusiasm from translating as a "silver bullet" or a quick fix in our practice (Bryant & Chittum, 2013; J. Watson, 2012). In my pursuit of knowledge, I made a conscious effort to deepen my understanding of my experiences as an eportfolio user before I implemented this innovative eportfolio pedagogy in my practice; in doing so, I prevented possible unfavourable outcomes.

Implementation of innovative ways to teach leads to higher-order learning. However, as purported by Fink (2003), there are few post-secondary instructors whose educational goals go beyond the understanding-and-remembering type of learning, and even fewer whose courses include a small dose of application learning. Nowadays, there are many ways to engage the learners in higher-order thinking beyond application, and educators who prescribe to them are able to differentiate between teaching and lecturing, which, as suggested by Ramsden (1992), ought to be viewed differently. Learners have the right to be taught how to learn, rather than to be lectured on what to do. However, instruction that focuses only on the lower layers of the cognitive system leads to a feeling that there has been a certain amount of information dumping on the part of the instructors, who seem content to dump what they know onto–and hopefully into–the heads of their students (Fink, 2003; Ramsden 1992).

In an effort to facilitate the process of learning and differentiate teaching from lecturing, capstone eportfolio projects provide the proper venue for

- educators to express their creative side while re-learning their craft; and

- students to demonstrate their learning in artistic ways.

Educators may also consider an eportfolio-mediated professional self-development experience (Zuba Prokopetz, 2018b). In consequence, they can be of greater assistance to their students, since acts of both learning and instruction gradually move up to the higher layers (metacognitive system and self-system) when the learning terrain is auspicious.

ePortfolio practitioner perspective. This section is based on my perspective as a practitioner. It includes my compilation of ideas resulting from the courses I completed in my EdD program, the scholarly discussions I had with my supervisor, my readings, my observations, and my interaction with language learners, college educators, and graduate students who were engaged in some form of an eportfolio project.

ePortfolios capacitate the demonstration of course and program competencies and the development of reflection. They are also a substrate for feedback interaction, innovative assessment forms, deep learning, inward thinking, theoretical underpinnings, and for instructor and student philosophical positioning. These observable eportfolio learning episodes make overt student behaviours as related to better time management, increased effort to learn as well as improved organizational and information processing skills. In addition, eportfolio development processes enable the creators to experience a deeper necessity to persevere, a need to become better on a personal, academic, and professional level, and a sudden awareness of their own cognitive capacities. The stakeholders outlined below may find it worthwhile to invest time in learning about, with, and from an eportfolio experience

- students—connected story-telling of a learning journey;

- instructors—self-development, self-reflection, and learning growth;

- administrators—course- and program-level innovation, curriculum design, and innovative assessment format; and

- policy makers—infrastructure of future learning regions (Ravet, 2005).

Experiences that include eportfolios are rich, complex, and both transformational (involving gradual transformation in thinking processes) and transformative (causing significant changes on a personal, academic, professional levels).

Transformative eportfolio experiences encapsulate "the idea of lifelong and lifewide learning, and the ability of technologies to support innovative policies" (Ravet, 2005, Abstract). Nearly fifteen years ago, Ravet (2005) referred to eportfolios as a necessary tool for the knowledge economy. In addition to linking individuals with similar competencies, interests, and abilities, as in a community of learners, eportfolios also enable individuals (students, educators, administrators, policy makers) to engage in lifelong and lifewide learning; nowadays, as an evolution and a transformation of past practice, eportfolios have reached beyond the initial field of education to become a key component in national learning policies of nations like Wales and England (Ravet, 2005).

In our knowledge-based ever-changing society, our fear of the unknown is capable of stripping our energy and permeating our innermost thoughts; it is lurking hungrily on the sidelines for the opportunity to surface with even more force and strength. When such moments are present in academia, students are deprived of the meaningful learning that would have occurred, as their tutors lack the impetus to learn

more (as learners), become better (as educators), and consequently, improve (as practitioners).

A number of European countries have begun to self-identify themselves with the term "Learning Country"; Wales, which is among these nations, has provided eportfolios to its more than three million citizens to capture the notion of sustainable learning and support innovative policies (Ravet, 2005, Abstract).

Every person should be allowed to acquire the knowledge, skills, attitudes, and values required to build a sustainable future (UNESCO, 2014) by educating themselves in various formats—formal, non-formal, informal. Nowadays, employment and volunteer experiences and other forms of non-academic achievements are beginning to be recognized as alternatives to the traditional format of education. Therefore, it is important for a nation to empower its citizens, help them appreciate and build on what they already have, and provide the assistance and technology required to support their pursuit of knowledge.

As a powerful pedagogy, eportfolios espouse technology and ecology, enable the overlap of cognition and affect, and foster critical reflection in its users. In an economy where growth is measured by the quality and availability of knowledge, there is an organic link that brings together individuals, communities, learning regions, and cities; as such, understanding and exploiting this relationship is of relevance in the rise of a knowledge economy (Ravet, 2005, Abstract).

When I began my research project, I associated eportfolios with technology, pedagogy, interaction, and reflection; themes that anchored my preliminary literature review. Since then, studies that position eportfolios as an impactful practice in higher

education and a powerful pedagogy have informed my research. The time has come for the industry to recognize what I have experienced—eportfolio learning and assessing go beyond the curriculum, as they deepen learning, facilitate reflection, and promote collaboration and interaction (T. Batson, 2015b). As an evolution and a transformation of traditional practices, eportfolios have now reached beyond the initial field of education and are situating themselves as a crucial aspect in national learning policies of a number of European nations (Ravet, 2005).

In my ongoing pursuit of knowledge (Zuba Prokopetz, 2016), I not only viewed and commented on a number of the capstone eportfolio projects, but also attended close to sixty live student presentations in a fully online university in western Canada. My research study is the result of my learning from and with various scholars (instructors, colleagues, and students) in the various courses in which I participated (see Acknowledgement). In spite of having a limited number of respondents in my study, cumulative empirical evidence I obtained through my observations and analysis of my findings have provided me an inside view of the perception of masters-level students participating in the development of their eportfolios. As such, the significance of this research study rests in the insights I gained into the perceived experiences of these students, the capstone eportfolio project phenomenon, and the resulting contributions this understanding can make towards how this kind of process eportfolio may be supported more broadly in higher education. In my candidacy presentation of my proposal to my committee (July, 2018), I stated that my research project was significant because it aimed to

- provide insight into the process eportfolio of master's students;

- make overt the attributes of the students;

- validate the importance of feedback interactions;

- elucidate the role and value of reflection;

- bring forth the debate on innovative assessment;

- provide information for future course iterations; and

- stimulate discussions on contemporary theories of learning.

My research study dealt with aspects of all areas above. Moreover, it has also helped make apparent the need for a clearer articulation of several salient concepts within an institution, discipline, or program of studies.

The need to properly define key constructs (feedback interaction, reflection) is relevant for learners and educators because the definition with which the concepts are associated (within a field of practice) becomes the determinant in not only how these concepts are incorporated into the curriculum design and lessson planning, but also why they should be. In addition, with innovation, comes uncertainty as well as feelings of inadequacy on the part of the practitioners, thus hightlighting the role and value of purporseful reflection in our every day lives. As purported by Rose (2013), "one of the chief obstables to reflection is information technology" (p.xi); therefore, when the term is properly defined, it may then be adequately applied.

Resulting from my review of literature, my observations, and the student responses from various sources, the following constructs, which will be discussed in further details below, emerged as being of significance, and they include the concepts of

reflection, mindfulness, feedback, affect, learning (conceptions and outcomes), innovative assessment and teacher education.

On reflection. Reflection, "a word that liberally dots the pages of much educational discourse" (Rose, 2013, p. vii) is difficult to define, and its application in higher education is far-ranging.

In addition, reflection comes in different forms, and "in the fractured academic world, each disipline privileges different definitions and approaches" (Riedinger, 2006, p. 91). Capstone eportfolio projects foster reflection but being able to reflect requires time and effort. This fundamental thinking ability is presenting itself as a necessity in this ever-changing world; learning how to reflect, however, does not seem to be very compatible with the current structure and practice of higher education (T. Batson, 2018).

Traditional learning environments in academia are not conducive to meaningful reflection by the students on the knowledge they have acquired and the contributions they can make to self and others, as a result of knowledge acquisition (Acosta & Liu, 2006). The eportfolio community, posits Acosta and Liu (2006), promotes "new and authentic collaborations, and provides means to foster learning, accountability, and reflections across the spectrum of academia and society" (p. 19).

As students participate in their eportfolio creation, they begin

- using their mind to consider something (thinking);
- engaging in serious thought and consideration (reflecting);
- analyzing and evaluating to form a judgement (critical thinking);
- strategizing new knowledge application (reflective thinking);
- describing, analyzing, critically demonstrating, creating (critical reflection).

Learning episodes fostered by eportfolios (learning at a distance) provide students with flexible time and convenient space to immerse themselves in thought processes and internal discourses that lead to self-examination and self-evaluation (critical self-reflection). The ongoing discourse on reflection among scholars contributes knowledge to the literature and furthers studies on eportfolios which are now considered both a pedagogy, and a vehicle for research.

     On mindfulness and reflection. We have limited thinking patterns, and when they are left unexamined (Kabat-Zinn, 2018), we prevent ourselves from engaging in reflective thoughts as ongoing habits of the mind (Kabat-Zinn, 2018; Rose, 2013.

     When there is lack of cognitive monitoring, one is unable to detect the presence of cues that would signal either mindfulness or mindlessness. Thus, when mindlessly taking in information, we may hear what is being said but are not able to work on the information (Kabat-Zinn, 2018). Capstone eportfolio experiences provide safe spaces where students can have their voices heard, and their innermost emotions articulated. When students are open to immersing themselves in an inward journey, they engage in moments that lead to "boundless possibilities [they] could never have conceived of," (Kabat-Zinn, 2018, Forward). When designing learning episodes, practitioners need to encourage students to question, engage with the project, and see what is novel in the familiar areas as well as what is familiar in the novel areas to enable moments of mindfulness that lead to meaningful reflective moments (Lange, 1997). The connection of capstone eportfolio projects with mindful learning is another research project worth pursuing.

On feedback. New concepts emerge in the daily life of students, which require conscious effort for them to discern which ones are essential to understand, apply (Bloom et al., 1956), and build upon at each stage of their learning journey.

Feedback is a powerful instructional tool, as it gradually aligns small chunks of new knowledge to the current body of knowledge (Bateson, 1972; Capra, 2002), thus enabling students to draw upon prior learning experiences to strengthen new ones. Feedback is an instructional tool with great impact on learning. It is a conceptualization of comments from one person to another, where the provider of the feedback (feedback-giver) may be another person, a technology, an experience, or even oneself (Hattie & Timperley, 2007). Alternative ways of conceptualizing learning outcomes may also assist with the effective use of feedback in the teaching-learning process. Feedback from a peer, for instance, becomes a learning strategy for both givers and receivers when students

- recognize (knowledge utilization); and
- respond (analysis of information) to the feedback from peers.

This strategy necessitates ongoing support to enable learners to see the value in the experience. Subsequently, students engage in the organization of their actions (monitoring the execution of knowledge), and demonstrate their readiness to change their behaviour in light of knowledge (beliefs about efficacy and importance of knowledge).

When students are introduced to capstone eportfolio projects in their courses or program of studies, they gradually become aware of the requirements of meaningful feedback interactions with peers as they begin their eportfolio journeys. This level of

awareness and attentiveness lead to moments of self-reflection, which, when noticed and nurtured, are precursors to meaningful critical reflection.

On affect. The challenge in finding a proper definition for affect is partly owed to broad and unfocused concepts with which the term is associated.

Affect, as outlined below, incorporates all aspects of behaviour which are not included in the cognitive and psychomotor domains (Martin & Briggs, 1986),

- construction of knowledge or intellectual skills (cognitive domain);
- manual or physical skills (psychomotor domain);
- all other aspects of behaviour (affective domain).

The affective domain includes a variety of terms ranging from attitudes and beliefs to personal growth and personality; such wide definition has hindered proper measurement of (and research related to) the domain, and has also made it difficult for the translation of affective behaviours into classroom practices (Martin & Briggs, 1986). Another area of difficulty in defining the concept has been the wide range of meanings associated with the terms commonly used to describe affect—interest, attitude, appreciation, value (Krathwohl, Bloom, & Masia, 1964).

Our affect contains our innermost feelings or emotions. Therefore, "positive and negative feelings, as well as emotionally toned attitudes, values, interests, morals and character, and even personal and social adjustment fall within that domain" (Ringness, 1975, p. xi). Our intent, appreciation, attitude, and values (areas of the affective domain) are now necessary to complement our learning due to current cognitive innovations resulting from application of educational technology (Lynch et al., 2009). The reason for viewing the cognitive and affective domains as working together is because, as purported

by Lynch et al. (2009), knowledge and skills on their own do not translate into their proper use (p. 47), especially in the presence of technology-mediated learning tools, such as eportfolios.

On learning conceptions and outcomes. ePortfolio experiences enable students to step back, immerse in thoughts, and see their learning to date through different perspectives.

ePortfolio pedagogy facilitates the use of feedback (learning strategy), and helps students to further explore their views on their own learning to date (learning conception). Capstone eportfolio projects encompass learning of a higher order, and capacitate their creators to navigate upwards the taxonomy of cognition and affect in order to accomplish the required outcomes (skills, knowledge, attitude). A "learning outcome of relatively high quality must be especially associated with deep-level approach and a constructive learning conception" (Van Rossum & Schenk, 1984, Abstract). Deep-learning, critical reflection, and articulation of one's learning to date are embedded in eportfolio pedagogy, which is gradually becoming an intrinsic component in higher education.

On innovative assessment. ePortfolios are disruptive, impact learning and teaching, and foster critical reflection

Once we understand what they are, we can (re)visit how they may be (re)applied and (re)positioned in our classrooms. Educational institutions that have participated in eportfolio initiatives (as a pilot project, for example) have taken different approaches regarding this pedagogy. They have

- tabled the initiative;

- dismissed it as another pedagogical trend;

- overhauled curriculum;

- applied it in accreditation; and

- used it as professional development.

Excluded from the list above is the application of eportfolios (in a digital format) and its importance in the demonstration of learning (by students), and in the assessment of learning (by instructors)—the reason for eportfolio use in many educational institutions.

The process eportfolios in my study necessitate a different line of thinking, since they rely less on tests, tasks, and critical thinking, and more on self-assessments, peer-assessments, projects, and critical reflection (see Figure 32).

This type of eportfolio can be applied in both assessment for learning (active learning, self-regulation) and assessment of learning (strategies to demonstrate learning), and can be included in the curriculum (re)design of various disciplines and fields of study in higher education.

The process eportfolio is an innovation that "has consequences (often unanticipated) for social arrangements and interactions, and ultimately habits of the mind (Rose, 2013, p. 85).

As a powerful pedagogy, eportfolios rely on the following: skills, knowledge, and attributes of the students, and thus help them demonstrate learning in

- developing a collection of pages;

- creating suitable artefacts;

- applying learning to date;

- transferring skills acquired during the journey;

- aligning and articulating their program competencies;

- reflecting critically on each artefact and learning goals; and

- articulating learning efforts to date.

One may question the need to stimulate discourse on assessment reform that includes eportfolios when portfolio-based assessments have been around for so long (in a paper format). The rationale is that eportfolio learning and assessing go beyond the curriculum to bring more depth to the learning, facilitate the development of reflection, and promote collaboration and interaction (T. Batson, 2015b). As a capstone project, an eportfolio comprises a collaborative capability that facilitates experiences that include the critical competencies (Gardiner, 1994) required in the 21st century. As an educational technology, eportfolios provide users with the ability to create, curate, publish, and share their media-rich collection of pages (Greenberg, 2006), thus providing space for a new form of assessment.

As previously mentioned, eportfolios provide educators and learners with a learning space for them to demonstrate their achievement of the required skills, knowledge, and ability necessary in their professional practice or program of studies. ePortfolios are part of the ICT suite of tools, and such, make it possible for their users to enhance or develop new skills—organization, time management, communication, and research. These tools enhance the quality of education (Kale, 2015), and help educators

understand how their students learn in the 21st century (Finger & Jamieson-Proctor, 2009). As a result of this new awareness, educators can base their instruction and assessment on their creativity skills, so they can select more meaningful approaches for student assessment; in doing so, they will provide a diverse range of evidence of the learning journey of their students (Finger & Jamieson-Proctor, 2009).

Although administrators and policy makers in various countries have engaged in debates about new forms of assessment over the years, their main concern has been on assessment methods and impact on learning and teaching; in all instances, the beliefs, knowledge, and skills of educators are paramount in discourses related to changes in assessment practices (Yung, 2006). As such, "teachers' knowledge and beliefs should be the primary area for research" (Shepard, 2000).

On teacher education. Pervasive influence of technology and, of eportfolios in particular, necessitate proper training for students and instructors, so all stakeholders can gain understanding of their impact, and appreciate their benefits.

Teachers need to make maximum use of ICT to cater diverse needs of students in order to identify new trends and reduce an existing gap between the learner and the teacher (Kale, 2005).

In the mid-1990s, consumers of knowledge passively received information via the commercialized web (Web 1.0). In early 2000s, the ubiquitous web (Web 2.0) capacitated the generation and dissemination of information by consumers, who had opportunities to interact in the vast spaces of the Internet. As detailed in *Chapter* 1, after 2005, with the semantic web (Web 3.0), information began to be disseminated based on preferences; technological advances made it possible for computers to interpret such

information in order to satisfy consumer request. In consequence, the field of distance

education has evolved accordingly, as outlined here

- one-way interaction (teacher centric): correspondence, radio, television;

- multiple-way interaction (collaborative): web-conferencing tools.

The one-way interaction via correspondence or radio was transformed during the

industrialization of distance education (Peters, 1988) in the 1900s, when institutions mass

produced study packages for the consumers. In the late-1980s, with home computers and

proper connectivity, the expectation from consumers also evolved, and caused a need for

some form of adaptation by the craftsperson in charge of sharing knowledge.

The world of online learning during the fourth generation of distance education

(Taylor, 1995) transformed when the Web made affordances for educational technology

pedagogy. These online instructional tools facilitated learning at a distance, and enabled

students to no longer rely on the efficiency of an assembly line for their study packages

(Byrne, 1989; Taylor, 1995). Nowadays, at one end of the spectrum, we have eager

learners who want to rely on innovation to both learn and demonstrate achievements. On

the other end, we have educators who have either missed opportunities to learn about

how to include innovation in their practice or failed to recognize the importance of

innovation in teaching and learning.

A report that aligns eportfolios with learning, assessment research, policy, and

practice in education published in Dublin (Scully, O'Leary, & Brown, 2018) makes a

number of recommendations, one of which is the need for more studies with a robust

methodology that enables the triangulation of outcomes—the alignment of competencies

on the artefact—with the self-reported attitudes and perceptions of eportfolio creators

(Bryant & Chittum, 2013). As such, eportfolio proponents may consider engaging in additional studies that rely on the analyses of learners' eportfolio reflective passages in conjunction with observational methods in order to report on the mastery of complex competencies (Scully, O'Leary, & Brown, 2018). In consequence, there will be implications for future scholarship and research on eportfolios as disruptive pedagogy for blended and online learning spaces.

The educational impact of innovative pedagogy (educational technology, eportfolios) came as a surprise to initial users. In the late-1990s and early-2000s, there was a paucity related to both the literature and also studies that included innovative pedagogy. Literature denotes that the first proponents of eportfolios had no blueprint or framework of how to proceed with the application of this technology in their practice, since there was little research at the time. Now, the application of eportfolio is manifold; once educators embrace the technology, they begin to experience the powerful pedagogy.

Educators, who are open to a new form of professional development mediated by eportfolios, may begin to see the shift in their current view of technology. From my perspective, changes are forthcoming in terms of theoretical constructs and educational practice, which include some form of differentiated teaching (rather than lecturing) and adoption of capstone eportfolio projects to provide the proper venue for educators to

- re-learn their craft;

- express their creative side;

- engage in self-reflection;

- develop social-emotional competencies for online spaces; and

- achieve mastery learning and teaching with innovative tools.

As a result, the students in their courses will be able to demonstrate their learning to date in more productive and artistic ways.

Teachers in all disciplines need to differentiate instruction (Tomlinson, 2014) and redefine their assessment methods to enable students to engage in learning experiences in the metacognitive and self-systems. In doing so, they cater to the thought processes of the students, who will then be able to identify their own mental and physical competencies during learning events.

Once the students demonstrate sufficient knowledge to apply what they have learned, the learning layers within the cognitive system shift upwards. At this stage, the knowledge utilization system in the affective domain becomes responsible for what information will be noticed, and how much of it will be filtered in for the subsequent analysis and comprehension of this new information. Innovative pedagogies, as eportfolios, provide students and teachers with transformative ways to learn and teach. Once proper training is in place to support both educators and learners, eportfolio pedagogy may be implemented in courses, programs, and institution-wide cross-disciplinary fields of study. Teachers and students in these courses could engage in a project where they would be part of a learning ecology that would enable them to construct knowledge in a more collegial way.

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Relationship with Other Studies

In my review of the literature and throughout my dissertation, I have highlighted the connection of interaction and reflection with eportfolios, which include studies and scholarly articles on

- eportfolios—(Barrett, 2004a, 2004b; T. Batson, 2015b; Butler, 2006; Eynon & Gambino, 2017; Kuh, 2008; Peacock, Murray, & Scott, 2011; Perks & Galantino, 2013; C. E. Watson et al., 2016);

- feedback interaction—(Butler & Winne, 1995; D. Fisher & Frey, 2012; Hattie & Timperley, 2007; Peacock, Murray, & Scott, 2011; Planar & Moya, 2016; Shute, 2007; Wiggins, 2012); and

- reflection—(Barrett & Richter, 2018; Brookfield, 1995; T. Batson, 2018; Dewey, 1933; Mezirow, 1990; Moon, 1999; Rose, 2013; Schön,1983).

These studies, and others, contribute to our current knowledge of the importance of reflection and feedback interaction in higher education.

ePortfolios are now a robust field of inquiry, and the movement toward eportfolio implementation continues to gather momentum worldwide. Educational institutions have begun to notice the impact of eportfolio as a disruptive pedagogy that enables feedback interaction and fosters learner reflection.

Reflection is a concept that has been defined, described, examined and researched by various scholars over the years, and some have created models to better explicate how they view the concept (Driscoll, 2007; Gibbs, 1988; Johns, 2009; Kolb, 2015). Although relevant to my study, the information on the various models as well as the analysis and

interpretation of their constructs have been excluded from this discussion, but they could underpin future research.

In different fields of practice (nursing, engineering, business, education), there is a diverse application of reflective models which require practitioners to have reflective moments which are both individual, and also in conjunction with a peer or supervisor. In the nursing field, for example, practitioners are required to keep a reflective journal or an eportfolio while working regularly with a clinical supervisor (Driscoll, 2007).

Although models of reflection are used in various fields to help practitioners learn how to reflect, there is no evidence to suggest the effectiveness of one model over another (Jayatilleke & Mackie, 2011). In a study conducted in the medical field, although there was no particular model of reflection under investigation, there was evidence to suggest implementation of an in-house development model for a possible industry-wide application; results of such implementation further suggested a limited, and yet positive impact of reflection among medical practitioners (Jayatilleke & Mackie, 2011).

Other fields, such as engineering, have made attempts to incorporate professional self-development in the program in order to graduate students "with extensive technical knowledge and …with a range of honed professional skills" (Doels, 2008), which includes the soft skills emerging during reflective practice. A study that sought to address questions related to the amount of explicit attention reflection had received in engineering education revealed an increase in pedagogical approaches that included reflective activities in the promotion of learning (Sepp, Orand, Turns, Thomas, Sattler, & Atman, 2015). The findings of this study concluded that there were many ways to facilitate reflection in education, which, for more than a decade, had included essays as

the most common type of activity; the portfolio, and later its transition to the electronic version format, was among the activities being used the most. The study revealed that the eportfolio approach used in the engineering program contained a reflective element, facilitated the development of professional identity, and helped students achieve the higher-order thinking levels (synthesis and evaluation) of the taxonomy of educational objectives. In addition, the eportfolio projects included in the program contained a page where students reflected on their path to becoming engineers (Sepp et al., 2015, para. 29).

A recent study with master's students in a business education program in Austria revealed the impact of eportfolio courses on students' self-perceptions (Slepcevic-Zach & Stock, 2018). In this study, eportfolios were perceived as providing a valuable contribution to encourage reflection and self-reflection in addition to a connection to competency development.

As demonstrated in the studies mentioned above (medical field, engineering, business), reflection continues to be prominent in many fields of study; however, to better understand the many facets of this concept, there is a need for further studies including a meta-analysis of the concept across disciplines.

Since the mid-1990s, innovation has been disrupting education. In consequence, the field necessitates a better understanding of the perception of students on what reflection means to them, how different learning activities help (or hinder) their development of reflection, and what strategies or models work best as they attempt to reflect. My study has helped elucidate how eportfolio creators perceive the concept during the curation of artefacts, and creation of their collection of pages.

Importance of reflection. My study did not set out to define reflection, but in order to observe its development in a community of eportfolio creators, it necessitated that I investigate its various definitions.

In a study on teaching students how to reflect, Riedinger (2006) reports on the difficulty in defining reflection, and also on the importance of having a definition to which both students and faculty can relate. Riedinger mentions Dewey (1933) as being the one who introduced reflection to the modern academy, and his reference to reflection as "an active, persistent and careful consideration of any belief or supposed form of knowledge" (p. 118). She further emphasizes the need for introspection in reflection as well as the importance of incorporating the perspective of others (peer review) in one's reflection.

Many definitions of reflection are included in my study, and among the ones that resonated most with me is the one by Hoven (2018, January, 8), where she states that "reflection is what happens in the interstices in our minds between stillness and cognition. It is where creativity and deep understanding emerge–including creativity of thought and ideas." Students in my study embodied segments of this definition at various stages in their eportfolio development process; they also demonstrated categories of reflection suggested by Feldman and Rearick (1999)

- autobiographical aspect (in the introductory page of their collection);
- collaborative aspect (during the peer-feedback experiences); and
- communal aspect (as member of a community of eportfolio creators).

The categories above have similarities with the four lenses of Brookfield's (1995) process of critical reflection, which also include an autobiographical / self-reflection component in addition to peer-mentoring and feedback.

After I observed moments of difficulty of students reflecting on their learning, I gained a better perspective of the importance of providing the required guidance to them during their attempts to engage in critical reflection in the creation of their projects.

As further discussed in *Chapter* 6, the initial presentation on critical reflection (in two iterations of the capstone eportfolio course), and the inclusion of mindfulness sessions (in one of the sessions) were beneficial in the development of the eportfolios, as revealed by the course participants. As such, critical reflection and mindfulness are among the concepts for consideration in future discourses that involve innovative formats for both curriculum and assessment.

Innovative curriculum and assessment. A study on eportfolio and assessment reported on the impact of eportfolios on curriculum design (collaborative learning), on instructional methodology (from teacher- to student-centric), and on individual growth (social awareness) (Acosta & Liu, 2006).

In my study, my focus was on the development of reflection and peer-feedback interactions. My findings, however, have revealed outcomes similar to the ones in the research conducted by Acosta and Liu (2006), as they relate to the role of eportfolios in

- curriculum design and innovative assessment format, which includes collaborative learning;

- instructional methodology and innovative pedagogy underpinned by an ecological approach to constructivism; and

- growth of the learner personally, academically, and professionally with a focus on all three domains—cognitive, affective, conative.

Capstone projects align with a learner-driven curriculum, which as Wark (2018) has suggested, helps students work with their natural learning abilities toward achieving their full potential. This type of curriculum, which is based on an instructional plan, includes the needs, abilities, interests, and goals of the students, and aims to help them develop the required skills, attitudes and knowledge (Wark, 2018)—which, as I have perceived, necessitate redefinition of both the traditional curriculum, and current forms of assessment.

Results of research conducted in the past decade confirm the need for an alignment of assessment strategies to the complex learning patterns of students (Pelliccione & Dixon, 2008). Student success in the 21st century depends on the development of knowledge, attitudes, and skills associated with conation (Huitt, 1999), which includes self-regulated learning skills (Huitt & Cain, 2005).

Learning with technology requires time management, motivation, and curiosity, and goes beyond cognition. The focus of recent literature, however, is still on cognitive research. Additional studies are required on further exploration of the affective domain and the importance of its dimensions (emotions, feelings, attitudes, and beliefs) on the effective application of technology in student learning (Tomei, 2005).

Educational institutions in the 21st century aim to graduate professionals who are able to not only state what they learned, but also internalize a certain value related to the learning that has taken place (Lynch et al., 2009). In other words, there is an expectation for students to express attitudes that reflect some of the internalized values related to their learning. This value system, which underpins the capstone eportfolios, is present in the learning community during the eportfolio project development; therefore, these projects need to be included in discourses on the redefinition of assessments in higher education.

Many educational institutions now have programs that use eportfolios to assess the aggregated work of their students; in some of these institutions, the student eportfolio project presentations were introduced as an alternative to the comprehensive exams previously used to assess graduate students (Conrad & Openo, 2018). In consequence, when the eportfolio projects are properly implemented, there is less measurement and judgement (of the students) and more productivity and creativity (by the students).

On a personal level, I was fortunate to have the opportunity to take both my graduate (2011-2013) and also doctoral (2015-2019) program of studies entirely at a distance. As such, at the end of both programs, I was required to articulate my application of knowledge on a personal, academic, and professional level rather than be judged on what I had learned. The process eportfolios in the capstone eportfolio projects espouse the essence of deep, meaningful, intentional, and purposeful learning. During the development of their projects, students undergo a process that includes cognition, affect, and conation connected with the critical competencies (Gardiner, 1994), as illustrated in Table 20

Table 20

Comparing Aspects of Three Domains with Critical Competencies

Affective	Cognitive	Conative	Critical competencies
Appreciation for diversity and tolerance for cultural differences (1.2)	The recall of major generalizations about particular cultures (1.32)	Defining one's purpose and identifying human needs	Respect for people different from oneself
Finds enjoyment in interacting with different people (2.3)	The ability to interpret various types of social data (2.20)	Positive social interactions with family and friends	Interpersonal and team skills
Continuing desire to develop the ability to speak and write effectively (3.1)	Skill in writing, using an excellent organization of ideas and statements, and ability to tell a personal experience effectively (5.10)	Aspirations, visions, and dreams of one's possible futures	Skill in oral and written communication
Development of self-regulation mechanisms to deal with demands (4.2)	Development of a plan of work or the proposal of a plan of operations (5.20)	Making choices, setting goals, and developing an action plan	Consciousness, personal responsibility, and dependability
Readiness to revise judgments and to change behaviour in the light of evidence (5.1)	The evaluation of the accuracy of a communication from evidence as per various criteria (6.10)	Self-evaluation using data collected in the monitoring process	Skill in critical thinking and in solving complex problems
Development of regulation of ethical principles aligned with democratic ideals (5.2)	The ability to indicate logical fallacies in arguments (6.10)	Engaging in daily self-renewal and monitoring thoughts, emotions, and behaviour	Ability to adapt to a principled, ethical fashion

Note: Adapted from Bloom et al. (1956, p.p. 76-189 and pp. 201-207), Huitt and Cain (2005, p. 14), Krathwohl, Bloom, and Masia (1964, pp. 176-185), and from Gardiner (1994, p. 22).

The process involved in these pedagogically-sound and theoretically-underpinned projects align with the domains described by Huitt and Cain (2005): cognitive domain (what I am learning), affective domain (how I feel about what I am learning), and conative domain (why I am learning this).

When eportfolio creators become aware of their own capabilities, they strive to go further in their project development. They also develop a certain resiliency toward the difficulties with the product (technology) and process (reflection, articulation of learning to date). As such, moments of frustration are replaced with learning episodes of discernment, contentment, and fulfillment.

Once cognition (what), affect (how), and conation (why) begin to work in tandem, students are better able to engage in meaningful learning and reflection; as such, they will be creating different products to demonstrate their learning. They begin to rely on self-motivation, curiosity, self-regulation, and personal passion as they attempt to include artistry and creativity to demonstrate the learning that has taken place over a period of time.

The time has come for educators in all disciplines to differentiate instruction (Tomlinson, 2014), and redefine their assessment methods, so students can engage in learning experiences in the metacognitive and self-systems. Educators need to be cognizant of the mental processes of their students (within the knowledge domain) in the preliminary stages of a course or a unit of learning within that course to enable students to identify their own mental and physical competencies, as they undergo various learning episodes. Once the students demonstrate sufficient knowledge to apply what they have learned (knowledge, application), the initial learning layers within the cognitive system

become the focus. At this stage, the affective domain (knowledge utilization system) becomes responsible for not only what information is being noticed, but also how much of the information is going to be filtered in to enable the analysis and comprehension of this new information.

The challenge in including affect in our current teaching practices is that, as Krathwohl, Bloom, and Masia (1964) have observed, during the creation of the original taxonomy, the affective domain presented a much bigger classification problem than did the cognitive domain. In addition, at the time, without evidence of growth connected with the affect, a parallel could not be drawn to the extensive work already done in the evaluation of cognitive achievements. As a result of poorly defined affective objectives, assessors had difficulty in assigning grades to students in respect to their interests, attitude, or character development, which is an area for future research.

Strength of a learning community. The eportfolio is a transformative pedagogy that empowers learners and strengthens online communities. The finished product houses not only student records (courses completed) but also attitudes and behaviours (interaction with peers) on the collection of pages.

The process eportfolio developed by students in a culture-sharing community of eportfolio creators help students to both align their learning with core competencies, and also gain a sense of ownership of their finished product.

In an effort to strengthen their community, students facilitate the collocation of actors alongside others who are in different stages of their learning journey. These students, as purported by Wulf (1993), place themselves in strategic places within their community to help build and strengthen it. As a result, students, who have already

conceptualized the thinking-through of their eportfolios (what they did, how they did certain things, and why they made certain decisions), provide feedback to others. In doing so, the feedback-givers, seemingly naturally reflective individuals, become models to the other community members—the feedback receivers. This modeling is provided by members of both current and previous course iterations (examples of eportfolios), thus enabling students to rely on the legacy of participants in previous courses. In my study, the learning and sharing within a community comprising students in consecutive courses, and courses in different semesters defines the eportfolio culture that strengthens with each successive course. The eportfolio as a learning community with the legacy left by previous community members is also an area that can be further researched

Peer interactions in eportfolios. Peer-interaction requires student engagement, motivation, and encouragement; these sentiments were articulated by those students who took the time to view eportfolio projects from previous course participants or listen to the recording of their presentations.

Albeit in an asynchronous format, this type of online interaction is meaningful, as students in subsequent course iterations begin to explore the affordances in their learning environment as they attempt to make meaning of what is available.

In addition to the legacy they leave for future community members (resources), former students, who have now gained a different sensibility throughout their own journey, can now share their stories. In one of the three courses that I observed, the presentation by a former student was well received by the course participants; this event was mentioned in the student responses (during the interview) as being very meaningful. The guest speaker, a former student, had experienced an inside look into the community

over a period of time, and was thus able to share experiences with the new group of eportfolio creators. This visit by a participant from a previous course iteration contributed to the rich legacy from one course to another and helped strengthen the eportfolio community.

Connection and accountability. Students, who sense a connection with others, feel motivated; they also take ownership over their learning, and connect better with their interests and goals (Pintrich, 2003).

Two components included in individual accountability are the feeling of responsibility for one's own learning and also the learning of the other group members (Abrami, Bernard, Bures, Borokhovski, & Tamin, 2011). This individual accountability is a process, which is part of a continuum from an instructor-imposed structure to a certain accountability as a student value (Abrami et al., 2011). At different stages of the project development, the community members become aware of the importance of self-awareness, attentiveness, and their willingness (or not) to include the feedback received.

At every stage of the eportfolio development, the attitudes and values of the students, along with their interests, needs, motivators, and appreciations, contribute to their comprehension and subsequent application of new knowledge, as depicted in Bloom's Taxonomy of the Affective Domain (Bloom et al., 1956; Krathwohl, Bloom, & Masia, 1964). In one of the revised versions of the taxonomy, Marzano and Kendall (2007) included three domain categories—cognitive, meta-cognitive, and affective. The self-system or affective category deals with the emotions associated with the new knowledge and the beliefs of the students in regard to their importance. The meta-cognitive system monitors the execution of knowledge as students identify their learning

goals. The lower level category in this matrix, the cognitive system, helps the students during their knowledge utilization and analysis (what comments to incorporate). Components of all three systems were present at different times during the information-sharing, peer-interaction, and construction of knowledge in all course iterations in which I had the opportunity to participate.

This social construction of knowledge and acquisition of skills derived from the peer-feedback giving and receiving interactions embodied, as posited by Hoven and Palalas (2011), an aspect of constructivism that was more ecological. This ecological constructivist perspective facilitated the description and explanation of my analysis and interpretation of my observations.

Additional thoughts. Since my mixed-method study investigated the perceptions of participants from one particular educational institution, the results may not be readily applied to other courses where students participate in the development of their capstone eportfolio projects.

The explorative nature of a study that includes a qualitative method helps researchers in their search for a reality not yet known (Evers, 2016). When I immersed myself in my field site (course) as an observer, I was already an eportfolio proponent. I had kept abreast of the existing research on this impactful instructional practice, and also of the evolution of the eportfolio landscape. I was unaware, however, of how eportfolios, as a process would reach beyond the curriculum and field of education. I was equally unaware of how eportfolios, as a capstone project with their collaborative capability, enabled learners and educators to experience some of the critical competencies outlined by Gardiner (1994). I was well aware, however, that as an educational technology,

eportfolios provided users with the ability to create, curate, publish, and share their media-rich collection of pages (Greenberg, 2006).

In my exploratory ethnographic study, my focus was on the examination of the development of reflection among students completing their eportfolio projects, both individually and also in collaboration with their peers. My research problem emerged when I was a volunteer and intern during the initial courses of my doctoral program, as I began observing student interactions with their eportfolios. Afterward, I proposed a study that would give me an insider view into the development of reflection of students who engaged in peer-feedback giving and receiving at various stages of their eportfolio development process. These eportfolios were the focal point of community gatherings, where increased student engagement and interaction (with peers, instructor, and course resources) gradually led to the development of reflection. The strength of this community was owed in part to the interaction among students who sought each other's opinion on their artefacts. As previously mentioned, with each iteration of the capstone eportfolio project course, there was an evolution (in the responses of the students) attributable in part to the examples of eportfolios shared by participants in previous cohorts.

Affordances of the environment. In the beginning of each of the three courses, students were unaware of the types and application of eportfolios, and how eportfolio technology (product) worked in tandem with eportfolio pedagogy (process) in their eportfolio projects.

The rich resources in the course site, the modeling by the instructor, and the affordances of the environment, which included the legacy left from previous learners, guided the eportfolio development process of the students as they began their journey;

they also helped trigger moments of reflection. The chart below illustrates the perception

of the students based on the following interview questions

1. What aspects of your capstone eportfolio project development do you feel have

    helped your ability for critical reflection as you were completing your collection of

    pages?

2. What aspects of the eportfolio journey helped trigger your ability to engage in critical

    reflection as you were completing your collection of pages?

Aggregated responses to the above questions by 21 students after their final eportfolio

presentations revealed that the live Adobe Connect information sessions throughout the

duration of the course had been the most impactful activity that triggered reflection

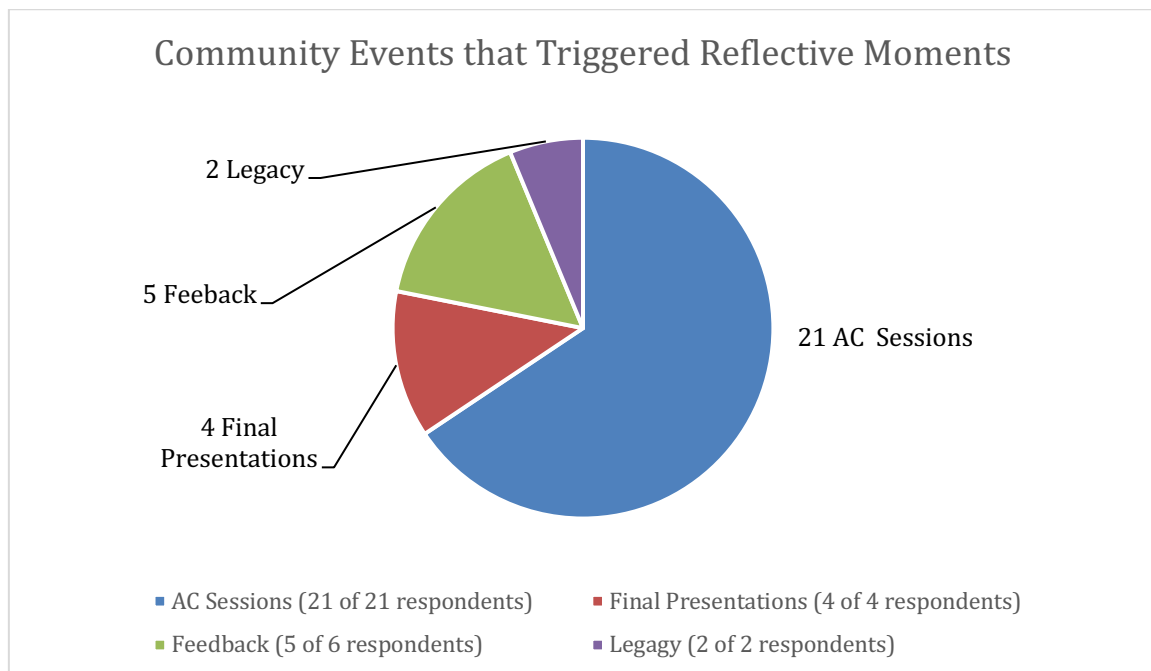during the development of their projects (see Figure 33).

Figure 33. Perception of events that triggered reflection based on questionnaire and
interview responses of six students and responses by 21 student presenters.

Responses obtained from the same two questions during interviews with six study participants revealed that only one of the six respondents expressed little interest for community interaction in a final course of a program, and therefore, had little interest in peer feedback. The remaining five respondents revealed that as they viewed feedback comments on their artefacts, they experienced reflective moments.

Students who had attended one or more final eportfolio presentations (live or recorded) revealed the positive impact of the activity as they completed their projects. The visit by a former student in one of the courses and the discussion that followed were a catalyst in the reflective process of the course participants who had the opportunity to attend the event.

Summary

This chapter discussed the results of my study related to feedback interaction, its role in the development of reflection, and the theoretical lenses I used to interpret my findings. It further elaborated on student perception of peer-feedback giving and receiving. The chapter introduced insights emerging from my study related to eportfolio pedagogy, and its impact on educational programming. It also discussed the relationship of my findings with other studies conducted on reflection, innovative assessment, and community building. This chapter concluded by presenting additional thoughts that emerged during my analysis and interpretation of my findings.

Chapter 6. Summary and Future Directions

This final chapter provides summaries of study outcomes, delimitations, limitations, and potential significances. It elucidates how this study may be used to inform practice and research in a broader higher educational context. The chapter concludes with final comments from my perspective as participant-observer in this online ethnographic study.

Summary of Study Outcomes

The majority of the students in the capstone eportfolio project course were initially unaware of the type of eportfolio they were required to create. In consequence, they began to see the importance of the live course information sessions as a community event where their questions would be addressed. During these sessions, the instructors allowed

- voices of students to be heard,

- emotions to be expressed in a safe environment,

- doubts to be shared and clarified within the group, and

- modeling by participants who leveraged the affordances in their online environment.

Many of these synchronous sessions were laden with emotions related to learner vulnerabilities and personal circumstances. These unstructured and informative sessions enabled the learners in the course to self-identify their attributes, and to promote accountability within the community. This learner self-awareness, fostered by an eportfolio subculture, and this identification of personal attributes, as aligned with the layers of affect, worked in tandem with the course environment, and the resources left by previous eportfolio creators.

As a physical compilation of the work of students, eportfolios allow for the sharing and story-telling of their journey, which includes happy and sad moments, successes and failures, discoveries and transformations, and, most importantly, a sense of growth on a personal, academic, and professional level. Acknowledging the cumulative process of learning events experienced by the learners, a topic that emerged from the responses of the study participants, was the need to have prerequisites for participants registering in a capstone eportfolio project course. Students suggested that courses with reflective learning activities be a prerequisite to enrolling in this capstone eportfolio course. Their rationale was that an engagement with experiential learning would be of value to students undergoing the capstone process. The students who had prior experience with reflective theories and practices revealed perceiving differences in their assimilation of the process eportfolio format from the other students in the course. A further suggestion from the students was to generalize throughout their master's program some of the information garnered from this course namely core competencies, critical reflection, feedback interaction, and eportfolio development.

In observing, surveying, and interviewing students, I gained insights into the experiences of students developing their capstone eportfolios and participating in self-reflection and peer-reflection in an online learning community. Regarding the participants in this study, my findings highlight the affordance of eportfolios to make observable the attributes of the students as they demonstrate learning, validate the importance of feedback interactions to the students, and elucidate the role of the students and value of reflection in eportfolio projects. Regarding broader concerns of this study, my findings provide insight into the development of process eportfolios created by

master's level students, highlight the importance of affect in deep learning and reflecting,

demonstrate an application of the ecological constructivism learning theory, and

stimulate discussion on eportfolio pedagogy and innovative assessment.

Table 21

Seven Aspects of Recommendations for ePortfolios

Aspects	ePortfolio Recommendations
Prerequisite	• Completion of courses that have reflective component. • Knowledge of experiential learning theories. • Viewing of course resources before the first live session.
Protocol	• Establishing support groups. • Encouraging study buddies. • Making participation in live sessions a course requirement.
Structure	• Guidelines on the type of product and process required. • Directions on the process of creating an eportfolio earlier in the program. • Timelines for each phase of the project including feedback giving.
Feedback	• Learning to provide constructive feedback. • Highlighting benefits of commenting on artefacts of peers. • Acknowledging value of feedback received to enhance the experience.
Reflection	• Recognition that eportfolio journey is enhanced through interaction. • Awareness of self and peers in spaces of Internet. • Attentiveness to the value of a community of eportfolio creators. • Use of meta-analytical approach in live sessions to brainstorm ideas. • Sharing of goals coming into the program to trigger reflective thoughts.
Modeling	• Discussions on a generic eportfolio in initial sessions of the course. • Presentations by former course participants to share their legacy. • Updates on eportfolios in live sessions to generate engagement.
Affordance	• Access to practice room throughout the duration of the course. • Use of a dedicated link for all live sessions. • Availability of recordings in course calendar after each session. • Update of course resources to make the course site more user-friendly.

Recommendations

During various phases of the eportfolio journey, community members revealed feeling confused, lacking information, and being uncertain of how to proceed. As a result, they put forth several recommendations to facilitate the journey of future students. To their suggestions, I have added mine, which were developed as a result of my findings and analysis of this study. Together, these areas have been categorized into seven aspects of recommendations for eportfolios and are encapsulated in Table 21. Each area will be discussed further separately.

Prerequisite recommendations. Students suggested that it would be beneficial to take courses that included reflective learning activities prior to their enrolment in the final capstone eportfolio course in the program.

Their rationale was that prior engagement with reflective experiential learning would be of value to those undergoing the capstone process. Students perceived a difference in the assimilation of the process eportfolio format between those students with prior experience of reflective practice and those without.

Protocol recommendations. The list of recommendations compiled by the students included ways to foster connection between peers. A student revealed:

Within my core group the interactions were integral to my success, they motivated me to keep going even when I was unsure my process was on the right track. I developed supportive friendships, and we were there to support each other through to the end of our work. I am definitely glad to have been part of their journey, and grateful they were part of mine.

One recommendation was based on the students' valuing the attendance of weekly synchronous group meetings as a means "to help encourage the growth of a strong feeling of class unity." The recommendation was that attendance be required. Another recommendation encouraged the formation of "study buddies" as a potential layer of support. By creating study buddy subcommunities, group members would be accountable to one another, and thus ensure the provision of more in-depth feedback on all seven pages of each other's collection rather than on just the first two. These subcommunities would develop a shared culture. Culture is both inside the head and also out there in the world and encapsulates the views of the group regarding what is positive or negative, true or not, and rational or irrational (Ormrod, 2009). The students in each eportfolio subcommunity would create their own framework, and thus determine the normalcy and feasibility of what type of support the buddies are able to provide.

Structure recommendations. Among the suggestions that students made was a need for "strong direction provided, on a timely basis, whenever there are signs of confusion and uncertainty in the process of building an appropriate and meaningful e-portfolio." Another student expressed having some difficulty in the initial days of the course and wrote:

> In the first few weeks of the course, I struggled to relate the pedagogical elements (the artefacts and the underlying structure of the M.Ed. program) to the desired end product. I also had to understand the use of terminology to provide precise descriptions of the elements. I think this represented an initial "zone of proximal development" for me. Fortunately, I was well supported by the academic scaffolding provided by the instructor team!

Although the course site states that the learning environment is accessible to the new community members a number of days before the first day of the course, few students opt to log in and visit the site in anticipation of their first day in the capstone eportfolio project course. Furthermore, since attending the first session is not yet mandatory, students, who are not in attendance, choose to watch the recording of the session at a more convenience time for them, which may lead to more questions than answers on their part. These factors may be contributors to a student perception of lack of course direction.

Feedback recommendations. Students wrote that they would have "appreciated having more comments" on all seven pages of their collection.

They received meaningful feedback from peers in the beginning of the course, but very little on the artefacts in the final pages. This factor is partly owed to the ongoing student presentations before the final weeks of the course, which resulted in fewer students providing feedback. Students further stated the importance of recognizing that the eportfolio journey becomes "more meaningful through interaction with the group." They also suggested the need to "highlight the benefits of sharing feedback and mutual encouragement often, and with as wide a group of fellow students as possible." The rationale was that community members would then acknowledge the "value of feedback," and the ways it enhanced the eportfolios when feedback is "careful, considered, and constructed" in a targeted, timely, and action-oriented manner.

Reflection recommendations. Students referred to reflection as a tool for reviewing information in all the courses along with "many of the concepts and interactions" experienced in each of their courses and related course work.

The participants who valued their reflective experiences stated that the capstone projects had been personally, academically, and professionally relevant. They further stated that these experiences had been of a reflective nature, and that the eportfolio development had helped with their process of reflection. The recommendation is to continue and expand the use of reflective practice in online higher education.

Modeling recommendations. Another recommendation was to structure the weekly sessions to include presentations from former eportfolio graduates.

Graduates of the program would present their own eportfolios followed by scholarly discussions similar to the ones that follow the final student presentations. The benefits would be threefold: former students would share their experiences and highlight their accomplishments; current students would experience the protocol of a final master's presentation; and course instructors would be able to identify the students who may be needing additional support based on the questions asked following the presentations. One of the students shared the following:

> The peer review and instructor feedback and encouragement really helped focus my writing and helped me to flesh out my thoughts. Participation in the [synchronous Adobe Connect] sessions also helped quite a bit. The session by a former student specifically was moving and allowed me to see [the example of the student as] a guide to reflection.

In this social learning environment, members of the community would serve as models in terms of behaviours, values, and attitudes. This bridging of cognition and affect would undergird the subsequent student awareness of the benefits of creating a reflective eportfolio project.

Affordance recommendations. The final grouping of recommendations is related to the affordances of the educational technologies used in a capstone eportfolio project course.

Students reported feeling uninformed when they were faced with an intense three-month seven-page reflective eportfolio project as a graduation requirement. The overall sentiment was one of needing more guidance in the initial courses of the program in order to facilitate the selection of artefacts and the alignment of the competencies in their final course. The recommendations include providing extended and continued access to the practice room throughout the duration of the course, having a dedicated link for the synchronous online sessions, and making recordings of the synchronous sessions available within the online course calendar as well as updating the course resources to make the course more user-friendly.

The process eportfolio, as a holistic experience, helps learners become comfortable with articulating the attainment of competencies as a meta-analytical approach to what they have learned. Learners undergo a series of emotions, feelings, and reflective experiences during the development of their eportfolio projects, which includes peer-assessment of artefacts, and self-assessment of one's own attitudes toward them. The seven aspects of recommendations for eportfolios provide a comprehensive overview for improvement based on the strengths of eportfolio use in higher education.

Addressing Delimitations and Limitations

By choosing to apply an online ethnographic methodology with one small group of students, I sought a rich description of experiences knowing that a small number of study participants would prohibit the generalizability of the findings. I experienced eportfolio pedagogy in the courses I observed during my interaction with the course participants in the information sessions, forum discussions, comments on artefacts, and student presentations. This interaction brought me close to the students, and made me aware of the inclusion of possible biases, personal beliefs, and philosophical assumptions in the analysis of my findings. I used my reflective notes and field notes to help me think through my own biases and assumptions during the data collection and analysis phases of this study. In addition, I also relied on other forms of notes derived from moments of both reflectivity and reflexivity, which became part to my own eportfolio (albeit in a redacted format).

The initial response rate for participation, being two participants, was lower than I had anticipated when the study was designed. The timelines were adjusted and a second invitation to participate was solicited which resulted in four more participants. With only six respondents for the questionnaire and interview questions, the data was fortified by aggregating additional data from answers to similar questions from twenty-one recorded student eportfolio presentations.

Using *NVivo Transcription* software for the transcription of audio recordings of the twenty-one eportfolio presentations meant that I needed to address inherent weaknesses of this software. I addressed this aspect by manually editing the

transcriptions to ensure accuracy. This extra step proved to be an efficient use of time as it helped maintain the integrity of my data.

Offering to use *Skype*, an Internet based audio-video conferencing site, for the interviews highlighted connectivity issues for some students who had expressed an interest in participating in the study. I addressed this aspect by offering an alternative format for responding to our one-to-one interviews, and thus replacing the synchronous online meeting with a written response by the student. An unforeseen benefit of this alternative format was that the participants reported appreciating having more time to reflect on answers than would have been possible during a synchronous session.

By choosing to conduct an online ethnographic study, I was able to address common limitations of research identified by C. Marshall and Rossman (2016) as cost, time, researcher's stamina, access to field site, and formal approval to conduct the research. These areas will be discussed in turn. Because I conducted my fieldwork from my home office, I was able to minimize the first three limitations. The only new cost associated with this study was the purchase of *NVivo* software, for which I was awarded a grant from Athabasca University to offset this cost. I was able to allocate time to my research around my employment responsibilities by designating early mornings, evenings and weekends for my studies (such discipline energized me to work even harder). I also managed to balance the demand on my physical and emotional stamina to complete this dissertation by maintaining a daily dose of physical activity and healthy eating habits.

The last two limitations were more challenging to address. Access to some of the archived eportfolios was limited due to broken links, and subsequently reduced the number included in this study to twenty-one. Receiving formal approval for this research

was a multi-step multi-stakeholder process, which included support of my doctoral committee through the successful completion of the candidacy exam (July 27, 2018), research ethics approval showing compliance with national and institutional standards for conducting research involving humans (September 28, 2018 and October 03, 2018, respectively), and permission from the instructors of the three courses in which the study was conducted. I was successful in receiving formal approval from, what C. Marshall and Rossman (2016) call, the gatekeepers. By addressing the delimitations and limitations as described, I ensured that my study matched my capacities and was doable.

Significance

This study contributes to the contemporary practice and ongoing discourse of the use of eportfolio as a capstone project in higher education. The ultimate practical aim of this research was to improve the educational experience of learners through the use of eportfolios. The impact may unfold indirectly as this study may influence educational policy makers to redesign, as Ravet (2005) describes, the infrastructure of future learning regions; educational administrators to innovate course-level and program-level curriculum design, and assessment formats; and instructors to adopt reflective learning and professional self-development practices. The impact of this study may affect students directly. Students who read this dissertation may be inspired to employ eportfolio practices for their own academic and professional development of the critical competencies required in the 21st century, to become involved in online communities of eportfolio creators, or to pursue eportfolio pedagogy as an area of interest in their own academic research. This study provides a sufficiently rich experience to be of practical use to various higher educational stakeholders.

The most significant contribution to education research in this study is the recognition of eportfolios as pedagogy. As Lewis (2017) posits, it is less common to view eportfolios as pedagogy than as technological applications for storage and presentation of information. ePortfolios disrupt current learning and teaching processes, and transport learning outside the traditional classroom into Internet culture.

ePortfolio Pedagogy

Reflection

Awareness

Peer learning
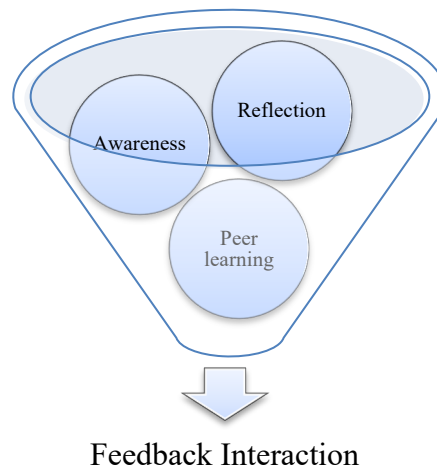
Feedback Interaction

Figure 34. ePortfolio pedagogy and key constructs of feedback interaction.

The eportfolio purposes of learning, teaching, and assessing align with the development of attributes required by graduates in the 21st century, which Peel et al. (2011) identify as flexibility, adaptability, reflexivity, and critical engagement in life-long learning. ePortfolio pedagogy fosters reflection, student self-awareness, peer learning, and feedback interaction.

Figure 34 illustrates the key constructs of feedback interaction within eportfolio pedagogy, which are awareness, reflection, and peer learning. As mentioned, eportfolio is a powerful pedagogy, espouses technology and ecology, enables the overlap of cognition and affect, and fosters critical reflection. This study contributes to the growing body of research on ways to transform the current structure and practice of higher education to make room for reflection—a higher-order thinking and metacognition characteristic of successful pedagogies, as purported by Husbands and Pearce (2012).

Future Research

Technology continues to change rapidly, and professionals in all fields have been pressured to introduce some form of innovation in their practice. Although training for new methods, procedures or equipment is a requirement in every job, such training is not always present in every profession. The field of education is among those where daily expectations often overburden many of its practitioners who require consistency, and some degree of normalcy in order to deliver their craft. We possess to some degree, as argued by Maslow (1968), an inner nature which is "intrinsic, given, and in a certain limited sense, unchangeable, or at least unchanging" (p. 3). This inner nature, he further suggests, can be easily overcome by habit and cultural pressure due to its subtle and delicate state. As educators, we help shape minds; as humans, we aim to shape our own.

In a community of eportfolio developers, it was observable the changes that occurred resulting from, as posited by the students themselves, the "habit" of the learners and, to a certain degree, the "pressure" by the members of this culture-sharing community. The students were involved in varying forms of peer-pressure during the

peer-feedback interactions translated as overt behaviours that ranged from unresponsiveness to attentiveness.

An interaction of practical and/or theoretical forces can either foster or discourage growth in an area of higher education; such interaction may result in one's growth or non-growth (Maslow, 1970, 1971). Therefore, further observations could underpin a future study on feedback interaction in an online community of learners in both blended and fully online formats, which may include the concept of a study buddy. In addition, although different online groups of students also engage in interaction and reflection, the online cohort-based course, an area beyond the scope of my current research, could also be the focus of a study.

As discussed before, in the field of education, it is not uncommon for practitioners to apply what they know about a concept before research findings on that concept are made available (Bryant & Chittum, 2013). Therefore, with a growing need for research on online pedagogies, and an existing interest by institutions to provide professional development for faculty, the time has come for pratitioners to engage in eportfolio learning. As a high-impact practice and powerful pedagogy, the eportfolio espouses innovation in teaching and learning and constitutes an elegant research area; as such, with proper guidance, practitioners have an opportunity to develop research skills. The findings from their studies may foster future research that can contribute to the shared knowledge of eportfolios as a practical application or a theoretical pedagogy.

Table 22 lists eighteen diverse potential directions of future research, clustered into seven distinct areas. They are interaction, technology, taxonomy, self-development, pedagogy, reflection, and feedback. Each of these areas will be discussed separately.

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Table 22

Seven Areas of Future ePortfolio Research

Areas	Future ePortfolio Research
Interaction	• Cohort-based versus non-cohort based programs. • Groups with study buddies within the larger group. • Blended format versus distance education.
Technology	• Application and training while learning to use it. • Monitoring and guiding while teaching with it. • Availability of platforms and ease of application.
Taxonomy	• Analysis of the affective domain. • Approaches to domain integration. • Standard terminology for concepts.
Self-development	• Influence of eportfolio application. • Awareness of positionality and perspectives.
Pedagogy	• Impact of eportfolio pedagogy. • Influence on current practices. • Effect on assessment and demonstration of learning.
Reflection	• Value and application. • Cross-disciplinary terminology and framework.
Feedback	• Application and monitoring. • Analysis of approaches.

Interaction. Student engagement and interaction in both non-cohort and cohort-based programs at undergraduate, graduate, and post-graduate levels are concepts often aligned with student retention, satisfaction, and program completion.

Future research could compare interaction through eportfolios in programs that are cohort based and non-cohort based. In addition, observations of interactions between study buddies may be an area for future research in both blended and fully online courses and programs.

Technology. Educators and learners are positioned at two different ends of the technological spectrum. There is currently a technology dissonance between what instructors and students need in terms of knowledge, skills, and comfort levels using technology and what institutions are doing to encourage (and most often discourage) them to apply it in their teaching and learning. There is a disconnect between what students need and what instructors can offer them.

Educators and learners are positioned at two different ends of the technological spectrum. At one end, the technologically savvy learners want to rely on innovation to both learn and demonstrate achievements. At the other end, the pedagogically inclined educators may have failed to recognize the advantages of (properly) applying innovation in their practice. Practitioners and theorists of eportfolios benefit from the continued evaluation of the technology itself, making this an unending area of potential research. Future research may focus on the impact of having to concurrently learn to use the technology of eportfolios and learn the curriculum of the course. Similarly, the focus of another study may be on monitoring the activities of instructors and the guidance they receive during the implementation of eportfolios in their practice as they teach the curriculum.

Taxonomy. The interest in domain integration has created a need for studies that are underpinned by the value system and that align competencies with learning experiences.

Participants in a future study may be educators who embrace eportfolio pedagogy, and who are willing (and able) to ignite a flame, spark a passion, and inspire a mind as a result of their professional self-development endeavours. The study may focus

on how educators redefine their assessment methods to enable students to engage in meaningful learning experiences in the metacognitive and self-systems.

Studies may also include students who have experienced eportfolio as disruptive pedagogy in a course or program of studies. The study could focus on the perception of these students as it relates to their sentiments before, during, and after their articulation of learning experiences (knowledge, skills, attitudes) as they develop their capstone eportfolio projects as an innovative form of assessment.

Self-development. The eportfolio projects enable their creators, students, educators, or administrators, to immerse themselves in an inward journey of self-discovery.

This intellectual, philosophical, and educational experience allows for gradual transformation of thought processes in terms of theoretical constructs and educational practice. Future research could focus on the strength of eportfolios as a form of professional self-development for educators. This innovative pedagogy is now becoming an appropriate venue for educators to re-learn their craft, to express their creative side, to engage in self-reflection, to develop social-emotional competencies for online spaces, or to recognize the importance of proper application of innovative tools in online pedagogy. Future research on student self-development through eportfolios may identify patterns of influence or positionality of student perspectives on the curriculum and program of studies, or on their learning experiences.

Pedagogy. Innovative pedagogies provide students and teachers with transformative ways to learn and teach, when opportunities are available.

As previously mentioned, there is a disconnect between the 20th century curriculum adopted in many programs (writing for an audience of one) and a 21st century framework that includes projects such as eportfolio development (co-creation of knowledge in an online learning community). Therefore, there is a need for studies which focus on the shared knowledge of eportfolios as a practical application or a theoretical pedagogy. Future research could explore the impact of eportfolio pedagogy on the application of contemporary theories of learning, educational practices, or learning assessment.

Reflection. As we continue using technology in our practice, we necessitate a certain daily dose of reality, consistence, and normalcy, so we can continue to thrive as human beings and prosper as learners and professionals.

Reflection, which is an acquired skill, deepens our thoughts, soothes the soul, calms the mind, and lightens pressures of everyday life. Further studies on eportfolios in higher education may focus on the following areas of this acquired skill: its acquisition and mastery, value and application, or cross-disciplinary terminology and framework.

Feedback. Feedback (either giving or receiving) is underpinned by both cognition and affect. The art of receiving and giving feedback can be learned and mastered. Feedback receivers initially undergo a form of inner turmoil and a period of disquieting mental activity that leads to awareness, discernment, and critical reflection.

Similarly, feedback givers also experience emotional commotion as they craft feedback that is specific, gentle and yet targeted, action oriented, and timely. In an

eportfolio community of learners, feedback givers include instructors, tutors, interns, and peers.

Feedback, as a skill that espouses cognition and affect, is emerging as an area of interest in online and blended learning spaces. Future research could explore effective methods of guiding and monitoring the application of eportfolios as it relates to feedback interactions. The focus of a future study could be on an analysis of the feedback giving and receiving approaches used by members of an eportfolio community, or through the observing eyes of a researcher.

Researcher's Final Reflections

My eportfolio experiences have enabled me to discover the joy of observing learning. Since the early 2010s, I have benefitted from studying with and about eportfolios on a personal, academic, and professional level. The essence of my experiences includes both *aha* and *oh, no!* moments.

Personally, I engaged in self-development while creating eportfolios in various contexts. These professional learning experiences have brought forth the notion that learning is ubiquitous, ongoing, and energizing. Learning can emerge in moments of utter confusion, uncertainty, or realization. My eportfolio experiences have also enabled me to see that critical reflection emerges amidst moments of both calmness and chaos and are (more often than not) accompanied by frustration, elation, productivity, or creativity.

Academically, I allowed myself to reflect critically on my learning while completing eportfolios for courses in my master's and doctoral programs. I experienced the value of peer interaction and feedback (giving and receiving) as I began to understand

"the connections that enable us to learn more are more important than our current state of knowing" (Siemens, 2005, p. 5). Learning from and with the application of feedback to the thoughtful and meaningful development of eportfolios have enabled me to experience moments of critical reflection and deep learning.

Professionally, I relied on the collection of pages of master's students for my ongoing observations of peer-to-peer feedback interactions and subsequent alignment of the competencies to their learning. In my ESL practice, the capstone eportfolio projects have enabled language learners to view their learning to date as they revisit (and aim to comprehend) their learning process over a period of time (within a semester).

In my learning journey during my research, I recognized my need to change my positionality and infuse my theoretical views with a more contemporary approach to better understand what I was undergoing. Participants of Internet learning spaces, both educators and students, find the learning and teaching experience complex. Members of a community of capstone eportfolio projects identify their experience as challenging. Therefore, there is a need for the institution of education to provide opportunities for the community to revisit the theories of learning, classical and contemporary approaches to enable its members to experience the current way of perceiving, knowing, and applying.

In my practice, I moved from initially being the one who shared knowledge with my learners to gradually gravitating towards being the one who enabled them to seek knowledge as they made sense of the affordances in their online learning community; an environment where "learning is like a drug," as posited by a former ESL student. The student further added that as a result of his collaborative learning experiences in the vast spaces of the Internet, he "had become addicted to learning"—sentiments I share with all

my students. This example demonstrates how the learning flame can be ignited by learners and educators alike when their online spaces are conducive to learning.

As previously mentioned, my eportfolio experiences have enabled me to discover the joy of observing learning. As I stepped back and allowed for eportfolio moments to occur, I experienced a pedagogical concept that underpins learning at a distance; fosters learning when actors are geographically separated; facilitates interaction with peers, instructors, and content; and encourages learner self-directedness (Moore, 2007). Transactional distance, a psychological and communication space that comes with geographic separation, manifests in specific patterns of behaviour on the part of the students and instructors (Moore, 2007).

This pedagogical concept describes learning spaces where instructors, students, learning structure, and learner self-directedness interconnect. Similarly, the eportfolio projects, as both technology and pedagogy, allow for variations in behaviours on the part of the users; foster learner self-directedness; encourage peer-interaction; and enable growth on a personal, academic, and professional level. In my study, those students who allowed themselves the time and space for soul-searching thoughts of their learning to date reported having a more meaningful experience during the development of their projects.

My ethnographic approach enabled me to do more than just write (*graphei*) about the people (*ethnos*) I observed; it made it possible for me to share the stories of eportfolio creators from their perspective. The writing of my dissertation has provided me with a platform to share my journey as a doctoral student who observed how meaningful educational events can cause, as Ragan (1999) has described, sustainable behavioural

changes, and substantial student learning. As a learning site, eportfolios provide the terrain for such changes to happen.

The concept of this research study began to take shape when I experienced the electronic version of portfolios in my own practice as a language instructor and college educator (2013). It evolved and was conceptualized during my three-year immersion in the community of graduate students (2015-2017) and subsequent one-year research in three iterations of a capstone eportfolio project course in a university in western Canada (2018).

In order to maintain anonymity of the students whose experiences I observed, and whose learning journeys I describe, I have modified the events and dates to protect the privacy of those who had not planned to be included in my own journey. As such, in my narration, as suggested by Cain (2012), I describe a composite version based on various groups of students participating in their eportfolio development process.

These rich experiences have enabled me to grow personally, academically, and professionally. They have also cemented my passion about eportfolios for learning and teaching and have contributed to my study.

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Appendix A: Athabasca University Research Ethics Approval

Athabasca University
RESEARCH CENTRE

CERTIFICATION OF ETHICAL APPROVAL

The Athabasca University Research Ethics Board (AUREB) has reviewed and approved the research project noted below. The AUREB is constituted and operates in accordance with the current version of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS) and Athabasca University Policy and Procedures.

Ethics File No.: **23002**

Principal Investigator:
Ms. Rita Zuba Prokopetz, Graduate Student
Centre for Distance Education\Doctor of Education in Distance Education

Supervisor:
Dr. Debra Hoven (Supervisor)

Project Title:
Capstone Electronic Portfolios of Master's Students: An Online Ethnography

Effective Date: September 28, 2018   **Expiry Date**: September 27, 2019

Restrictions:

Any modification or amendment to the approved research must be submitted to the AUREB for approval.

Ethical approval is valid *for a period of one year*. An annual request for renewal must be submitted and approved by the above expiry date if a project is ongoing beyond one year.

A Project Completion (Final) Report must be submitted when the research is complete *(i.e. all participant contact and data collection is concluded, no follow-up with participants is anticipated and findings have been made available/provided to participants (if applicable))* or the research is terminated.

Approved by: **Date:** September 28, 2018

Connie Blomgren, Chair
Centre for Distance Education, Departmental Ethics Review Committee

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Athabasca University Research Ethics Board
University Research Services, Research Centre
1 University Drive, Athabasca AB Canada   T9S 3A3
E-mail rebsec@athabascau.ca
Telephone: 780.675.6718

Appendix B: Invitation to Participate

INVITATION TO PARTICIPATE
Capstone Electronic Portfolio of Master's Students: An Online Ethnography

January, 2019

Principal Investigator (Researcher):	**Supervisor:**
Rita Zuba Prokopetz	Dr. Debra Hoven
Email: rprokopetz1@athabasca.edu	Email:debrah@athabascau.ca

My name is Rita Zuba Prokopetz and I am a Doctor of Education in Distance Education student at Athabasca University. As a requirement to complete my degree, I am conducting a research project about the experiences of students with their electronic portfolios (eportfolios) as a reflective capstone project, and the extent to which peer-feedback interactions give students a sense of belonging to a community of learners. I am conducting this project under the supervision of Dr. Debra Hoven.

I invite you to participate in this project because you have recently experienced feedback interactions while developing your reflective capstone eportfolio project in an online course.

The purpose of this research project is to examine the overall perceptions of the development of reflection of the students participating in a capstone eportfolio project, and to gain a better understanding to what extent giving and receiving feedback provide the students with a sense of being a part of a subculture of an online community of learners.

Your participation in this project would include your response to an open-ended questionnaire (via email), an in-depth semi-structured interview (via Skype) with your subsequent approval of the transcript, and my viewing of the recording of your capstone eportfolio project presentation. The expected length of time for the open-ended questionnaire via email would be approximately 10-15 minutes of your time, and for the semi-structured interview via Skype would be between 30-45 minutes, plus an additional 15 minutes to allow me to share the transcript of my notes with you. The open-ended questionnaire will take place at your convenience, and you will have one week to complete it between January 15 and January 22, 2019. The semi-structured interview via Skype will be arranged for a time that is convenient to your schedule between January 25 and January 31, 2019. You may also opt to be present during my viewing of the recording of your capstone eportfolio project presentation between February 01 and February 10, 2019.

Additional follow-up conversations may be scheduled at your convenience to give you an opportunity to review the final transcript of your semi-structured interview, and also to provide you an opportunity to alter or clarify your comments.

My research findings will help me gain further insight into the capstone eportfolio project development of students in an online community of learners. The results of my study may benefit students in their critical reflection during the development of their eportfolio projects in future iterations of the course. I do not anticipate you will face any risks as a result of participating in this research.

Thank you for considering this invitation. If you have any questions or would like more information, please contact me, (the principal investigator) by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Thank you.

Rita Zuba Prokopetz

This project has been reviewed by the Athabasca University Research Ethics Board. Should you have any comments or concerns regarding your treatment as a participant in this project, please contact the Research Ethics Office by e-mail at rebsec@athabascau.ca or by telephone at 1-800-788-9041, ext. 6718.

Appendix C: Letter of Information

LETTER OF INFORMATION
Capstone Electronic Portfolio of Master's Students: An Online Ethnography

January, 2019

Principal Investigator (Researcher):   **Supervisor:**
Rita Zuba Prokopetz   Dr. Debra Hoven
Email: rprokopetz1@athabasca.edu   Email:debrah@athabascau.ca

You are invited to take part in a research project entitled Capstone Electronic Portfolio of Master's Students: An Online Ethnography.

This form is part of the process of informed consent. The information presented below should give you the basic idea of what this research is about and what your participation will involve, should you choose to participate. It also describes your right to withdraw from the project. In order to decide whether you wish to participate in this research project, you should understand enough about its risks, benefits and what it requires of you to be able to make an informed decision. This is the informed consent process. Take time to read this letter carefully as it is important that you understand the information given to you. Please contact the principal investigator, Rita Zuba Prokopetz, if you have any questions about the project or would like more information before you consent to participate.

It is entirely up to you whether or not you take part in this research. If you choose not to take part, or if you decide to withdraw from the research once it has started, there will be no negative consequences for you now or in the future.

Introduction
My name is Rita Zuba Prokopetz and I am a Doctor of Education in Distance Education student at Athabasca University. As a requirement to complete my degree, I am conducting a research project about the experiences of students with their electronic portfolios (eportfolios) as a final reflective capstone project, and the extent to which peer-feedback interactions give students a sense of belonging to a community of learners. I am conducting this project under the supervision of Dr. Debra Hoven.

Why are you being asked to take part in this research project?
You are being invited to participate in this project because you have recently completed your capstone eportfolio project, where you experienced feedback interactions, as you engaged in critical reflection while participating in an online community of learners.

What is the purpose of this research project?
My research study aims to examine the development of reflection, and the experiences as feedback-givers and receivers from the point of view of students developing their capstone eportfolio projects as part of an online community of learners.

What will you be asked to do?
Your participation in this project would include your response to an open-ended questionnaire (via email), an in-depth semi-structured interview (via Skype) with your subsequent approval of the transcript, and my viewing of the recording of your capstone eportfolio project presentation along with the photos and images displayed on your collection of pages. The expected length of time for the open-ended questionnaire via email would be approximately 10-15 minutes of your time, and for the semi-structured interview via Skype would be between 30-45 minutes, plus an additional 15 minutes to allow me to share the transcript of my handwritten notes with you. This Skype conversation will not be recorded by any other means other than manually. The open-ended questionnaire will take place at your convenience, and you will have one week to complete it between January 15 and January 22, 2019. The semi-structured interview via Skype will be arranged for a time that is convenient to your schedule between January 25 and January 31, 2019. You may also opt to be virtually present during my viewing of the recording of your capstone eportfolio project presentation February 01 and February 10, 2019.

Additional follow-up conversations may be scheduled to give you an opportunity to review the final transcript of your semi-structured interview, and also to provide you an opportunity to alter or clarify your comments.

What are the risks and benefits?
My research findings will help me gain further insight into the capstone eportfolio project development of students in an online community of learners. The results of my study may benefit students in their critical reflection during the development of their eportfolio projects in future iterations of the course. I do not anticipate you will face any risks as a result of participating in this research.

Do you have to take part in this project?
As stated earlier in this letter, involvement in this project is entirely voluntary, and there are no negative consequences if you choose not to participate. You may refuse to answer any questions or to share information that you are not comfortable sharing. You may withdraw from the study at any time during the data collection between February 01 and February 10, 2019 by contacting me via email rprokopetz1@athabasca.edu, and I will remove from my records all data along with the codes associated with your responses.

How will your privacy and confidentiality be protected?
The ethical duty of confidentiality includes safeguarding participants' identities, personal information, and data from unauthorized access, use or disclosure.

I will observe confidentiality by keeping the information private while the study is being conducted, and omitting the year or semester of specific course offerings from any of my data analysis documentation.

All information will be held confidential, except when legislation or a professional code of conduct requires that it be reported.

How will your anonymity be protected?
Anonymity refers to protecting participants' identifying characteristics, such as name or description of physical appearance.

Protecting the rights of the participants of this research study is important, and efforts will be made to ensure confidentiality, anonymity, and privacy are maintained. I will maintain anonymity of all participants by replacing their names with codes to guarantee privacy of the participants. In order to maintain consistency, the same codes will be used for all my data collection, and also for my subsequent reporting. Your data will be linked to your identity only through an alpha-numeric code stored in a master list in an encrypted electronic file.

How will the data collected be stored?

- All electronic files, including original consent forms, and revised transcripts of open-ended questionnaires, and semi-structured interviews will be encrypted, and will be stored in the researcher's personal password-protected computer drive for up to five years, at which point all information will be thoroughly and completely destroyed.
- All hard copies of fieldnotes, transcripts, or any research-generated data including signed consent forms will be stored in a designated locked drawer in the researcher's home office for up to five years, and subsequently destroyed once the minimum storage period has been met.
- Anonymity will be maintained by replacing your name along with the names of all other participants with codes to guarantee privacy
- Confidentiality will be observed by keeping your information private while the study is being conducted, and omitting the year or semester of your specific course offering from any of my data analysis documentation
- Results of my research will be disseminated in various formats including a final report to Athabasca University and my supervisor
- There is no anticipated future secondary use of the data. If a later project is designed, further REB approval will be required

Who will receive the results of the research project?
- The existence of the research will be listed in an abstract posted online at the Athabasca University Library's Digital Thesis and Project Room and the final research paper will be publicly available.
- Results of this study may be viewed in future academic journals, and on research websites open to the public, such as: Research Gate

(https://www.researchgate.net/profile/Rita_Zuba_Prokopetz), and Google Scholar (https://scholar.google.ca/citations?user=yeXh8NAAAAAJ&hl=en). In addition, I will upload a copy of my dissertation to my Athabasca University ePortfolio in Mahara (https://portfolio.elab.athabascau.ca/user/rita-zuba-prokopetz), and you will also receive a copy of the final report upon request.

- All reporting of data collected during the research study is only in aggregate or summarized form.
- After the study is complete, a copy of the results of the project will be provided to those participants who have indicated in the Participant Consent Form their wish to receive a copy of the results.

Who can you contact for more information or to indicate your interest in participating in the research project?
Thank you for considering this invitation. If you have any questions or would like more information, please contact me, Rita Zuba Prokopetz (the principal investigator) by e-mail rprokopetz1@athabasca.edu or my supervisor Dr. Debra Hoven by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517. If you are ready to participate in this project, please complete and sign the attached Consent Form and return it via an email attachment to me, Rita Zuba Prokopetz (the principal investigator) by January 15, 2019.

Thank you,

Rita Zuba Prokopetz

This project has been reviewed by the Athabasca University Research Ethics Board. Should you have any comments or concerns regarding your treatment as a participant in this project, please contact the Research Ethics Office by e-mail at rebsec@athabascau.ca or by telephone at 1-800-788-9041, ext. 6718.

Appendix D: Consent Form

Participant Consent – Please read carefully. The items for consent are listed at the end of this document.	**Yes**	**No**
Please tick a box (yes / no) for your consent to participate and email this form back to the investigator.	◯	◯

Capstone Electronic Portfolio of Master's Students: An Online Ethnography
PARTICIPANT CONSENT FORM

January, 2019

Principal Investigator (Researcher): **Supervisor:**
Rita Zuba Prokopetz   Dr. Debra Hoven
Email: rprokopetz1@athabasca.edu   Email:debrah@athabascau.ca

You are invited to participate in a research study about the overall perceptions of the development of reflection of the students participating in a capstone eportfolio project, and to what extent giving and receiving feedback provide the students with a sense of being a part of a subculture of an online community of learners. I am conducting this study as a requirement to complete my Doctor of Education in Distance Education.

As a participant, you are asked to take part in an open-ended questionnaire (via email), and an in-depth semi-structured interview (via Skype). The questions will include your perceptions of the development of reflection during the development of your capstone eportfolio project, and also your perceptions of the peer-feedback interactions while participating in a community of learners. Participation will take approximately 10-15 minutes of your time for the open-ended questionnaire (via email), and the in-depth semi-structured interview (via Skype) will take between 30-45 minutes, plus an additional 15 minutes to allow me to share the transcript of my notes with you.

My research findings will help me gain further insight into the capstone eportfolio project development of students in an online community of learners, which may benefit future students in their critical reflection as they engage in feedback interactions during the development of their eportfolio projects. Involvement in this study is entirely voluntary and you may refuse to answer any questions or to share information that you are not comfortable sharing. You may withdraw from the study at any time during the data collection period by contacting me, and I will remove from my records all data along with the codes associated with your responses.

Additional follow-up conversations may be scheduled to give you an opportunity to review the final transcript of your semi-structured interview, and also to provide you an opportunity to alter or clarify your comments.

Results of this study may be viewed in future academic journals, and on research websites open to the public, such as: Research Gate (https://www.researchgate.net/profile/Rita_Zuba_Prokopetz), and Google Scholar (https://scholar.google.ca/citations?user=yeXh8NAAAAAJ&hl=en). In addition, I will upload a copy of my dissertation to my Athabasca University ePortfolio in Mahara (https://portfolio.elab.athabascau.ca/user/rita-zuba-prokopetz), and you will also receive a copy of the final report upon request.

If you have any questions about this study or require further information, please contact Rita Zuba Prokopetz or Dr. Debra Hoven using the contact information above.

This study has been reviewed by the Athabasca University Research Ethics Board. Should you have any comments or concerns regarding your treatment as a participant in this study, please contact the Office of Research Ethics at 1-800-788-9041, ext. 6718 or by e-mail to rebsec@athabascau.ca.

Thank you for your assistance in this project.

CONSENT:

I have read the Letter of Information regarding this research study, and all of my questions have been answered to my satisfaction. I will keep a copy of this letter for my records.

My signature below confirms that:

• I understand the expectations and requirements of my participation in the research;
• I understand the provisions around confidentiality and anonymity;
• I understand that my participation is voluntary, and that I am free to withdraw at any time with no negative consequences;
• I am aware that I may contact the researcher, and the research supervisor, or the Office of Research Ethics if I have any questions, concerns or complaints about the research procedures.

You may **tick a box (yes / no) at the designated location at the top of this form,** and email this form back to the investigator. Please read carefully the items for consent listed at the end of this document.

Name: _____

Date: _____

Signature: _____

If you wish to receive a copy of the results of this research, please indicate below.

	YES	NO
Yes, I would be willing to receive a copy of the results of this research study via email.	◯	◯

e-mail address: _____

If you are willing to have the researcher contact you at a later time by e-mail, telephone, or via Skype for a brief conversation to confirm that I have accurately understood your comments in the interview, please indicate so below. You will not be contacted more than six months after your interview.

	YES	NO
Yes, I would be willing to be contacted.	◯	◯

Informed Consent:

By signing on this form or by ticking the "yes" boxes means that:
- You have read the information about the research project.
- You have been able to ask questions about this project.
- You are satisfied with the answers to any questions you may have had.
- You understand what the research project is about and what you will be asked to do.
- You understand that you are free to withdraw your participation in the research project without having to give a reason, and that doing so will not affect you now, or in the future.
- You understand that if you choose to end your participation **during** data collection, any data collected from you up to that point will be destroyed.
- You understand that your data is being collected anonymously, and therefore cannot be removed once the data collection has ended.

In addition, you ae also allowing the researcher to:
- Have your email address, phone number, and Skype handle to communicate with you during the research project
- Encrypt and archive in the researcher's personal password-protected computer drive data collected from you in an electronic format
- Archive in a locked cabinet in the researcher's personal home office data collected from you in paper format
- Contact you via email during the open-ended questionnaire data collection requirement of the research project (approximately 10-15 minutes will be required for you to complete and submit the form via email)
- Contact you via Skype for the semi-structured interview and subsequent follow-up conversation to clarify or alter the transcript of my interview (approximately 30-45

minutes will be required for the semi-structured interview and an additional 15 minutes for the clarification)

- View the recording of your eportfolio presentation via Adobe Connect, and you understand that you may opt to be attend virtually when the researcher views the recording (the viewing of the presentations takes approximately 40-60 minutes)
- Contact you following the interview to verify that your comments are accurately reflected in the transcript (approximately 15 minutes for further clarification of my transcript).

Your signature on his form or by ticking a "yes" consent box confirms that:

- You have read what this research project is about and understood the risks and benefits. You have had time to think about participating in the project and had the opportunity to ask questions and have those questions answered to your satisfaction.
- You understand that participating in the project is entirely voluntary and that you may end your participation at any time without any penalty or negative consequences.
- You have been given a copy of this Informed Consent form for your records; and
- You agree to participate in this research project.

_____   _____

Signature of Participant   Date

I have explained this project to the best of my ability. I am inviting questions and will respond to any that may be asked. I believe that the participants are receiving sufficient information to fully understand any potential risks and what is involved in their participation, and that he or she has freely chosen to participate.

_____   _____

Signature of Researcher   Date

Appendix E: Questionnaire

OPEN-ENDED QUESTIONNAIRE
Capstone Electronic Portfolio of Master's Students: An Online Ethnography
Principal Investigator (Researcher): Rita Zuba Prokopetz Email: rprokopetz1@athabasca.edu

Date: Code:

This study proposes two layers of investigation into the experiences of students in an online Master's program in a fully online university in western Canada. Your participation in this first part of my project includes your response to this open-ended questionnaire (via email). The expected length of time is approximately 15 minutes of your time. You have between January 15 and January 22, 2019 to complete this part.

1.   When you were participating in your capstone eportfolio project course, what value, if any, did you perceive regarding the reflective process? (choose one)

Some value	No value	Not sure
◯	◯	◯

2.   What were your overall perceptions of the development of reflection during your experiences with your capstone eportfolio project? (please explain)

3.   To what extent does giving and receiving feedback provide students with a sense of being a part of a subculture of an online community of learners? (choose one)

Some sense of belonging	No sense of belonging	Not sure
◯	◯	◯

4.   How did you perceive your experiences as peer-feedback giver in the development of reflection as you participated in a capstone eportfolio project? (please explain)

5.   How did you perceive your experiences as peer-feedback receiver in the development of reflection as you participated in a capstone eportfolio project? (please explain)

Thank you for participating in my research project. If you have any questions at any time during your participation, or if you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Appendix F: Semi-Structured Interview Prompts

Capstone Electronic Portfolio of Master's Students: An Online Ethnography

Principal Investigator (Researcher): Rita Zuba Prokopetz
Email: rprokopetz1@athabasca.edu

Date: _____ Code: _____

This study proposes two layers of investigation into the experiences of students in an online Master's program in a fully online university in western Canada. Your participation in this second part of my project includes an in-depth semi-structured interview (via Skype) with your subsequent approval of the transcript. The expected length of time is between 30-45 minutes, plus an additional 15 minutes to allow me to share the transcript of my notes with you. You may choose the questions you prefer to answer in each of the themes. You have between January 25 and January 31, 2019 to complete this part.

What is your overall feeling toward the capstone eportfolio project?

What areas of your process eportfolio journey were the most challenging for you?

What areas of your process eportfolio journey were the most rewarding for you?

What aspects of your capstone eportfolio project development do you feel have helped your ability for critical reflection as you were completing your collection of pages?

What aspects of your capstone eportfolio project development do you feel have hindered your ability for critical reflection as you were completing your collection of pages?

What is your opinion about the peer-feedback interactions, as a feedback giver, during the development of the capstone eportfolio projects?

What is your opinion about the peer-feedback interactions, as a feedback receiver, during the development of the capstone eportfolio projects?

What aspects of the process eportfolio as they relate to the technology did you find were the most challenging for you?

What aspects of the process eportfolio as they relate to the pedagogy did you find were the most challenging for you?

What aspects of the process eportfolio as they relate to the development of reflection did you find were the most challenging for you?

What aspects of the process eportfolio as they relate to the technology did you find were the most rewarding for you?

What aspects of the process eportfolio as they relate to the pedagogy did you find were the most rewarding for you?

What aspects of the process eportfolio as they relate to the development of reflection did you find were the most rewarding for you?

What aspects of the eportfolio journey helped trigger your ability to engage in critical reflection as you were completing your collection of pages?

To what extent have the peer-feedback interactions in this course provided you with a sense that you belonged to an online community of learners?

At what point during your capstone eportfolio development did you feel that you were able to fully immerse yourself in the critical reflection required for the completion of your eportfolio project?

NOTE: You may also opt to be present during my viewing of the recording of your capstone eportfolio project presentation between February 01 and February 10, 2019.

Thank you for participating in my research project. If you have any questions at any time during your participation, or if you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Appendix G: Revised Semi-Structured Interview Prompts

Capstone Electronic Portfolio of Master's Students: An Online Ethnography

Principal Investigator (Researcher): Rita Zuba Prokopetz Email: rprokopetz1@athabasca.edu

Date: _____Code: _____

This study proposes two layers of investigation into the experiences of students in an online Master's program in a fully online university in western Canada. Your participation in this second part of my project includes an in-depth semi-structured interview (via Skype) with your subsequent approval of the transcript. The expected length of time is between 30-45 minutes, plus an additional 15 minutes to allow me to share the transcript of my notes with you. You may choose the questions you prefer to answer. You have between March 01 and March 08, 2019 to complete this part.

CAPSTONE EPORTFOLIO PROJECTS

What is your overall feeling toward the capstone eportfolio project?

What areas of your process eportfolio journey were the most challenging for you?

What areas of your process eportfolio journey were the most rewarding for you?

CAPSTONE EPORTFOLIO PROJECTS / CRITICAL REFLECTION

What aspects of your capstone eportfolio project development do you feel have helped your ability for critical reflection as you were completing your collection of pages?

What aspects of your capstone eportfolio project development do you feel have hindered your ability for critical reflection as you were completing your collection of pages?

What aspects of the process eportfolio as they relate to the development of reflection did you find were the most challenging for you?

What aspects of the process eportfolio as they relate to the development of reflection did you find were the most rewarding for you?

What aspects of the eportfolio journey helped trigger your ability to engage in critical reflection as you were completing your collection of pages?

At what point during your capstone eportfolio development did you feel that you were able to fully immerse yourself in the critical reflection required for the completion of your eportfolio project?

CAPSTONE EPORTFOLIO PROJECTS / CRITICAL SELF-REFLECTION

At what stage of your capstone eportfolio project development did you begin to experience the need to go deeper inwardly as you attempted to connect some of the program competencies to your learning experiences to date?

What is your perception of the affordances provided by the capstone eportfolio development as they relate to facilitating a process of awareness: awareness of self; awareness of learning (ah, ha! and oh, no! moments); awareness of community; and awareness of your own gifts?

What aspects, if any, of the eportfolio as a product (the platform, the technology) and as a process (the capstone eportfolio project development) hindered your ability to travel inwardly as you attempted to align learning goals (from both beginning and end of your program) and competencies with your learning to date?

What aspects, if any, of the eportfolio as a product (the platform, the technology) and as a process (the capstone eportfolio project development) facilitated your ability to travel inwardly as you attempted to align learning goals (from both beginning and end of your program) and competencies with your learning to date?

CAPSTONE EPORTFOLIO PROJECTS / TECHNOLOGY

What aspects of the process eportfolio as they relate to the technology did you find were the most challenging for you?

What aspects of the process eportfolio as they relate to the technology did you find were the most rewarding for you?

CAPSTONE EPORTFOLIO PROJECTS / PEDAGOGY

What aspects of the process eportfolio as they relate to the pedagogy did you find were the most challenging for you?

What aspects of the process eportfolio as they relate to the pedagogy did you find were the most rewarding for you?

What aspects of learning (about self, about the process eportfolio, about the community of learners) were the most helpful for you as you attempted to complete your project?

What aspects of cognition (what I am learning), affect (how I feel about what I am learning), and conation (why I am learning this) have been helpful during your eportfolio development journey?

CAPSTONE EPORTFOLIO PROJECTS / MODELING

What is your overall feeling toward the modeling provided by instructors and peers (former and current) during the development phase of the capstone eportfolio project?

What is your overall feeling toward the modeling you have personally provided to your peers (in this or previous eportfolio course iterations) as they relate to facilitating the completion of the capstone eportfolio projects?

What is your perception of the modeling that peers (from this course or previous course iterations) have provided as they relate to facilitating the completion of the capstone eportfolio projects?

CAPSTONE EPORTFOLIO PROJECTS / FEEDBACK

What is your opinion about the peer-feedback interactions, as a feedback giver, during the development of the capstone eportfolio projects?

What is your opinion about the peer-feedback interactions, as a feedback receiver, during the development of the capstone eportfolio projects?

What were your overall feelings before, during, and after some of your feedback-giving experiences?

What is your perception of your own feedback-giving experiences as related to the beginning of your project?

What is your perception of your own feedback-giving experiences as related to the time when you were completing your project?

What is your opinion about your experiences with feedback-receiving from your first acknowledgement of the comment by a peer up to a possible inclusion of the suggestions in your artefacts?

What is your perception of your experiences with feedback-receiving during your discerning and evaluating of what suggestions to include in your artefacts after your first acknowledgement of a comment by a peer?

PEER-FEEDBACK INTERACTIONS / COMMUNITY OF LEARNERS

To what extent have the peer-feedback interactions in this course provided you with a sense that you belonged to an online community of learners?

What aspects of interaction, if any, via feedback giving and receiving contribute toward strengthening a community of learners?

What is your experience with interaction, via feedback giving and receiving, and your bonding with members of an online community of learners?

NOTE 1: You may also opt to be present during my viewing of the recording of your capstone eportfolio project presentation between February 01 and March 08, 2019.

NOTE 2: You may withdraw from the study at any time during the data collection between February 01 and March 08, 2019 by contacting me via email rprokopetz1@athabasca.edu, and I will remove from my records all data along with the codes associated with your responses.

Thank you for participating in my research project. If you have any questions at any time during your participation, or if you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Appendix H: Example of Communication Before Informed Consent

Phase 1: Informed Consent
Hello [name],

It is so nice to hear that you are interested in participating in my research study. I wonder if you have received the Invitation to Participate and the Consent Forms that [the institution] sent to [course code] graduates on my behalf.

This email is actually the first one I receive from you, [name]. I am pleased that you have reached out to my supervisor. Thank you so much!

You may reply to this email at your convenience, and we can proceed accordingly. Thank you again!

Regards,

Rita
P.S. Thank you so much for letting me know Dr. Hoven!

Rita Zuba Prokopetz
rprokopetz1@athabasca.edu

Thank you for participating in my research project. If you have any questions at any time during your participation, or if you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Phase 1: Informed Consent
Hello [name],

It is so nice to hear from you again. Thank you so much for your email.

As per ethics review, I must forward the three attached documents to ensure you are fully informed of my study. The invitation to participate includes an overview of the study. The letter of information is more detailed. If you still wish to participate, the participant consent must be emailed back to me (you can highlight the 'yes' or 'no' circle) to confirm your participation.

Once I receive your informed consent, I will send you the short initial questionnaire, which you may send back via email as well.

Once again, thank you so much!

Regards,

Rita

Rita Zuba Prokopetz
rprokopetz1@athabasca.edu

Thank you for participating in my research project. If you have any questions at any time during your participation, or if you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Appendix I: Example of Communication After Informed Consent

Phase 2: Questionnaire
Hello [name],

It is so nice to hear from you. Hope all is going well.

Thank you so much for your email (in response to [the institution's] Invitation to Participate).

Since I have received your informed consent (via [the institution]), I am attaching your initial questionnaire, which you may send back via email to me.

Once again, thank you so much!

Regards,

Rita

Rita Zuba Prokopetz
rprokopetz1@athabasca.edu

Thank you for participating in my research project. If you have any questions at any time during your participation, or if you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Phase 2: Questionnaire
Hello [name],

Since you had difficulty with the attachments before, I will send the questionnaire as the body of this email (see below) to enable you to work with the text.

I have received your informed consent (phase 1), and we can proceed with the remaining phases now.

Thanks, [name]!

Regards,

Rita
P.S. Please do not inconvenience yourself on my behalf. I am very thankful for your interest in participating, [name]. Thank you so very much!

Phase 2: Questionnaire
Hello [name],

Hope all is well.

Just checking if you have had time to complete the questionnaire, and if you are still interested in phase 3 of the study (interviews may be conducted in a format of your choice).

Thanks, [name]!

Rita
P.S. One participant found the questionnaire form convenient, and another preferred to use a brief paragraph for the answers — you may submit your responses in any format you prefer, ok? Thanks again!

Appendix J: Example of Communication After Questionnaire

Phase 3: extended to February 10, 2019. Thank you so very much, [name]!
Hello again, [name]!

Thank you, once again, for your willingness to participate in my project. Thank you for submitting your responses and the consent form, [name}. My apologies for any inconvenience caused with the file attachments.

Phase 3, which includes a semi-structured interview, ended a few days ago, but you can take your time, ok? You may offer your responses in a different format. You may type your answers, thoughts, ideas on some or all of the themes, and email as an attachment or as the body of an email, ok? Please do not inconvenience yourself (any more) on my behalf. I am so thankful to you already!

The attached form contains the broad topics on which my research is focused, and, as mentioned before, you may choose the format of the interview (Email rather than Skype), and the questions you prefer to answer.

Once again, [name], thank you so much for your interest in my project.

Regards,

Rita

Rita Zuba Prokopetz
rprokopetz1@athabasca.edu

Thank you for participating in my research project. If you have any questions at any time during your participation, or if you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Hi [name],

Hope all is well.

Just wondering if you have had a chance to view the questionnaire. In order to respond using the body of your email, you may just click on reply, answer the questions as an email, and the click on send when you finish inserting your answers. If you prefer, you may use the attached file, and send it as an attachment to your email after you insert your answers.

I would like to send you the questions for the semi-structured interview (phase 3) [name], so you have time to decide which themes you wish to discuss. I am planning to finish phase 3 (interviews) by February 10, which is the last day for withdrawal from the project. I will begin my aggregated data analysis afterward.

Thanks, [name], for your interest in my project!

Regards,

Rita
P.S. If you prefer to typewrite the answers for the interview questions (rather than having a Skype session), you may just send your responses as an attachment, ok? I will provide a list of possible questions once I receive your questionnaire responses – you may add additional themes and topics as required. Thank you so much!

Hello [name],

Please take your time! I will wait for your meaningful responses whenever you have time to send them to me. I do appreciate your willingness to participate, [name], and I value your input.

Please take your time, and reply when you are ready. Thank you again so very much!

Rita

Hello [name],

It is so nice to hear from you so promptly. Hope all is going well for you.

Since I have received your informed consent, I am now attaching your initial questionnaire (in Word and PDF for your convenience), which you may send back via email to me (extended dates* are below).

Once again, thank you so much!

Regards,

Rita
P.S. Once I receive your responses, and you still wish participate, I will forward the semi-structured interview (see note below).

Rita Zuba Prokopetz
rprokopetz1@athabasca.edu

Extended dates*
Phase 1: informed consent (up to February 22)
Phase 2: open-ended questionnaire (up to February 28)
Phase 3: semi-structured interview (up to March 08) — some participants have chosen to provide their answers in writing. Please let me know what method you prefer. Thank you so much!

Hello [name],

Thank you so very much for being so prompt with your responses! I really appreciate your interest in the study, [name].

Phase 3 includes a semi-structured interview. The attached form (in two formats, for your convenience) contains the broad topics on which my research is focused. You may choose the format of the interview (Email rather than Skype), and the questions you prefer to answer.

If you prefer to send an audio file with your answers instead, Amanda, you may do so. As mentioned to other participants, I often use *Vocaroo* (https://vocaroo.com/) with my students, but you may use any format you wish, ok? All responses will be aggregated (as of March 08); alpha-numeric codes will replace names of participants on all research materials.

Once again, [name], thank you so much for your interest in my project.

Regards,

Rita

Appendix K: Example of Communication Before the Interview

Hello again, [name]!

I appreciate your willingness to be a participant in my project on eportfolios, reflection, and feedback interaction.

The attached files (in two formats for your convenience) contain the broad topics on which my research is focused. As mentioned, you may choose not only the format of the interview (Email rather than Skype), but also the questions you prefer to answer (you can go beyond what is listed below).

The main topics — but not restricted to the list — are:
- Capstone eportfolio projects
- Capstone eportfolio projects / critical reflection
- Capstone eportfolio projects / critical self-reflection
- Capstone eportfolio projects / technology
- Capstone eportfolio projects / pedagogy
- Capstone eportfolio projects / modeling
- Capstone eportfolio projects / feedback
- Peer-feedback interactions / community of learners

I would welcome any additional information you may have shared in previous iterations of the course. You may include in your responses, or as an email, any additional thoughts as you complete this phase of the study. Thanks, [name]!

Once again, [name], thank you so much for your interest in my project.

Regards,

Rita

Rita Zuba Prokopetz
rprokopetz1@athabasca.edu

Extended dates*
Phase 1: informed consent (up to February 22)
Phase 2: open-ended questionnaire (up to February 28)
Phase 3: semi-structured interview (up to March 08) — some participants have chosen to provide their answers in writing. Please let me know what method you prefer. Once again, thank you so much!

Thank you for participating in my research project. If you have any questions at any time during your participation, or if you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Appendix L: Example of Communication After the Interview

Communication based on my tentative dates for phase 3

Hello [name],

I cannot thank you enough! My "interview" with you is 100% accurate, and requires no editing in my transcription of your thoughts, ideas, and experiences.

I have removed your information from the name of the file, and have replaced it with an alpha-numeric code (the same code used for your questionnaire). You have until February 10 to withdraw your responses, ok? I will be viewing the aggregate results on February 11.

Once again, thank you so very much!

Kind regards,

Rita

Rita Zuba Prokopetz - rprokopetz1@athabasca.edu

Note: You may withdraw your responses anytime during my data collection up to and including February 10, 2019, when all data would be aggregated. Thank you!

Thank you for participating in my research project. If you have any questions at any time during your participation, or if you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Communication based on my extended dates for phase 3

Dear [name],

Thank you so much for your responses!

I cannot thank you enough! My "interview" with you is 100% accurate, and requires no editing in my transcription of your thoughts, ideas, and experiences.

In order to maintain anonymity, I have removed your name from all correspondence, and have replaced it with an alpha-numeric code (the same code used for the questionnaire). Since your 'personalized transcript' is accurate, it will not require any editing from me before my aggregated analysis (after March 08). I appreciate that!

Once again, thank you so very much!

Kind regards,

Rita

Rita Zuba Prokopetz - rprokopetz1@athabasca.edu

Note: You may withdraw your responses anytime during my data collection up to and including March 08, 2019, when all data would be aggregated. Thank you!

Thank you for participating in my research project. If you have any questions at any time during your participation, or if you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Appendix M: Example of Communication After my Analysis

Subject: Research findings based on your contribution: Any interest in pre-viewing them?

Re:
*Capstone Electronic Portfolio of Mater's Students: An Online Ethnography - Principal Investigator (Researcher): Rita Zuba Prokopetz Email: rprokopetz1@athabasca.edu

Hello everyone!

I hope this email finds you all well. I am so thankful to all of you for enabling me to engage in such meaningful data based on your perspective of your capstone eportfolio project experiences.

I plan on completing the first draft of my data analysis in a few days, and wanted to know if any of you would like to have some input (add/delete/modify my interpretation of your information) before I present my findings to my supervisor.

I collected my data from a variety of sources including from six study participants in the questionnaire and interview stage as well as data from similar questions in 21 student presentations (audio-files).

Although the information on your responses to the interview and questionnaire questions is accurate (typewritten by you), it may benefit from your input (editing of my interpretation of your thoughts, ideas, and experiences). You may modify the text as required — I welcome all changes!

In order to maintain anonymity, I have removed names and course codes from my findings. In my research data archives, I have replaced all information with alpha-numeric codes.

Once again, thank you so much for participating in my research project. If you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Kind regards,

Rita
P.S. I will be completing my final draft on April 07, 2019.

*Capstone Electronic Portfolio of Mater's Students: An Online Ethnography - A study that proposes two layers of investigation into the experiences of students in an online Master's program in a fully online university in western Canada. Your participation in the first part of my project included your responses to an open-ended questionnaire (via email). The second part included your responses to your choice of questions in a semi-structured interview (via email rather than via Skype, as originally planned). All of you submitted your responses to both portions of my study by March 09, 2019, thus enabling me to complete the first draft of my analysis within my research timelines. Thank you so much!

Subject: Report as requested (draft of unfinished report)

Re:
*Capstone Electronic Portfolio of Mater's Students: An Online Ethnography - Principal Investigator (Researcher): Rita Zuba Prokopetz Email: rprokopetz1@athabasca.edu

Hello everyone!

In your consent form, you expressed that you wished to receive a copy of the results of my study. Although I am still working on my analysis and interpretation, I would like to share with you my findings thus far.

Some of the participants have offered additional thoughts (and you may do so as well); I will aggregate the additional responses and include them in my report. I plan on submitting the first draft of my data analysis to my supervisor by April 07, 2019.

Once again, thank you so much for participating in my research project. If you require more information, please contact me by e-mail at rprokopetz1@athabasca.edu or my supervisor by email debrah@athabascau.ca or by phone Toll-free phone: +1 866-441-5517.

Kind regards,

Rita
P.S. **Thank you again for your meaningful contribution!!**

*Capstone Electronic Portfolio of Mater's Students: An Online Ethnography - A study that proposes two layers of investigation into the experiences of students in an online Master's program in a fully online university in western Canada. Your participation in the first part of my project included your responses to an open-ended questionnaire (via email). The second part included your responses to your choice of questions in a semi-structured interview (via email rather than via Skype, as originally planned). All of you submitted your responses to both portions of my study by March 09, 2019, thus enabling me to complete the first draft of my analysis within my research timelines. Thank you so much!

Appendix N: Permission to Use Copyrighted Material

This thesis contains chapters that were published in one article in the *TESL Canada Journal* and two articles in the *AAEEBL ePortfolio Review*. I have obtained permission from the copyright holders, the two publishers, to include the material in my thesis. I have also informed both publishers about the *Theses Non-Exclusive* License I have signed with Library Archives Canada. As required, permission to use copyrighted material is included as an appendix to my thesis.

Communication with TESL Canada Journal publishers

From: TESL Canada Journal
Date: Monday, October 28, 2019 at 9:44 PM
To: Rita Zuba Prokopetz
Subject: Special request: Permission from publisher to use copyrighted material

Hi Rita,

This is fine. Thank you for letting us know. Congratulations on submitting your

thesis!

Best,

Michael

TESL Canada Journal

<u>EDITORS</u>
Dr. Farahnaz Faez
Western University

Dr. Antonella Valeo
York University

<u>EDITORIAL ASSISTANTS</u>
Michael Karas & Niousha Pavia
Western University

-------- Original Message --------
Subject: Special request: Permission from publisher to use copyrighted material
From: Rita Zuba Prokopetz
Date: Sun, October 27, 2019 5:43 pm
To: TESL Canada Journal

      RE:

Zuba Prokopetz, R. (2019). Capstone electronic portfolios of master's students: An online ethnography (Unpublished doctoral dissertation). Athabasca University, Canada.

Regarding the article published in the TESL Journal:

Zuba Prokopetz, R. (2018). Professional self-development mediated by eportfolio: Reflections of an ESL practitioner. TESL Canada Journal, 35(2), 156-165. https://doi.org/10.18806/tesl.v35i2.1295

Dear TESL Journal publishers,

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From: Rita Zuba Prokopetz
Date: Sunday, October 27, 2019 at 5:47 PM
To: AAEEBL ePortfolio Review

RE:
Zuba Prokopetz, R. (2019). Capstone electronic portfolios of master's students: An online ethnography (Unpublished doctoral dissertation). Athabasca University, Canada.

Regarding the articles published in the AePR Journal:

Zuba Prokopetz, R. (2019). Uniqueness of ePortfolios: Reflections of a Creator, Curator, and User. *The AAEEBL ePortfolio Review, 3*(1), 17-23. Retrieved from https://aaeeblorg.files.wordpress.com/2019/06/aepr-v3n1.pdf

Zuba Prokopetz, R. (2018). Electronic portfolios: Enhancing language learning. The AAEEBL ePortfolio Review, 2(3), 51-54. Retrieved from https://aaeeblorg.files.wordpress.com/2018/11/aepr-v2n3.pdf

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