INQUIRY-BASED LEARNING: EXPLORING ELEMENTARY YEARS TEACHER CANDIDATE EXPERIENCES IN THE UNIVERSITY OF NORTHERN BRITISH COLUMBIA BACHELOR OF EDUCATION DEGREE PROGRAM

by

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Abstract

This qualitative study explored the learning experiences of Elementary Years teacher candidates in the Bachelor of Education program at the University of Northern British Columbia. Within the theoretical framework of Spirals of Inquiry (Halbert & Kaser, 2015), the main goal of the study was to answer the research question, "In what ways does embedding Inquiry-Based Learning into the UNBC teacher education program affect the Elementary Years teacher candidate experience?". Using the extant professional literature, I made the argument for researching this topic and laid a strong literature-based foundation for Inquiry-Based Learning. Within a qualitative research paradigm and utilizing case study methodology, the three research methods, interviews, participant journals, and observation log, revealed 97 codes and five main themes: *Inquiry-Based Learning*, *Practicum Experience*, *Teacher Educator Andragogy*, *Self Development*, and *Relationships*. These five themes were supported by the professional literature. The study concludes with three primary recommendations and lessons learned from the literature.

Key words: inquiry-based learning (IBL), teacher candidates, practicum, teacher education

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Acknowledgements

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I have no special talents. I am only passionately curious.

— Albert Einstein —

Chapter 1: Introduction

The present-day elementary classroom is a very dynamic and diverse learning environment. Teachers are no longer viewed as the keepers of knowledge, but rather as facilitators of knowledge (Darling-Hammond, 2016; Hargreaves, 2003). Inquiry-Based Learning (IBL) is a teaching strategy that many teachers have chosen to implement in their classrooms to facilitate the learning for all students. There are various definitions of IBL; for the purpose of this study, IBL is defined as a teaching strategy that moves the learning toward a more student-centred, interactive model of learning in order to assist the student in learning how to learn (Roach O'Keefe, 2013). IBL is used to understand one's own learning and to bring an understanding of thinking about thinking, or metacognition. IBL encourages students to ask questions and present problems or scenarios that will lead their learning and develop their knowledge (Warner & Meyers, 2011). In an IBL learning environment, teachers become enablers and/or co-creators of knowledge rather than presenters of knowledge. IBL allows students to practice and develop their own thinking skills (Donnell & Harper, 2005; James, Rabe, & Rosen, 2014). The structure of British Columbia's revised curriculum encourages the use of inquiry-based strategies in the classroom in order to address the curriculum competencies. In response, school districts are including IBL development strategies into their current and future overall strategic plans.

As facilitators and co-creators of knowledge at the post-secondary level, it is essential that teacher education programs respond to the shift in the educational paradigm, especially in British Columbia with the revised curriculum (British Columbia Ministry of Education, 2016). Implementing IBL into a teacher education program will prepare teacher candidates to teach and learn within the evolving classroom (Donnell & Harper, 2005). At the University of Northern British Columbia (UNBC), select instructors in the Bachelor of Education (BEd)

program have implemented IBL strategies into their teaching practices. This study investigated the experiences of teacher candidates in the UNBC teacher education program as these instructors implemented and embedded IBL strategies into their teaching practices.

Researcher Context

I have been an educator all my life. In my opinion, being an educator means enriching the lives of those around you with your knowledge and experience, as well as being open to learning from everyday experiences and interactions. Over the years, I have worked as a fitness leader, a coach, a daycare provider, and as an Educational Assistant. In these roles, I was cognizant of my role as an educator and a mentor.

As of the date of this study, I have worked in the UNBC School of Education for over seven years. Currently, I hold the position of the Practicum Placement Coordinator and Advisor for the BEd program. In this dual role, I have the privilege to encourage many UNBC students to become future educators, especially teachers. It is my personal mandate to assist passionate teacher candidates to attain their goal of becoming successful classroom teachers. I strongly believe that embedding IBL into the UNBC BEd program promotes the success of all teacher candidates.

For this study, I took on the role of researcher. During my three years as Practicum Placement Coordinator and BEd Advisor, I have developed strong relationships with most, if not all, of the teacher candidates who have been, and still are, a part of the BEd program. Through these strong relationships, a sense of trust has been developed and established which led to the success of this study. Although my position within the program could be perceived as a hierarchy of power, the relationships I have created with the teacher candidates were not jeopardized and the trust built superseded any perceived hierarchy of authority. Though our roles changed from coordinator-student to researcher-participant, the nature of this research

study was such that our relationships were not in any form affected because the study was viewed as beneficial for the teacher candidates, as well as for the Education faculty.

Additionally, I do not teach any coursework in the BEd program nor do I evaluate the teacher candidates during their practicum experiences; therefore, I have no authority over them and their success in the program. My role as researcher, and Practicum Placement Coordinator, I believe, allowed for a stronger connection between the university and the classroom settings.

Purpose of the Study and Research Question

This qualitative study investigated and described the learning experiences of a specific group of participants: teacher education students, or teacher candidates. This latter term will be used throughout the thesis. In particular, it explored the experiential, school-based learning of Elementary Years (EY) teacher candidates in the UNBC BEd degree program. These teacher candidates learned about implementing IBL strategies *in situ* as they participated over a two-year period in three UNBC Education courses (*Principles of Inquiry-Based Learning, Curriculum and Instruction: Social Studies,* and *Classroom Assessment Practices*) at a local elementary school; no formal data had been collected on their experiences during the implementation of this coursework, or subsequently, until this study was conducted.

To this end, the research question was: In what ways does embedding Inquiry-Based Learning into the UNBC teacher education program affect the Elementary Years teacher candidate experience? The supplementary questions for the research study included the following with relation to Inquiry-Based Learning: What did you learn? How did you use this knowledge? Where did you input this knowledge in developing your pedagogy? The research questions are responded to in the discussion of the data analysis in Chapter 4.

Background of the Study

To contextualize the study, it is important to provide a brief history of the UNBC BEd program. The UNBC BEd program had its first intake of Elementary Years teacher candidates in 2002. Since that time, the program has recommended over 500 teacher candidates for certification (personal communication, Dr. Andrew Kitchenham, Chair). As at 2018, and the writing of this thesis, the UNBC BEd program is in its sixteenth year of existence. It is critical to evaluate the effectiveness of its structure and content, especially with reference to the teacher candidates' experiences within the program.

At UNBC, in adherence to the *University Act* (2018), it is mandated that departments conduct an internal review of their programs every five to seven years, followed by a formal external review. The intent of both levels of review is to evaluate the existing program and consider potential revisions. The last internal review of the BEd program was in 2010; many recommendations from this review have not been addressed and are still outstanding (Kitchenham, 2010). Furthermore, in 2011, the UNBC BEd program underwent an external review which was performed by a three-person team comprised of three councillors from the British Columbia College of Teachers (BCCT)—currently known as the Teacher Regulation Branch (TRB). The UNBC School of Education did not receive recommendations from the BCCT because it was disbanded before the report was filed. In short, the UNBC BEd program has been reviewed internally but no formal external report has ever been received and implemented over the past 16 years. In 2018, the School of Education was undergoing an internal review at the time of this study. An external review is imminent.

The TRB is the external governing body responsible for this external review. The TRB requires existing teacher education programs to be reviewed on a specific cycle in order for them to maintain their accreditation status for teacher certification. To date, there is no

formal TRB board for teacher education reviews; however, there is an interim committee in place for any requested BEd revisions. The TRB is scheduled to conduct an official review of the UNBC BEd program in mid-2018.

In September 2016, the British Columbia Ministry of Education implemented a revised curriculum for Kindergarten to Grade 9 students. The revised curriculum is based on six core competencies: communication, creative thinking, critical thinking, positive personal and cultural identity, personal awareness and responsibility, and social responsibility that mandate a shift from a teacher-driven classroom to a student-centred learning environment. Included in the revised curriculum overview, as part of the *Redesigned Curriculum in Action*, Curriculum Overview (British Columbia Ministry of Education, 2016, para. 1) was a mandate directly related to IBL teacher strategies:

Inquiry and question-based approaches

Through demonstration of the core and curricular competencies, students are bound to form questions that provide teachers with insight into their thinking. Questions generated by both students and teachers are critical to encouraging a sense of wonder and curiosity among students. This dialogue can take place through many question-based approaches, including, but not limited to:

- Inquiry
- Project-based learning
- Problem-based learning
- Self-assessment
- Research skills
- Scientific methods

In essence, the BC revised curriculum encouraged the implementation of IBL strategies in the classroom to respond to the diverse needs of the students.

In response to the shift in the education paradigm on curriculum innovations and teacher practices, the UNBC School of Education revised its BEd program in 2017 to ensure compatibility with the new BC curriculum and teacher requirements and expectations, which, by implication, involved teacher candidates—my study participants. Of particular significance to this study was one course within the UNBC BEd program, *EDUC 341: Principles of Instruction,* which was revised to become *EDUC 341: Principles of Inquiry-based Instruction*, and served as the benchmark course for the integration of IBL into the UNBC BEd program. One of the main objectives of *EDUC 341: Principles of Inquiry-based Instruction* was to guide the teacher candidates in the development of their IBL teaching strategies so they could create strong student learning outcomes during their *in-situ* coursework. The course also focussed on the teacher candidates' individual perceptions, assumptions, and interpretations of IBL for their own learning. This course, along with a gradual shift in some faculty members' mindsets, altered the learning environment in the program from instructor-driven to teacher candidate-centred.

Significance of the Research

There is a recognized need for research on and for teacher education that creates a framework for the recruitment and preparation of teacher candidates (Darling-Hammond, 2016; Lin & Jacobs, 2015). Research collected from teacher candidates in the field who work with learners directly and compare those *in-situ* experiences with the knowledge gained in the university classroom strengthens the bond between teacher education programs and the school districts (Linn & Jacobs, 2015). Specifically, exploring the experiences of UNBC teacher candidates aimed to inform the future teaching strategies and classroom practice of

the School of Education faculty. Further significance and an objective of this study was to contribute to the professional literature that informs future practice for all teacher educators (Creswell, 2015).

I am confident that this study will provide information for the current 2018 internal review process and illustrate to the TRB that the UNBC School of Education is proactive in creating a responsive teacher education program. The research endorsed the changes being made to the program and may lead to future revisions of the UNBC BEd program.

Theoretical Framework

Whether at the Kindergarten-Grade 12 level or the BEd level, IBL requires what Dweck (2006) defined as a growth mindset, the inherent belief that "a person's true potential is unknown (and unknowable); that it's impossible to foresee what can be accomplished with years of passion, toil, and training" (p. 7). Every learner is capable of leading his or her own learning based on his or her individual experiences. Every educator must work collaboratively with his or her students to construct the ideal learning environment for each individual learner (Dewey, 1990).

A theoretical framework for this study was the spiral of inquiry curriculum model introduced by John Dewey in 1938 (Dewey, 1990), and expanded upon by Halbert and Kaser (2015). The spiral of inquiry used in education requires teachers to continually scan, focus, develop a plan, engage in the learning process, take action, check that learning occurred, and consider next steps; in short, it encourages teachers to have a growth mindset. The stages may overlap; however, it is important that teachers remain attentive to the overall benefits for their students. Spirals of inquiry is a student-centred approach to teaching and helps teachers move forward in their own learning. The spiral of inquiry in this study centred on the experiences of the teacher candidates related to the goals for their learning, their

measurements for success, and their views on the learning process (Linn & Jacobs, 2015). The teacher candidates were encouraged to maintain a growth mindset during their education program in order to continually engage in their own learning, focus on developing a plan for their learning, and move forward in their thinking. This growth mindset allowed the teacher candidates' own learning to influence their implementation of IBL teaching strategies into their practicum experience.

Overview

This chapter introduced the subject of IBL and outlined the purpose of the study. Additionally, it provided my place in the study, the background for the study, the significance of the study, and the guiding framework that directed the research related to the central research question investigating the ways embedding IBL into a teacher education program affected the teacher candidate experience.

Chapter 2 will discuss literature pertinent to the study. Topics covered include teacher educator practices, the shift within the education paradigm, and the relevance of IBL within a teacher education program. Chapter 3 outlines the research design, research procedures and the data analysis process used in the study. Chapter 4 will present the research findings and discuss them in relation to the overall research question. The final chapter will outline the conclusions, recommendations, and implications of the research study.

Chapter 2: Literature Review

Chapter 1 presented the notion of IBL and provided the rationale for exploring how embedding IBL strategies into a teacher education program affected the teacher candidate experience. This chapter will discuss significant literature pertaining to teacher educator practices, the shift within the education paradigm, the relevance of IBL within a teacher education program, and the need for ongoing program renewal.

Supporting Sherman's (2015) position that there is limited research on teacher education programs, making it difficult to assess their success, Darling-Hammond (2016) recognized the need for research on and for teacher education. She insisted that research for teacher education should address the actual instruction of the teacher education program content. As well, Darling-Hammond contended that research on teacher education should create a framework for the recruitment and preparation of teacher candidates. Schulz (2005) supplemented the restricted research on teacher education programs; specifically, with respect to practicum experiences and the need for ongoing teacher candidate and cooperating teacher collaboration. This literature review aims to relate research on and for teacher education programs.

First, to frame and contextualize the structure and content of the UNBC BEd program, this literature review explores the limited research on teacher education programs. The literature review then discusses teacher education coursework with particular emphasis on the content and context of course delivery. Next, the literature review outlines key researchers' studies in which they discussed the importance of practicum experiences. Then, it outlines the extent research on teaching practices within a teacher education program and the ongoing need for teacher educators to be collaborative and reflective in order to adapt to the ongoing changes in classroom teaching. Subsequently, the literature review discusses the relevance of

IBL for and within teacher education. The conclusion discusses the teacher education program renewal process needed to respond to the changes occurring in the field of education.

Teacher Education Coursework

As stated by Sim (2006), "teaching is first and foremost a social practice, and preparing the (teacher candidate) for the many complexities of the profession demands much more of teacher education programs than providing opportunities to practice technical strategies" (p. 78). The assets of a successful teacher education program depend on the interaction of the coursework and its faculty. Darling-Hammond, Hammerness, Grossman, Rust, and Shulman (2005) outlined the qualities of a successful teacher education program. Using a meta-analysis to create the framework of their study, Darling-Hammond et al. relied on their collective knowledge to create the prescribed recommendations for a successful teacher education program. As members of the Stanford Faculty of Education, their respective knowledge of teacher education programs validated their insistence for prescribed requirements for teacher education practices and for the qualities of a teacher educator. As outlined by Darling-Hammond et al. (2005), the prescribed requirements of a teacher education program include a connection between coherent methodology and productive classroom experiences; relevant educational content; thoughtful methodology organization in regards to subject content; and the creation of a cognitive map of teaching. In essence, a teacher education program models current collaborative teaching practices, creates powerful learning experiences, supports each teacher candidate's learning, and helps the teacher candidate create a connection between theory and practice. Although this discussion was driven by their knowledge of the teacher education field, their recommendations would have been substantiated by relevant research in the field of study.

Drawing from their personal experiences in teacher education, not from a designed study, Lewis (2015) and Darling-Hammond (2016) maintained that teacher education programs should teach content using complementary teaching methods. They contended that a teacher education program should include methodology on specific classroom practices and management skills; embed collaborative school experiences; encourage curriculum development opportunities; and outline assessment practices. In other words, a teacher education program should teach the skills of teaching. A teacher education program should become a learning community that encourages adaptive and responsive skills so that the teacher candidate can teach to the individual, not simply teach the subject content.

To support the teacher education learning community, successful teacher education programs encourage ongoing, guided professional development for their teacher educators along with their teacher candidates (McNinch, 2015). Engaged, up-to-date teacher educators endorse the importance of current, reflective methodology coursework and encourage ongoing collaboration with educational peers (Schulz, 2005). Consequently, in order to maintain currency with the ever-changing education paradigm, it is important that education faculty be encouraged to participate in ongoing professional development to continually reflect upon and enhance their teaching practice and to model the importance of collaboration within the teaching profession.

Teacher education coursework is informed by individuals who encourage relevant professional development and enhancement of the teacher educator (Darling-Hammond et al., 2005). As such, universities should encourage collaboration between teacher educators and teacher candidates as both pre-service teachers and as learners (Duffield, Olson, & Kerzman, 2013). In short, teacher education coursework should be grounded in valuing the

knowledge and experiences of both the teacher educator and the teacher candidates while maintaining the recent subject knowledge of the faculty.

Nevin, Thousand, and Villa (2009) placed an emphasis on different theoretical frameworks within the literature on post-secondary education. These frameworks outlined the process of educator collaboration that leads to insights and distinctions about respective disciplines and teaching strategies (such as IBL). The authors emphasized that "(w)hen student teachers experience collaborative teaching arrangements outside their teacher education coursework, they may in fact gain a more comprehensive understanding of the scope and impact of collaborative teaching" (p. 571). Altieri, Colley, Daniel, and Dickenson (2015) focussed their research on a teacher education paradigm. They designed and implemented an integrated teacher education model to address the transformation needed within a teacher education program to model collaborative communities in inclusive classrooms.

Each community has its own beliefs and values that inform its routines and rituals. Just as practicing teachers have their own community and culture, so do teacher candidates. The tutorial model developed by Sim (2006) promoted the reflective community needed to support teacher candidates as they transform the cultural changes and challenges that will happen to them during their practicum experiences into valuable professional understandings. Intrinsically, community builds and shapes the resources needed to effectively provide and practice the strategies of being a reflective practitioner.

Practicum Experiences

In addition to the methodology coursework, successful teacher education programs must provide quality practicum experiences for the teacher candidate (Magnusson, 2015). Each practicum experience should add to, and enhance, the teacher candidate's pedagogy.

Darling-Hammond et al. (2005) endorsed and encouraged collaborative practicum placements where classroom teachers and teacher candidates work in unison to enhance the students' learning opportunities. They also stressed the importance of the practicum experience on the development of teacher candidate pedagogy as well.

During a three-year inquiry-based study, Schulz (2005) examined the structure and relevance of the practicum experience within a teacher education program. The study followed 17 teacher candidates through their two-year education program and into their first year of teaching. The findings outlined the importance of a practicum framework with rich school-based experiences and insisted that practicum experiences were imperative to the development of new teacher practice**.** This study maintained that the level of collaboration each teacher candidate experienced with the classroom teacher during his or her practicum placement contributed to his or her individual feelings of success within the first-year-teaching classroom.

According to Sherman (2015), practicum experiences uncover the teacher candidate's embedded understandings of education and provide experiences to develop the teacher candidate's theoretical lens. Practicum experiences should be diverse and include interaction with collaborative cooperating teachers. All practicum experiences should be engaging in order to inform the teacher candidate's practice and improve his or her pedagogy. Miller Rigelman and Ruben's (2012) Partnership Learning Triangle (PLT), a nested collaborative learning model, was designed to assist teacher candidates to establish a collaborative mindset within the practicum portion of a teacher education program. Miller Rigelman and Ruben explored the experiences and interactions of teacher candidate-cooperating teacher-practicum supervisor learning triangles within a collaborative learning environment.

Throughout the practicum experiences, teacher candidates are evaluated using specific, standardized criteria; however, the development of pre-service teacher standards may undermine the development of innovative teaching practices such as IBL. If teacher education programs wish to be successful in both the quantity of students and the quality of graduates, the programs would be best to ensure the practicum experiences are beneficial to the teacher candidates' development as beginning teachers while grounded in good pedagogical practices (Darling-Hammond, 2016).

Teacher Educator Pedagogy

Teacher education programs should model reflective, collaborative teaching practices and endorse teaching practices that lend themselves to addressing individual student needs so that pre-service teachers can learn how to build relationships with their students (Magnusson, 2015). Teacher educators must give teacher candidates the opportunity to critically examine many effective teaching styles (Sim, 2006). As well, teacher educators should make a concerted effort to present teaching strategies and models that can be replicated by the teacher candidates once they became practicing teachers (Kluth & Straut, 2003). Just as John Dewey advocated for early 20th century classroom teachers, teacher education programs should promote a student-centric education system based on valuing individual life experiences. These programs should insist on creating individualized pathways of learning to encourage personalized learning for their teacher candidates. Therefore, just as they insist their teacher candidates should practice, teacher education programs should teach based on individual student needs (Robinson, 2012).

To meet the diverse learning needs of their students, Kluth and Straut (2003) maintained teacher education programs should become a test site for teacher candidates to develop their collaborative teaching and learning skills. Teacher educators, therefore, have a

responsibility to lay the foundation for the teacher candidate so that he or she approaches new collaborative situations and relationships with creativity, confidence, and competence.

As veteran classroom teachers, Kluth and Straut (2003) recognized the documented benefits of co-teaching and collaboration, especially for teacher educators. Throughout the development, planning, and implementation stages of their co-teaching model, Kluth and Straut were committed to teaching about, and constantly stressed, the importance of collaboration. They were aware of the importance of collaboration in inclusive education and hoped that by demonstrating a collaborative model in their teacher education classes, the teacher candidates would be better prepared to function in inclusive and diverse classrooms upon graduation from the program.

By engaging in a collaborative co-teaching model within their teacher education classes, Kluth and Straut (2003) came to better understand the realities, benefits, and challenges of the model. They were then able to authentically communicate this knowledge to their teacher candidates. As experienced by Kluth and Straut, to maximize the benefits of collaboration for teacher candidates, it is important that education faculty model a variety of collaborations, make the collaboration transparent, model and share the success and struggles of the collaboration, be flexible to the type of collaboration possible for the specific program or institution structure, seek and obtain institution administrative support, and reflect on their own collaboration in order to improve their collaborative teaching skills. In essence, collaboration creates the flexibility needed to address the needs of diverse teaching and learning.

Additionally, collaboration within a teacher education program requires strong administrative support, and commitment from the faculty to transform and be reflexive of their own practice in order to enhance the long-term plan of a collaborative model (Altieri et

al., 2015; Duffield et al., 2013). Teacher educators must respond to changes in the field of education and reinforce the similar collaborative practices within a teacher education program that are expected in the K-12 system (Weiss, Pellegrino, Regan, & Mann, 2015); therefore, collaboration with the K-12 community in the transformation of a teacher education program is key. Duffield et al.'s (2013) research recognized that the K-12 community's input was important to a teacher education program because their commitment to collaborative practices could affect the practicum experiences and the quality of teacher education graduates entering the teaching profession. Thus, support from teacher education partners such as schools and school districts is paramount to the success of a collaborative teacher education paradigm.

In their study, Altieri et al. (2015) ascertained that to sustain and promote collaboration for the enhancement of teacher educator practices, collaboration and co-teaching is best coupled with the recognition of the positive impact on teacher candidate practice. Collaboration allows teacher educators to learn from one another and to address common areas for improvement. Teacher educators, united by a common goal, believe in the benefits of collaboration and of a co-teaching paradigm (Nevin et al., 2009). By sharing talent and resources through cross-curricular collaboration, teacher educators better prepare effective teachers, learn from each other, and create an atmosphere of collegiality. The process of collaboration then becomes embedded within the daily workings of the teacher educators (Duffield et al., 2013). As further stated by Altieri et al. (2015) "collaborative practice requires passion and commitment . . . [and] a mindset that collaborative practices are unique, ambitious, and continually morphing. Collaborative practice requires flexibility, a high tolerance for ambiguity, and a willingness to view slow but steady progress as success" (p.

20). Thus, collaboration within a teacher education program promotes collaboration within the school-based classroom.

As noted by Schulz (2005), it is easy for teacher candidates to lose sight of the good practices endorsed by their teacher education programs once in the classroom as practicing teachers; therefore, Miller Rigelman and Ruben's (2012) recommendation to follow up with graduates to see if their learned collaborative practices continued in their practice was a good directive because one measure of the success of a teacher education program is in the confidence of its graduates during their initial teaching assignment as a certified professional.

As demonstrated by Altieri et al. (2015), graduates of a teacher education program with a collaborative model went on to become collaborative practitioners. These teacher candidates entered the teaching field with the expectation of working in collaborative relationships. They sought out teaching assignments that valued their collaborative skills and developed coteaching relationships in their schools. Thus, collaboration between teacher candidates and cooperating teachers was imperative to the teacher candidates' perceptions of learning within the practicum and their visions of teaching once they had completed their teacher education program.

Shifting Education Paradigm

Education is the acquisition of how to use your knowledge. This knowledge should be beneficial and applicable to the individual student; therefore, cross-curricular teaching practice is best for facilitating learning for knowledge (Duffield et al., 2013). The influence of modern technology on today's classrooms has created a shift in the education paradigm. Technology has transformed access to knowledge for students so that knowledge is acquired in myriad ways and through countless avenues (Kitchenham, 2011a, 2011b); hence, technology has changed the role of the teacher since knowledge can now be co-created. The

modern-day learner no longer views the teacher as the keeper of knowledge; the classroom teacher has become the facilitator of learning for knowledge (Kitchenham, 2011c). Thus, teacher education programs would serve their students well by assisting them to grow the adaptive leadership skills of helping others to adapt to the challenges they face. A teacher candidate with developed adaptive leadership skills will feel confident to "encourage effective change across multiple levels, including self, organizational, community, and [society]" (Northhouse, 2016, p. 197).

Darling-Hammond (2016) outlined the characteristics of teachers who develop a deep understanding of curriculum for all learners. Although the characteristics within her aforementioned meta-analysis were outlined in relation to the teacher-student paradigm, they could be applicable to the teacher candidate-teacher educator dynamic as well. To this end, Darling-Hammond argued that a successful teacher education program should create engaging tasks with meaningful work; design tasks with choices and different entry points; create two-way pedagogy with teacher candidates (i.e., collaboration); constantly assess teacher candidates for strengths and needs; scaffold the teaching process; and develop a teacher candidate's confidence to benefit his or her sense of connection and capability during the practicum experience. A successful teacher education program would enable the teacher candidate to carry this sense of confidence into the initial year of teaching which, in turn, would build the foundation for a successful teaching career.

Along with teaching the curriculum, Robinson (2012) believed, as did John Dewey, that "schools also have a responsibility to contribute to [students'] development into well-adjusted, independent and successful adults who can contribute positively to both the economy and the society" (p. 17). In other words, Dewey believed that the purpose of education should not only be simply the acquisition of a pre-determined set of skills but also

should lead to an awareness of an individual's potential skills for the betterment of all society. Expanding on Dewey's belief that all students should be given the opportunity to take part in their own learning, and that students thrive in an environment where they are given permission to experience and interact with the curriculum, Robinson advocated that the importance of the classroom is not only to gain content knowledge, it is also a place to learn how to live.

The past emphasis on a factory model for education must change from a top-down approach since bottom-up changes are occurring at a rapid pace. As part of the paradigm shift, the British Columbia Premier's Technology Council (2010) stressed that change to schools will happen rapidly, and, more importantly to teacher education. This change will be grounded in personalized learning in which all learners will expect choices about, and input into, their educations and will pursue different and multiple paths to learning (Kitchenham, 2011c). As pointed out by Kitchenham, "[i]f these students are educated through personalized learning that stresses 21st century skills, teacher education programs will need to ensure that their teacher-candidates are both taught in this manner and trained to teach in this manner" (p. 16). In other words, if teacher candidates are expected to teach personalized education, they should experience personalized learning; IBL is one of the many teaching strategies that teacher educators can use to address the diverse learners in their classroom. Teacher educators should guide and coach their students, rather than direct them, to success within their chosen profession.

To address the shifting educational paradigm, the British Columbia Ministry of Education has implemented a revised curriculum, *Building Student Success* (British Columbia Ministry of Education, 2016). The new curriculum for Kindergarten to Grade 9 was implemented in September 2016; full implementation of the Grade 10 to 12 curriculum

is anticipated for September 2018. Hence, it is incumbent upon teacher education programs to include recent research and practices to address personalized learning in their efforts to address 21st century learners' needs (Kitchenham, 2011b).

Inquiry-Based Learning

Controversial debates continue concerning the extent to which theories are useful in preparing teacher candidates for the complexities of the 21st century classroom. To address the many reforms needed for success in the classroom, many teacher education programs include IBL into their curriculum (Donnell & Harper, 2005). For the basis of this literature review, IBL is defined as "an approach that improves the quality of education by moving towards a more student-directed, interactive method of learning while focusing on learning how to learn" (Roach O'Keefe, 2013). IBL is a teaching strategy that classroom teachers can implement in their classrooms to facilitate learning for all learners, to help students understand their own learning, and to promote an understanding of thinking about thinking, or metacognition. IBL encourages students to ask questions and present problems or scenarios that will lead their learning and develop their knowledge (Donnell & Harper, 2005; Education Development Centre, 2016). In an IBL learning environment, teachers become enablers and/or co-creators of knowledge rather than presenters of knowledge. Inquiry-based instruction allows students to develop and practice their own thinking skills. Thus, implementing IBL into a teacher education program will better prepare teacher candidates to teach and learn within the evolving classroom.

Based on the premise that the central goal of IBL is student engagement during the learning process, Warner and Myers (2011) outlined two inquiry instruction models for implementing IBL into the classroom—the Guided Discovery Model and the 5-E Model of Inquiry. The guidelines and strategies included in the models were intended for practicing

classroom teachers; however, they could successfully be implemented into the teacher education classroom.

The Guided Discovery Model included six stages: inquisition, acquisition, supposition, implementation, summation, and exhibition. In this model, the teacher educator would develop important questions, design activities that allow for individual discovery and experiences, promote teacher candidate discovery as soon as possible, and provide encouragement to allow for teacher candidate self-discovery.

The 5-E Model of Inquiry included engagement in order to create curiosity and provide direction; exploration to provide concrete experiences that create learning and knowledge; explanation to allow students to share their experiences and encourage connections between experiences; elaboration to promote creation of connections between learning experiences and real-life experiences in order to lead to deeper understanding; and evaluation that allows for informal and formal feedback for assessment.

Warner and Myers' (2011) 5-E Model omitted two important stages of the inquiry cycle. As outlined in Vlassi and Karaliota (2013), the directed investigation model developed by Bybee in 2006 was the precursor of the 5-E Model. Bybee's model included all five stages of the 5-E Model; however, it also included the important stages of elicitation of student preparedness for learning by verifying student prior knowledge before initiating the exploration stage of inquiry, and extension of the student's learned knowledge to similar experiences and situations after evaluation. These additional stages are imperative to the teacher candidate IBL experience because they account for the knowledge the teacher candidate brings to the program (elicitation) and promote extension of the teacher education program experiences into the post-graduation, practicing teacher classroom.

Donnell and Harper (2005) studied the impact on professors and teacher candidates at a northeastern, American university involved in a year-long teacher education seminar course that implemented an inquiry approach to teaching and learning. The qualitative study explored teacher educators' introduction of IBL into a teacher education program. Donnell and Harper utilized Cochran-Smith and Lytle's inquiry-as-stance model, originally developed in 1999, as "a way of reflecting on and documenting the relationships among teacher learning, pupil learning, and professional practice across the professional lifespan" (p. 154). Analysis of the study data led to four significant tensions, or themes: (1) there was a distinct disconnection for teacher candidates between understanding inquiry and effectively teaching inquiry; (2) it was difficult for teacher candidates to disengage from a theoretical frame of mind to recognize the relationship between learning about inquiry and implementing inquiry into their practice; (3) involvement in the seminar course encouraged teacher candidates' usage of inquiry to challenge educational inequalities in order to improve their teaching practices; and, (4) multiple requirements from different stakeholders, with distinct priorities, resulted in teacher candidate confusion when there was an expectation of creating a single outcome (p. 156).

To address these tensions, teacher educators must continuously evaluate their course syllabus and content from an IBL mindset in order to improve their own teaching and learning practices. However, as Donnell and Harper (2005) stated,

> Teacher educators cannot be expected to teach students everything they need to know during their teacher preparation program . . . [they] must equip individuals with the critical decision-making skills that will enable them to develop strategies to promote positive change and with the development of life-long commitments and attitudes toward generating knowledge about their own practice (p. 162).

Just as classroom teachers utilize IBL to support their students' learning, teacher education programs can utilize IBL to provide opportunities for their teacher candidates, to help them develop the skills of a life-long approach to learning, and to teach them decision-making skills that will enhance their responsiveness to change, knowledge generation, and social action. Ultimately, IBL encourages teacher candidates to reflect on their own practice.

Using a quantitative descriptive research design, James et al. (2014) investigated the attitudes about and toward IBL of undergraduate and graduate level teacher candidates in the initial stage of their teacher certification program at two northeastern American universities. Their study uncovered many significant implications for teacher education programs. James et al, found that teacher candidates tend to implement inquiry into their future classrooms if they have experienced inquiry within their personal education. Pre-conceived attitudes about IBL impacted teacher candidates understanding of educational learning theory; this misunderstanding was then transferred to the classroom. Elementary teacher candidates found inquiry-based pedagogy engaging and rewarding for themselves and for their future students; however, they were resistant to make inquiry a part of their ongoing practice due to a sense of urgency from administration for test preparation aimed at standardized data collection.

James et al. (2014) found that reading about inquiry, seeing inquiry in practice by teacher educators and mentors, and inquiry focussed practicum experiences led to the graduated teacher candidate's successful implementation of IBL teaching and learning strategies into the practicing classroom.

As outlined by James et al. (2014), teacher candidates enter their respective teacher preparation program at different levels of experience and educational background. Teacher educators using IBL teaching and learning strategies will consider these varying levels of

student development, what Bybee (as cited in Vlassi & Karaliota, 2013) would call the elicitation stage of inquiry, in the development and delivery of their course material.

By displaying a positive attitude toward IBL and modelling IBL strategies in the various methodology and pedagogy-based courses within the program, teacher education faculty encourage teacher candidates to use IBL strategies for their own learning and prepare them for the diverse needs of their future students. Teacher education programs should aim to allow teacher candidates to spend as much time as possible observing or being involved in classrooms that include inquiry-based teaching practices. As educational policy shifts are requiring classroom teachers to promote deeper cognition and the ability to solve more complex problems in a collaborative real workplace setting, IBL teaching and learning strategies must become more prominent in the teacher education curriculum. Including IBL strategies in a teacher education program ultimately serves two purposes, they prepare teacher candidates to be effective in today's classrooms and they encourage teacher candidates to be change agents in those classrooms and schools that have not yet adopted the attitudes and philosophies associated with IBL.

Teacher education program renewal

Teacher education programs must be responsive to the adaptive nature of the teaching profession. To enhance the practice of the teacher candidate, teacher education programs need to self-reflect on their practices (Sherman, 2015). As is expected of the practicing teacher, teacher education programs must consistently review and adapt their coursework—particularly their methodology courses—to meet the needs of their students and the demands of classroom teaching. Teacher education programs should provide enhanced, collaborative practicum experiences to ensure the success of their teacher candidates.

Teacher education programs should be leaders in adapting to new ways of teaching and learning within their departments—and within their university (Sherman, 2015). To benefit students to develop and adapt ways to solve problems, teacher education programs must prepare teacher candidates for the changing dynamics of the classroom (Magnusson, 2015).

In today's classrooms, teachers are more attuned to the diverse needs of their learners, and their responsibility to meet those needs. Through IBL, students are encouraged to inquire at their own level and about their own interests. This exemplifies what the new BC Curriculum encourages as personalized learning. As discussed earlier, Lewis (2015) recognized the shift that has occurred within the education field and the teacher-student roles in learning. Along with Magnusson (2015), Kitchenham (2011b, 2011c), and Schulz (2005), Lewis encouraged teacher education programs to adapt to this shift and to become change agents within the realm of teaching and learning. Lewis' research comes at a time when teacher education programs begin to consider the adaptations needed to address the diverse learning needs of their students—teacher candidates.

Summary

Teacher education programs must educate decision makers and the public on the complexities of schooling and the current definition of teaching and learning (Schulz, 2005). As stated by Darling-Hammond (2016), it is important to use the limited research on teacher education programs effectively and to not over-generalize the issues. Government decision makers should not interfere with the education of students, but rather, they should support opportunities for every learner (Robinson, 2012). As Sim (2006) insisted, teacher educators need to develop an attitude of teacher researcher so "that graduates will be confident and able not only to seek out and apply research relevant to their practice, but also to contribute to the field" (p. 82). In essence, building communities of practice within their teacher education

program will encourage teacher candidates to pursue and improve their practice throughout their teaching careers.

Further, Nevin et al.'s (2009) research illustrated the benefits of teacher educator collaboration for the improvement of teaching practices and strategies, as well as for pre-service teacher experiences within the program and for their development as classroom teachers. Specifically, they argued,

> New definitions of university faculty roles need to be developed that will address lack of collaborative ethic in higher education teaching, meet current demands for reform of teacher preparation programmes, and foster changes in the preparation of the next generation of teacher educators (p. 573).

In short, by developing and endorsing best teaching practices, such as IBL strategies, teacher education programs could set the standard for faculty development within a post-secondary environment.

This chapter presented literature on up-to-date education faculty practices, collaborative practicum experiences, and the relationship between teacher education coursework and the practicum experiences. It outlined the need for continuing professional development for teacher educators, ongoing teacher candidate and cooperating teacher collaboration, and implementing IBL strategies within teacher education to enhance the necessary program renewal process required to remain current within the dynamic field of education. Chapter 3 will outline the research design. Specifically, it will rationalize the chosen methodology, explain the methods, discuss research ethics, and provide an overview of the data analysis.

Chapter 3: Research Methodology

This chapter discusses the qualitative research methodology and my reason for using a case study design approach. It outlines the research procedures including recruitment of participants, the data-gathering methods of interviews, journal entries, and researcher observations, and the ethical considerations of conducting the study. The chapter concludes with a brief overview of the data analysis procedures.

Research Orientation

A qualitative research paradigm was used for this study. Qualitative research situates the researcher in the natural world. It uses a variety of empirical data such as interviews, conversations, journals, or fieldnotes as representation of the area of study. Qualitative researchers use a variety of interpretive strategies to better understand the phenomenon they are studying and to develop their professional practices (Denzin & Lincoln, 2011).

Qualitative research orientation was an appropriate research methodology given that I was interested in studying the experiences of teacher candidates and the influence of IBL on their learning through the use of interviews, journal entries, and researcher observations as a representation of their feelings, emotions, and opinions.

I utilized a descriptive case study approach to explore the experiences of a small group of teacher candidates within a specific teacher education program with the main goal of contributing to the knowledge of a social phenomenon (Yin, 2014). Adhering to Yin, a central focus of my research was to contribute to the gap in knowledge of teacher candidates and teacher education programs. As noted by many authors, case study relies on multiple sets of data to provide an in-depth understanding of a phenomenon but requires that only a few cases be studied within a pre-determined boundary (Creswell, 2015; Yin, 2014). Data collection for my study included interviews, journal entries, and researcher observations.

Using a case study approach was conducive for my research because I explored the phenomenon of IBL within the real-world context of *in-situ* coursework and the practicum experiences of four teacher candidates in the UNBC BEd program during the pre-determined boundaries of the Fall 2017 semester.

I was aware that there were additional suitable methodologies, such as narrative inquiry with its social constructivist ontology (Clandinin & Connelly, 2000); however, my concern was not in studying the concept that knowledge is ever-changing relative to social or historical constructs. I was concerned with delving into the teacher candidates' experiences and their shared pragmatic activities within a specific timeframe (van Manen, 2014). In other words, for this study that investigated the ways that embedding IBL into a teacher education program affected the teacher candidate experience, delving into the lived experiences of the teacher candidates within a bounded system was an appropriate and sound research decision. In essence, it was important for me to capture the experiential learning experiences of each teacher candidate participant and to represent those experiences so that potentially other teacher candidates, along with teacher educators, could better understand their own learning experiences. The comprehensiveness of a case study is dependent upon the nature of the participants chosen; therefore, it cannot be assumed that the findings of this research study can be generalized. However, one intent of this case study is that the findings will not only directly convey the experiences of this small group of teacher candidates but will also relate to similar groups of teacher candidates.

Research Procedures

In this section, I describe the recruitment of participants, the types of data and methods of data collection, and the ethical considerations that were considered during the study.

Recruitment of participants. Working within the UNBC School of Education allowed me access to EY teacher candidates. Research participants were recruited using a purposeful convenience sample procedure and participants were selected using random sampling (Creswell, 2015). The recruitment process of my participants began with one of my co-supervisor who presented my research to the cohort, along with a Research Information Letter (see Appendix A) and made a request for volunteers from the Year 2 EY cohort of 26 teacher candidates; I had 13 individuals put their names forward. From these 13 teacher candidates, I randomly selected four participants to be part of the research study. The criteria for selecting the four participants was based on their time availability to participate in the process of data collection as well as their interest in the study. I met with each of the four teacher candidates to review the aspects of the study and to answer any questions she[1] had. During this initial meeting, I had each teacher candidate read and sign individual consent forms to indicate her agreement to participate in the interviews, journal entries, and research observations (see Appendix B, C and D).

Research methods: Interviews. I conducted two semi-structured interviews with each participant for a total of eight interviews. Interview 1 was conducted with each teacher candidate in early October and ranged in length from 18 to 32 minutes. Due to the structure of the semester, Interview 1 occurred prior to the commencement of the teacher candidates' second teaching practicum. Interview 1 was comprised of 12 questions (see Appendix E). The interview included demographic questions, general questions related to teaching,

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[1] For the purposes of discussing research participants and to maintain anonymity, the first-person, singular, feminine pronoun (e.g., "she" or "her") will be used rather than gender-neutral language (e.g., "he or she" or "his or her"). Equally, when discussing teacher educators and to maintain anonymity, the first-person, singular, masculine pronoun (e.g., "he" or "his") will be used rather than gender-neutral language (e.g., "he or she" or "his or her").

focussed questions on the teacher candidates' understanding of IBL and their experiences

with IBL during both the BEd coursework portion and the practicum portion of the UNBC

teacher education program. Interview 2 took place in late November, after the teacher

candidates returned from their second teaching practicum. This interview ranged in length

from 29 to 51 minutes. Interview 2 consisted of 15 questions (see Appendix F). These post-

practicum interview questions were informed by some of the data collected during Interview

1. Questions for Interview 2 surrounded the teacher candidates' perceived preparation,

success, and concerns with utilizing IBL strategies during their Fall 2017 practicum. The

questions also explored the teacher candidates' learning experiences in the UNBC BEd

program. Each interview occurred at a mutually-agreed-upon location within the UNBC

School of Education. Both sets of interviews were conducted, audio-recorded, and

transcribed by me as the principal researcher.

  Research methods: Journal entries. I requested that each participating teacher

candidate provide me with three reflexive journal entries throughout their Fall 2017 semester.

These data were supplementary to the interviews and provided me with insight into each

participant's experiences. Journal Entry One was a response to a set of inquiry questions

posed by the *Classroom Assessment Practices* instructor aimed at allowing the teacher

candidates to reflect on their own learning during their *in-situ* coursework at a local

elementary school. Journal Entry Two was the teacher candidates' final inquiry project for

this same class. As promoted by an IBL framework, the instructor allowed each teacher

candidate to illustrate their learning in their own chosen format. The projects ranged from a

mini essay to a reflective journal entry to detailed mind maps. Journal Entry Three was the

teacher candidates' response to prompts from me. This journal entry was each participant's

reflections to the three prompts: *I learn best when . . .; I am curious about . . .; and my*

experiences in the UNBC BEd program have …. The final journals ranged in length from one paragraph to three pages.

Research methods: Research observations. Research observation occurs when the researcher intentionally attends to the events and people within the context he or she is studying. This method requires the researcher to be self-observant as to how he or she interacts with the setting as well as to have awareness of the impact he or she may have on the research setting (Dewalt & Dewalt, 2002). For this study, I took on the role of a nonparticipant observer (Creswell, 2015) because I did not want to affect the developing teacher candidate-student relationships nor did I want to interrupt the flow of the instructional environment that was created by the teacher candidates. All observation data were recorded in my researcher log; the codes created by the observation data became essential to the enhancement of the central themes.

My intent was to conduct one general observation and two focussed observations of the teacher candidates during their *in-situ* coursework to supplement the data gathered from the interviews and journals. The intent of the general observation was for me to get an overall sense of each teacher candidate's teaching style and comfort level with IBL strategies. The focussed observations were aimed at observing how the teacher candidates included IBL strategies into their small group instruction time with the elementary students. I did conduct the initial, overall observation; however, I was able to complete only one focussed observation for each teacher candidate during the *in-situ* coursework. Due to coordinating issues with the school and the teachers, and the timing of the Fall 2017 practicum, the number of visits the teacher candidates made to the school was limited. For a number of reasons, including teacher candidate illness, school events, and the instructor's perception of the entire cohort's readiness to implement IBL strategies into their practices, these

observations were not as teacher candidate-centred as I had hoped. Chapter 4 outlines more details of the research observation data.

Ethical Considerations

I adhered to the Tri-Council guidelines (TCPS2, 2014) to ensure the ethical treatment of my study participants. I also obtained approval from the UNBC Research Ethics Board (REB) (see Appendix G).

The teacher candidates' confidentiality was ensured because only I had access to the raw data. All interviews were conducted and transcribed by me as the principal researcher. The teacher candidates' anonymity was ensured because data were identified by a code number and pseudonyms were used to report the findings (e.g., TC1). Any information that identified the teacher candidate participant, such as a specific exceptionality or background experience, was removed from the final discussion of the data.

I obtained written approval from Dr. Geoff Payne, Interim Vice-President of Research and Graduate Programs, (see Appendix H) and Dr. Andrew Kitchenham, Chair, School of Education, (see Appendix I) to invite teacher candidates to participate in the study. I acquired written authorization from the Superintendent, and the Assistant Superintendent, of School District 57 to conduct research in the school district (see Appendix J). I also obtained written agreement from the principal (see Appendix J) to be present in the elementary school with the UNBC teacher candidates during their embedded IBL coursework.

I provided each teacher candidate participant with an information letter which outlined the purpose and nature of the study (see Appendix A). All participants were made aware that their participation in the study was voluntary. I made sure that each teacher candidate understood that her participation in, or withdrawal from, the study would not affect her status in the BEd program. Participants were reminded that, at any point in time, they could have

their data removed from the study. As outlined earlier, participating teacher candidates were required to sign an informed consent form for each data collection method before any formal data were collected (see Appendix B, C and D). I informed all participants that the data collected would be kept in a secure location in my home office for up to five years after the thesis defence and then would be destroyed securely through document shredding and file deletion.

As indicated previously, to ensure the confidentiality of the participating teacher candidates, data that were gathered through the interviews, the journal entries, and the researcher observations were kept confidential. Contact information was not shared with others. All data will be stored in a secure location in my home office for up to five years and then will be destroyed.

Data Analysis Procedure

Data were analyzed using a qualitative content approach. Specifically, I conducted first cycle open coding on each data set. In other words, I assigned codes as they emerged from the data. In particular, I used Descriptive Coding because this form of coding is appropriate for qualitative case study (Yin, 2014), for beginning qualitative researchers, and assigns labels to the data for deeper analysis in the second stage. Using a constant comparative approach, I moved to second cycle coding using Pattern Coding (Saldaña, 2013). This form of coding was conducive to the production of overall themes and for summarizing social relationships that may occur within teacher education.

Once I had completed Interview 1 with all the teacher candidates, I transcribed the audio-taped version into a Word document. After that, I read through each interview transcript to get an overall impression of each teacher candidate's feedback and responses. I then re-read each interview, using specific coloured pens to highlight or underline words and

phrases that appeared to be similar in concept as my first cycle of colour coding. I reviewed each transcript again to extract any additional words or phrases that could contribute to the emerging themes. The four transcripts from Interview 1 created 34 codes.

Particular responses from Interview 1 informed the creation of two questions asked during Interview 2 ("During the first interview, a general theme that emerged was that there is a disconnect within the program. In your opinion, what/where is this disconnect?"; and, "In your opinion, why is there a disconnect between program instructors' teaching practices?"; see Appendix F). Once I reached coding saturation in the interviews, I revised and combined the codes to create themes (Saldaña, 2013). The four transcripts that were generated from Interview 2 created an additional 51 codes (see Table 1 for a representation of the codes across all data sets).

Codes such as accountability, consistency, expectations, innovation, and relevancy created the theme of *Teacher Educator Andragogy*. Ability, confidence, practice, preparation, support, and teaching were some of the predominant codes within the *Practicum Experience* theme. Inquiry-Based Learning was a very dominant code; therefore, it evolved into a central theme. Both sets of interviews were coded independently of each other and then the codes were merged to create the themes. After coding the eight interviews, the data revealed 85 codes which were combined to create five themes: *Inquiry-Based Learning*, *Practicum Experience*, *Teacher Educator Andragogy*, *Self Development*, and *Relationships*.

These five themes generated by the eight interview transcripts formed the basis of analysis for the journal entries and researcher log. The journal entries and researcher log created an additional 12 distinct codes which resulted in a total of 97 codes across the data set. The aforementioned themes will be used to discuss the overall findings of the study.

Table 1

Sample Codes from Interviews, Journal Entries, and Researcher Observations with Teacher Candidate comments

Code	Teacher Candidate comment
Inquiry-Based Learning	❖ In the simplest form, it's just being curious and having the skill to figure out what you are curious about. ❖ How can you guide something and go in a certain direction when you're wanting the students to be at the center of the learning?
Modelling	❖ It is so important to teach what you preach but also do it and encompass it because you can say it . . . but if I'm not doing it myself how am I going to model it. ❖ I've always loved reading and writing. I think that if I am honest and show my students how much I like do that then maybe it will rub off on them too.
Relevancy	❖ Some of the stuff we are learning in some of our classes is kind of not relevant. ❖ Some of the things that are asked of us, for what it's worth, is not really relevant – it doesn't make sense.
Traditional versus Inquiry-Based Learning	❖ Once I was in traditional school, there wasn't that ability anymore to just ask questions and too seek out all this stuff. ❖ Coming from an undergrad where you're not given much choice to being in a program where you get to explore what you want and having the freedom to kind of do so is nice.

Validation of the data. There are myriad methods a researcher can use to validate the data of her study; one of which is the credibility of a study which can be established by developing its codes and themes through the use of several data sources (Lincoln & Guba, 1985 as cited in Creswell, 2015). As is acceptable for a qualitative researcher, I used triangulation to validate the accuracy of the study findings. Endorsed by Creswell (2015), I used my three data collection methods (interviews, journal entries, and researcher log) to create the codes that led to the development of the five central themes of my study.

In particular, I coded the two sets of interviews and then analyzed the student journals to ascertain which of codes were present in the journal data and if there were any new codes. After conducting that comparison, I checked the researcher log data to repeat the process. In this manner, the three methods complemented each other and reinforced the strength of my codes to form a robust triangulation and reinforce the credibility of my study.

Summary

This chapter began with a description of the qualitative research methodology and defined case study as the chosen methodology approach for the research study. It then outlined interviews, journals, and researcher observations as the types of data collected and the methods of data collection. Further, it provided an overview of the ethical considerations that were addressed in the study. The participant consent process was described. The chapter concluded with a discussion of the coding and theming process for the of the data analysis stage of the study.

Chapter 4 will present the research findings, provide the results of the qualitative data, and summarize the themes that influenced the experiences of the teacher candidates. It will also discuss the overall findings in relation to the extant literature.

Chapter 4: Research Findings

The first chapter of this thesis outlined my rationale for completing the research study. The second chapter, the literature review, examined teacher education program practices, meaningful practicum experiences, the inquiry cycle, and their implications on the teacher candidates' experiences. In the third chapter, I summarized the methods, designs, and ethical foundations that guided both the research and the specific design of the research.

In this chapter, I will provide the results of the qualitative data; specifically, I will outline the five central themes related to IBL that emerged from the data and appeared to influence the experiences of the teacher candidates. I will begin by providing a brief demographic summary of the participants. Then, I will present the qualitative data and the resulting themes that developed from the interviews, journal entries, and researcher observations. I will conclude the chapter by delving into the significance of each central theme as it relates to the teacher candidates' experiences.

Participants

This study explored the in-depth experiences of four EY teacher candidates in the UNBC BEd program. The participants were recruited from the cohort of 26 second year EY teacher candidates (2016 entry) using convenience sampling and then random selection. To this end, from the sample of 13 volunteers, four teacher candidates were selected to participate in the study.

The participants ranged in age from 24 to 36 years. All participants completed a four-year undergraduate degree prior to entering the UNBC BEd program; two participants had a Science-based degree and two participants had a Humanities-based degree. Three participants had prior experience as Educational Assistants in School District 57 (Prince George).

During the time of the study, all four teacher candidates successfully completed their second teaching practicum. This practicum was a total of four weeks in duration; one week at the beginning of September 2017, so that teacher candidates could be part of their coaching school start-up, and three weeks of teaching starting on October 16, 2017. The teaching responsibilities of this practicum included teaching 30-35 lessons which included two full days of teaching during the three-week portion of the practicum.

During the initial meeting with each teacher candidate, I asked them how they would like to be referred to in the final thesis study. All teacher candidates were in favour of my using their actual names; however, given their candid comments during the interviews and within their journal entries, I felt it was necessary to protect their identities. Therefore, in order to maintain the teacher candidates' anonymity and confidentiality, when discussing a specific teacher candidate, I will refer to her as TC1, TC2, TC3, or TC4.

Results

The primary data collected for the study came from the teacher candidate interviews and journal entries (see Table 2). As stated in Chapter 3, the research observations did not allow me to observe the amount of teacher candidate-led student learning as originally planned; therefore, they became complementary data. Throughout the coding process, I related participant responses to my central research question: "In what ways does embedding Inquiry-Based Learning into the UNBC teacher education program affect the Elementary Years teacher candidate experience?" Using a spiral of inquiry approach (Halbert & Kaser, 2015), during the data analysis, I continuously asked: "What did the teacher candidates learn?", "How did they use this knowledge?", and "Where did they input this knowledge in developing their pedagogy?".

Table 2

Summary of Overall Themes with Accompanying Codes, Total Number of Utterances (in raw number), and a Sample Quote from Participants

Theme	Code		Utterances	Sample
Inquiry-Based Learning	Adaptation Curiosity Diversity Flexibility IBL Knowledge Learning Differentiated Learning	Options Ownership Questions Self-directed Student-centred Technology Understand	657	I feel like I already carry on conversations that are inquiry based, so it's kind of natural. I never think of it as something that is faked or forced upon, or that I have to really think about. It just happens. So, I don't really have that thought where it's separate and I have to incorporate it. I feel like it's already just natural.
Practicum Experiences	Ability Accomplishment Assessment Coach Co-Learning Confidence Emotional Engagement Fulfillment Goal Guidance Inspiration Mentor	Model Passion Practice Practicum Preparation Progression of teaching Reciprocity Service Support Teaching Teamwork Validation	453	You learn so much just by how the kids interact with you … I am looking forward to practicum and all the learning that will take place.

Theme	Code		Utterances	Sample
Teacher Educator Andragogy	Accountability Appreciation Change Co-Learning Consistency Constraints Currency Engagement Expectations Feedback Innovation	Model Reciprocity Relevancy Rigid Stagnant Teaching progression Theory vs. Practice Time Transition Validity Value	278	I say that the program, like any, has its flaws, it's areas which need change and which need support. However, it gives students an opportunity to learn, to experience, to connect with professors that have so much to offer. It allows like-minded people to connect and help each other grow.
Self Development	Assessment (self) Development Experiences Growth Learning (life-long) Learning (Self) Mindset Motivation Philosophy Possibility Potential	Reflection Responsibility Voice Comfort Empathy Drive Frustration Happy Patience Reward	238	I think the end of the day … we get to be teachers. I know that I have put a lot of hard work in and a lot of thinking in, in the past two years and at the end of it, I get to go out and do the job that I have always wanted to do.
Relationships	Cohort Collaboration Communication Community Connection Disconnection Disrespect	Encouragement Hierarchy Network Relationship Cooperation Equity	199	The biggest thing is building that relationship and getting that trust from each other. You have to trust your

Theme	Code	Utterances	Sample
			students and your students have to learn to trust you. Having that common respect and setting that initial foundation so that you can build off of it and grow off of it.

The coding process produced 97 independent codes and 1825 utterances across all data sets. The codes were merged and organized into five central themes: *Inquiry-Based Learning*, *Practicum Experience*, *Teacher Educator Andragogy*, *Self Development*, and *Relationships*. Each theme is discussed in relation to its effects on the EY teacher candidates' experiences in the UNBC BEd program.

Inquiry-Based Learning

The most-dominant theme, *Inquiry-Based Learning* (IBL), encompassed over one-third of all teacher candidate utterances (36%) for a total of 657. For the purpose of this study, as defined in Chapter 1, IBL is a teaching strategy that moves the learning toward a more student-centred, interactive model of learning in order to assist the student in learning how to learn (Roach O'Keefe, 2013). When asked to define IBL, just as every classroom teacher has his or her own definition, each teacher candidate provided a unique answer. TC1 was unsure of a specific and "direct definition." She was unique in that the other three teacher candidates each offered her own definition of IBL. TC2 believed it was "finding answers to questions that you're asking … (about) stuff that you want to know" which reinforced Roach O'Keefe's definition of IBL. TC3 believed that "in the simplest form, it's just being curious

and having the skill to figure out what you are curious about" and, similarly, TC4 thought it was about "inquiring, asking questions, and exploring … just being inquisitive" which was closer to what the School of Education espouses when it endorsed a teacher-candidate centred program. Although she could not initially provide a specific definition, further in her answer to define IBL, TC1 illustrated her description of what IBL could look like from a teacher's point of view,

> I don't want to guide you where **I** want you to be, I want you to tell me what **you** know, what you don't know. What you wonder about it. I feel it opens up so much stuff for each individual student in the classroom … It's how to get to that point where you're figuring out that answer (emphasis added).

During Interview 1, the teacher candidates were asked about their prior experiences with IBL and their answers varied. TC2 maintained that IBL "wasn't really a thing" during her schooling. While TC3 thought she was exposed to IBL in Grade 6 when her teacher encouraged the students to choose an area of interest within a certain topic. TC4 insisted that she had "grown up inquiring" due to her curious nature. Although she did not know it then, looking back on her early education, TC1 was adamant that she had been an inquiry-based learner as early as pre-school and participated in IBL throughout her school years:

> When I was very little, I just wanted to know more. Every day I would ask so many questions and seek out as much information as I could in this little body. I gathered this huge amount of information in so little time … along the way there were teachers that kind of gave me those glimpses, those moments where they allowed me to branch out where my interests were and let me take my learning in the direction that I wanted to go.

Additionally, TC1 indicated that those early-life experiences led her to the teaching profession because she always yearned to "get to that point again, [as she wanted] to be able to do that for [herself] and for others." Additional general comments from the other teacher candidates demonstrated that they went into the teaching profession for similar reasons.

The teacher candidates appreciated being part of an inquiry-based teacher education program; they recognized that it led to valuable educational choices for each of them. To some degree, all the teacher candidates reiterated TC3's thought when she said, "I think inquiry as a learner gives so many more options to learn more and actually get something of value out of your education in the end." In her journal, TC3 took this awareness to a deeper level when she wrote, "I am beginning to understand that [IBL] informs the educator where to go next with their students but also allows students to know where they are at and take ownership of their learning." This understanding and heightened awareness led to TC3's overall expectations for her BEd instructors and the deliverables of each course. This feedback, along with comments from the other three teacher candidates, will be discussed in relation to teacher educator andragogy later in the chapter.

When she asked, "How can you guide something and go in a certain direction when you're wanting the students to be at the centre of the learning?", TC1 recognized the core of IBL strategies in the classroom—having the student at the centre of the learning. TC1 insisted that when implementing IBL into a classroom, a teacher should "allow the students to guide where the learning goes and where you're going to go next." She contended that, by implementing IBL strategies in the classroom, teachers get students "acknowledging their own thinking" and maintained that "critical thinking allows all students to work at their own pace, identify their thought processes, and expand their thinking by asking them to try and find others ways" to solve a problem or issue.

Recognizing the limitations of the teacher education paradigm that may limit her exposure to IBL strategies, and the value of remaining curious in order to direct her own learning, TC3 acknowledged, "I know that I'm not going to get everything I need out of this program. I'll probably not get everything I need out of the whole career"; she asserted that life-long learners are aware they are "always going to not know something" and recognized that this lack of knowledge "leaves looking for things to know wide open." All the teacher candidates were advocates of being life-long learners; they believed that successful teachers must explore new teaching practices and strategies, like IBL, in order to adapt to the needs of diverse learners in the classroom.

During Interview 2, the teacher candidates were asked if they felt comfortable implementing IBL strategies into the practicum classroom. Three teacher candidates, acknowledged that they still "had so much more to learn and experience" (TC1) but felt quite comfortable implementing IBL strategies into the classroom routine. One teacher candidate, given the short duration of the practicum experiences to date, did not feel that she had been given ample opportunity to implement IBL into her practicum classrooms thus far; however, she had little concerns about planning to use IBL strategies during her final practicum and moving into her future teaching career. Responding to a question on the concerns they might have in implementing IBL into future teaching situations, the main concern for TC2 and TC4 was accountability for student assessment. They both expressed, as articulated by TC4, that IBL might "deviate away too much and [the students] might not get the whole [curricular] content [because IBL] might be a little harder to assess or make sure everyone is on par." Both teacher candidates acknowledged the shift in mindset needed for teachers, students, and parents to embrace the teaching strategies, like IBL, that enhance the principles of the revised

BC curriculum. TC1 had the lowest level of concern about implementing IBL strategies into the classroom because as she stated,

> I feel like I already carry on conversations that are inquiry based, so it's kind of natural. I never think of it as something that … I have to really think about. It just happens. So, I don't really have that thought [that] I have to incorporate it … it's already just natural.

This innate sense of inquiry, curiosity about her students and about learning, was quite evident during the *in-situ* coursework as well. While conducting observations during this coursework at a local elementary school, I noted that TC1 was the most engaged with her students and the learning process. She went on to write a journal entry reflecting on, and validating, the classroom teacher's implementation of IBL strategies and their effects on the students' learning. TC1 was the only participant that acknowledged using the IBL strategies she observed during the *in-situ* coursework in her Fall 2017 practicum classroom.

Practicum Experience

During both interviews, the teacher candidates were asked to elaborate on their most authentic learning experience within the UNBC BEd program. In all cases, the resounding responses were that the most authentic learning experiences occurred in relation to the practicum experience; therefore, it was not surprising that the second most-dominant theme was *Practicum Experience*. With a total of 453 occurrences, this theme collectively comprised 25% of all utterances across the data sets.

All four teacher candidates said, in one way or another, that the practicum experience was "a really big learning experience" (TC2) and "the practical stuff is **HUGE** for the learning and having those teachers not just tell you that they're invested in your learning but show you" (TC1, emphasis added) the nuances of the teaching profession. The practicum

experience gave each teacher candidate the opportunity to be "in the classroom with the kids, teaching them things" (TC2) and allowed them to "apply what [they] have learned and watch it blossom" (TC4) while they develop their teaching pedagogy. The practicum experiences, TC1 thought, allowed her to "really define" herself as a future teacher and develop her teaching philosophies. As a result of the practicum experiences to date, TC3 felt she was "going into this practicum with more knowledge … that will be shaping [the] lessons" she creates and teaches during her final practicum.

Building relationships with the students was of utmost importance to all the teacher candidates. To date, TC3 believed she had not "had enough time in each practicum to really explore the curriculum." However, she was "looking forward to [the final] practicum and all the learning that will take place" because as a teacher candidate, "you learn so much just by how the kids interact with you." TC1 supported this belief when she wrote in her journal that "when [a] teacher has a positive relationship with the students and the way they learn—it makes the learning enjoyable" for both the student and the teacher.

During her first teaching practicum experience, TC4 "literally just froze" while teaching a Math lesson and her coaching teacher had to "jump in and get things going again." The teacher candidate felt this was one of her "best learning experiences in practicum" because it illustrated for her that lessons would not always go as well as planned and it gave her the opportunity to "reflect" on her teaching and "adapt" her teaching strategies. This experience also gave TC4 and her coaching teacher the opportunity to discuss the lesson and teaching strategies for future lessons.

Establishing and maintaining a collaborative, mutually-respectful relationship with their coaching teachers was also important to the teacher candidates. They all insisted that collaborative relationships with their coaching teachers allowed them to feel supported so

they could develop their classroom skills while feeling safe to try new teaching strategies. As described by TC3 during Interview 2 (post-practicum):

My coaching teacher was giving me lessons, [and encouraging me to] put my own spin on them and just see how I felt about it. Which is really cool because going into the practicum I thought 'I'm going to have to teach the way he does or do the lessons he had planned.' And I wasn't as okay with that until I started actually teaching it and realizing that … I really agreed with his methods and just the way we were teaching.

When recounting her Fall 2017 practicum experience in her final journal entry, TC1 reiterated how a collaborative coaching teacher-teacher candidate relationship creates a feeling of support long after the practicum is complete when she wrote that her coaching teacher "is a wealth of knowledge and our teaching philosophies are so similar … she has become my mentor and I know I will be seeking her advice for years to come." The benefits of a collaborative practicum experience were endorsed by TC2 with her acknowledgement of "a great relationship" with her coaching teacher and practicum supervisor. TC1 was elated to "develop that amazing coaching teacher and teacher candidate and [practicum] supervisor rapport" during the practicum experience; she felt "it was amazing to have that teammate instead of having that superior." Along with a creating an atmosphere of support during practicum, she reiterated that collaborative relationships with her coaching teacher and practicum supervisor created a collaborative network for the teacher candidate in her practicum classroom.

Teacher Educator Andragogy

Attending a two-year BEd program, with a core set of instructors, allowed the teacher candidates ample opportunity to experience the teaching strategies of select Education faculty

members along with those of chosen, still-practicing, educators hired as sessional instructors. Although many of the instructors in the UNBC BEd program are "current teachers who are practicing IBL" (TC1), the teacher candidates were concerned with the overall currency of the faculty and the general relevancy of the curriculum. Teacher educator andragogy, with 278 utterances (15% of the total), was the third most-dominant theme affecting the teacher candidates' experiences at UNBC.

During Interview 1, consistent comments related to a disconnection within the UNBC BEd program emerged; therefore, in Interview 2, I asked each teacher candidate to elaborate, from her point of view, on this disconnection. TC4 believed there were "a lot of little gaps" within the program because some professors' course content and expectations were "still based on the old curriculum" while other instructors were "totally with the new curriculum and student-led learning" as espoused by the program. TC1 echoed this sentiment when she emphatically stated, "there's a huge disconnect with the teachers and where they're at in their learning." TC3 illustrated this dichotomy of instructor currency when she compared the teaching andragogy of two instructors. In reference to a sessional instructor, she stated,

> I was really appreciative of [his honesty] about how his day at school was … I'm
>
> really appreciating the conversations we get to have related to education … he
>
> just brings in that real-world experience because he is teaching [at a local
>
> elementary school] until 2:30. Then he teaches us at 3:30. He's very real.

In contrast to the sessional instructor, when discussing a term instructor, TC3 lamented,

> We ask questions to him sometimes … 'What would you do?' type questions …
>
> and those questions never get answered. They kind of get re-directed. And I'm, at
>
> this point, aware that he probably doesn't have the answer or know what we're
>
> asking. I don't know if it's because it's been so many years since he's been in an

actual classroom or that he doesn't understand where we're coming from with our education.

Because of this disconnection among the UNBC School of Education faculty, and their andragogy, the teacher candidates felt that their "learning feels like it is halted in some areas and just excelling in other areas … right now our learning … is very segregated" (TC1). Along with the teaching strategies of the faculty, the teacher candidates were concerned with the relevancy of overall course content.

Given that the teacher candidates viewed practica as their most authentic learning experiences, they wanted their BEd coursework to reflect the experiential learning opportunities that they were receiving while in practicum. TC3 felt that "last year there was a lot of theory thrown at us that didn't necessarily fit the best practice that we were being told we'd have to deliver" and TC4 admitted,

> there's changes being made [in the BEd program] but I feel like it's still kind of a 'do as I say, not as I do' kind of thing … some classes need to be adapting more still to be more hands-on, to be more inquiry-based because that's what we're learning … what we're trying to learn.

The teacher candidates all commented on the abundance of paperwork, in the form of assignments, that was required by instructors. Many of these assignments, the teacher candidates argued, were not relevant to their practicum classrooms. In her first journal entry, TC3 reflected on her program leading up to the teaching portion of her Fall 2017 practicum: "The past month has been very busy … there has not been [much] information that I will be applying to my teaching practice … I am not receiving as much knowledge towards my practice as I would like." In regards to certain instructors' expectations that some

assignments would be completed during practicum, TC2 stated, "assignments during

practicum … we're not doing **that** in the classroom, but I'm supposed to be doing **this** for the

assignment" (emphasis added). She then went on to insist, "the paperwork, I'm not going to

remember in five years, but what I do with [the students] is going to make a difference." In

essence, working with the students and developing her teaching philosophy were main goals

for this teacher candidate.

The teacher candidates expected their BEd instructors to be examples of teaching

excellence. For instance, as role models, TC1 wanted her professors to

teach what you preach … because you can say it. I can talk to you about IBL, but if I'm

not doing it myself then how am I going to model it? … you can tell when someone is

engaged, when someone is really passionate about something, and when someone isn't.

In short, the belief that all UNBC School of Education faculty should be passionate about

modelling best practices in their university-based classroom was emphasized by all the

teacher candidates in my study.

In addition to being good role models for teaching excellence, the teacher candidates

felt that the UNBC School of Education faculty must also realize the teacher candidates are

"not students anymore, [they] are becoming teachers and … need to know how to teach"

(TC1) the curriculum to diverse learners using dynamic teaching methods. The teacher

candidates felt that some of their BEd instructors provided defensible ideas for activities and

lessons so TC1 queried, "how do I teach that to a Grade 1? … to a Grade 4 … across grades?

Where do I start? If they don't know this, what do I need to go back to in order to build that

foundation?". Although all the teacher candidates articulated that they needed to take

ownership for their own learning, and should be "looking for stuff that is not being shown to

[them] in the classroom" (TC2), TC4 believed that "there's just certain things … that you

need to be kind of taught so that you get those roots, so that you know how to expand, and you know what to look for" when in the classroom settings and this guidance should come from her BEd instructors. In her final journal entry, TC4 recognized that "there are gaps [in our BEd program] but I am starting to think that those gaps may be necessary so that we can create our own bridges of knowledge and experience to connect them to what we have learned." These strong opinions about how they could and should take possession of their own learning inside and outside the program were common across all four teacher candidates.

Self Development

When asked to describe their experiences within the UNBC BEd program, the teacher candidates used words like "growth," "development," and "philosophy". Each teacher candidate commented on her personal growth as well as her development as a teacher while in the UNBC BEd program. To this end, with 238 utterances, 13% of the total across the data sets, *Self Development* was the fourth most-dominant theme.

The personal growth TC4 experienced came from both inside and outside the BEd program. As she wrote in her final journal, "I feel that I was a strong person upon entering the program but I am even stronger now because of my experiences as a whole in life over the year and a half." TC3 attributed some of her recent personal growth to being a UNBC BEd teacher candidate:

> This program has always felt very personal to me due to the amount of personal growth and sacrifice it requires. It is a very special time in my life as I near the final stage of the program. UNBC's BEd program has made it possible for me to be this close to attaining a dream and becoming self-aware throughout the process.

Becoming a teacher is a goal for most students that enter the BEd program; personal development as a successful teacher is TC3's goal.

Developing their teaching philosophies to become successful in the classroom was very important to the teacher candidates for their own self development. TC2 echoed the overall sentiments of the teacher candidates when she insisted, "personal philosophy is such a big part of being a teacher." In order to create a successful classroom for all learners, the teacher candidates recognized that they would have to "figure out stuff that works for [them] … different tools … to adapt [their teaching] philosophies" (TC1) in order to adapt to the classroom and to their school environments. The teacher candidates were excited and "curious about how everything will connect once [they were in their] own classroom teaching and … able to apply [their] beliefs, regalia, and personality" to the development of their practicing classroom and for the benefit of their future students (TC4).

Relationships

The relationships developed with peers, students, instructors, and their coaching teachers as part of the EY cohort that began the program together in September 2016, affected the teacher candidate experience while in the UNBC BEd program. The theme of *Relationships* was represented by 199 utterances (11% of the total) across the data and represented the fifth most-dominant theme.

The teacher candidates appreciated the relationships developed with their peers within "the cohort [model], and the support" (TC3) they were able to give and receive from one another while in the program. As evidenced when TC1 stated, "I am so invested in my learning, and the learning of the other 25 people in my class that I have become friends with," the relationships developed within the cohort enhanced the teacher candidates' experiences while in the UNBC BEd program. TC3 echoed this sentiment when she stated,

"I'm coming out [of the program] with a strong group of teacher friends. I couldn't think of doing this program any other year because of who was in our cohort." Strong relationships within the cohort gave the teacher candidates confidence outside the program as well.

Building strong relationships with students was of paramount importance for the teacher candidates because they all believed that students "learn best from you if they have a relationship with you" (TC3). Along with TC4, the teacher candidates supported the ideal that a successful classroom dynamic was dependent on teachers and students "building that relationship and getting that trust from each other." As she continued, TC4 insisted that, "you have to trust your students and your students have to learn to trust you. Having that common respect and setting that initial foundation so that you can build off of it" is imperative to create success for everyone in the classroom.

Just as building strong relationships with students was important to the teacher candidates, so was the relationships they developed with the UNBC BEd instructors and staff. In her journal, TC4 reflected:

> I may not have enjoyed everything that I learned from my professors at UNBC or agreed with everything, but I feel that I have created a relationship with my professors where I was able to express my concerns and on a personal level they have all treated me with respect and that respect was reciprocated.

As mirrored by TC1, "It's so refreshing to have … [instructors and staff] get you excited to become a teacher … to want to interact with you … to learn from you … to reciprocate that learning and have that connection with" each teacher candidate as a learner and as a future teacher. In her final journal, TC3 summarized the overall sentiment of the teacher candidates when she wrote, "I feel grateful for being in the program and for the friends and colleagues I will graduate with and for those [instructors and staff] who have and will continue to support

us along the way." In short, relationships, inside and outside of the UNBC School of Education program, were highlighted by the teacher candidates in the two interviews and journal entries.

Discussion

The discussion of the results is led by the research question of the study that explored the effects of embedding IBL into the UNBC BEd program on the teacher candidates. The research is related to current studies to support the data presented in the interviews, journal entries, and researcher log. Connection to and discussion about the teacher candidates' experiences will be described in relation to the five themes of *Inquiry-Based Learning*, *Practicum Experience*, *Teacher Educator Andragogy*, *Self Development*, and *Relationships* as reported earlier in this chapter.

In order to respond to the reform required to address the directives of the revised BC curriculum, many teacher education programs have initiated the inclusion of IBL into their curriculum (Donnell & Harper, 2005). With the 2017 revisions to the program, the UNBC BEd program made a concerted effort to embed IBL into the overall curriculum. Just as James et al. (2014) revealed in their study in which they found that teacher candidates embraced inquiry-based pedagogy for their own learning and for their future students, UNBC teacher candidates found IBL engaging and rewarding in terms of their own learning. The teacher candidates in the current study endorsed IBL as good practice within their BEd program and practicum experiences; they looked forward to continuing the development of inquiry-based teaching strategies in their post-graduation classrooms. As evidenced by TC1's innate sense of IBL and her insistence to create diverse learning opportunities for her students using IBL strategies, teacher candidates will implement inquiry into their classrooms if they have experienced IBL strategies within their personal educations (James et al., 2014).

Although the UNBC teacher candidates found inquiry-based pedagogy engaging and rewarding for themselves and for their future students, their comments reinforced James et al.'s (2014) findings that found teacher candidates questioned how to make IBL strategies a part of their ongoing practice when there is a sense of accountability from school district administration and the community for standardized evidence of student learning.

With the inception of IBL into the BEd curriculum, similar to the participants in Donnell and Harper's (2005) study that found there was a disconnect for teacher candidates between the theory and practice of teaching because of the multitude of requirements placed on them by different stakeholders, UNBC teacher candidates experienced a disconnect in regard to different requirements being set forth by multiple stakeholders with independent priorities. Some UNBC instructors, believing they were utilizing good IBL strategies, made demands of the teacher candidates that were in direct contrast to recommendations from their coaching teachers and the needs of the students; therefore, the UNBC teacher candidates experienced a sense of confusion when there was an expectation of creating a single outcome that did not align with the IBL teaching practices that they were being taught in some BEd classes and were attempting to develop during their practicum experiences.

Although her study that examined the structure and relevance of practica experiences within a teacher education program included more participants (17 teacher candidates), the experiences and opinions of my four participants supported Schulz's (2005) claim that rich, school-based practicum experiences were imperative to the development of new teacher practice. As stressed by the UNBC teacher candidates, teacher education programs with embedded, collaborative school experiences teach the skills of teaching (Darling-Hammond, 2016; Lewis, 2015).

Darling-Hammond et al. (2005), endorsed and encouraged collaborative practicum experiences that allowed classroom teachers and teacher candidates to work in unison for the enhancement of students' learning opportunities. The UNBC teacher candidates expressed the importance of working with a collaborative coaching teacher during their first two teaching practica. They were all grateful for the positive effects that a good coaching teacher-teacher candidate relationship had on the development of their individual pedagogies.

Similar to Miller Rigelman and Ruben's (2012) Partnership Learning Triangle, a learning model designed to assist teacher candidates to establish a collaborative mindset within their practica, the UNBC BEd program endorsed a coaching teacher-teacher candidate-practicum supervisor collaboration model for the Fall 2017 practicum. The UNBC teacher candidates appreciated the atmosphere of support that was created by this collaboration model. The teacher candidates argued that this model created a collaborative network of success within their Fall 2017 practicum and they anticipated recreating this dynamic during their final 10-week practicum experiences.

As recommended by Darling-Hammond et al. (2005), teacher education programs should model current collaborative practices, encourage powerful learning experiences, and assist teacher candidate to make a connection between theory and practice. The UNBC teacher candidates expected their instructors would be models of collaboration, facilitators of rich IBL environments, and builders of knowledge from theoretical learning to informed practice. Due to the diversity of teaching strategies within the BEd program, the teacher candidates' expectations were not always met. In essence, as endorsed by Darling-Hammond (2016) and Lewis (2015), the UNBC teacher candidates expected their instructors to teach them the skills of teaching—not simply teach the course content. The *in-situ* coursework at a local elementary school gave the teacher candidates exposure to practicing teachers in the

present-day classroom and gave them models of teaching strategies, such as IBL, that they could adopt in their own practice. This type of learning opportunity was endorsed by Kluth & Straut (2003) in their study that found teacher educators should make a concerted effort to present teaching strategies and models that can be replicated by the teacher candidates once they became practicing teachers.

Just as Donnell and Harper (2005) found in their qualitative study that explored teacher educators' introduction of IBL into their teacher education program, the UNBC teacher candidates' involvement in specific IBL coursework encouraged them to challenge the limited usage of inquiry in other coursework and to address the inequalities within the program that would impact the development of their teaching practices.

Although they had high expectations of the teacher education program and their instructors, the UNBC teacher candidates in my study recognized that they had to be the motivators of their own learning and that their instructors were not knowledge keepers, they were facilitators of knowledge. As Donnell and Harper (2005) found in their study, teacher educators should not be expected to teach the teacher candidates everything they need to know to be successful in the classroom. Teacher educators should simply encourage their students in their development of life-long commitments and attitudes toward generating knowledge for their own practice.

Developing their teaching philosophies so that they become successful in the classroom was very important to the teacher candidates for their own self development. Along with serving as the venue for their teacher pedagogy development, the teacher candidates saw the UNBC BEd program as a setting for personal growth. As supported by Kitchenham's (2011c) study which reiterated that all learners expect choice and input into their educations so that they may choose their own learning paths, the UNBC teacher candidates expected

choices within, and input into, their BEd program. They wanted to pursue their individual paths to learning that would support their personal development on their journeys to becoming practicing teachers.

Relationships inside and outside the BEd program were important to the UNBC teacher candidates in my study. Within the UNBC BEd program, the teacher candidates supported the cohort model of instruction; outside the program, they valued the collaborative practicum model that placed the students at the centre of the learning.

The teacher candidates all valued the strength of the relationships they were able to create as members of the EY cohort that entered the program in September 2016. As espoused by Magnusson (2015), the UNBC BEd instructors and staff attempted to model reflective, collaborative teaching practices that lent themselves to addressing individual student needs so that the teacher candidates could learn how to build relationships with their students. This paradigm relates to the tenets of IBL surrounding the importance of creating a community of learners and as identified in the experiential learning philosophy of teacher education (Dewey, 1990). The relationships built within the program could be a strong support network for the teacher candidates once they are in their own classrooms.

As articulated by the four teacher candidates, the relationships built with their students, coaching teachers, and practicum supervisors during the practicum experiences supported the development of the teacher candidates' pedagogy. Creating connections with the students allowed the teacher candidates to effectively adapt their teaching strategies, and include IBL, to accommodate the diverse learners in the classroom. Collaborative coaching teachers encouraged the teacher candidates to take risks, to add to their learning and that of the students, which, in turn, enhanced the teacher candidates' teaching skills. Supportive practicum supervisors gave the teacher candidates the confidence to explore their teaching

strengths and develop their pedagogy. This approach is reminiscent of Burgess' (2012) analogy of swimmers and lifeguards as the teacher candidates were rapidly moving towards becoming swimmers.

Summary

This chapter outlined the results of the qualitative study and described the five central themes that emerged from the data. As noted, *Inquiry-Based Learning, Practicum Experience, Teacher Educator Andragogy, Self Development*, and *Relationships* had varying degrees of effect and affect on the teacher candidates' experiences in the UNBC BEd program. This chapter also discussed the research findings and made connections to the literature in relation to the five central themes.

The final chapter will present the implications of the study, outline how the data collected may inform and extend the literature on teacher education, and make recommendations for future development of the UNBC BEd program.

Chapter 5: Conclusion, Implications, and Recommendations

The future of our education system lies in the ability of teacher education programs to develop collaborative teacher candidates who are willing to become the change-makers their practicing schools require to move forward in the development of teaching strategies, such as IBL, to meet the diverse needs of the 21st century student. My intent in this thesis was to explore the experiences of four teacher candidates in part of their journey through the UNBC BEd program. I was particularly interested in the effects of implementing IBL teaching strategies into the teacher education classroom as expressed through these four teacher candidates.

Creating a sense of self and adding to their self development was of paramount importance to the teacher candidates. The focus on differentiated learning environments, as inspired by embedding IBL strategies within aspects (such as the course *EDUC 341: Principles of Inquiry-based Instruction*) of the BEd program, encouraged the teacher candidates to cultivate their self-awareness, vocalize their individual learning needs, and continually reflect on their developing teacher practice. The implementation of IBL teaching strategies, such as the EDUC 341 instructor focussing on the teacher candidates' self development, into specific coursework in the UNBC BEd program illustrated the benefits of differentiated teaching strategies within their teacher education program and, more importantly, within their practicum classrooms. The experiences of these four teacher candidates, when applying IBL strategies during the *in-situ* coursework at a local elementary school, enhanced their practica and supported collaborative relationships with their coaching teachers and students.

My study has supplemented the limited research on the teacher candidate's experience, especially with respect to teacher education program content, the practicum experience, and

the requirement for ongoing teacher candidate and coaching teacher collaboration. By questioning the teacher candidates directly about their experiences in the UNBC BEd program, my study followed Darling-Hammond (2016) recommendations that addressed the actual instruction of the teacher education program content in order to create a framework for the preparation of teacher candidates.

The teacher candidates did believe that aspects of the UNBC BEd program were reflective of IBL practices but it was clear that there are many courses in which IBL was not really IBL or it was completely absent. The few instructors who both espouse and model the benefits of IBL stood out for the four teacher candidates and, in some ways, carried the success of IBL on their shoulders. These four teacher candidates did see that there was great improvement among faculty to integrate IBL into the program and they appeared hopeful that the program could only get stronger.

Recommendations

Based on my research findings and personal reflection on those findings, I have three recommendations related to the research methodology, professional growth of the teacher candidates post graduation, and the development of the faculty within the teacher education program. These recommendations are rooted in the belief that, as teacher educators, faculty should set the standard for teaching excellence. The recommendations give credibility to the experiential learning experiences of the four teacher candidates, in particular, and could be impactful for teacher candidates, in general.

Recommendation one. The research study was conducted over a three-month period; one-fifth of the teacher candidates' entire BEd program. During the 12-week period, the four teacher candidates were immersed in practicum for four weeks; therefore, there was actually only eight weeks that could be used for the purpose of research. Using a small sample of

participants limited the applicability of the study. The short timeframe limited the teacher candidates' exposures to and experiences with IBL teaching strategies despite the fact that their responses were robust and insightful. For these reasons, in order to get a more comprehensive view of the teacher candidates' experiences, I recommend that future researchers conduct a longitudinal study that follows more teacher candidates through a longer portion, perhaps the entirety, of their BEd program. A longitudinal study might allow for generalizability and applicability of the data and provide more opportunity for the teacher candidates to experience and be exposed to the teaching strategies (such as IBL) that could enhance their future practice.

Recommendation two. This study followed teacher candidates during the third-semester of their four-semester BEd program. At the time of writing this study, the teacher candidates were completing their final practica. For further enhancement and development of the UNBC BEd program, as endorsed by the research of Miller Rigelman and Ruben (2012), my second recommendation is to follow up with teacher education graduates to ascertain if their acquired IBL teaching strategies continued into their classrooms. As outlined by Miller Rigelman and Ruben (2012), one measure of the success of a teacher education program is in the confidence of its graduates. Future research that surveys the UNBC BEd graduates in their first years as practicing teachers could truly illustrate the success of the program. As recognized by Altieri et al. (2015), the inclusion of IBL teaching strategies into the program should mean that UNBC BEd graduates would be inclined to embed IBL strategies into their own future teacher pedagogies. Further studies of our graduates could explore whether or not this actually occurs.

Recommendation three. Teacher educators should be good role models for the teacher candidates. In essence, teacher educators should practice what they preach. They need to

address current curriculum and employ current, and innovative, teaching strategies in the education coursework. Teacher educators must always ask of their course content and teaching strategies: "How will this play out in the classroom?" and "How does this apply to the teacher candidate's experience and develop her strategies as an effective teacher?" To enhance the learning and the practice of the teacher candidate, teacher educators should be self-reflective (Sherman, 2015) and seek out opportunities to develop their own strategies.

With this self reflection in mind, my third recommendation is that, if they do not already do this, Education programs should encourage professional development for their faculty in the form of self-directed studies or workshops with up-to-date presenters. As an integral part of a professional program, teacher educators should remain up-to-date on current and innovative practices so that the teacher candidates' experiences are conducive to promising practices in their own professional classrooms. By developing and endorsing best teaching practices, such as embedding IBL strategies into the coursework, teacher education programs could set the standard for faculty development within a post-secondary environment (Nevin et al., 2009). Along with teacher education instructors, all university faculty could benefit from embedding innovative teaching strategies such as IBL into their coursework to address the curious nature of their learners. In essence, Education programs should be a model of experiential learning experiences for all post-secondary students.

Reflections

I may not be a certified teacher, but I am an educator. Like the classroom teacher, every day I work with a dynamic group of individuals with diverse needs. Building a strong relationship with each teacher candidate allows me to find placements for their practicum experiences that could lead, hopefully, to their success as a teacher. My work as the Practicum Placement Coordinator and Advisor is integral to the delivery of the UNBC BEd

program; however, the most rewarding part of my job is seeing our teacher candidates feel successful in their chosen career. In my job, I have the opportunity to get to know the teacher candidates; my research has allowed me to *really* get to know a chosen few. Of that I am grateful!

I believe teacher candidates should have a voice in the development of their BEd programs; therefore, the intent of my research was to discover more about our teacher candidates and to get their opinions on how being part of a IBL-based program affected their learning environments. I went into the study with one intent: to explore teacher candidates' experiences in an IBL program; however, as is common in qualitative research, the teacher candidates' responses led me into topics other than IBL, such as self-development. Being exposed to IBL strategies promoted a growth mindset in the teacher candidates and encouraged them to develop a spiral of inquiry for their own learning. Influenced by these innovative learning strategies, the teacher candidates hoped that the BEd program would offer dynamic and deeper learning experiences that could develop their diverse pedagogies. They were insistent that their voices were important for the development of future UNBC BEd revisions that could enhance the experiences of incoming teacher candidates.

Completing my Master of Education program while working full-time ensuring that a key portion of the program (practicum experiences) was beneficial for each teacher candidate was demanding, enlightening, and very rewarding. On my journey toward better understanding of the teacher candidates, and the BEd program, I answered several questions and uncovered many facts. But … I still have so many more questions. I remain curious.

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Appendix A
Research Information Letter

October 5, 2017

Project Title: Inquiry-Based Learning: Exploring elementary years teacher candidate experiences in the University of Northern British Columbia Bachelor of Education Degree program

Project Lead: Carol Fedyk
University of Northern British Columbia
Prince George, BC V2N 4Z9
cfedyk@unbc.ca

Purpose of Project

The purpose of this research study is to explore the learning experiences of Elementary Years Teacher Candidates in the University of Northern British Columbia (UNBC) Bachelor of Education Degree program. Given its emphasis on Inquiry-Based Learning and teaching in relation to the British Columbia curriculum, my research study could have direct implications for the teacher education program, such as changing the delivery modes of the courses or altering course content.

Given the current emphasis on inquiry-based learning and teaching in the new British Columbia curriculum, my research study could have direct implications for the UNBC teacher education program, in response to the study findings related to such things as course content or delivery modes.

What will happen during the project?

If you agree to voluntarily participate in this qualitative study, you will be asked to share your experiences of being an Elementary Years Teacher Candidate in the UNBC Bachelor of Education Degree program. In particular, you will be asked to:

- Take part in two private one-on-one semi-structured interviews that will each last 30 to 45 minutes.
- Share three reflexive journal entries with me.
- Allow me to observe your learning environment and take notes during the public school-based portions of your BEd program.

Risks or benefits to participating in the project

The potential risks of participating in this research study may include perceived vulnerability in your BEd program and feelings of stress due to the additional use of personal time. At times, you

may feel hesitant to express your actual experiences due to perceived loss of standing in coursework or practicum. You may also feel constrained by the extra time needed to participate in the research study. Another risk is your loss of anonymity due to the voluntary nature of the study and due to the size of the program.

The potential benefits of participating in this research may include feelings of self-satisfaction, personal growth, and professional development. You may feel rewarded by discussing your experiences as a Teacher Candidate in the UNBC Bachelor of Education Degree program. You may also feel satisfied in knowing that you are contributing to the success of future UNBC BEd teacher candidates.

Confidentiality, Anonymity and Data Storage

Everything you discuss during the interviews and submit to me in electronic or written form will be kept confidential. This means that your contact information will not be shared with others. As the researcher, only I will have access to all data sets.

By participating in the field research, you willingly relinquish anonymity to me with the understanding that only I will know your identity. When the data are presented in my final thesis, you will be identified by an agreed-upon pseudonym and any identifying characteristics will be removed.

Written data and audio recordings will be stored in a locked filing cabinet in my home office; all electronic data will be stored on my personal computer which is password protected. Each electronic data set may be encrypted. All data sets will be destroyed up to five years after the completion of my thesis.

Study Results

The completed thesis will fulfill partial requirements for my Master of Education (MEd), Multidisciplinary Leadership degree at the University of Northern British Columbia.

You can obtain access to the final thesis by contacting me at cfedyk@unbc.ca.

Questions or Concerns about the project

If you have any questions, please feel free to contact me, Carol Fedyk, at cfedyk@unbc.ca 250-960-5776 or either of my MEd supervisors, Dr. Wendy Klassen, at wendy.klassen@ubc.ca or Dr. Lantana Usman at lantana.usman@unbc.ca.

Concerns about the research ethics can be directed to the Office of Research at reb@unbc.ca or 250-960-6735.

Participant Withdrawal and Consent

- During either interview, you may ask to turn off the digital recorder at any time and the interview will be terminated at your request. All your data will be destroyed, if the interview does not continue.

- You may decline to submit any or all requested journal entries at any time.
- If you withdraw from the study, interview recordings and analysis, submitted journal entries, and observation notes pertaining to your participation in the school-based coursework will be destroyed at your request.
- Neither participation in, nor withdrawal from, this research study will affect your standing in the BEd program or your practicum placements.

If you are willing to take part in the research, please come see me, email me at cfedyk@unbc.ca or call me at 250-960-5776 (office) by October 10, 2017.

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Appendix B
Interview Consent Form

October 10, 2017

Project Title: Inquiry-Based Learning: Exploring elementary years teacher candidate
experiences in the University of Northern British Columbia
Bachelor of Education Degree program

Project Lead: Carol Fedyk
University of Northern British Columbia
Prince George, BC V2N 4Z9
cfedyk@unbc.ca

Purpose of the Study

The purpose of this research study is to explore the learning experiences of Elementary Years
Teacher Candidates in the University of Northern British Columbia (UNBC) Bachelor of
Education Degree (BEd) program. Given the current emphasis on inquiry-based learning and
teaching in the new British Columbia curriculum, my research study could have direct
implications for the UNBC teacher education program, in response to the study findings related
to such things as, for example, course content or delivery modes.

What will happen during the interview?

The purpose of the two semi-structured interviews is to share your experiences in the UNBC
BEd program by answering specific questions about inquiry-based learning and teaching. Each
interview will be 30 to 45 minutes long and will be held in a mutually agreed upon location. Each
interview will be digitally recorded, with your consent, and transcribed by me.

The first interview will be conducted prior to your Fall 2017 practicum and the second interview
will take place shortly after the practicum. The questions should not cause any discomfort and
will not place you in a difficult situation by asking you for details about UNBC instructors or
school-based teachers. The questions will be reflexive in nature (e.g., What has been your best
learning experience so far?) and you will be given the questions at the time of the interview.

Risks or benefits to participating in the interviews

The potential risks of participating in the interviews may include perceived vulnerability in your
BEd program and feelings of stress because of the additional use of personal time. At times, you
may feel hesitant to express your actual experiences due to perceived loss of standing in
coursework or practicum. You may also feel constrained by the extra time needed to participate

in the interviews. Another risk is your loss of anonymity due to the voluntary nature of the interviews and due to the size of the program.

The potential benefits of participating in this research may include feelings of self-satisfaction, personal growth, and professional development. You may feel rewarded by discussing your experiences as a Teacher Candidate in the UNBC Bachelor of Education Degree program. You may also feel satisfied in knowing that you are contributing to the success of future UNBC BEd teacher candidates.

Confidentiality, Anonymity and Data Storage

Everything you discuss during the interviews will be kept confidential. As the researcher, only I will have access to the digital recordings and transcribed interviews. Additionally, your contact information will not be shared with others.

By participating in the field research, you willingly relinquish anonymity to me with the understanding that only I will know your identity. When the data are presented in my final thesis, you will be identified by an agreed-upon pseudonym and any identifying characteristics will be removed.

Written data and audio recordings will be stored in a locked filing cabinet in my home office; all electronic data will be stored on my personal computer which is password protected. The electronic data set may be encrypted. All data sets will be destroyed up to five years after the completion of my thesis.

What can be expected if you withdraw from the study

During either interview, you may ask to turn off the digital recorder at any time and the interview will be terminated at your request. All data will be destroyed, if the interview does not continue. Neither participation in, nor withdrawal from, this research study will affect your standing in the BEd program or your practicum placements.

Study Results

The completed thesis will fulfill partial requirements for my Master of Education (MEd), Multidisciplinary Leadership degree at the University of Northern British Columbia.

You can obtain access to the final thesis by contacting me at cfedyk@unbc.ca.

Questions or Concerns about the Interview Process

If you have any questions, please feel free to contact me, Carol Fedyk, at cfedyk@unbc.ca or either of my MEd supervisors, Dr. Wendy Klassen, at wendy.klassen@ubc.ca and Dr. Lantana Usman at lantana.usman@unbc.ca.

Concerns about the research ethics can be directed to the Office of Research at reb@unbc.ca or 250-960-6735.

CONSENT

I have read or been described the information presented in the information letter about the interview process.

YES   NO

I have had the opportunity to ask questions about my involvement in the interviews and to request additional details.

YES   NO

I understand that if I agree to participate in the interviews, I may withdraw from either interview at any time with no consequences of any kind.

YES   NO

I agree to be audio-recorded.

YES   NO

I have been given a copy of the information letter.

YES   NO

Signature: _____

Name of Participant (Printed):   _____

Date: _____

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Appendix C
Journal Entry Consent Form

October 15, 2017

Project Title: Inquiry-Based Learning: Exploring elementary years teacher candidate
experiences in the University of Northern British Columbia
Bachelor of Education Degree program

Project Lead: Carol Fedyk
University of Northern British Columbia
Prince George, BC V2N 4Z9
cfedyk@unbc.ca

Purpose of the Study

The purpose of this research study is to explore the learning experiences of Elementary Years
Teacher Candidates in the University of Northern British Columbia (UNBC) Bachelor of
Education Degree (BEd) program. Given its emphasis on inquiry-based learning and teaching in
relation to the British Columbia curriculum, my research study could have direct implications for
the teacher education program, such as changing the delivery modes of the courses or altering
course content.

What will be expected for the Journal Entries?

The purpose of the three journal entries is to share your experiences in the UNBC BEd program
by reflecting on specific questions related to inquiry-based learning and teaching. Each journal
entry may be a maximum of two pages. Each journal entry will be submitted to me for analysis.

The first journal entry will be requested prior to your Fall 2017 practicum and the second journal
entry will be requested shortly after the practicum. The last journal entry will be requested at the
end of your Fall 2017 semester. The questions should not cause any discomfort and will not
place you in a difficult situation by asking you for details about UNBC instructors or school-based
teachers. The questions will be reflexive in nature (e.g., What has been your best learning
experience so far?) and you will be given the questions one week prior to the requested
submission date.

Risks or benefits to participating in the Journal Entries

The potential risks of participating in the journal entries may include perceived vulnerability in
your BEd program and feelings of stress because of the additional use of personal time. At
times, you may feel hesitant to express your actual experiences due to perceived loss of
standing in coursework or practicum. You may also feel constrained by the extra time needed to

complete the journal entries. Another risk is your loss of anonymity due to the voluntary nature of the journal entries and due to the size of the program.

The potential benefits of participating in this research may include feelings of self-satisfaction, personal growth, and professional development. You may feel rewarded by discussing your experiences as a Teacher Candidate in the UNBC Bachelor of Education Degree program. You may also feel satisfied in knowing that you are contributing to the success of future UNBC BEd teacher candidates.

Confidentiality, Anonymity and Data Storage

Everything you discuss in the journal entries will be kept confidential. As the researcher, only I will have access to the written documents. Additionally, your contact information will not be shared with others.

By participating in the field research, you willingly relinquish anonymity to me with the understanding that only I will know your identity. When the data are presented in my final thesis, you will be identified by an agreed-upon pseudonym and any identifying characteristics will be removed.

Written data will be stored in a locked filing cabinet in my home office; all electronic data will be stored on my personal computer which is password protected. The electronic data set may be encrypted. All data sets will be destroyed up to five years after the completion of my thesis.

What can be expected if you withdraw from the study

You may decline to submit any or all requested entries at any time. All data will be destroyed, if requested by you. Neither participation in, nor withdrawal from, this research study will affect your standing in the BEd program or your practicum placements.

Study Results

The completed thesis will fulfill partial requirements for my Master of Education (MEd), Multidisciplinary Leadership degree at the University of Northern British Columbia.

You can obtain access to the final thesis by contacting me at cfedyk@unbc.ca.

Questions or Concerns about the Interview Process

If you have any questions, please feel free to contact me, Carol Fedyk, at cfedyk@unbc.ca or either of my MEd supervisors, Dr. Wendy Klassen, at wendy.klassen@ubc.ca and Dr. Lantana Usman at lantana.usman@unbc.ca.

Concerns about the research ethics can be directed to the Office of Research at reb@unbc.ca or 250-960-6735.

CONSENT

I have read or been described the information presented in the information letter about the journal entries process.

YES   NO

I have had the opportunity to ask questions about my involvement in the journal entries and to request additional details.

YES   NO

I understand that if I agree to participate in the journal entries, I may decline submitting a journal entry at any time with no consequences of any kind.

YES   NO

I have been given a copy of the information letter.

YES   NO

Signature: _____

Name of Participant (Printed):   _____

Date: _____

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Appendix D
Researcher Observations Consent Form

October 15, 2017

Project Title: Inquiry-Based Learning: Exploring elementary years teacher candidate experiences in the University of Northern British Columbia Bachelor of Education Degree program

Project Lead: Carol Fedyk
University of Northern British Columbia
Prince George, BC V2N 4Z9
cfedyk@unbc.ca

Purpose of the Study

The purpose of this research study is to explore the learning experiences of Elementary Years Teacher Candidates in the University of Northern British Columbia (UNBC) Bachelor of Education Degree (BEd) program. Given its emphasis on inquiry-based learning and teaching in relation to the British Columbia curriculum, my research study could have direct implications for the teacher education program, such as changing the delivery modes of the courses or altering course content.

What can be expected during the researcher observations

I will be conducting as many as four observations during your school-based coursework. At times, I will be observing you and the interactions with the students with no set purpose other than to describe your learning and teaching. At other times, I will be specifically looking for evidence of Inquiry-Based Learning and teaching. However, I have no expectation for you to orchestrate these strategies strictly for the purpose of the observations.

Risks or benefits to participating in the researcher observations

The potential risks of participating in the researcher observations may include perceived vulnerability in your BEd program and feelings of having to exhibit specific teaching strategies. At times, you may feel hesitant to chose the suitable teaching strategy for the specific situation due to perceived loss of standing in coursework or practicum if you do not use an inquiry-based strategy. Another risk is your loss of anonymity due to the voluntary nature of the journal entries and due to the size of the program.

The potential benefits of participating in this research may include feelings of self-satisfaction, personal growth, and professional development. You may feel rewarded by discussing your

experiences as a Teacher Candidate in the UNBC Bachelor of Education Degree program. You may also feel satisfied in knowing that you are contributing to the success of future UNBC BEd teacher candidates.

Confidentiality, Anonymity and Data Storage

Everything observed during the researcher observations will be kept confidential. As the researcher, only I will have access to the written documents. Additionally, your contact information will not be shared with others.

By participating in the field research, you willingly relinquish anonymity to me with the understanding that only I will know your identity. When the data are presented in my final thesis, you will be identified by an agreed-upon pseudonym and any identifying characteristics will be removed.

Written data will be stored in a locked filing cabinet in my home office; all electronic data will be stored on my personal computer which is password protected. The electronic data set may be encrypted. All data sets will be destroyed up to five years after the completion of my thesis.

What can be expected if you withdraw from the study

You may ask I do not perform observations at any time and your data will be destroyed, if requested by you. Neither participation in, nor withdrawal from, this research study will affect your standing in the BEd program or your practicum placements.

Study Results

The completed thesis will fulfill partial requirements for my Master of Education (MEd), Multidisciplinary Leadership degree at the University of Northern British Columbia.

You can obtain access to the final thesis by contacting me at cfedyk@unbc.ca.

Questions or Concerns about the Interview Process

If you have any questions, please feel free to contact me, Carol Fedyk, at cfedyk@unbc.ca or either of my MEd supervisors, Dr. Wendy Klassen, at wendy.klassen@ubc.ca and Dr. Lantana Usman at lantana.usman@unbc.ca.

Concerns about the research ethics can be directed to the Office of Research at reb@unbc.ca or 250-960-6735.

CONSENT

I have read or been described the information presented in the information letter about the researcher observations.

YES   NO

I have had the opportunity to ask questions about my involvement in the researcher observations and to request additional details.

YES   NO

I understand that if I agree to participate in the researcher observations, I may decline being observed at any time with no consequences of any kind.

YES   NO

I have been given a copy of the information letter.

YES   NO

Signature: _____

Name of Participant (Printed): _____

Date: _____

Appendix E
Interview 1 Questions

1. What is your gender?

2. And how old are you as of December 31, 2017?

3. What year of the University of Northern British Columbia Bachelor of Education degree program are you currently enrolled in?

4. Describe an event for me within your own education that impacted your choice to become a teacher.

5. What skills and attributes do you possess, or do you feel you possess, that you believe will enhance your future success as an educator?

6. How do you define Inquiry-Based Learning?

7. Prior to entering the UNBC BEd program, what experience did you have with Inquiry-Based Learning?

8. As a teacher-in-training, why do you think its important for you as a learner to be part of an inquiry-based program?

9. How would you define Inquiry-based Learning to a friend?

10. To date, during your teacher-in-training education coursework, what has been your best learning opportunity?

11. As a teacher-in-training, what additional teaching practices do you believe should be part of a Teacher Education Program?

12. Do you have anything else you would like me to know?

Appendix F
Interview Two Questions

You have just completed your second teaching practicum:

1. How did it go?

2. In your opinion, what is the role of pre-assessment of students for the purpose of using IBL in the classroom?

3. Do you feel comfortable implementing IBL strategies into the classroom?

4. What are you concerns about implementing IBL strategies in the classroom?

5. Give me an example of how you implemented IBL into your practicum.

6. To what extent did you feel prepared to carry out this project in your practicum?

7. Is there anything you would have done differently?

The following questions are about you or the program:

8. What matters most to you as a learner?

9. Why do you think its important for you as a learner to be part of an inquiry-based program?

10. What has been your most authentic learning experience within the program?

11. During the first interview, a general theme that emerged was that there is a disconnect within the program. In your opinion, what/where is this disconnect?

12. In your opinion, why is there a disconnect between program instructors' teaching practices?

13. To what extent do you believe it is your responsibility to learn/investigate teaching strategies that are not covered in the BEd program? Why?

14. How will you know you are a successful educator?

15. Is there anything else you would like to add? That you would like me to know about your experiences in the UNBC BEd program?

Appendix G
Research Ethics Board Approval

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

RESEARCH ETHICS BOARD

MEMORANDUM

To: Carol Fedyk
CC: Lantana Usman
             Wendy Klassen

From: Henry Harder, Chair
             Research Ethics Board

Date: September 19, 2017

Re: **E2017.0823.062.00**
             **Inquiry-Based Learning: Exploring elementary years teaching candidate
             experiences in the University of Northern British Columbia Bachelor of
             Education Degree Program**

Thank you for submitting revisions to the Research Ethics Board (REB) regarding the above-noted proposal. Your revisions have been approved.

We are pleased to issue approval for the above named study for a period of 12 months from the date of this letter. Continuation beyond that date will require further review and renewal of REB approval. Any changes or amendments to the protocol or consent form must be approved by the REB.

Good luck with your research.

Sincerely,

Dr. Henry Harder
Chair, Research Ethics Board

Appendix H
Interim Vice-President of Research and Graduate Programs Approval Email

Re: REB Application - Carol Fedyk

Geoff Payne

Tue 2017-09-12 1:59 PM

To:Carol Fedyk <cfedyk@unbc.ca>;

Hi Carol,
Thanks for the update and please accept this as Institutional approval to invite UNBC Education students as part of your research project. This does not replace any requirements as outlined by the REB.
Thanks and best of luck!
Geoff

Professor Geoffrey W. Payne
Interim Vice President Research & Graduate Programs
University of Northern BC | Phone (250) 960-6110
email: geoff.payne@unbc.ca

Executive Assistant: Meaghan Wyatt
Tel 250 960 5820
Email: meaghan.wyatt@unbc.ca

From: Carol Fedyk <cfedyk@unbc.ca>
Date: Tuesday, September 12, 2017 at 1:55 PM
To: Geoff Payne <Geoff.Payne@unbc.ca>
Subject: Re: REB Application - Carol Fedyk

Good afternoon Dr. Payne,
I have received feedback from the REB; they have requested I complete some minor revisions.
As part of my resubmission process, I would like authorization from you to invite UNBC Bachelor of Education, Year 2 Elementary Years Teacher Candidates to be part of my study.
I look forward to your response.
Thank you.

Carol Fedyk, BA
MEd Graduate Student

From: Geoff Payne
Sent: August 23, 2017 6:12 PM
To: Carol Fedyk
Cc: Dan Ryan; Mark Barnes
Subject: Re: REB Application - Carol Fedyk

https://exch.unbc.ca/owa/   9/13/2017

Appendix I
School of Education Chair Approval Email

Re: MEd Research Study Authorization

Andrew Kitchenham

Wed 2017-08-09 5:45 AM

To:Carol Fedyk <cfedyk@unbc.ca>;

Carol

Thank you for your request.

I will grant you access to our data and to our students. Specifically, I give you my authorization to invite teacher candidates in their final year of the Bachelor of Education, Elementary Years program to become participants in my study. You will also have access to the anonymized student questionnaire completed last year when the teacher candidates entered the program. You interview 4 EY TCs, observe them teaching during their in situ coursework at Heritage Elementary School, and have these same four TCs submit reflexive journals entries to you.

Best of luck with the research.

Dr. Andrew Kitchenham - School of Education Chair

> On Aug 8, 2017, at 9:44 PM, Carol Fedyk <cfedyk@unbc.ca> wrote:
>
> I respectfully request your authorization to invite teacher candidates in their final year of the Bachelor of Education, Elementary Years program to become participants in my study. I also would like access to the anonymized student questionnaire completed last year when the teacher candidates entered the program. I would like to interview 4 EY TCs, observe them teaching during their in situ coursework at Heritage Elementary School, and request that these same four TCs submit reflexive journals entries to me.

Appendix J
School District 57 Approval Email

Re: Research authorization - Heritage Elementary

Linda Picton <lpicton@sd57.bc.ca>

Tue 2017-08-22 1:45 PM

To:mmarquis-forster@sd57.bc.ca <mmarquis-forster@sd57.bc.ca>;

Cc:Carol Fedyk <cfedyk@unbc.ca>; Cindy Heitman <CHeitman@sd57.bc.ca>; Nevio Rossi <NRossi@sd57.bc.ca>;

"Marilyn Marquis-Forster" <mmarquis-forster@sd57.bc.ca> writes:
Hi Carol.

I am happy to authorize your research, providing that the Assistant Superintendent and the Principal are comfortable.

Best wishes for productive research.

Marilyn Marquis-Forster
Superintendent
School District No. 57 (Prince George)
mmarquis-forster@sd57.bc.ca
250-561-6800 ext. 302

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It would be our pleasure Carol. No problem!

Linda Picton
Principal
Heritage Elementary School
Tel: (250) 562-5384 Fax: (250) 562-8785
"Be the person your dog thinks you are"

https://owa.unbc.ca/owa/   8/23/2017