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Examining the Impact of Direct Experience on Preservice Teachers' Self-Efficacy for Teaching in Inclusive Classrooms: a Quantitative Study

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Examining the Impact of Direct Experience on Preservice Teachers’ Self-Efficacy for Teaching in Inclusive Classrooms: a Quantitative Study

by

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A THESIS
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Abstract

With increased implementation of inclusive education in schools, teacher educators have been challenged to redesign their programs to prepare preservice teachers for educating exceptional students within the general classroom. This study examined the impact of an inclusive education course and a field experience on preservice teachers’ self-efficacy for teaching in inclusive classrooms. A within-subjects repeated measures design was used to collect data from 141 preservice teachers at three points in time: before the course, after the course, and after the field experience. The results indicated that both the inclusion course and the field experience produced significant increases in preservice teachers’ self-efficacy. Preservice teachers with prior experience with people with exceptional needs had higher levels of self-efficacy throughout the study; however, both groups of preservice teachers, those with prior experience and those without, demonstrated significant gains in self-efficacy. A multiple regression analysis indicated that, during the field experience, as preservice teachers spent more time with individual instruction with students with exceptional needs, and less time with observation and whole class instruction, their self-efficacy was more likely to increase. Also, the results of the study determined that self-efficacy had a small, but significant, correlation to self-esteem at each point in which the two constructs were measured. However, as the self-efficacy scores increased throughout the study, the self-esteem scores remained relatively unchanged, indicating that the two constructs are theoretically different. The results of the study were discussed in light of current research in the area, and implications for practice and research were suggested.
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CHAPTER I

Introduction

Self-efficacy is the belief in one’s capabilities to carry out the necessary actions required to succeed in prospective situations (Bandura, 1977). This psychological construct influences an individual’s behavior in terms of motivation, choices, effort and persistence towards challenging experiences, such as teaching students with exceptional needs in inclusive classrooms. In today’s schools, inclusion is a worldwide political and philosophical movement recognizing all students, regardless of their diverse abilities and backgrounds, as part of the whole school community. In an inclusive model, students with exceptional needs are educated alongside their typically achieving peers in the general classroom as the first placement option to be considered. Inclusion has a tremendous impact on general classroom teachers as they are increasingly faced with the challenge of meeting a wide range of student needs through inclusive practices. More than ever before, classroom teachers are required to understand exceptional needs, manage a diverse classroom, implement differentiated instructional strategies, and make appropriate accommodations for individual needs. Not surprisingly, it has been found that the general classroom teacher has a profound impact on the success of inclusive education (Forlin, Loreman, Sharma, & Earle, 2009; Stanovich & Jordan, 2002). Therefore, in response to the inclusion movement, it is paramount that teacher training programs address developing self-efficacy for teaching students with exceptional needs as an essential aspect of the preparation of preservice teachers for the challenges of inclusion.
Statement of the Problem

From a theoretical perspective, the principle of inclusion is based on the assumption that the general classroom teacher not only ‘includes’ the student physically in the classroom setting, but also delivers effective, individualized instructional programs (Alberta Education, 2009; Westling, 2010; Winter, 2006). However, a problem noted in the research is that although there is a rapidly mounting interest in inclusion, and policies are vastly being implemented in school districts, teacher education is just beginning to address inclusion as part of general teacher training (Chambers & Forlin, 2010; Sharma, Loreman, & Forlin, 2012; Winter, 2006). In other words, teacher training programs have been lagging behind in their response to the inclusion changes in their neighborhood schools, and in many cases often take an “ad hoc and invariably an add-on approach” (p. 4, Forlin & Lian, 2008). While it is evident that most post-secondary institutions in regions that support inclusion, offer at least one mandatory course related to inclusion as part of their general teacher training, these courses have been criticized for their overemphasis of theoretical knowledge over practical skills and strategies (Lancaster & Bain, 2010). Consequently, research indicates that beginning general classroom teachers report widespread concern about their preparedness for effectively teaching students with exceptionalities (Avramidis & Norwich, 2002; Baglieri & Knopf, 2004; Scruggs & Mastropieri, 1996).

Based on previous research (Romi & Leyser, 2006), one promising way of preparing preservice teachers for inclusion is through direct experience with students with exceptional needs. Therefore, this study proposed to investigate the impact of an inclusion course and a field experience, designed for working with diverse learners, on
preservice teachers’ self-efficacy to implement inclusive practices.

Definitions of Terms

Since terms are used in various ways in the research literature, clarifying terms provides a reference for readers and removes ambiguity. An operational definition is provided for the key terms used throughout the research investigation.

Direct Experience - Direct experience refers to experience gained through active, immediate engagement with the individual or phenomenon to be studied.

Disability – The term ‘disability’ is used from the standpoint of the Supreme Court of Canada having established that a disability is the result of a physical or perceived limitation, with the focus on the effects of exclusion and other differential treatment, rather than the limitation itself (Alberta Education, 2009).

Exceptionality - A student with an exceptionality requires some type of special education programming due to difficulties of an intellectual, developmental, behavioral, psychiatric or physical nature, or due to exceptional gifts or talents (Smith, Polloway, Patton, Dowdy, & McIntyre, 2012).

Field Experience – Also termed student teaching, field experience is defined as the placement of preservice teachers in a cooperating school classroom as a component of their teacher training leading to certification. In this setting, preservice teachers have the opportunity to teach independently under the supervision of a university facilitator and a mentor teacher.

General Classroom/Teacher – The general classroom is described as a typical class of
similar aged peers learning together in the same physical environment. A general education teacher, instead of a special education teacher, teaches these classes.

**Inclusion** - The Council for Exceptional Children (2010) defined inclusion as: “a term used to describe the ideology that each child, to the maximum extent appropriate, should be educated in the school and classroom he or she would otherwise attend. It involves bringing support services to the child rather than moving the child to the services”.

**Inclusive Classroom** – An inclusive classroom is a general education classroom, with a general classroom teacher, where students with disabilities and any other exceptionality are included and actively involved in the learning environment. This includes providing appropriate degrees of support and adaptations to promote access to the general curriculum.

**Preservice Teacher** – A student enrolled and participating in an undergraduate teacher training program.

**Self-efficacy** – Self-efficacy refers to an individual’s perception of their own abilities for performing a specific task. Perceived self-efficacy is positively correlated to the individual’s effort, motivation and persistence they will put forth towards the task.

**Self-Esteem** – Self-esteem is defined as a person’s overall appraisal of his or her self worth.

**Theoretical Framework**

A theoretical framework enhances the significance of a study and is used for guiding the methodology and discussion (Anfara & Mertz, 2006; McMillan, 2008). For this study, Albert Bandura’s (1977) theory of self-efficacy is the guiding framework.
Bandura constructed an integrative theory to explain and predict psychological changes in behavior towards specific tasks or situations. His theory postulates that the strength of an individual’s self-efficacy determines “how much effort will be expended, and how long it will be sustained in the face of obstacles and aversive experiences” (Bandura, 1977, p. 191). Simply stated, individuals with a high sense of self-efficacy for a given task will be more motivated to complete the task, while individuals with a low sense of self-efficacy will not exert the same effort, or will avoid the task altogether.

According to Bandura’s (1977) theory, self-efficacy is derived from four principal sources of information: a) physiological state, b) verbal persuasion, c) vicarious experience, and d) mastery experience. Physiological state refers to physical reactions to stressful situations such as fear, nausea and agitation. A high level of physical stress resulting from the idea or actual experience of a task has a negative impact on a person’s self-efficacy, whereas, lower levels of stress-related emotions increase self-efficacy.

Verbal persuasion suggests that a person can be persuaded, through the feedback of others, to believe that they have the skills and capabilities to succeed. For example, positive persuasion, where verbal feedback from another person indicates that the recipient is capable of mastering a task or situation, will increase that recipient’s perceived self-efficacy. Whereas, negative feedback related to a task will decrease the recipient’s perceived self-efficacy at accomplishing that task.

Vicarious experience, or social modeling, refers to witnessing other people complete a specific task or action. With vicarious experience, observing a model perform activities with success increases self-efficacy of the observer, while observing hazardous performances lowers the observer’s self-efficacy for the same task.
Finally, mastery experience, which is considered the most powerful and influential source of information for self-efficacy, refers to a person’s actual performance or direct experience with a specific task. Bandura’s (1977) theory asserts that experiencing perceived success during a mastery experience raises the level of self-efficacy of the individual, while failure lowers it.

For the clarity of this study, it is important to differentiate self-efficacy from other psychological constructs such as self-concept, self-confidence and self-esteem. Self-concept reflects one’s judgment of their self-worth (Bong & Skaalvik, 2004). To clarify, Parajes and Schunk (2001) described questions about self-efficacy as ones that ask “Can I?”, whereas, self-concept beliefs reflect questions of ‘being’ and ‘feeling’ as in the question, “Who am I?” In addition, Bandura (1997) argued that confidence differs from self-efficacy since confidence does not specify the nature of the certainty. Confidence is a nonspecific term that indicates the strength of a belief, but does not specify what the certainty is about. In other words, a preservice teacher may be confident that they will not succeed at teaching in inclusive settings which differs from self-efficacy which is focused on one’s agentive capabilities. Therefore, self-efficacy includes an affirmation of capability along with the strength of that belief.

Finally, while self-esteem relates to a person’s sense of self-worth, self-efficacy is a person’s perception of their capabilities in achieving a specific goal (Bandura, 1977). For example, a preservice teacher may have high self-esteem, but low self-efficacy for teaching students with exceptionalities in inclusive classrooms. Conversely, a preservice teacher may be skilled and talented at implementing inclusive practices in the classroom, but still have low esteem of their personal self-worth.
Purpose of the Study

The primary purpose of this study was to determine if direct experience with students with exceptional needs had an effect on preservice teachers’ self-efficacy for teaching in inclusive classrooms. This was examined through an investigation of a mandatory inclusion course and a related field experience. The study also aimed to determine if there was a correlation between preservice teacher self-efficacy and self-esteem. The following research questions were derived from the purpose of the study. The first two questions have two related parts, and are therefore grouped together.

1a. What is the effect of an inclusion course and a field experience on preservice teachers’ self-efficacy for teaching in inclusive classrooms?

1b. Is there a difference in self-efficacy gains between the coursework and the field experience?

2a. Do preservice teachers with prior experience with individuals with exceptional needs have higher levels of self-efficacy compared to preservice teachers without prior experience?

2b. Which group demonstrates greater gains in self-efficacy?

3. What type of experience, if any, during the field experience (observation, whole class instruction, small group instruction, individual instruction) is the strongest predictor of self-efficacy gains of preservice teachers?
4. What is the relationship between preservice teachers’ self-efficacy and self-esteem?

Significance of the Study

With social justice at the forefront of educational agendas internationally, the inclusion of students with special needs in the general classroom is an unquestionable reality in today’s schools (McHatton & McCray, 2007; Yell, Katsiyannis, & Ryan, 2008). In response to the inclusion movement, in Alberta, standards for teacher qualifications were recently amended to include the requirement that teacher training must address teaching for diversity within an inclusive system (Alberta Education, 2009). These two current trends, inclusion and teacher education for inclusion, provide the foundation for the significance of the study.

This study will examine the effect of a 10 week inclusive education course and a 3 week field experience, designed to work with diverse learners, that follows immediately after the coursework. This is considered an innovative approach to teacher education for inclusion; therefore, investigating the impact of this course and the subsequent field experience on preservice teachers’ self-efficacy makes it a timely, original and worthwhile study. The results of this study will add to the growing research on this topic and may have implications for teacher education programs. As Boling (2007) argued, any research aimed at understanding the most effective approaches to inclusion training will allow teacher educators to create opportunities for teacher candidates to acquire the knowledge and skills they need to prepare for teaching in diverse classrooms.
CHAPTER II

Literature Review

This chapter presents a review of the current literature related to the main variables of the study: inclusion, self-efficacy, direct experience, and teacher education. The review begins with an examination of the evolution of inclusion policies and teacher education for inclusion in Alberta. This is followed by a review of the literature on preservice teachers’ beliefs about inclusion and perceptions of preparedness for teaching in inclusive classrooms. Next, the theory of self-efficacy is explained as well as its relation to inclusive teaching and teacher education. This is followed by a review of the role of direct experience in education, and the research on the effects of direct experience with people with exceptional needs on preservice teachers’ beliefs about exceptionalities and inclusion. Finally, several innovative approaches to teacher education for inclusion are reviewed, including approaches that incorporate direct experience. To conclude this section, the key points emerging from the literature review are summarized.

The Evolution of Inclusion in Alberta

Inclusion policies

Historically, schooling was dichotomized into special education, where students with special needs were taught by special education teachers in separate schools, classes or pull out programs, and general education, where classroom teachers were responsible for teaching the remainder of the students who were not identified as having special needs. In fact, as recently as the 1960s, many individuals with special needs were segregated into residential institutions. Dunn’s (1968) widely cited and groundbreaking
research has been identified as one of the first challenges to the inappropriateness of special schools and classes for students with mild mental retardation. Dunn expressed disappointment in the proliferation of self-contained classrooms and argued to do away with labels and segregation for mildly handicapped children. He took the stance that a large portion of special education was “obsolete and unjustifiable” (Dunn, 1968, p. 6).

Soon after, government policies began to recognize the human rights of individuals with disabilities. In the United States, the Education for All Handicapped Children Act of 1975 required each state to educate children with disabilities within their community schools. Canadian legislation was somewhat slower to move towards inclusion; however, by 1982 the Canadian Charter of Rights and Freedoms guaranteed the rights of all individuals with disabilities, outlining the right to be included and to benefit from an education without discrimination. An inclusive school environment follows the commitment to equitable treatment guaranteed by the Charter (Hutchinson, 2010), and enhances access and participation for students with exceptional needs within general education classrooms. Each province and territory in Canada has its own Education Act abiding by the Charter. Dunn’s (1968) proposal, along with the concurrent influences of worldwide civil rights movements, had an enormous impact on the momentum of the inclusion movement (Forlin, 2010). Today, there is little doubt that inclusive education “has become the catch-phrase of the 21st century” (Forlin, 2010, p. 5) and those who chose to teach, chose to teach in an inclusive setting.

In Alberta, the last three decades have been marked with an increase in the diagnosis and identification of students with special needs (Graham & Jahnukainen, 2011). For example, in the 1980’s the percentage of special education students was
approximately 5% of the total student population, and today that statistic has increased to approximately 13% (Alberta Education, 2012). This year, 2011/2012, 77,000 students from kindergarten to grade 12 received a special education code out of a total of 600,000 students in Alberta schools. The coding system designates codes to students based on type and severity of exceptionality and funding is then allocated to schools. Of these 77,000 students identified as having exceptional needs, most have received their programming in the general education classroom (Alberta Education, 2012). Whereas, in 2001, only 60% of identified students were included in the general classroom in Alberta schools (Statistics Canada, 2006). In an international comparison of inclusion trends in Finland and Alberta, it was found that Alberta clearly had a stronger commitment and a need to “tear down the former system considered as segregative” (Jahnukainen, 2011, p. 499) as opposed to a more gradual progress as demonstrated in other countries.

Coinciding with the accelerated inclusion trend, the Alberta government has also demanded more accountability, and to improve special education programming within the general education classroom, classroom teachers are required to complete individual education plans (IEP) for students with special needs (Lupart, 2001). The IEP is a document that records long and short term goals, program accommodations, special services and progress for an individual student. Although special education services and specialists are available to classroom teachers, it is the teacher’s responsibility to provide, monitor and report special programming for students with exceptional needs in their classroom (Alberta Education, 2004). Thus, as a result of the diminishing distinction between special education and general education, the zone of responsibility for Alberta teachers has increased.
Although the inclusion trend is evident in Alberta, over the last three decades there have been province-wide inconsistencies in meeting the educational needs of students with exceptionalities in terms of coding, placement, assessment, support and services (Alberta Education, 2009). In response to this, and in striving to move towards a more consistent inclusive education model, the recent ministerial initiative, *Setting the Direction* (Alberta Education, 2009), is a major redesign outlining strategic directions aimed at achieving “one inclusive education system where each student is successful” (p. 2). In this fully inclusive model, students with special needs are educated with their non-disabled peers in the general classroom as the first placement option to be considered.

This systemic change requires a major shift in philosophy and a reform of the educational structure of Alberta schools. For example, a fully inclusive education system means a shift from a dual system of mainstream education and special education to a system committed to including all students within their community classrooms (Alberta Education, 2009). Also, there requires a shift away from the deficit/medical model of special education to the strengths-based model emphasizing what a student can do, rather than their diagnosis or limitations. Another major shift is the focus from changing the student to changing the student’s environment in terms of adaptations and modifications to remove barriers and ensure success. The *Setting the Direction* initiative, which was recently renamed *Action on Inclusion*, identified these shifts as “nothing short of a complete cultural transformation” (Alberta Teachers’ Association, 2011, p. 2). In response to this transformation, post secondary institutions have recognized their role in preparing preservice teachers for inclusion (Lancaster & Bain, 2010; Romi & Leyser, 2006; Winter, 2006).
**Teacher education**

With shifts in the philosophy and structure of educating students, a homogeneous approach to teaching is no longer sustainable (Forlin, 2010). Therefore, in today’s classrooms, general classroom teachers require a different knowledge base and a unique skill set, calling for a systematic change to teacher preparation (Forlin, 2010; Geo & Mager, 2011; Kim, 2011; Van Laarhoven, Munk, Lynch, Bosma, & Rouse, 2007). In the past, training for preservice teachers was segregated into special education and general education training. This served schools well as they also adhered to this dual delivery model. Over the last decade, although there may still be a lack of a common vision for inclusive education training (Harvey, Yssel, Bauserman, & Merbler, 2010; Smith & Edelen-Smith, 2002), there have been progressive strides in the training of preservice teachers for inclusion.

Currently, it is evident that in jurisdictions that support inclusive schools, some form of inclusion training is included in the local post secondary institutions. A common approach is the addition of a single-unit inclusion course to the general teacher training program. Another approach is termed ‘permeation’ or ‘infused’, where inclusion instruction is incorporated into certain courses or into all units of study as opposed to a separate course on inclusion. Through the infused approach, preservice teachers gain awareness of inclusive practices during each of the other curricular courses (Brown, Welsh, Haegele Hill, & Cipko, 2008). Regardless of the curricular approach teacher educators have designed, there is little doubt that the inclusion movement has significantly transformed the way institutions prepare all teachers to deal with students who were once placed in segregated, special education classes.
One aspect of *Setting the Direction* (Alberta Education, 2009) indicated that building capacity for teachers is essential and this will include a re-examination of post-secondary education programs. The initiative proposed to “work with universities to revise their pre-service training programs to incorporate inclusive education pedagogy (p. 9).” The Alberta government’s response to this proposal was an agreement to address appropriate instruction and training for undergraduate students enrolled in Bachelor of Education programs (Alberta Education, 2010). However, this strategic direction was not addressed in the overview of the implementation plan, or in the summary of the progress of short term priorities (Alberta Education, 2010). Nonetheless, the *Setting the Direction/Action on Inclusion* initiative has laid the groundwork for a coherent inclusive education model in Alberta, and for reviewing changes to the current teacher training programs.

**Preservice Teachers’ Beliefs about Inclusion**

One major implication of inclusion, and the central research problem of this study, is that many teachers feel unprepared for working with students with exceptional needs (Avramidis & Norwich, 2002; Westling, 2010). An interesting finding in the literature in this area is that, in general, preservice teachers hold positive attitudes toward inclusion; however, even despite various forms of inclusion training, they often feel unprepared and ill-equipped to carry out inclusive practices. In light of this, a review of the literature related to preservice teachers’ attitudes toward inclusion will preface the literature on perceptions of preparedness.
Preservice teachers’ attitudes toward inclusion

There is evidence that inclusion training has a positive impact on preservice teachers’ attitudes toward inclusion. Sze (2009) conducted a recent international review of the research in this area and determined that teacher education for inclusion brought an awareness of disabilities, which formed positive attitudes in preservice teachers toward inclusion. Although this review only contained 17 studies, other research supports the findings. For example, Sharma, Forlin and Loreman (2008) conducted a broad international study with 603 participants from five post-secondary institutions located in Canada, Hong Kong, Australia and Singapore. The study’s purpose was to examine and compare the effect of single-unit courses and infused inclusion training on preservice teachers’ attitudes toward implementing inclusive practices. The results found that both infusion and single-unit courses were effective as approaches to teacher education for espousing positive changes in attitudes. More specifically, preservice teachers who had direct contact with people with disabilities in situations that were designed to enhance an understanding of different exceptionalities, were more likely to feel positive about inclusion. Kim’s (2011) study of 110 preservice teachers from ten teacher preparation programs in New York State showed that both single-unit courses and the infused approach resulted in an increase in positive attitudes, however the infused approach demonstrated a greater statistical gain. Another study, with a sample of 220 preservice teachers in Australia, aimed to discover the effect of an inclusion course, which incorporated interactions with students with disabilities through a buddy system in a local school, on preservice teachers’ attitudes (Carroll, Forlin, & Jobling, 2003). The study demonstrated significant growth in positive attitudes, specifically in the areas of
discomfort, fear, coping, uncertainty and vulnerability. Another Australian study examined the effects of combining formal instruction with fieldwork on 274 preservice teachers’ attitudes toward inclusion (Campbell, Gilmore, & Cuskelley, 2003). The approach included a single-unit inclusion course which combined fieldwork where preservice teachers where asked to interview community members regarding their knowledge of Down Syndrome. Results indicated that the increased awareness of one type of disability, positively affected preservice teachers’ attitudes toward inclusion and disability in general.

Other studies specifically examined the effect of field experiences as a component of teacher education in developing positive attitudes toward inclusion. Reber’s (1995) study investigated the effect of a specifically designed field experience as part of a teacher education program in Western Pennsylvania. The field experience provided preservice teachers with an opportunity to work as part of an instructional support team to teach individual students and small groups of students with exceptional needs. The results indicated that participants who completed the field experience (N=23) had significantly more positive attitudes toward inclusion than participants who completed an inclusion course (N=59) and participants who completed a self-study module (N=100). Although this study was not recent, the results were still relevant and comparative to recent literature. For example, Lambe’s (2007) study, conducted with 125 participants in Northern Ireland, examined the changes in preservice teachers’ attitudes after completing a post-graduate diploma in education in conjunction with a field experience. The one-year diploma program included a field experience where preservice teachers had the opportunity to teach students with diverse needs. The results indicated that the program
had a positive effect on preservice teachers’ attitudes for teaching in inclusive settings and that the positive attitudes significantly increased after the field experience component. An American study conducted by Boling (2007) provided an in depth description of one preservice teacher’s change in attitudes toward inclusion as she participated in a 15 week literacy course combined with a field experience. At the onset of the study, the participant expressed feelings of confusion, concern, nervousness, and generally struggled with the idea of inclusion. A key turning point for her positive change in attitude was her field experience component, which allowed her to interact with students with various disabilities.

Some studies determined the correlations between various factors and preservice teachers’ attitudes toward inclusion. For example, in Sharma, Forlin and Loreman’s (2008) international study, the researchers determined that preservice teachers were more likely to have positive attitudes toward the inclusion of students with milder disabilities and students at lower grade levels. Sze’s (2009) international literature review added to this by determining that preservice teachers with less positive attitudes were especially concerned with including students with severe disabilities in the general education classroom. A study conducted by Romi and Leyser (2006) with 1155 Israeli preservice teachers found that their participants expressed strong support for inclusion, however the main factor that affected less positive attitudes was including students with behavior and social/emotional problems. The findings also suggested that less positive attitudes were associated with feelings of a lack of instructional skills for implementing inclusive practices.

To summarize the findings, it can be concluded that inclusion training brings
about positive attitudes in general, but less significant for including students with severe disabilities and behavior disorders. Also, it can be substantiated that direct experience with people with exceptional needs has a significant effect on positive attitude development of preservice teachers.

**Preservice teachers’ perceptions of preparedness**

While positive attitudes may be able to transcend philosophical barriers to inclusion, they may not always translate into feeling prepared for the reality of inclusive teaching. To illustrate, one of the most cited research studies in the area of preservice teachers’ attitudes and preparedness for inclusion, is a meta-analysis conducted just over a decade ago by Scruggs and Mastropieri (1996). This landmark study, which compiled international research from 1958 to 1995, found that, overwhelmingly, teachers endorse the concept of inclusive education and maintain positive attitudes toward teaching students with special needs. However, the compelling finding was that only one third of the teachers felt adequately prepared for successful inclusive teaching. In a more recent international meta-analysis, Avramidis and Norwich (2002) reviewed a large body of research and made several conclusions. One conclusion reported that although most teachers held positive attitudes toward inclusion, negative attitudes and feelings of unpreparedness were associated with factors such as including students with severe learning difficulties and behavioral/emotional disorders, as well as a lack of resources, support and teacher training. The researchers concluded that preservice training should be a top priority for policy makers in order to prepare future teachers with the skills required to implement inclusive practices. These finding are supported by other studies
where preservice teachers expressed strong support for the philosophy of inclusion, while also expressing concerns about their preparedness for teaching students with disabilities.

For example, Hodkinson (2005) conducted a qualitative study in England with 80 preservice teachers about to enter their first year of teaching practice. The results suggested that through inclusion training during their teacher preparation program, the participants had a good understanding of the theories associated with inclusive education, however their understanding of the practical delivery was limited. Another study of 120 preservice teachers in the UK had very similar findings (Richards & Clough, 2004). Qualitative questions revealed that inclusion training provided the participants with a solid foundation of theory, but they appeared to have few ideas of how to make inclusion work in the classroom. Specifically, many expressed fears about their ability to work inclusively with difficult students. Jobling and Moni’s (2004) Australian study included interviews with 13 participants who all revealed that they lacked experience, knowledge and understanding related to teaching students with special needs. The participants felt that more experience and time to put their knowledge and skills into practice would improve preservice training for inclusion. In addition, Moore-Hayes’ (2008) study with 350 randomly selected preservice and beginning teachers in Nova Scotia reported that participants cited the need for more preparation and experience in order to feel prepared for working with students with disabilities. Further to this, Avramidis, Bayliss, and Burden (2000) noted in their study of 135 preservice teachers in the UK that participants lacked the confidence in their practical ability to effectively meet diverse student needs, while expressing specific concerns about their preparedness for teaching students with severe behavioral problems. The results of the surveys raised issues about the breadth
and quality of teacher preparation for inclusion. A similar finding was presented in Westling’s (2010) study of 70 American teachers, where teachers felt they had acquired a lot of knowledge in their training, but still did not feel prepared or confident in addressing challenging behaviors in the classroom. In a recent study in Mexico, Forlin, Cedillo, Romero-Contreras, Fletcher and Hernandez (2010) investigated the perceptions of 286 preservice teachers to determine if teacher training for inclusion was achieving the aim of exiting new graduate teachers with the knowledge and skills for catering to the diverse needs of students. The study found that most preservice teachers were generally convinced about the benefits of inclusion, nevertheless, they continue to demand more experience, training and support to improve their preparedness for teaching students with exceptional needs. Additionally, in a recent study, conducted by Forlin and Chambers (2011) with 67 preservice teachers in Washington, the researchers discovered that a unit of study in inclusive education combined with applied experiences with a person with disabilities, increased preservice teachers’ knowledge and their confidence, however it also increased their levels of stress in teaching students with disabilities. In a Canadian seminar on teacher preparation for inclusion (Roeher Institute, 2003), it was reported that in Albertan post-secondary institutions preservice teachers were not getting adequate exposure to students with special needs, field experiences were not preparing students well for inclusion, and there was a “growing resistance” as teacher candidates felt “abandoned” (p. 5). A current study (Berman, Schultz, & Weber, 2012) in the context of gifted education revealed that most of the participants (N=55) did not understand the nature or needs of gifted learners, were unsure about how to prepare lessons for them, and were not even sure if training for gifted students was necessary since they were
already ‘gifted’.

These findings should flag serious concerns for teacher educators. It provides evidence of the divide between attitudes and preparedness, and also the gap between theory and practice. In other words, many teachers value the philosophical idea of inclusion, however, they do not feel prepared or capable of carrying out the necessary inclusive practices, making the reality of inclusion a difficult task. Although positive attitudes can create the right climate for inclusion, Burton and Pace (2009) suggested that having positive attitudes can not compensate for insufficient preparation. These studies also provide support for Lancaster and Bain’s (2010) position that inclusion training overemphasizes theoretical knowledge without a connection to practice. A sense of preparation for inclusion is not contingent on merely attitudes or theoretical knowledge, but preservice teachers must also feel they have the strategies and the capability to execute the necessary practices (Stanovich & Jordan, 2002). It has been suggested that self-efficacy beliefs can be used as an overall indicator of teachers’ preparedness for the classroom (Albion, 1999; Sharma, Loreman, & Forlin, 2012). A closer examination of the theory of self-efficacy and its relationship to teachers’ behavior will explicate this position.

Self-Efficacy Theory

Alberta Bandura (1977, 1986, 1997), a Canadian psychologist, gave prominence to the construct of self-efficacy in his social learning theory. He defined self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3). The theory postulates that these
beliefs and perceptions of capability are the key factors in human agency. Essentially, humans have control over what they do and if people believe they are capable, they will try to generate the courses of action to achieve certain tasks. This intentional behavior is equated to the motivation and persistence put forth toward tasks, even those deemed challenging. When an individual believes in their ability to succeed in a particular situation, they are motivated to endure the required steps to manage the situation. In other words, self-efficacy beliefs are determinants in how people think, behave and feel (Bandura 1997), and they play a major role in how goals, tasks and challenges are approached.

Therefore, self-efficacy beliefs are predictors of performance (Bandura, 1977). People with a high sense of self-efficacy will view a challenging, or even ambiguous or unpredictable, situation or task as one to be mastered. Even during failure and setbacks, a high sense of self-efficacy will motivate individuals to carry on. Whereas, people with a low sense of self-efficacy for a certain task will be ineffective during that task, or may avoid it altogether. In the case of setbacks, people with a low sense of self-efficacy will not exhibit the same persistent behavior as people with high self-efficacy.

**Self-efficacy and self-esteem**

In further defining self-efficacy, Bandura (1997) differentiates this construct from other self-evaluation constructs, such as self-esteem. Bandura claimed that many people believe that self-efficacy and self-esteem are related as if they represent the same phenomenon. However, according to Bandura, they are entirely different constructs, and there is “no fixed relationship between beliefs about one’s capabilities and whether one
likes or dislikes oneself” (p. 11). Where self-efficacy is concerned with personal judgment of capability for a specific task, self-esteem is concerned with personal judgments of self-worth. Campbell (1984) offered a definition of self-esteem as a stable, universal trait and the awareness of good possessed by the self. Consequently, one can have high self-efficacy for a task, but a low sense of self-esteem and vice versa. For example, one may have low self-efficacy for a task such as singing, however this is unlikely to result in low self-esteem if competence in singing is not important to the individual. Therefore, according to Bandura, self-efficacy beliefs are not fixed to self-esteem beliefs and self-esteem beliefs do not actualize into self-efficacy beliefs. In fact, Bandura (1997) insisted that people require much more than high self-esteem to do well in given pursuits. Empirical studies investigating self-efficacy and self-esteem have shown mixed results.

Chen, Gully and Eden (2004) conducted a study investigating the relationship of motivational and affective variables to self-efficacy and self-esteem. The researchers found that since self-efficacy is more highly related to motivational variables than is self-esteem, and self-esteem is more highly related to affective variables than is self-efficacy, this then confirms a theoretical distinction between self-efficacy and self-esteem. In terms of correlation, one study of 286 teachers sought to examine the relationship between self-esteem and teachers’ self-efficacy for integrating technology into educational practice (Paraskeva, Bouta, & Aik, 2008). The results indicted that there was not a significant correlation between self-esteem and teacher self-efficacy.

Other studies did in fact show a relationship between self-efficacy and self-esteem. Lane, Jones and Stevens (2002) conducted a study with 91 junior tennis players
and aimed to investigate the effect of self-esteem beliefs on changes in self-efficacy beliefs following a defeat in a tennis tiebreak competition. At the onset of the study, participants completed the Rosenberg Self-Esteem scale and a self-efficacy scale designed to assess confidence to achieve success in tennis tiebreak competitions. The self-efficacy measure was administered again after the competition for the participants who were defeated (N=59). The results of the study indicated that self-efficacy reduced significantly more in participants with low self-esteem compared to participants with high self-esteem. In addition, other studies with large samples of 218 teachers (Huang, Liu, & Siomi, 2007) and 255 college students (Afari, Ward, & Khine, 2012) reported a significant correlation between self-efficacy and self-esteem. To summarize, although there may be a theoretical distinction between self-efficacy and self-esteem, the evidence of a relationship between the two variables is mixed.

**Sources of self-efficacy**

As described earlier, according to Bandura (1977), self-efficacy beliefs are derived from four principal sources of information: a) physiological state, b) verbal persuasion, c) vicarious experience, and d) mastery experience. For the interest of this research study, vicarious experience and mastery experience are important factors to understand and explore further. Vicarious experience refers to appraisals of self-efficacy influenced through modeling. In other words, people judge their capabilities for a certain task in relation to how others perform the task. A simple example is a student who is able to form self-efficacy beliefs about their score on an examination after knowing how others have performed. Another situation of vicarious experience may be a preservice
teacher observing their mentor teacher carry out inclusive practices in the classroom. When people observe how others fare in similar pursuits, this provides a social standard against which to appraise their own self-efficacy. In general, observing a model succeed will promote self-efficacy in the observer, while observing a model fail will deflate self-efficacy in the observer. However, according to Bandura (1997), in some instances, seeing a person fail by the use of deficient strategies may actually boost the self-efficacy of the observer if they believe they have better strategies for the situation. For example, a student teacher, through vicarious experience, may develop self-efficacy by watching a mentor teacher fail through the use of ineffective strategies in an inclusive classroom when the student teacher is aware of more effective alternatives.

As opposed to vicarious experience, a mastery experience involves a person’s direct experience with a certain task. Through direct experience, people develop self-efficacy beliefs based on their judgment of success or failure during the execution of the task. Success builds self-efficacy while failure undermines it. A robust belief in one’s self-efficacy is established through repeated successes with mastery experience and in these cases, the individual will be resilient and persistent in the face of obstacles. Bandura (1997) described the development of self-efficacy through mastery experiences as being cyclical in nature. The proficiency of a performance creates a new mastery experience which acts as a source of self-efficacy, confirming or refuting existing self-efficacy beliefs. Over time, the cyclical process stabilizes and an enduring set of efficacy beliefs are established which tend to be resistant to change. To support this idea of durability, Palmer’s (2006) study with 121 Australian preservice teachers investigated self-efficacy for teaching science. The researchers reported, through both quantitative
and qualitative data, that the mastery experiences during the practicum helped sustain self-efficacy for at least one year after the initial self-efficacy measurement.

Mastery experience is considered the most influential source of self-efficacy information since, unlike vicarious experience, it provides authentic evidence of whether one has what it takes to succeed in a given situation (Bandura, 1997). This claim is confirmed through other empirical studies related to teacher self-efficacy. For example, Atay (2007) conducted a mixed methods study of 78 preservice teachers in Turkey to determine the effect that mastery experience, through a student teaching practicum, had on their self-efficacy. The results showed that teacher self-efficacy improved significantly in some cases and decreased significantly in others. Findings from the focus group discussion reported that preservice teachers assessed their capabilities for teaching during their actual teaching, and made them aware of their strengths and weaknesses. The researchers concluded that this provided evidence that mastery experiences have a strong influence on self-efficacy beliefs. In addition, Tschannen-Moran and Hoy’s (2007) study of 255 beginning and experienced teachers confirmed that mastery experience was the most potent source of teacher self-efficacy compared to other factors such as teaching resources and interpersonal support. In another study, different sources of self-efficacy beliefs during teacher professional development were investigated to determine which had the strongest relationship to high self-efficacy (Tschannen-Moran & McMaster, 2009). It was found that mastery experiences, where teachers practiced new strategies within their own classrooms, demonstrated higher gains in self-efficacy compared to other professional development formats which emphasized verbal persuasion and vicarious experience. Not surprisingly, experiencing something first hand
through mastery experiences is shown in the literature to contribute to self-efficacy beliefs more than other factors.

**Teacher self-efficacy**

Self-efficacy and the power it holds in influencing individual behavior is of particular interest to some educational researchers. In the realm of education, self-efficacy theory has sparked a growing body of empirical research into how teachers’ self-efficacy beliefs relate to actions and success in the classroom. Current research, by Tschannen-Moran and Hoy (2007), who are considered prominent researchers in this area, summarized that “compelling evidence” (p.944) has accumulated over the past few decades revealing the positive relation between teachers’ self-efficacy, their success in the classroom, and the achievement levels of students. In essence, teacher self-efficacy strongly influences and activates teacher behavior and the critical decisions they make (Albion, 1999; Atay, 2007). Overall, teachers with a high sense of self-efficacy are more enthusiastic, exhibit greater levels of organization and planning (Allinder, 1994), put forth more effort into preparation and delivery of instruction (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998), and their students attain higher levels of achievement (Shahid & Thompson, 2001) than teachers with low self-efficacy. In fact, it has been suggested that when teachers slightly overestimate their actual ability, by displaying high levels of self-efficacy, their motivation and persistence during challenging setbacks will assist them in making the most of their knowledge and skills (Tschannen-Moran & Hoy, 2007). In terms of student achievement, Bandura (1997) postulated that teachers with a high sense of efficacy tend to view students, even those with exceptional needs, as
“reachable and teachable” (p. 242), and in effect their students learn much more from these teachers than those teachers riddled with self-doubt.

**Self-efficacy for inclusive practice**

Since the correlation between teacher self-efficacy, effective practice and student achievement has been firmly established, researchers in the field of teacher education for inclusion are beginning to look at self-efficacy as a benchmark for measuring teachers’ willingness and persistence for orchestrating inclusive practices. When self-efficacy theory is applied to inclusive teaching, a teacher with a high sense of efficacy for implementing inclusive practices believes they can effectively include students with exceptional needs in their general classroom and is motivated to persevere through challenges. Alternatively, a teacher with a poor sense of efficacy feels there is little they can do to include a student with exceptional needs in their classroom, and thus may be unwilling to put forth the effort (Sharma, Loreman, & Forlin, 2012).

Although the number of studies related to self-efficacy for inclusive education is limited, it has been found that teacher self-efficacy is explicitly linked to the successful implementation of inclusive practices. Early research by Gibson and Dembo (1984) determined that teachers with a high sense of teacher efficacy believe that even difficult students are teachable through extra effort and appropriate strategies. These teachers devoted more time to academic activities, and offered more praise and guidance for struggling students. Whereas, teachers with a low sense of teacher efficacy believed there was little they could do for difficult students and subsequently, these teachers spent more time on unacademic tasks, gave up readily on struggling students and criticized
students for their failures. Further to this, research shows that teachers with high levels of self-efficacy have more positive attitudes toward inclusion (Malinen, Savolainen, & Xu, 2011; Savolainen, Engelbrecht, Nel, & Malinen, 2011) experience less burnout (Chan, 2008), are less inclined to refer a difficult student to special education (Soodak & Podell, 1993), are more willing to provide special assistance to low achieving students (Ross, 1996), and are better able to manage students with special needs included in their classrooms (Brownell & Pajares, 1999). To add to this list of teacher attributes, a study of 110 American preservice teachers found that those participants holding high levels of self-efficacy were more willing to use diverse approaches to teaching, and were more motivated to provide adaptations and modifications for students with special needs (Kim, 2006). The cumulated results of these research studies are indeed compelling and have somewhat obvious implications for teacher education.

**Self-efficacy and teacher education**

Given that self-efficacy is related to teacher practice and student achievement, teacher educators should consider the best ways to develop preservice teachers’ self-efficacy during teacher training. Albion (1999) wrote a position paper suggesting that since self-efficacy beliefs are the most central mechanism of personal agency, then self-efficacy theory should be used to offer insights into curriculum and pedagogy for teacher education. For example, creating mastery experience opportunities during teacher training is a powerful instructional design. The author also noted that self-efficacy beliefs could be used as an indicator of teacher preparedness and for measuring the success of teacher education programs. Another theoretical paper by Moeller and Ishii-
Jordan (1996) presented self-efficacy as a model for teacher development for inclusion. Their paper was written in response to the fact that teacher candidates were not prepared for teaching in diverse classrooms, and that a paradigm shift in teacher education was necessary. Building on the evidence that teacher self-efficacy is related to effective classroom practice, the authors suggested that preservice programs should focus on developing self-efficacy in their teacher candidates. The authors suggested that programs for preparing for inclusion should integrate methods of acquiring knowledge with hands-on learning strategies. It was also suggested that reflections through journaling would provide opportunities for preservice teachers to assess their experiences and their self-efficacy. Further to this, other researchers have called for more research in the area of developing self-efficacy during teacher preparation (Forlin, Cedilla, Romero-Conteras, Fletcher, & Hernandez, 2010; Malinen, Savolainen, & Xu, 2011; Savolainen, Engelbrecht, Nel, & Malinen, 2012).

**Direct Experience**

**Experience and education**

Just as Bandura (1977) explained the influence of mastery experience in preparing for future tasks, another theorist, Dewey (1916/1938), has also written extensively about the role of experience in education and this concept is still widely accepted and referenced in educational literature today. Dewey compared traditional education, focused on theory, to progressive education, which focuses on experience. Dewey defined traditional education as one that relies on bodies of knowledge that have been worked out in the past, and the chief business of teachers and schools is to transmit this
information to novice learners. In traditional education, the focus of curricula design is on content and subject, and teachers are the mature, knowing agents of the content while students are the receptacles for which to store this information. The information is taught as a static, finished product. According to Dewey, traditional education is critiqued for its imposition and funneling of adult knowledge on less experienced learners resulting in a gulf between the knowledge the teacher holds and the lived experience of the novice learner. This gulf is described as being so wide that “the very situation forbids much active participation by pupils in the development of what is taught” (Dewey, 1938, p. 19).

Dewey (1938) attempted to explain what constitutes a ‘new’, progressive education in a positive and constructive manner rather than simply rejecting the traditional education, which he viewed as failing the learners. Dewey asserted that amid all uncertainties, one permanent frame of reference exists: the organic connection between education and personal experience. Therefore, Dewey’s progressive education is centered on students acquiring knowledge from within and from experience, rather than from the outside through texts and teachers. This is not to reject teachers and theoretical knowledge; the critique here lies in the process of transmission and the focus on the past rather than the present. Progressive education explains how a learner can translate static knowledge from the past into a potent instrument for the present through experience. In other words, experience closes the gap between the archived past and the living present, essentially it narrows the gap between theory and practice.

Essentially, Dewey’s (1938) view of experience in education addresses the age-old dilemma of how to connect theory to practice. In the context of teacher education, Britzman (2003) asserted that knowledge, and even skills, can be reduced to rigid
acknowledgment and acceptance, demanding little from the knower other than understanding when separated from the context of teaching. University course work is “relegated in a world of rehearsal” (Britzman, 2003, p. 73), rather than real life, and the compartmentalized knowledge is fixed and immutable when preservice teachers call upon it for future practice. Therefore, having quality experiences and practice during teacher education is essential for propelling the theory gained through coursework into the tools and skills to prepare preservice teachers for future tasks.

Direct experience with people with exceptionalities

Research shows that direct experience with people with exceptionalities has proven benefits for preparing preservice teachers for the future task of teaching in an inclusive classroom (Loreman & Earle, 2007). Specific examples of teacher education programs incorporating direct experience will be presented later in the literature review, however the general findings regarding direct experience will be reviewed here.

For instance, some studies have investigated factors which influence preservice teachers’ beliefs about inclusion, and prior experience with people with exceptional needs is a consistent finding. For example, Forlin, Cedillo, Romero-Contreras, Fletcher and Hernandez (2010) conducted a study with 286 preservice teachers in Mexico. The researchers investigated the perceptions of the preservice teachers regarding their attitudes toward inclusion and their self-efficacy in being prepared to begin their career in inclusive classrooms. Questionnaires collected demographic information such as prior interactions with people with exceptional needs, previous training, and teaching experience. The findings revealed that preservice teachers who recorded high levels of
interactions with people with disabilities had significantly higher levels of self-efficacy, and more positive attitudes toward inclusion, than participants who did not have significant prior experience. An earlier study, by Forlin, Tait, Carroll and Jobling (1999) discovered similar findings. With a sample size of 2375 preservice teachers in Australia, the results indicated that those participants who indicated they had prior experience with people with disabilities, whether it be a sibling, a child, a friend, a parent or other, had significantly less perceived discomfort with the concept of interacting with people with disabilities than those who had little or no experience. The researchers of this large study recommended that preservice inclusion courses should be developed to include direct contact on a regular basis with people with disabilities through guest lectures or community work. Another study concluded that the lack of prior experience with people with exceptionalities was a common theme for preservice teachers in general education programs (Hamre & Oyler, 2004). This study examined the views and experiences of preservice teachers through a four-year collaborative inquiry group. This small group of 14 participants expressed that they had little experience with people with special needs going into the program and those that did have prior experience with family members or friends, had a higher degree of confidence regarding inclusion.

Other studies have reviewed the effect of direct experience during teacher training on preservice teachers’ beliefs. Freytag’s (2001) study of 48 beginning teachers found that higher levels of self-efficacy were associated with experiences in exceptional education settings. Findings from Romi and Leyser’s (2006) large scale study of 1155 Israeli preservice teachers revealed that experience with students with disabilities during teacher training was significantly associated with positive attitudes toward inclusion,
fewer concerns about behavior difficulties, and increases in teacher self-efficacy. In addition, through a meta-analysis, researchers Avramidis and Norwich (2002) posited that teachers suggested their most preferred methods for preparing them for inclusion were direct experience with children with exceptional needs, in-service training, and attending university courses. Some research has shown a counter effect on preservice teachers’ beliefs. For example, Forlin and Chambers (2011) discovered that experience with people with disabilities in a social setting raised concerns about having students with disabilities in their classes.

Despite the counter research, there seems to be somewhat consistent conclusions that direct experience with people with exceptional needs brings about positive beliefs, including self-efficacy, in preservice teachers. Since many of the studies did not offer descriptions of the type of direct experience investigated, a closer examination of specific teacher education programs will provide greater details.

**Approaches to Teacher Education for Inclusion**

With the transition from segregation to inclusion in schools, the importance of preparing general classroom teachers for inclusion is well-documented, and is becoming a critical component of teacher preparation (Lancaster & Bain, 2010; Romi & Leyser, 2006; Winter, 2006). As universities respond to the inclusion movement, the reframing of teacher education is imperative (Forlin, 2010) and many approaches to teacher education for inclusion are being developed. Geo and Mager (2011) described two main approaches used to reform teacher preparation programs for inclusion. The first approach is called *program restructuring*, which is a large-scale reform of coursework and
fieldwork to align a common set of standards from special education and general education programs. This requires collaboration between the two traditionally distinct programs, and usually takes the form of a dual certificate for teacher graduates. An example of program restructuring is evident at the University of Wisconsin-Milwaukee. Ford, Pugach and Otis-Wilborn (2001) described their restructured four-year teacher education program as a collaborative partnership between special and general education, with the main value of advocating for and educating students with exceptionalities effectively in inclusive educational settings. The researchers suggested that not only has the role of the general classroom teacher changed, so has the role of the special educator who now often works in general classrooms and is expected to assist classroom teachers with inclusive practices. Therefore, the program was structured so that graduates would have knowledge and experience with inclusive practices, and those choosing to have more expertise could take a fifth year dedicated to special education. The program’s courses were planned for and taught collaboratively with special education and general education faculty members. Field experiences were included that emphasized working with students with diverse needs. Although no empirical evidence was included in this article, the authors reported that their collaborative, restructured program would assist preservice teachers in gaining the knowledge and expertise required to work in today’s diverse classrooms.

The other main and most prevalent approach to teacher reform that Geo and Mager (2011) described is program enhancement. Program enhancement occurs when single courses are added to existing programs, or special education content is infused into certain core courses, or into all courses. Although many leading researchers in the area
of teacher education for inclusion promoted the infused approach (Forlin, 2010; Loreman, 2010), they also acknowledged that the implementation of such a model has its difficulties. For example, it can be difficult to find faculty expertise for all of the subject areas (Loremen, 2010). Also, Avramidis, Bayliss and Burden (2000) stated that an infused model can be problematic in application and is difficult to research and evaluate. Globally, it is evident that most post-secondary institutions in regions that support inclusion, offer at least one single-unit course related to inclusion as part of their general teacher training (Lancaster & Bain, 2010). Regardless of the approach used, the key to effective teacher education for inclusion is to link theory to practice (Rouse, 2010). Therefore, in recent years, a growing number of researchers have investigated the most innovative and effective approaches to teacher education for inclusion. The remainder of the literature review is organized by describing some program enhancement approaches. These include infused and single-unit approaches, approaches that incorporate direct experiences, and approaches that embed direct experiences into a field experience.

**Infused and single-unit approaches**

An example of an infused course was presented in the study conducted by Brown, Welsh, Haegele Hill and Cipko (2008) in the United States. In this example, special education outcomes were embedded into a preservice general education assessment course. Results indicated that the infused instruction significantly increased the 208 preservice teachers’ knowledge of inclusion terminology and assessment adaptations, and improved confidence levels in teaching diverse students by 60% more than the control group. Another example of an infused course was the initiative in a British university
where inclusion outcomes were infused into a secondary geography course (Pearson, 2007). The course was taught by both a geography teacher and an inclusion teacher, and included problem-based simulations. Specifically, the simulations involved scenarios of a geography department meeting to plan lessons for a hypothetical student with special educational needs. The intent of the simulations was to provide preservice teachers with a safe and challenging context with which to explore approaches and strategies to inclusion. Pearson (2007) offered some preliminary evaluations of the course stating that preservice teachers built an awareness of connecting research to practice and, through thinking about approaches for students with special needs, their quality of teaching for all students was enhanced.

An example of an entirely infused teacher education program is West Virginia University’s five year program. This program infuses special education learning outcomes into the core courses required of all the education majors. Through qualitative and quantitative measures the researchers, Lombardi and Hunka (2001), collected evidence of 72 preservice teachers’ levels of competence and confidence in teaching in inclusive classrooms. In year two of the program, 48% of the participants reported feeling neither competent nor confident to teach in inclusive settings. By the final year, this statistic had dropped to 25%. The researchers concluded that although the infused approach had some degree of effectiveness, there was still some speculation as to the program’s effectiveness in preparing future teachers for the actual application of special education information.

Loreman and Earle (2007) also described an infused program in a university in Alberta, Canada. In this program, inclusive education content is infused throughout the
two-year Bachelor of Education after-degree in elementary education. A faculty member with relevant expertise was assigned as the special education coordinator of the program and worked with instructors to ensure that the necessary inclusion content was included and delivered. At times, the special education coordinator would teach specific areas of content within another instructor’s course. The results of the investigation of this program demonstrated that the infused delivery was effective in improving attitudes and confidence, however it failed to recognize a significant reduction of concerns about inclusion.

An example of a single-unit course was presented in a recent mixed methods study in Australia by Mergler and Tangen (2010). The researchers found that micro-teaching, as a single-unit course design, had a significant effect on teacher self-efficacy. Micro-teaching is an activity where preservice teachers plan and deliver small lessons to their peers as if they were teaching in an inclusive classroom. The developers of the program considered micro-teaching a highly relevant way to enhance preservice teachers’ ability to apply theory into actual teaching practice. The 208 preservice teachers who participated in the study felt they were able to connect theory to practice through the hands-on approach, and had increased self-efficacy for inclusive practice.

**Direct experience approaches**

Some teacher education for inclusion approaches combined course based approaches with direct experience opportunities. For example, Spandagou, Evans and Little (2008) implemented a problem-based learning (PBL) approach within a preservice inclusion course, to investigate the effect on teacher attitudes and preparedness to
respond to classroom diversity. This research project was conducted in a large Australian university with 57 participants. The PBL approach centered on case studies that provided a context about a school, a class, and three key students having special educational needs. In addition to the case studies, the PBL approach also included 15 hours of working directly with a student with additional needs in literacy. In this quantitative study the researchers found the PBL approach significantly influenced positive attitudes and preparedness for inclusion.

A post-school literacy program was the context for another approach to providing direct experience opportunities for secondary preservice teachers in Australia (Jobling & Moni, 2004). This project was developed in response to the expressed need that preservice teachers lacked the knowledge, understanding and skills to work with students with diverse needs in authentic contexts. Preliminary investigations revealed that preservice teachers were concerned about their unpreparedness and their lack of confidence with working with students with exceptional needs, and that their field experiences were not providing them with enough time to work with such students. Therefore, the project was structured so that preservice teachers could participate in direct experience opportunities beginning with observations of adolescents with intellectual disabilities and progressing to developing, implementing and assessing a small lesson for these students. The 13 participants involved in this project felt they had developed specific knowledge of the abilities and difficulties of students with an intellectual disability, as well as acquired some specific teaching skills which enhanced their overall confidence. Also, the participants reported that the teaching and learning strategies they acquired could be applied in their future inclusive classrooms. The
researchers recognized that a challenge for this type of project would be finding similar placements in order to enlarge it to the entire cohort of preservice teachers attending their university.

A similar project in the UK was conducted on a larger scale involving 223 secondary post graduate teachers (Golder, Norwich, & Bayliss, 2005). In this project, participants worked intensively with one individual student with exceptional needs from a local school. A key aim was for teachers to build a relationship with one student in order to develop a positive attitude for inclusive teaching. Other key aims were to gain a deeper understanding of exceptional needs, to understand the learning process of students with exceptional needs, and to gain a wider perspective on the work of teacher assistants. The project had a structured framework which included frequent monitoring from mentor teachers, frequent teacher reflections, and a series of steps to build from observation and planning, to lesson delivery and assessment. The number of individual sessions ranged from four to 13, with sessions of a one hour duration being the most frequent. Semi-structured questionnaires revealed that about half of the participants felt the task had been of value to them in their professional learning, and was of significant value to their learning about students with special education needs. The participants suggested areas of improvement which included making the guidelines more clear, providing a prior briefing about the task, and creating better university-school links.

A three year study was conducted to determine the effect of focused instructional experiences on preservice teachers’ attitudes and self-efficacy for teaching mathematics to diverse students (Burton & Pace, 2009). The first two years of the study included modules in mathematical strategies, as well as strategies to teach children with
exceptional needs. The results of the first two years of the study showed that preservice teachers demonstrated little to no differences in attitudes or self-efficacy. Therefore, a structured direct experience was introduced in the third year of the study where preservice teachers were assigned to tutor a student with disabilities in mathematics for a period of 20 hours. Participants were asked to keep a journal of the strategies tried, the outcomes of the strategies, and their reflections of their experiences working with a student with disabilities. Qualitative data revealed that all of the teacher candidates (N=8) felt the experience had given them increased confidence in teaching mathematics to diverse students by allowing them to link theory and practice. Although the sample size was small, the researchers felt the results supported similar research and could be used to guide further quantitative research on a larger scale.

Lancaster and Bain (2010) investigated the effects of two different approaches of inclusive education courses (embedded design and applied experience) on preservice teachers’ self-efficacy. The embedded design approach involved repeating patterns of the essential features of the concepts being presented in the course. For example, since collaboration and peer tutoring are essential features of inclusion, these features were embedded into the teaching and learning of the course itself. The applied experience approach was similar to the embedded design; however, it also included 11 hours of placement at a local after-school program where preservice teachers worked one on one or with small groups of students. The results of this study showed significant increases in self-efficacy for the designs, without a statistically significant difference between the two.

Chambers and Forlin (2010) developed a program called the Triad of Inclusive
Experiences (TIE) program to be implemented into existing teacher training programs. The TIE program was developed to address the need for preservice teachers to engage in direct experiences with people with exceptionalities. The triad consisted of three components aimed to tie theory to practice through positive interactions with people with a range of disabilities. The first component was 12 hours of ‘community involvement’ where preservice teachers interacted and worked with people with disabilities in situations that were recreational or social in nature. For example, they may have volunteered at a kids’ camp or acted as a companion for an adult with a disability. The second component was termed ‘incursion’, which enabled secondary students with disabilities to experience a day in the life of a university student. The students visited the campus for a day alongside the preservice teachers. The third component was ‘authentic inquiry’ which involved preservice teachers working in small groups to investigate an issue that they identified for people with disabilities in the local community such as school options or access to public transport. The developers of the TIE program claimed that initial feedback demonstrated that preservice teachers were gaining more positive attitudes and were better prepared to teach in inclusive classrooms.

The approaches described above are examples of direct experience opportunities in various settings outside of the general education classroom. Other researchers have examined the impact of embedding the direct experience within the field experience placement of the teacher education program.

**Direct experience within a field experience**

Current research has investigated the role of the field experience as the context for
direct experience in preparing teachers for teaching students with disabilities. Bain and Hasio (2011) found that preservice teachers must be exposed to students with disabilities in authentic teaching settings in order to gain the skills and confidence required to effectively adapt and accommodate for diverse learners. Although their study was specifically with art teachers, and it did not undergo rigorous research methods, their informal research indicated that the preservice teachers’ perceptions of preparedness increased through authentic field experiences. One student claimed that the field experience provided them with the opportunity to engage in active experiences and produced a sense of self-efficacy in knowing “I can handle it” (Bain & Hasio, 2011, p. 37). Another study, conducted with physical education preservice teachers, found that field experiences provided ongoing mastery experiences in the form of “successful teaching performance in authentic environments” (Gurvitch & Metzler, 2009, p. 442). These researchers encouraged other preservice educators to consider the field experience as a context for direct experience with teaching students with special needs. Further studies specific to inclusive teaching in math instruction (Downey & Cobbs, 2007), and music instruction (VanWeelden & Whipple, 2005), reported that field experiences contributed to significant increases in preservice teachers’ skill development and comfort for teaching diverse students. One key aspect noted in the planning of the field experiences was that well-constructed and planned direct experiences were key to the success of the approach (Downey & Cobbs, 2007).

Project ACCEPT was an initiative at Northern Illinois University to prepare preservice teachers for teaching in inclusive classrooms (Van Laarhoven, Munk, Lynch, Bosma, & Rouse, 2007). The project described an “enhanced” (p. 210) curriculum, as it
included problem-based learning, simulated lesson plans, collaboration, feedback and direct experience. The direct experience component was a field placement within an inclusive classroom for one week. A key aspect of the field experience was that preservice teachers developed competencies about disabilities and instructional strategies using actual student profiles. The experimental groups had more positive attitudes toward inclusion than the control group, although not of a statistical significance.

Munby and Hutchinson (1998) described a unique experience-based approach to teacher education in an Ontario university’s one year post degree program. The first semester of the program was essentially field experience based, with only three weeks spent on campus. The second semester consisted of on-campus curriculum and instruction courses. This program was developed based on theories of experiential knowledge and the research appointing the field experience as the most influential and significant factor in teacher preparation. During the extended field experience, preservice teachers were expected to observe and document policies, practices, and specific incidences that reflected inclusive teaching of exceptional children. The preservice teachers also met once a week with other preservice teachers at their placement schools to support each other and collaborate on learning from each other’s experiences. This particular study included two case studies of preservice teachers who completed the one year program. The results indicated that the participants felt this type of professional learning, being craft knowledge, is unavailable in any other setting other than through field experiences. Both participants concluded that the experience produced significant gains in their professional knowledge about inclusive teaching.

It is evident in the literature that some innovative approaches to teacher education
for inclusion are being developed and evaluated. It is difficult to draw precise
conclusions from the results of the studies since each has its own limitations, and quite
diverse approaches, participants and methods. It is also important to note that the
outcome being measured varied from attitudes to knowledge attainment, confidence,
perceptions of preparedness, and self-efficacy. However, overall, approaches to teacher
education that make attempts to connect theory to practice, such as direct experience
approaches that are clearly structured, have benefits to the beliefs and preparation of
preservice teachers for inclusion.

Conclusions Drawn from the Literature Review

Inclusion is a reality in today’s schools, and teacher education programs have a
major responsibility in preparing graduates for inclusive practices. In general, preservice
teachers endorse the idea of inclusion, but significant research confirms that preservice
teachers feel unprepared for inclusive teaching and request more experience and training
in order to gain the necessary skills and strategies. Since high self-efficacy can be
viewed as an indicator of preparedness and also a key component to the effective
implementation of inclusive practices, this construct should be considered when
designing and evaluating teacher education programs. Specifically, direct experience
with people with disabilities has been shown to improve self-efficacy for working with
diverse learners.

Many innovative approaches to restructuring and enhancing teacher training
programs are showing proven benefits to the preparation of graduates for inclusive
teaching. Although it is difficult to synthesize the findings of the programs, there does
seem to be a consensus that inclusion training in general, and especially programs including well-constructed direct experience opportunities, has a positive impact on preparedness. However, in the literature, there are few studies that have specifically assessed the impact of teacher education programs, incorporating direct experience, on preservice teachers’ self-efficacy for teaching students with exceptional needs (Leyser, Zeiger, & Romi, 2011). Therefore, the current study is a relevant and significant extension of the current literature in this area.
CHAPTER III

Research Method

A quantitative method was chosen for this research study in order to investigate the
impact of the intervention on the dependent variables. The intervention was a 10 week
undergraduate inclusion course, followed by a 3 week field experience. The dependent
variables were preservice teachers’ self-efficacy for teaching in inclusive classrooms and
self-esteem. This chapter presents a description of the method as follows: the
participants, sampling and setting, the instruments, the research questions and
hypotheses, the study design, and the procedures.

Participants, Sampling and Setting

Participants

The participants for this study were preservice teachers from the University of
Calgary, Canada enrolled in a mandatory inclusion course. Preservice teachers enrolled
in this course were in their second semester of a four semester Bachelor of Education
program. They were enrolled in either the elementary route (kindergarten to Grade 6) or
the secondary route (Grade 7 to 12). The elementary route offers specializations in early
childhood education, English language arts, English as a second language, French/second
languages, fine arts, inclusive education, physical education, mathematics, science, and
social studies. The secondary route offers the same specializations with the exceptions of
early childhood education, English as a second language, and inclusive education. The
demographic information indicating the breakdown of routes and specializations of the
participants can be found in the next chapter.
**Sampling**

Since the intervention and setting for this study were preselected, the researcher used a nonprobability sample. This type of sample is one in which the probability of including population elements is unknown (McMillan, 2008). The sampling strategy the researcher employed was convenience sampling. Convenience sampling is when a group of participants are selected because of availability (McMillan, 2008). In quantitative research, a probability sample using random sampling techniques is preferred since the results are more likely to generalize to a broader population. However, in educational research it is often the case that the ideal is compromised for what is feasible (Gay, Mills, & Airasian, 2009; McMillan, 2008). Findings from convenience samples are not dismissed, but rather as similar research accumulates with different convenience samples, the overall credibility of the findings is enhanced (McMillan, 2008).

The accessible sample for this study was 370 preservice teachers. Attrition of participants occurred between the first and last survey. The first survey was completed by 188 participants, and 141 participants completed all three surveys. Therefore, the sample size for this study was 141 participants, which is approximately 38% of the accessible sample and is considered a high response rate in survey research when 10 to 20% is common (McMillan, 2008).

It has been suggested that 30 participants is a minimum requirement for quantitative research (Delice, 2010; McMillan, 2008). However, the researcher chose to conduct a sample power analysis using the G*Power 3.1 calculator (Faul, Erdfelder, Buchner, & Lang, 2009) to calculate the appropriate sample size required for the inferential tests used in this study. This is important because if too few participants are
used then the researcher is more likely to commit a Type II error. A Type II error occurs when the researcher incorrectly fails to reject the null hypothesis. In other words, an effect existed, but was not detected.

The sample power calculation assumed an effect size of 0.2. This is a small effect size (Cohen, 1988) and is often used in sample power analyses since the smaller the effect detected, the larger the sample must be. Assuming a small effect size in a sample power calculation will provide a suggested minimum number of participants in order to detect even the smallest statistical difference. The sample power analysis for the repeated measures ANOVA test suggested a sample size of 66 participants. The sample power analysis for the multiple regression test suggested a sample size of 98 participants. The sample power analysis for the Pearson test suggested a sample size of 76 participants. Therefore, the sample size for this study (N=141) was well above the suggested sample sizes.

**Setting**

This research study took place at the University of Calgary, Canada. The focus of the study was a mandatory undergraduate course on inclusion and the field experience that followed the course. As mandatory components of the Bachelor of Education program, the inclusion course and the field experience were offered in the second semester of a four semester program.

The course was 10 weeks long and had a one hour and 20 minute lecture each week, as well as a two and a half hour breakout session each week. The weekly lectures were attended by the entire class (370 preservice teachers) and focused on presenting
topics related to the individual needs of students. For example, the lectures presented educational implications for teaching students with a range of diverse racial, cultural and economic backgrounds, and varying levels of learning, medical and behavioral needs. The coordinator of the course presented these lectures in a lecture theatre on campus.

The weekly breakout sessions divided the whole class into eight groups ranging from 35 to 50 preservice teachers. These on-campus sessions were each taught by a different instructor with the purpose of delving deeper into the topics presented in the lectures. The instructors met prior to the start of the course to decide on content, readings, assignments and activities for the breakout sessions. With the smaller class size, preservice teachers had an opportunity to take part in problem based learning and collaborative inquiry. The course description is as follows:

Diversity in Learning will place an emphasis on the needs of the individual learners, and on creating healthy and inclusive classrooms for all students. The Plenaries and Seminars will cover a wide – but not exhaustive – range of diversity issues in learning. An emphasis will be made on re-framing difference and diversity away from a deficit model.

Several topics will be explored, including but not limited to an understanding of race and racism, social justice, the educational needs of immigrant and refugee youth, Aboriginal learners, implications of sexual orientation, gender identity, and other issues around LGBT learners, and special education – including understanding particular syndromes, emotional and behavioral disorders, giftedness, physical challenges and learning disabilities, and addressing the psychological and emotional needs of all learners (University of Calgary, 2012).

The 3 week field experience took place immediately following the 10 weeks of on-campus coursework. Each of the 370 preservice teachers were placed in a partner school with a mentor teacher in the Calgary area. The purpose of the field experience was to focus on the complexities of individual learning in classrooms. During this field experience, it was expected that preservice teachers would have an opportunity to build
upon and apply their learning from their coursework. Preservice teachers were expected
to work with individual and small groups of learners, and plan a series of
lessons/activities for these individual and small groups of learners. A full outline of the
expectations and requirements for the field experience can be found in Appendix A. It is
important to note that this was the first time this course was offered, and the course
structure and objectives are evolving.

The inclusion course and the field experience were purposely chosen for this
study as an opportunity to investigate the impact of direct experience on self-efficacy.
The coursework focuses on teaching students with diverse and exceptional needs and is
similar to other inclusion courses being implemented in teacher training programs.
However, the 3 week field experience component is a unique feature of this program, as
it is structured to build upon the knowledge gained from the inclusion course. This field
experience provides opportunities for preservice teachers to have direct experience with
diverse learners, which offers an ideal setting for this research study.

Instruments

The Teacher Efficacy for Inclusive Practice scale

The Teacher Efficacy for Inclusive Practice (TEIP) scale (Sharma, Loremen, &
Forlin, 2012) was used to measure self-efficacy during the study. This instrument (see
Appendix B) was developed specifically to measure teacher self-efficacy to teach in
inclusive classrooms. There are other teacher self-efficacy instruments available;
however, Bandura (1997) suggested that tools created to measure self-efficacy should be
specific to the task in consideration. The TEIP scale was the only available scale at the
time of the study that was specific to teaching in an inclusive classroom. The TEIP scale contains 18 statements related to the participant’s perception of their ability to carry out inclusive practices. For example, one statement reads ‘I can provide appropriate challenges for very capable students’. The wording of the 18 statements is consistent with Bandura’s (1997) criteria for self-efficacy scale development, since each statement is worded in a positive orientation about perceived ability to carry out a certain task. The statements are assessed by a likert scale with six response anchors of ‘strongly disagree’, ‘disagree’, ‘disagree somewhat’, ‘agree somewhat’, ‘agree’, and ‘strongly agree’. The higher the score on the TEIP scale, the higher the respondents’ self-efficacy for implementing inclusive practices. The highest possible score on the TEIP scale is 108 and the lowest possible score is 18.

The TEIP scale contains three factors, each with 6 items. These three factors can be used as subscales for measuring more specific aspects of teacher self-efficacy for inclusion. The three subscales are: a) efficacy for inclusive instruction, b) efficacy in collaboration, and c) efficacy in managing behavior. An example item from the ‘inclusive instruction’ subscale is, ‘I am able to provide an alternate explanation or example when students are confused’. An example item from the ‘collaboration’ subscale is, ‘I am able to work jointly with other professionals and staff (eg. aides, other teachers) to teach students with disabilities in the classroom’. An example item from the ‘managing behavior’ subscale is, ‘I am able to calm a student who is disruptive or noisy’. The subscales can be found in Appendix C.

The developers of the TEIP scale reported that content validity was confirmed through the agreement of six faculty members, excluding the developers, who were
experts in educational psychology and inclusive education. In addition, they determined the internal reliability of the scale using an exploratory factor analysis with data from 607 preservice teachers in four countries. From this analysis, Sharma, Loreman and Forlin (2012) found that the three factors of the scale accounted for 64.5% of the total variance. Cronbach’s alpha for the TEIP scale was .89, and for the subscales were .93, .85 and .85 respectively. The developers of the scale found these initial results “indicate that the scale has strong validity and reliability” (Sharma et al., 2012, p. 6). The subscale factor structure was confirmed by two recent studies (Malinen, Savolainen, & Xu, 2012; Savolainen, Engelbrecht, Nel, & Malinen, 2012). Theses two studies also reported Cronbach alpha’s of .88 and .91 for the total scale. In addition, the researcher of this study also found a strong reliability coefficient of the TEIP scale with a Cronbach’s alpha of .93. This indicates a very strong internal consistency among the 18 items of the scale, as the ideal is above .7 (DeVellis, 2003). However, the external reliability has yet to be determined as no known test-retest studies have been conducted.

**The Rosenberg Self-Esteem scale**

Self-esteem was measured using the Rosenberg Self-Esteem (RSE) scale (see Appendix D). The RSE scale was chosen because it is considered the most widely used self-esteem measure in social science research and has demonstrated good reliability and validity in numerous studies of various populations (Robins, Hendin, & Trzesniewski, 2001). The RSE scale contains 10 items scored on a 4 point likert scale with response anchors of ‘strongly disagree’, ‘disagree’, ‘agree’, and ‘strongly agree’. Five of the items are worded in a positive orientation such as, ‘I feel that I have a number of good
qualities’, and five of the items are worded in a negative orientation such as, ‘I feel I do not have much to be proud of’. The higher the score on the RSE scale, the higher the respondents’ self-esteem. The highest possible score on the RSE scale is 40 and the lowest possible score is 10. The original reliability coefficients for the scale established by Rosenberg (1965) ranged from .85 to .88.

Demographic questionnaire

A demographic questionnaire (see Appendix E) was developed by the researcher to collect information regarding participants’ gender, age, teaching route (elementary or secondary), and teaching specialization. This questionnaire also collected information regarding the participants’ prior experience with individuals with exceptional needs. Exceptional needs were defined as physical, mental, cognitive, medical, developmental, learning or behavioral disabilities. Giftedness was also identified as an exceptional need. There were three available choices for the prior experience question:

a) **Yes**, I have a family member with an exceptional need and I have been involved in their care.

b) **Yes**, I have worked and/or volunteered with an individual, or individuals, with exceptional needs.

c) **No**, I do not have significant prior experience with an individual, or individuals, with exceptional needs.

Direct experience questionnaire

A direct experience questionnaire was developed by the researcher to measure the
type and amount of experience that preservice teachers had with students with exceptional needs during their 3 week field experience (see Appendix F). The four types of experiences measured were: observation, whole class instruction, small group instruction, and individual instruction. Observation was defined as observing a student, or students, with exceptional needs. Whole class instruction was defined as teaching the entire class, with at least one student in the class having exceptional needs. Small group instruction was defined as teaching, or working with, a small group of students with at least one student in the group having exceptional needs. Individual instruction was defined as teaching, or working directly with one student with exceptional needs.

The participants were asked to rate the amount of time they spent with each of these four types of experiences during their 3 week field experience. Each of the four experiences were rated on a rubric scale with six response anchors of: ‘no hours’, ‘1-5 hours’, ‘6-10 hours’, ‘11-15 hours’, ’16-20 hours’ and ‘over 20 hours’. The rubric scale was scored from 1 (no hours) to 6 (over 20 hours). The lowest possible score for each type of experience was 1 (no hours) and the highest possible score was 6 (over 20 hours).

**Research Questions and Hypotheses**

The main purpose of this study was to examine the impact of direct experience with students with exceptional needs on preservice teachers’ self-efficacy for teaching in inclusive classrooms. The researcher also sought to determine if preservice teachers’ self-efficacy was related to self-esteem. Below, the study’s research questions have been operationalized, by identifying the measurement tool, and corresponding hypotheses have been proposed.
1a. What is the effect of an inclusion course and a field experience on preservice teachers’ self-efficacy for teaching in inclusive classrooms, as measured by the TEIP scale?

\[ H_{1a}: \text{There will be significant gains in self-efficacy overall.} \]

1b. Is there a difference in self-efficacy gains between the 10 weeks of coursework and the 3 week field experience, as measured by the TEIP scale?

\[ H_{1b}: \text{The 3 week field experience will produce greater gains in self-efficacy compared to the 10 weeks of coursework.} \]

2a. Do preservice teachers with prior experience with individuals with exceptional needs, as measured by a demographic questionnaire, have higher levels of self-efficacy, as measured by the TEIP scale, compared to preservice teachers without prior experience?

\[ H_{2a}: \text{Preservice teachers with prior experience with individuals with exceptional needs will have higher levels of self-efficacy compared to preservice teachers without prior experience.} \]

2b. Which group demonstrates greater gains in self-efficacy, as measured by the TEIP scale?

\[ H_{2b}: \text{Preservice teachers with prior experience with individuals with exceptional needs will have greater gains in self-efficacy.} \]
3. What type of experience, if any, during the field experience (observation, whole class instruction, small group instruction, individual instruction), as measured by a direct experience questionnaire, is the strongest predictor of self-efficacy gains of preservice teachers, as measured by the TEIP scale?

\( H_3: \) Individual instruction is the strongest predictor of self-efficacy gains, followed by small group instruction, whole class instruction and observation.

4. What is the relationship between preservice teachers’ self-efficacy, as measured by the TEIP scale, and self-esteem, as measured by the RSE scale?

\( H_4: \) There is no relationship between preservice teachers’ self-efficacy and self-esteem.

**Study Design**

The pre-experimental design utilized for this study was a within-subjects repeated measures design. The term pre-experimental implies that a single group was preselected (Creswell, 2009). A within-subjects repeated measures design studies the same group of participants for the duration of the experiment, measuring the same variable repeatedly and under different conditions (Creswell, 2009). For this study, the repeated measures of self-efficacy and self-esteem occurred at three points in time with two treatment
conditions in between. Time 1 was at the start of the coursework, Time 2 was after the coursework (right before the field experience), and Time 3 was after the field experience. Treatment A was the 10 weeks of coursework, and Treatment B was the 3 week field experience. Figure 3.1 illustrates the within-subjects repeated measures design used for this study.

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<td>Time 3</td>
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*Figure 3.1. The within-subjects repeated measures design.*

**Procedures**

**Participant sampling**

The researcher followed a specific procedure for gaining access to the participants. After required permissions and ethical approval of the study were obtained, the researcher contacted each of the nine instructors of the inclusion course. One of the nine instructors was the coordinator of the course and the instructor of the whole class weekly lectures. The other eight instructors taught weekly breakout sessions, where the class was separated into eight groups. Although the instructors were already aware of the study, the researcher requested permission to attend each of the eight breakout sessions in order to present the study details to the preservice teachers along with the risks, if any, and the benefits. On the first day of the breakout sessions, the researcher made rounds to each of the sessions on campus at the University of Calgary. Four of the breakout sessions took place in the morning, and the other four took place in the
afternoon. The researcher presented the study to each of the breakout sessions using a script (see Appendix G). It was made clear that participation in the study was completely voluntary and that the researcher was not involved in the course or the field experience in any capacity other than as a researcher. The presentation took approximately 10 minutes and was repeated eight times throughout the day. The audience for each presentation ranged from 35 to 50 preservice teachers. With this procedure, every preservice teacher enrolled in the course would have heard and seen the researcher’s presentation of the study, with the exception of those who were absent that day.

That same evening an online consent form (see Appendix H) was emailed, via the coordinator of the course, to every preservice teacher in the course, along with the first survey. If a preservice teacher chose to participate in the study, they were asked to click on the ‘I agree’ button on the consent form and complete the survey. A participant was allowed to withdraw from the study at any time by simply not completing one or all of the surveys. Only those participants who completed all three surveys were included in the final data set.

**Data collection**

Data were collected at three points in time during the study using an online survey via SurveyMonkey®. The three points in time were: a) in the first week of the course, b) after the 10 weeks of course work, and c) after the 3 week field experience. For each point in time, two scales were included in the survey: the Teacher Efficacy for Inclusive Practices (TEIP) scale and the Rosenberg Self-Esteem (RSE) scale. At the first point in time, demographic information was also collected regarding participants’ age,
gender, teaching route, teaching specialization and prior experience with individuals with exceptional needs. At the final point in time, the direct experience questionnaire was included to collect information regarding the type of experiences and the amount of time that preservice teachers spent with students with exceptional needs during their field experience.

The coordinator of the course was the only individual with access to all of the email addresses of the preservice students enrolled in the course. For this reason, the researcher emailed the survey links to the coordinator who then forwarded the messages to the preservice teachers. The first survey, along with the consent form and the demographic questionnaire was emailed to the entire class on January 9, 2012. The online survey was open for 10 days for data collection. After 10 days, the survey was closed and the data were exported into SPSS directly from the SurveyMonkey® website.

For the second and third survey, it would have been a difficult task for the coordinator of the course to send out individual emails to only those preservice teachers who were participating in the study. Therefore, the links to the next two surveys were emailed to the entire class with a message, “If you have completed the first/second survey, and you wish to continue in the research study, please complete the following survey”. The second survey was emailed to the class on March 12, 2012, during the final week of their 10 weeks of course work. Again, the data were collected for 10 days and then the survey was closed and the data were exported into SPSS. The third survey was emailed to the class on April 12, 2012, after the final week of their 3 week field experience. The same procedure for data collection was followed for the last survey. Any incomplete data were eliminated from the SPSS spreadsheet. In other words, some
participants completed the first survey but not the second or third survey. Also, some surveys were not completed in their entirety. The first survey was completed by 188 participants, and by the final survey, 141 participants had filled out all three surveys in their entirety.

**Data analysis**

Using the statistical software, SPSS, the quantitative data were analyzed using inferential tests to answer the research questions. The research questions and the corresponding inferential tests are described below.

1a. What is the effect of the inclusion course and the field experience on preservice teachers’ self-efficacy for teaching in inclusive classrooms?

1b. Is there a difference in self-efficacy gains between the 10 weeks of coursework and the 3 week field experience?

For the first research questions a one-way repeated measures ANOVA was used to compare self-efficacy mean scores at the three points in time. A repeated measures ANOVA is useful for comparing means of a single group (within-subjects) at multiple points in time and to determine if a change has occurred (Gay, Mills, & Airasian, 2009). This type of test also produces a pair wise comparison which determines the significance of the mean differences between each point in time.

2a. Do preservice teachers with prior experience with individuals with
exceptional needs have higher levels of self-efficacy compared to pre-service teachers without prior experience?

2b. Which group demonstrates greater gains in self-efficacy?

For the second research question a mixed between-within subjects ANOVA was conducted. Essentially, a mixed ANOVA combines two types of one-way ANOVAs into one analysis: a between-subjects ANOVA and a within-subjects ANOVA. A between-subjects ANOVA compares the means of two independent groups, while a within-subjects ANOVA compares the means over repeated measures. Therefore, in this study, the between-subjects variable was prior experience (a group with and a group without), and the within-subjects variable was time (repeated measures of self-efficacy). A mixed ANOVA is useful for situations where the researcher wants to determine the effects of the treatment on two independent groups, while subjecting the participants to repeated measures of the dependent variable (Pallant, 2010). A mixed ANOVA combines these variables to produce an interaction effect, which a one-way ANOVA cannot. The interaction effect questions whether the effect of the within-subjects variable is consistent for both levels of the between-subjects variable. In other words, the interaction effect will determine if there was the same change in self-efficacy scores over time for the two groups (with and without prior experience).

3. What type of experience, if any, during the field experience (observation, whole class instruction, small group instruction, individual instruction) is the strongest predictor of self-efficacy gains of pre-service teachers?
For the third research question, a multiple regression analysis was used to examine the relationship between the four types of experience (predictors) and the gains in self-efficacy (criterion) during the field experience. The multiple regression analysis produced an overall model which showed how much of the variance found in the gains in self-efficacy were attributed to the four types of experience. The test also determined the direction and strength of the relationship of each predictor on the criterion.

4. What is the relationship between preservice teachers’ self-efficacy and self-esteem?

For the fourth research question, a Pearson product-moment correlation coefficient was used to determine if there was a correlation between the two dependent variables, self-esteem and self-efficacy, at each point in which they were measured. The correlation coefficient determined the direction and strength of the relationship.

Figure 3.2 illustrates a flow diagram outlining the steps for the data collection and data analysis procedures of this within-subjects repeated measures study.
Figure 3.2. Flow diagram of the procedures for the within-subjects repeated measures design.
CHAPTER IV

Results

This chapter presents the results of the study. A description of the sample is presented first. This is followed by the results of the analyses for each of the research questions. Last, one additional analysis was conducted to further explore the data and to assist with the discussion of the findings.

Sample Description

Table 4.1 displays the demographic information of the study sample (N=141) through frequency statistics. The male participants made up 21.3% of the sample, and the female participants made up 78.7% of the sample. The age demographics varied from age 18 to 25 (57.4%), 26 to 33 (30.5%), 34 to 41 (5.7%), and 42 to 49 (6.4%). No participants in the sample indicated they were over the age of 49. A range of teaching specializations were represented in the sample. The three specializations with the least number of participants were elementary French/second languages (0.0%), elementary physical education (2.1%), and elementary fine arts (2.1%). The three specializations with the greatest number of participants were secondary social studies (13.5%), secondary science (12.0%), and elementary early childhood (9.2%). For the prior experience demographic, there were 17 participants who chose the response: ‘yes, I have a family member with an exceptional need and I have been significantly involved in their care’, and 72 participants who chose the response: ‘yes, I have worked and/or volunteered with an individual, or individuals, with exceptional needs’. There were 52 participants who chose the response: ‘no, I do not have significant prior experience with
an individual, or individuals, with exceptional needs’. To summarize the results, 63.1% (n = 89) of the participants indicated that they did have prior experience, and 36.9% (n = 52) of the participants indicated that they did not have prior experience with an individual, or individuals, with exceptional needs.
Table 4.1

*Frequency Statistics for the Demographics of the Study Sample (N =141)*

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<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>30</td>
<td>21.3%</td>
</tr>
<tr>
<td>Female</td>
<td>111</td>
<td>78.7%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>81</td>
<td>57.4%</td>
</tr>
<tr>
<td>26-33</td>
<td>43</td>
<td>30.5%</td>
</tr>
<tr>
<td>34-41</td>
<td>8</td>
<td>5.7%</td>
</tr>
<tr>
<td>42-49</td>
<td>9</td>
<td>6.4%</td>
</tr>
<tr>
<td>Over 49</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Teaching Specialization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elem - Early childhood</td>
<td>13</td>
<td>9.2%</td>
</tr>
<tr>
<td>Elem - English language arts</td>
<td>8</td>
<td>5.7%</td>
</tr>
<tr>
<td>Elem - English as a second language</td>
<td>4</td>
<td>2.8%</td>
</tr>
<tr>
<td>Elem - French/Second languages</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Elem - Fine arts</td>
<td>3</td>
<td>2.1%</td>
</tr>
<tr>
<td>Elem - Inclusive education</td>
<td>9</td>
<td>6.4%</td>
</tr>
<tr>
<td>Elem - Physical education</td>
<td>3</td>
<td>2.1%</td>
</tr>
<tr>
<td>Elem - Mathematics</td>
<td>10</td>
<td>7.1%</td>
</tr>
<tr>
<td>Elem - Science</td>
<td>12</td>
<td>8.5%</td>
</tr>
<tr>
<td>Elem - Social studies</td>
<td>6</td>
<td>4.3%</td>
</tr>
<tr>
<td>Sec - English language arts</td>
<td>11</td>
<td>7.8%</td>
</tr>
<tr>
<td>Sec - Second languages</td>
<td>6</td>
<td>4.3%</td>
</tr>
<tr>
<td>Sec - Mathematics</td>
<td>7</td>
<td>5.0%</td>
</tr>
<tr>
<td>Sec - Fine arts</td>
<td>8</td>
<td>5.7%</td>
</tr>
<tr>
<td>Sec - Physical education</td>
<td>5</td>
<td>3.5%</td>
</tr>
<tr>
<td>Sec - Science</td>
<td>17</td>
<td>12.0%</td>
</tr>
<tr>
<td>Sec - Social studies</td>
<td>19</td>
<td>13.5%</td>
</tr>
<tr>
<td><strong>Prior Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, family member</td>
<td>17</td>
<td>12.0%</td>
</tr>
<tr>
<td>Yes, work/volunteer</td>
<td>72</td>
<td>51.1%</td>
</tr>
<tr>
<td>No</td>
<td>52</td>
<td>36.9%</td>
</tr>
</tbody>
</table>
The initial sample size after the first survey was 188 participants. Over the course of the study, 47 participants did not complete all three surveys resulting in a 25% attrition rate. In order to gauge whether attrition altered the nature of the study, the researcher conducted a comparison of the demographic characteristics of the final sample and the group of participants who did not complete the study. Attrition bias can occur if those who dropped out of the study were systematically different from the study sample (Miller & Hollist, 2007). Table 4.2 represents the frequencies and the percentages for each of the demographic categories for the attrition group (N = 47) and the study sample (N = 141). A logistic regression analysis found that none of the demographic categories had a statistically significant coefficient when comparing the two participant groups, with the lowest $p$ value at .996. A non-significant $p$ value indicates that attrition bias did not occur.
Table 4.2

Demographic Statistics for the Attrition Group compared to the Study Sample

<table>
<thead>
<tr>
<th></th>
<th>Attrition Group (N=47)</th>
<th>Study Sample (N=141)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>frequency</td>
<td>%</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>12</td>
<td>25.5%</td>
</tr>
<tr>
<td>Female</td>
<td>35</td>
<td>74.5%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>24</td>
<td>51.1%</td>
</tr>
<tr>
<td>26-33</td>
<td>10</td>
<td>21.3%</td>
</tr>
<tr>
<td>34-41</td>
<td>8</td>
<td>17.0%</td>
</tr>
<tr>
<td>42-49</td>
<td>2</td>
<td>4.3%</td>
</tr>
<tr>
<td>Over 49</td>
<td>3</td>
<td>6.3%</td>
</tr>
<tr>
<td><strong>Teaching Specialization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elem - Early childhood</td>
<td>2</td>
<td>4.3%</td>
</tr>
<tr>
<td>Elem - English language arts</td>
<td>1</td>
<td>2.1%</td>
</tr>
<tr>
<td>Elem - English as a second language</td>
<td>1</td>
<td>2.1%</td>
</tr>
<tr>
<td>Elem - French/Second languages</td>
<td>2</td>
<td>4.3%</td>
</tr>
<tr>
<td>Elem - Fine arts</td>
<td>1</td>
<td>2.1%</td>
</tr>
<tr>
<td>Elem - Inclusive education</td>
<td>4</td>
<td>8.5%</td>
</tr>
<tr>
<td>Elem - Physical education</td>
<td>1</td>
<td>2.1%</td>
</tr>
<tr>
<td>Elem - Mathematics</td>
<td>4</td>
<td>8.5%</td>
</tr>
<tr>
<td>Elem - Science</td>
<td>2</td>
<td>4.3%</td>
</tr>
<tr>
<td>Elem - Social studies</td>
<td>2</td>
<td>4.3%</td>
</tr>
<tr>
<td>Sec - English language arts</td>
<td>4</td>
<td>8.5%</td>
</tr>
<tr>
<td>Sec - Second languages</td>
<td>2</td>
<td>4.3%</td>
</tr>
<tr>
<td>Sec - Mathematics</td>
<td>3</td>
<td>6.4%</td>
</tr>
<tr>
<td>Sec - Fine arts</td>
<td>5</td>
<td>10.6%</td>
</tr>
<tr>
<td>Sec - Physical education</td>
<td>2</td>
<td>4.3%</td>
</tr>
<tr>
<td>Sec - Science</td>
<td>5</td>
<td>10.6%</td>
</tr>
<tr>
<td>Sec - Social studies</td>
<td>6</td>
<td>12.7%</td>
</tr>
<tr>
<td><strong>Prior Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, family member</td>
<td>8</td>
<td>17.0%</td>
</tr>
<tr>
<td>Yes, work/volunteer</td>
<td>24</td>
<td>51.1%</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>31.9%</td>
</tr>
</tbody>
</table>
Research Question 1

The first research questions sought to determine if there were changes in self-efficacy scores over the three points in time.

1a. What is the effect of the inclusion course and the field experience on preservice teachers’ self-efficacy for teaching in inclusive classrooms?

1b. Is there a difference in self-efficacy gains between the 10 weeks of coursework and the 3 week field experience?

The descriptive statistics for the self-efficacy data from the TEIP scale are shown in Table 4.3, including the minimum score, maximum score, mean, standard deviation, skewness and kurtosis. Skewness and kurtosis, along with the standard errors, were included in order to assess normality of the data. The minimum score was 38 at Time 1, 40 at Time 2 and 48 at Time 3; the lowest possible score is 18. The maximum score at all three times was 108, which is the highest possible score for the TEIP scale. The mean scores increased across the repeated measures from 76.34 in Time 1, 80.65 in Time 2, and 83.98 in Time 3.
Table 4.3  
**Descriptive Statistics for Self-Efficacy Data (N=141)**

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>38</td>
<td>40</td>
<td>48</td>
</tr>
<tr>
<td>Maximum</td>
<td>108</td>
<td>108</td>
<td>108</td>
</tr>
<tr>
<td>Mean</td>
<td>76.45</td>
<td>80.65</td>
<td>83.98</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>12.41</td>
<td>10.70</td>
<td>10.52</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.53</td>
<td>-0.63</td>
<td>-0.26</td>
</tr>
<tr>
<td>Std. Error of Skewness</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.78</td>
<td>1.90</td>
<td>0.62</td>
</tr>
<tr>
<td>Std. Error of Kurtosis</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
</tr>
</tbody>
</table>

The negative skewness for all three points in time indicated a clustering of scores at the high end of the scale. The positive kurtosis indicated that the distribution was peaked which means that the scores were clustered around the mean and dropped off on either side, as opposed to being flat. Calculations were performed to determine the significance of the skewness and kurtosis of the self-efficacy data at each time period. When skewness and kurtosis are found to be not significant, then the data are normally distributed. The significance formula for skewness is: Std. Error x 2 > skewness = not significant, and the significance formula for kurtosis is: Std. Error x 2 > kurtosis = not significant. Negative signs in front of the skewness and kurtosis values are ignored in these calculations, and only the absolute value is considered. The results of the calculations, shown in Table 4.4, demonstrated that for Time 1, the skewness was significant, but the kurtosis was not significant. For Time 2, both the skewness and the
kurtosis were significant. For Time 3, both the skewness and the kurtosis were not significant. To summarize the results, the self-efficacy data for Time 1 and Time 2 were not normally distributed, and the data for Time 3 were normally distributed.

Table 4.4

Calculations for the Significance of the Skewness and Kurtosis of the Self-Efficacy Data

<table>
<thead>
<tr>
<th>Time period</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 1</td>
<td>0.4 &lt; 0.53 = significant</td>
<td>0.82 &gt; 0.78 = not sig.</td>
</tr>
<tr>
<td>Time 2</td>
<td>0.4 &lt; 0.63 = significant</td>
<td>0.82 &lt; 1.90 = significant</td>
</tr>
<tr>
<td>Time 3</td>
<td>0.4 &gt; 0.26 = not sig.</td>
<td>0.82 &gt; 0.62 = not sig.</td>
</tr>
</tbody>
</table>

Note. Std. Error x 2 > skewness = not sig., Std. Error x 2 > kurtosis = not sig.

A one-way repeated measures ANOVA was conducted to compare mean scores from the TEIP scale at Time 1 (start of the course), Time 2 (after the course), and Time 3 (after the field experience). The Bonferroni adjustment was applied in order to account for multiple comparisons and to control Type I errors. Type I errors occur when the researcher incorrectly rejects the null hypothesis, in other words an effect was identified which did not actually occur. Therefore, the Bonferroni adjustment involves setting a more stringent alpha level for each successive comparison.

The results of the repeated measures ANOVA showed that there was an overall significant main effect from Time 1 to Time 3, Wilks’ Lambda = 0.69, $F(2,139) = 30.97$, $p < .001$, multivariate partial eta squared = 0.31. The partial eta squared value suggested a large effect size, since 0.01 constitutes a small effect, 0.06 a medium effect and 0.14 a large effect (Cohen, 1988). This result indicated that there was a large significant gain in
self-efficacy from the start of the course to after the field experience.

Pairwise comparisons, as shown in Table 4.5, compared the mean difference between Time 1 and Time 2 (Treatment A - coursework), Time 2 and Time 3 (Treatment B - field experience), and Time 1 and Time 3 (combined treatments). These comparisons revealed a medium, significant gain in self-efficacy between Time 1 and Time 2, Wilks’ Lambda = 0.87, $F(1,140) = 21.4, p < .001$, multivariate partial eta squared = 0.13. There was also a medium, significant gain in self-efficacy between Time 2 and Time 3, Wilks’ Lambda = 0.88, $F(1,140) = 18.79, p < .001$, multivariate partial eta squared = 0.12.

These results indicated that both treatments, the coursework and the field experience, produced significant gains in self-efficacy. The mean difference was greater between Time 1 and Time 2 (4.20) than Time 2 and Time 3 (3.33), indicating that the gains in self-efficacy were greater after the coursework compared to after the field experience. However, the difference in these gains was not significant since the 95% confidence intervals for the mean gain from the coursework overlapped with the mean gain from the field experience, as shown in Figure 4.1.

Table 4.5

<table>
<thead>
<tr>
<th>Time period</th>
<th>Mean Difference (Gain)</th>
<th>Std. Error</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 2 (coursework)</td>
<td>4.20*</td>
<td>0.91</td>
<td>.000</td>
</tr>
<tr>
<td>2 to 3 (field experience)</td>
<td>3.33*</td>
<td>0.77</td>
<td>.000</td>
</tr>
<tr>
<td>1 to 3 (overall)</td>
<td>7.53*</td>
<td>0.96</td>
<td>.000</td>
</tr>
</tbody>
</table>

* The mean difference is significant at $p < .05$
Repeated measures ANOVAs were also performed for each of the three subscales. Table 4.6 presents the mean scores and standard deviations for each subscale at each point in time. The mean score for the ‘managing behaviors’ subscale was the lowest at all three points in time compared to the other two scales. The ‘collaboration’ subscale had the highest initial mean score; however by the third measurement, ‘inclusive instruction’ ended up with the highest mean score.
Table 4.6

*Means for Three Self-Efficacy Subscales at Three Points in Time (N=141)*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Inclusive Instruction</td>
<td>25.87</td>
<td>4.59</td>
<td>27.72</td>
</tr>
<tr>
<td>Collaboration</td>
<td>25.94</td>
<td>4.8</td>
<td>27.28</td>
</tr>
<tr>
<td>Managing Behaviors</td>
<td>24.54</td>
<td>4.4</td>
<td>25.66</td>
</tr>
</tbody>
</table>

The results of the repeated measures ANOVAs showed significant gains overall from Time 1 to Time 3 for each subscale, Wilks’ Lambda = 0.6, $F(2,139) = 45.82$, $p < .001$, multivariate partial eta squared = 0.40 (inclusive instruction), Wilks’ Lambda = 0.92, $F(2,139) = 6.4$, $p = .002$, multivariate partial eta squared = 0.08 (collaboration), and Wilks’ Lambda = 0.67, $F(2,139) = 34.04$, $p < .001$, multivariate partial eta squared = 0.33 (managing behaviors). The ‘inclusive instruction’ and ‘managing behaviors’ subscales showed large effect sizes, while the ‘collaboration’ subscale showed a medium effect.

Pairwise comparisons, as shown in Table 4.7, compared the mean difference between Time 1 and Time 2 (coursework), Time 2 and Time 3 (field experience), and Time 1 and Time 3 (overall) for each of the subscales. For ‘inclusive instruction’, there were significant gains from both the coursework and the field experience, with a greater gain during the coursework. For ‘collaboration’, there was a significant gain from the coursework, but not from the field experience. In fact, there was a drop in self-efficacy for this subscale during the field experience. For ‘managing behaviors’, there were
significant gains from both the coursework and the field experience, with a greater gain during the field experience.

Table 4.7

*Pairwise Comparisons for Repeated Measures of Subscales (N =141)*

<table>
<thead>
<tr>
<th>Time</th>
<th>Inclusive Instruction</th>
<th>Collaboration</th>
<th>Managing Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M Diff.</td>
<td>S.E.</td>
<td>Sig.</td>
</tr>
<tr>
<td>1 to 2</td>
<td>1.75*</td>
<td>0.36</td>
<td>.000</td>
</tr>
<tr>
<td>2 to 3</td>
<td>1.71*</td>
<td>0.30</td>
<td>.000</td>
</tr>
<tr>
<td>1 to 3</td>
<td>3.46*</td>
<td>0.37</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note.* *The mean difference is significant at* $p < .05$

M Diff = Mean difference between the time periods
S.E. = Standard error

**Hypothesis testing**

$H_{1a}$: There will be significant gains in self-efficacy overall.

The results found that the 10 weeks of coursework and the 3 week field experience produced significant gains in self-efficacy. Therefore, the first hypothesis was supported.

$H_{1b}$: The 3 week field experience will produce greater gains in self-efficacy compared to the 10 weeks of coursework.

The mean differences suggested that the coursework produced greater gains in overall self-efficacy compared to the field experience, which is the opposite of what the hypothesis suggested. Although the ‘managing behavior’ subscale showed a greater gain during the field experience, the other two did not, which affected the overall comparison.
Therefore, the second hypothesis was not supported; however, it is important to note that the overlapping confidence intervals for the mean gain from the coursework compared to the mean gain of the field experience indicated that there was not a significant difference between these self-efficacy gains.

**Research Question 2**

The second research questions sought to determine if participants’ prior experience with individuals with exceptional needs had an effect on self-efficacy scores.

2a. Do preservice teachers with prior experience with individuals with exceptional needs have higher levels of self-efficacy compared to those without prior experience?

2b. Which group demonstrates greater gains in self-efficacy?

A mixed between-within subjects ANOVA was conducted to determine the effect of the treatment on two independent groups (between-subjects variable), while conducting repeated measures of self-efficacy (within-subjects variable). In this study, the between-subjects variable formed two independent groups: preservice teachers with prior experience with individuals with exceptional needs (‘yes prior experience’), and preservice teachers without prior experience with individuals with exceptional needs (‘no prior experience’). Table 4.8 provides the descriptive statistics for the self-efficacy scores for the two groups at each point in time. The mean self-efficacy scores were higher for the ‘yes prior experience’ group compared to the ‘no prior experience’ group at
each point in time. The mean self-efficacy scores increased over the three time periods for both groups, and these trends are further represented in Figure 4.2.

Table 4.8

*Mean Self-Efficacy Scores for Participants With and Without Prior Experience at Three Points in Time*

<table>
<thead>
<tr>
<th>Time period</th>
<th>Yes Prior Experience (n=89)</th>
<th>No Prior Experience (n=52)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Time 1</td>
<td>78.80</td>
<td>11.69</td>
</tr>
<tr>
<td>Time 2</td>
<td>82.37</td>
<td>9.82</td>
</tr>
<tr>
<td>Time 3</td>
<td>85.24</td>
<td>11.14</td>
</tr>
</tbody>
</table>

*Figure 4.2.* Trends for mean self-efficacy scores of participants with and without prior experience with individuals with exceptional needs.
A mixed between-within subjects ANOVA produces three effects: the interaction effect, the within-subjects main effect, and the between-subjects effect. The interaction effect determines if there is the same change in self-efficacy scores over time for the two groups (with and without prior experience). If there is an interaction, then the changes in self-efficacy over time are significantly different for the two groups; changes in self-efficacy are dependent on prior experience. If there is not a significant interaction then the changes in self-efficacy over time are relatively the same; changes in self-efficacy are not dependent on prior experience. The within-subjects main effect determines if there is a change in self-efficacy scores over the repeated measures for all of the participants (both groups combined). The between-subjects effect determines if there is a difference in self-efficacy scores between the two groups at each point in time.

Levene’s test of homogeneity of variance indicated there was no significant difference in the variance of each group (Time 1, $p = .54$, Time 2, $p = .77$, Time 3, $p = .35$), which means the assumption of equal variances was met. The results of the mixed between-within subjects ANOVA, as shown in Table 4.9, indicated that the interaction effect was not significant, Wilks’ Lambda = 0.98, $F(2, 138) = 1.11, p = .33$. Therefore, the variable of prior experience did not influence, or interact with, the overall effect of the repeated measures of self-efficacy. In other words, it did not matter if some participants had prior experience or not; this did not influence the changes in self-efficacy over time. This result is also represented by the line graph shown in Figure 4.2 above. The lines demonstrate that changes to self-efficacy scores over time for the two groups were relatively the same (parallel lines). Although the two lines are not exactly parallel, the lines are not crossing and therefore the interaction effect was not significant. A
nonsignificant interaction effect tells the researcher that it is considered ‘safe’ to continue interpreting the other effects of the mixed ANOVA (Pallant, 2010), since the variable of prior experience does not influence self-efficacy and will not need to be specified when looking at the main effect.

The within-subjects main effect was significant, Wilks’ Lambda = 0.68, $F (2, 138) = 32.15$, $p < .001$, multivariate partial eta squared = .32. This means that there was a large significant gain in self-efficacy over the three periods of time. The between-subjects effect was also significant, $F = 8.93$, $p = .003$, partial eta squared = .06. This suggested a medium significant difference in self-efficacy scores between the two groups at each point in time. In other words, the ‘yes prior experience’ group had significantly higher self-efficacy scores than the ‘no prior experience’ group during the entire study. This is illustrated by the gap between the two lines in Figure 4.2 above, suggesting they are significantly far apart.

Table 4.9

*Effects for Mixed Between-Within Subjects ANOVA*

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilks’ Lambda</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>0.98</td>
<td>1.11</td>
<td>.332</td>
</tr>
<tr>
<td>Within-Subjects</td>
<td>0.68</td>
<td>32.15*</td>
<td>.000</td>
</tr>
<tr>
<td>Between-Subjects</td>
<td></td>
<td>8.93*</td>
<td>.003</td>
</tr>
</tbody>
</table>

*Note.* *Significance is $p < .05$
Table 4.10 provides the pairwise comparisons of the mean differences between each of the time periods for both groups. For the ‘yes prior experience’ group, all of the mean differences were significant. Also, for the ‘no prior experience’ group all of the mean differences were significant. The ‘no prior experience group’ had a mean difference of 5.27 for Time 1 to 2 (coursework) and a mean difference of 4.12 for Time 2 to 3 (field experience), whereas, the ‘yes prior experience’ group had a mean difference of 3.37 for the coursework and 2.87 for the field experience. The greater mean differences of the ‘no prior experience’ group represent greater gains in self-efficacy compared to the ‘yes prior experience’ group. However, since the interaction effect was not significant, it confirms that the ‘no prior experience’ group did not have significantly greater gains than the ‘yes prior experience’ group. To further illustrate, Figure 4.3 depicts the overlapping confidence intervals for both groups’ mean differences from Time 1 to 2 and Time 2 to 3. The overlap confirms that the interaction effect is not significant and even though raw scores show a greater gain for the ‘no prior experience’ group, the gains in self-efficacy over time are not significantly different for the two groups.
Table 4.10

Pairwise Comparisons for Repeated Measures of Self-Efficacy for each Prior Experience Group (Yes and No)

<table>
<thead>
<tr>
<th>Time</th>
<th>Yes, Prior Experience (n=89)</th>
<th>No, Prior Experience (n=52)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Diff.</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 to 2</td>
<td>3.57*</td>
<td>1.04</td>
</tr>
<tr>
<td>2 to 3</td>
<td>2.87*</td>
<td>0.80</td>
</tr>
<tr>
<td>1 to 3</td>
<td>6.44*</td>
<td>1.15</td>
</tr>
</tbody>
</table>

*The mean difference is significant at p < .05

Time 1 to 2 = coursework
Time 2 to 3 = field experience
Time 1 to 3 = overall

Figure 4.3. Mean gain in self-efficacy with 95% confidence intervals for the ‘yes prior experience’ group and the ‘no prior experience’ group during the coursework and the field experience.
Hypothesis testing

$H_{2a}$: Preservice teachers with prior experience with individuals with exceptional needs will have higher levels of self-efficacy compared to those without prior experience.

Since the mean scores of the group with prior experience were higher than the mean scores of the group without, and the between-subjects effect showed a medium, significant difference between the two groups, it can be concluded that preservice teachers with prior experience had significantly higher mean scores in self-efficacy at all three points in time. Therefore, the first hypothesis was supported.

$H_{2b}$: Preservice teachers with prior experience with individuals with exceptional needs will have greater gains in self-efficacy compared to those without prior experience.

Both groups had significant gains in self-efficacy over time, with the group without prior experience having greater gains in self-efficacy compared to the group with prior experience. This is the opposite of what the hypothesis suggested; however, this difference in gains between the two groups was not significant. In other words, the ‘no prior experience’ group had greater gains than the ‘yes prior experience’ group, but not of statistical significance. This is confirmed by the nonsignificant interaction effect which indicated that the difference in changes in self-efficacy over time were not significantly different for the two groups. Also, the confidence intervals, shown in Figure 4.3, help to confirm that the greater gains in the ‘no prior experience’ group were not significant due to the overlapping confidence intervals. Nonetheless, the second hypothesis was not
Research Question 3

The third research question sought to determine the relationship between four independent variables, or predictors (observation, whole class instruction, small group instruction and individual instruction), and the dependent variable, self-efficacy.

3. What type of experience, if any, during the field experience (observation, whole class instruction, small group instruction, individual instruction) is the strongest predictor of self-efficacy gains of preservice teachers?

A standard multiple regression was used to understand how well the type of experience was able to predict preservice teacher self-efficacy gains during the field experience. For this analysis, a new dependent variable was created in order to represent the gains in self-efficacy from the field experience. This variable was calculated by subtracting the self-efficacy mean scores of Time 3 (post field experience) from Time 2 (prior to field experience).

The frequency statistics for the four predictors are shown in Table 4.11. The table presents the percentage of participants who fell under the six options of the time rating scale for each type of experience. The means of the four predictors indicated that during the field experience, on average, more time was spent observing students with exceptional needs (M = 3.70), as opposed to small group instruction (M = 3.11), whole class instruction (M = 3.01), and individual instruction (M = 2.95).
Table 4.11  

*Percentage of Participants for each Time Rating (N=141)*

<table>
<thead>
<tr>
<th>Type of experience</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation</td>
<td>2.8%</td>
<td>27.0%</td>
<td>22.7%</td>
<td>14.2%</td>
<td>11.3%</td>
<td>22.0%</td>
<td>3.70</td>
</tr>
<tr>
<td>Whole Class</td>
<td>19.1%</td>
<td>36.2%</td>
<td>10.6%</td>
<td>9.9%</td>
<td>7.1%</td>
<td>17.1%</td>
<td>3.01</td>
</tr>
<tr>
<td>Small Group</td>
<td>9.9%</td>
<td>34.1%</td>
<td>18.4%</td>
<td>19.9%</td>
<td>7.8%</td>
<td>9.9%</td>
<td>3.11</td>
</tr>
<tr>
<td>Individual</td>
<td>15.6%</td>
<td>34.8%</td>
<td>14.2%</td>
<td>17.7%</td>
<td>9.9%</td>
<td>7.8%</td>
<td>2.95</td>
</tr>
</tbody>
</table>

*Note.* Values for the time rating scale:
- 1 = no hours
- 2 = 1-5 hours
- 3 = 6-10 hours
- 4 = 11-15 hours
- 5 = 16-20 hours
- 6 = over 20 hours

The four predictors were entered simultaneously into the analysis. Multicollinearity was assessed and the predictors were not highly correlated with each other, which improves the validity of the results. Overall, the model produced from the analysis showed that the total variance of gains in self-efficacy explained by the four predictors was approximately 29%, \( R^2 = .29 \), \( F(4,136) = 13.90, p < .001 \). The significant F value indicated that the model as a whole was statistically significant.

Table 4.12 presents the direction, significance and strength of the relationship between the individual predictors and self-efficacy. The two predictors with negative standardized beta values, observation (\( \beta = -0.29 \)) and whole class instruction (\( \beta = -0.17 \)), indicated that as the hours of time with observation and whole class instruction decreased, self-efficacy was more likely to increase. The two predictors with positive
beta values, individual instruction ($\beta = 0.38$) and small group instruction ($\beta = 0.29$), indicated that as the hours of time performing individual instruction and small group instruction increased, self-efficacy was more likely to increase. Individual instruction ($p < .001$) and small group instruction ($p = .005$) both had a significant, positive relationship with gains in self-efficacy. Observation ($p < .001$) and whole class instruction ($p = .045$) both had a significant, negative relationship with gains in self-efficacy. Based on the standardized beta values (ignoring the negative signs), individual instruction makes the strongest unique contribution to self-efficacy gains ($\beta = 0.38$). Small group instruction ($\beta = 0.29$) and observation ($\beta = -0.29$) had the next strongest beta values, although observation had a negative relationship to self-efficacy gains. Whole group instruction ($\beta = -0.17$) made the weakest unique contribution to the model.

Table 4.12

*Multiple Regression Analysis of Four Predictors on Self-Efficacy*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Beta</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Instruction</td>
<td>0.38*</td>
<td>.000</td>
</tr>
<tr>
<td>Small Group Instruction</td>
<td>0.29*</td>
<td>.005</td>
</tr>
<tr>
<td>Whole Class Instruction</td>
<td>-0.17*</td>
<td>.045</td>
</tr>
<tr>
<td>Observation</td>
<td>-0.29*</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note.* *Significance is $p < .05$
Hypothesis testing

\( H_3: \) Individual instruction is the strongest predictor of self-efficacy gains, followed by small group instruction, whole class instruction and observation.

Individual instruction recorded the highest beta value indicating that it was the strongest predictor of self-efficacy (\( \beta = 0.38 \)). The next strongest predictors were small group instruction (\( \beta = 0.29 \)), observation (\( \beta = -0.29 \)), followed by whole class instruction (\( \beta = -0.17 \)). However, observation and whole class instruction were in a negative direction, therefore they did not predict gains in self-efficacy, which is what the hypothesis was testing for. Therefore, this hypothesis was partially supported since individual instruction was the strongest predictor of self-efficacy gains, followed by small group instruction, but gains were negatively predicted by observation and whole class instruction.

Research Question 4

The fourth research question sought to determine if there is a relationship between self-efficacy and self-esteem.

4. What is the relationship between preservice teachers’ self-efficacy and self-esteem?

The descriptive statistics for the self-esteem data from the RSE scale are presented in Table 4.13, included the minimum score, the maximum score, the mean and the
standard deviation. Skewness and kurtosis, as well as the standard errors, are also presented in order to assess normality of the data. At all three points in time, the minimum score was 20 (lowest possible is 10) and the maximum score was 40, which is the maximum score for the RSE scale. The mean scores remained the same between Time 1 and Time 2 (M = 32.65) and increased in Time 3 (M = 32.71).

Table 4.13

Descriptive Statistics for Self-Esteem Data (N=141)

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Maximum</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Mean</td>
<td>32.65</td>
<td>32.65</td>
<td>32.71</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>4.23</td>
<td>4.35</td>
<td>4.20</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.24</td>
<td>-0.13</td>
<td>-0.07</td>
</tr>
<tr>
<td>Std. Error of Skewness</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0.43</td>
<td>-0.54</td>
<td>-0.32</td>
</tr>
<tr>
<td>Std. Error of Kurtosis</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
</tr>
</tbody>
</table>

The negative skewness for all three points in time indicated a clustering of scores at the high end of the RSE scale. The negative kurtosis indicated that the distribution was rather flat and somewhat uniform, rather than peaked around the mean. Calculations were performed to determine the significance of the skewness and kurtosis of the self-esteem data at each time period. The results of the calculations, shown in Table 4.14, demonstrated that the skewness and the kurtosis of the self-esteem data, for all three time
periods, were not significant, therefore the data were normally distributed and the assumption of normal distribution was not violated.

Table 4.14

<table>
<thead>
<tr>
<th>Calculations for the Significance of the Skewness and Kurtosis of the Self-Esteem Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time period</td>
</tr>
<tr>
<td>--------------</td>
</tr>
<tr>
<td>Time 1</td>
</tr>
<tr>
<td>Time 2</td>
</tr>
<tr>
<td>Time 3</td>
</tr>
</tbody>
</table>

*Note.* Std. Error x 2 > skewness = not sig., Std. Error x 2 > kurtosis = not sig.

A two-tailed Pearson product-moment correlation coefficient was used to investigate the relationship between self-efficacy and self-esteem. Preliminary analyses through scatterplots were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity occurred. Normality refers to the assumption that the data were normally distributed and can be detected through an examination of the data points on the scatterplot. No extreme outliers were detected, which indicated that the data were normally distributed, however the earlier skewness and kurtosis significance tests showed that some of the self-efficacy data violated this assumption. Linearity refers to the assumption that the two variables had a linear relationship, as depicted by a line, rather than a curve, on the scatterplot. The researcher confirmed a linear relationship by examining the residuals of the scatterplots, therefore the assumption of linearity was met. Homoscedasticity refers to the assumption that there was a uniform
distribution of data points around the regression line of the scatterplot, depicted by a ‘cigar’ shape. The researcher determined that the assumption of homoscedasticity was met.

The results of the Pearson product-moment correlation, as given in Table 4.15, demonstrated that there was a small, positive correlation at the first point in time, \( r = 0.20, \) \( n = 141, \) \( p = 0.015. \) There was a medium, positive correlation at the second point in time, \( r = 0.38, \) \( n = 141, \) \( p < 0.001, \) and also at the third point in time, \( r = 0.35, \) \( n = 141, \) \( p < 0.001. \) The small and medium strengths of the relationship were determined using Cohen’s (1988) suggested guidelines for the correlation coefficient where \( r = 0.10 \) to \( 0.29 \) is a small correlation, \( r = 0.30 \) to \( 0.49 \) is a medium correlation, and \( r = 0.50 \) to \( 1.0 \) is a large correlation. All of the results were significant. The coefficients of determination for the three points in time were 0.04, 0.14 and 0.12, respectively. This indicated that the percentage of shared variance between the two variables were 4%, 14% and 12%.

Table 4.15

<table>
<thead>
<tr>
<th>Time</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 1</td>
<td>0.20*</td>
<td>0.015</td>
</tr>
<tr>
<td>Time 2</td>
<td>0.38*</td>
<td>0.000</td>
</tr>
<tr>
<td>Time 3</td>
<td>0.35*</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*Correlation is significant at \( p < 0.05 \)
Hypothesis testing

H₄: There is no relationship between preservice teachers’ self-efficacy and self-esteem.

There was a significant correlation between preservice teachers’ self-efficacy and self-esteem at each point in time; therefore, the hypothesis was not supported.

Additional Analysis

Since a relationship between self-efficacy and self-esteem was determined at each point in time, the researcher conducted an additional analysis to determine the effect of the intervention on self-esteem. This was performed in order to determine if the changes to self-efficacy and the changes to self-esteem were the same over time.

A one-way repeated measures ANOVA was conducted to compare mean scores from the RSE scale at Time 1 (start of the course), Time 2 (after the course), and Time 3 (after the field experience). The Bonferroni adjustment was applied in order to account for multiple comparisons and to control Type I errors. The results of the repeated measures ANOVA showed that there was not an overall significant main effect from Time 1 to Time 3, Wilks’ Lambda = 0.997, F(2,139) = 0.18, p = .84, multivariate partial eta squared = 0.003. This result indicated that there was not a significant gain in self-esteem from before the course to after the field experience. Pairwise comparisons compared the mean difference in self-esteem between the time points. The comparison showed that there were no significant mean differences in self-esteem between Time 1 and Time 2 (p = 1.0), Time 2 and Time 3 (p = 1.0), and Time 1 and Time 3 (p = 1.0).

Table 4.16 shows these results and compares them to the earlier results of the self-
efficacy data.

Table 4.16

*Pairwise Comparison for Repeated Measures of Self-Efficacy and Self-Esteem*

<table>
<thead>
<tr>
<th>Time</th>
<th>Self-Efficacy (N = 141)</th>
<th>Self-Esteem (N = 141)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Mean Diff.</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 to 2</td>
<td>4.20*</td>
<td>0.91</td>
</tr>
<tr>
<td>2 to 3</td>
<td>3.33*</td>
<td>0.77</td>
</tr>
<tr>
<td>1 to 3</td>
<td>7.53*</td>
<td>0.96</td>
</tr>
</tbody>
</table>

*Note.* *The mean difference is significant at p < .05*

These results indicated that self-efficacy scores increased significantly over the repeated measures, while self-esteem scores did not. These results are further represented in Figure 4.4.

*Figure 4.4.* Trends in self-efficacy data compared to trends in self-esteem data over time.
CHAPTER V
Discussion

This chapter provides an examination and interpretation of the results of each research question in light of the existing literature. Also, the limitations of the study that may affect the validity or the generalizability of the results are presented. This is followed by an overview of the implications of the study and recommendations for future research.

Examination of the Findings

Research question 1

With the first research question it was hypothesized that there would be significant gains in self-efficacy overall, and that the field experience would produce greater gains than the coursework. Through the first analysis, it was found that the participants in this study experienced significant gains in self-efficacy after the inclusion course and also after the field experience. This demonstrated that the coursework itself was effective in developing self-efficacy, but the combination of the coursework and the field experience made even more substantial gains to the participants’ self-efficacy. Since the field experience significantly contributed to additional gains after the coursework, this provided evidence that there was room to grow in terms of self-efficacy development after the single-unit inclusion course. Therefore, a conclusion can be made that when the preservice teachers had direct experience opportunities after the inclusion course, their self-efficacy was even further augmented. Burton and Pace’s (2009) three year study also demonstrated that the combination of coursework and direct experience significantly
increased preservice teachers’ self-efficacy for teaching diverse learners. When the researchers added the 20-hour tutoring component to the mathematics methods course, it resulted in significant gains in the self-efficacy of the participants. On the other hand, Lancaster and Bain’s (2010) study did not show significant results from a combination of coursework and direct experience. When the researchers compared two designs of inclusion courses, one with coursework only, and one that added 11 hours of direct experience in an after school program, the design with the added direct experience component did not covary with increased self-efficacy gains compared to the coursework only design. Perhaps it is important to examine the number of hours of direct experience the participants received. Since self-efficacy development is a process that occurs over time, it is possible that 11 hours was not sufficient compared to 20 hours, or 3 weeks as in the present study.

For the second part of the first research question, it was hypothesized that the field experience component would produce greater gains in self-efficacy than the coursework. It was assumed that since preservice teachers have expressed concerns about preparedness, and specifically about not having enough experiences with students with exceptional needs during teacher training, then a field experience would produce greater gains than theoretical coursework. However, overall, the opposite effect actually occurred, although not of statistical significance. Since there was no statistical difference, then it is not conclusive that one treatment was ‘more’ effective than the other. It is possible that the inclusion course laid the groundwork for the essential theory and should be considered a vital component of the program, just as the direct experience was also a significant component. In other words, the combination may have produced
an interaction that contributed to the overall growth in self-efficacy.

Dewey (1938) discussed the interplay of theory and experience by asserting the importance of theory to make experiences educative, and the importance of experience to turn theory into practice. What may have occurred in the present study, is what Burton and Pace (2009) referred to in their study as an opportunity for “students to synthesize, apply, and reflect on the knowledge presented in the [coursework] and make the connection to working in an actual classroom with students” (p. 115). Britzman (2003), who studies and writes on the role of experience in teacher education, explained how knowledge from theoretical courses can be stagnant if there are no opportunities to ‘practice’ the knowledge. In and of itself, theoretical knowledge and skill development without context, does not fair well for the preparation of those professions that demand judgment, performance and practical reasoning such as medicine, nursing and teaching (Sullivan & Rosin, 2008). Sullivan and Rosin (2008) described ‘practical reasoning’ as decision-making that is directed toward action and doing within the lived present. Where theoretical reasoning calls for knowledge of facts that have been worked out in the past, practical reasoning converts this knowledge into judgments and actions in the present. The authors further explained that the development of practical reasoning is not achieved simply through exhortation of maxims or explanations of why or how, but through actual practice and experience in their profession. This experience of turning theory into practice, as espoused by Dewey (1938), Bandura (1977), and other researchers (Britzman, 2003; Burton & Pace, 2009; Sullivan & Rosin, 2008), may have occurred when the participants in this study went directly from their coursework to the field experience classroom. In summation, there is no conclusion that one treatment produced
significantly higher gains than the other, but that both, perhaps in an interconnected way, were significant in the preparation of preservice teachers for inclusion.

To add to this discussion, the results of the subscale analyses provided some interesting and relevant details. For example, the ‘inclusive instruction’ subscale showed the greatest overall gains compared to the other two subscales. To account for this, it is probable that the coursework focused on inclusive instructional techniques to a greater extent than developing skills for collaborating with parents/professionals, and skills for behavior management. Also, the assignments during the field experience focused on designing lessons and activities for learners, which may have contributed to self-efficacy development for inclusive instruction. The ‘collaboration’ subscale showed significant gains during the coursework, and a drop in self-efficacy during the field experience. This may be a result of not having experiences with dealing with parents and other paraprofessionals during the field experience, although this can only be confirmed through additional research. The ‘managing behavior’ subscale had the lowest scores on the TEIP scale at all three points in time. This finding confirms the previous research that preservice teachers seem to be most concerned about their preparedness to include students with behavior disorders in their classrooms (Avramidis, Bayliss, & Burden, 2000; Richards & Clough, 2004; Romi & Leyser, 2006). Interestingly, unlike the other two subscales, the ‘managing behavior’ subscale showed greater gains during the field experience compared to the coursework. It seems logical that practical experience, as opposed to theory, would contribute greater to the types of skills related to this subscale. For example, it would be difficult to assess one’s self-efficacy for controlling disruptive behavior without actually having the experience of doing so. Also, research has shown
that preservice teachers, after inclusion courses, have still requested more direct experience opportunities to better prepare them for teaching students with behavior disorders (Westling, 2010). All of the findings from the subscale analyses allow for interesting interpretations of the effects of the combination of coursework and field experiences.

When other researchers have reported the positive effects of direct experience, combined with inclusion coursework, the direct experience component is represented in very different forms. For example, studies have examined the effects of direct experience through one on one tutoring (Burton & Pace, 2009; Golder, Norwich, & Bayliss, 2005), literacy programs (Jobling & Moni, 2004; Spandagou, Evans, & Little, 2008), and community involvement (Chambers & Forlin, 2010). Very few studies have investigated the effect of direct experience within a classroom situation such as the field experience placement, and even fewer have investigated this setting while also measuring self-efficacy as opposed to attitudes (Van Laarhoven, Munk, Lynch, Bosma, & Rouse, 2007) or knowledge gains (Munby and Hutchinson, 1998). It is also important to note that the studies measuring self-efficacy used either researcher-constructed surveys or other general teacher self-efficacy scales. Currently, there are only three published studies that have used the Teacher Efficacy for Inclusive Practice scale, and these studies did not investigate an approach to teacher education for inclusion (Forlin, Cedillo, Romero-Contreras, Fletcher, & Hernandez, 2010; Malinen, Savolainen, & Xu, 2011; Savolainen, Engelbrecht, Nel, & Malinen, 2012). Since the TEIP scale is new, it will take some time before research is added to this specific area. As Bandura (1977) explained, self-efficacy is a task specific construct, therefore it is important to compare findings that utilize
similar, or the same, measurement tools focusing on the specific task being investigated. Consequently, it is difficult to find similar research to the current study, however there is evidence that combining coursework with some type of direct experience has a positive impact on beliefs and preparedness of preservice teachers for inclusive practice, as was shown in the current study.

**Research question 2**

With the second research question, it was hypothesized that preservice teachers with prior experience with people with exceptional needs would have higher levels of self-efficacy, and would experience greater gains in self-efficacy, than preservice teachers without prior experience. The results showed that prior experience was associated with higher levels of self-efficacy for preservice teachers. This finding parallels other related research. For example, Forlin, Loreman, Sharma & Earle (2009) found that preservice teachers with prior experience with people with exceptional needs had more positive attitudes and fewer concerns about teaching students with exceptional needs, although prior experience did not affect preservice teachers’ level of comfort to interact with people with disabilities. In a different study, all participants with prior experience did, in fact, have significantly lower levels of discomfort compared to those without prior experience, and daily contact had a more significant effect than less frequent contact (Carroll, Forlin, & Jobling, 2003). Also, Hamre and Oyler’s (2002) study reported increased confidence in teaching students with exceptional needs for those participants who had prior experience. In terms of self-efficacy, research confirms the findings of the present study that prior experience is associated with significantly higher
levels of self-efficacy compared to those without prior experience (Forlin, Cedillo, Romero-Conteras, Fletcher, & Hernandez, 2010; Romi & Leyser, 2006).

Also, it was found in the present study that these higher levels of self-efficacy were maintained throughout the duration of the study. In other words, the preservice teachers with prior experience rated their self-efficacy consistently higher than the group without prior experience before the inclusion course began, after the inclusion course, and again after the field experience. This finding can provide support for the theory that high self-efficacy, once established is durable over time and with different experiences (Palmer, 2006).

Another important finding from this analysis, was that there was no interaction effect for prior experience and self-efficacy gains over time. To explain, this means that the effect of the two treatments (coursework and field experience) on self-efficacy was similar for the two groups (with prior experience and without prior experience). If there were an interaction, then there would be a different effect for the two groups over time. This is an important finding because it demonstrates that although the group with prior experience had higher self-efficacy scores throughout the study, the group without prior experience had very similar gains in their self-efficacy as well. In fact, the group without prior experience had slightly greater gains, and a close look at the trend in Figure 4.2 shows that perhaps, over an extended period of time, the gap between the self-efficacy scores of the two groups may even out. In other words, it is possible that although having prior experience shows an initial advantage in self-efficacy, over time and through experience, it may not matter if the preservice teacher had prior experience or not. As teachers progress through their training and then through their careers, experiences will
accumulate and may ‘level the playing field’, so to speak in terms of the advantage of having prior experience.

**Research question 3**

It was hypothesized that of the four types of experiences measured during the field experience, individual instruction would be the strongest predictor of self-efficacy gains, followed by small group instruction, whole class instruction and observation. The results showed that individual instruction was the strongest predictor of self-efficacy gains, followed by small group instruction, and interestingly, observation and whole class instruction were negatively associated with self-efficacy gains. To put it simply, as preservice teachers had more opportunities for individual, direct experience and small group work with diverse learners, and less time observing and whole class teaching, their self-efficacy was more likely to increase.

Based on the results of the direct experience questionnaire, it was found that during the field experience, on average, the most amount of time was spent observing students with exceptional needs. This was followed by time spent with small group instruction, time spent with whole class teaching and, finally, the least amount of time was spent with individual instruction. The break down of these descriptive statistics is significant considering the results of the analysis. Essentially, preservice teachers in this study spent the most amount of time with the type of experience (observation) yielding the least amount of self-efficacy gains, and the least amount of time with the type of experience (individual instruction) predicting the highest gains in self-efficacy. Therefore, it can be noted that in this study the time allocation spent with the four types
of experiences was not congruent with what the results showed in terms of where to spend the most and least amount of time in order to maximize self-efficacy gains.

Although significant, the effect sizes of each of the relationships were small; therefore, caution should be made when interpreting these results. Also, since the types of experiences only explained 29% of the variance in self-efficacy, there were obviously a number of other factors contributing to self-efficacy. In using self-efficacy theory as a guiding framework for this discussion, perhaps verbal persuasion in the form of feedback from mentor teachers and university facilitators was also a factor in self-efficacy changes. Also, vicarious experience, through observing an effective model of inclusive teaching, may also have contributed to the overall effect on self-efficacy.

Regardless of what other factors may have been influential, other research supports the finding that working individually with a student with exceptional needs can lead to increases in preservice teachers’ self-efficacy for teaching diverse students (Burton & Pace, 2009). Additionally, other projects have confirmed that individual interactions (Golder, Norwich, & Bayliss, 2005) and small group interactions (Jobling & Moni, 2004) with exceptional students lead to greater knowledge about disabilities and teaching strategies that can be transferred to inclusive classroom situations.

The other portion of this finding was that observation and whole class instruction were negatively associated with self-efficacy gains. The fact that observations were not related to self-efficacy development is not surprising, given that mastery experience as opposed to vicarious experience is a stronger source of self-efficacy development (Bandura, 1977; Tschannen-Moran & McMaster, 2009). When the preservice teachers had less time observing and watching students with exceptional needs, and more time
‘experiencing’ teaching, the influence on self-efficacy was stronger. As other studies have concurred, it is beneficial for field experience approaches to provide optimum opportunities for hands-on experience (Munby & Hutchinson, 1998).

Interestingly, whole class instruction, which is the emphasis of many field experiences, was also a negative predictor of self-efficacy development. Perhaps this result is explained by the fact that whole class teaching does not always allow a chance for preservice teachers to really understand the nature and needs of the individual diverse learners in the class. In fact, field experiences that emphasize whole class teaching can be criticized for their lack of exposure to students with special needs. For example, Jobling and Moni’s (2004) study revealed that some participants felt they had limited contact with the students with special needs during their practicum as they “always had an aide with them” (p. 13). Many field experiences focus on whole class teaching with very little opportunity for preservice teachers to work individually or in small groups with diverse learners (Carroll, Forlin, & Jobling, 2003). Essentially, what can be derived from the results of this analysis, and other previous research, is that the type and amount of experience with students with exceptional needs matters and should be considered when designing field experiences.

**Research question 4**

It was hypothesized that preservice teacher self-efficacy for teaching in inclusive classrooms would not be related to preservice teacher self-esteem. The findings from this analysis did show small and medium, significant correlations between these two constructs at each point in time throughout the study. Other studies have also found a
correlation between these two variables at single points in time (Afari, Ward, & Khine, 2012; Huang, Liu, & Shiomi, 2007). The fact that there was a correlation at each point in time may be explained by Bandura’s (1997) claim that if people invest their sense of self-worth in a certain task, they may inflate their self-efficacy for that task. In other words, in the present study, and in other related studies, the preservice teachers may consider their teaching ability as important to their overall self-worth since it is such a significant aspect of their lives. Therefore, since the empirical analyses were confined to activities in which the participants might invest their sense of self-worth, the correlation between self-efficacy and self-esteem may have been overstated.

To add to the examination of this research question, the additional analysis conducted in the present study demonstrated that while self-esteem scores increased, self-efficacy scores remained relatively unchanged. Therefore, the discussion becomes, do these findings confirm or refute Bandura’s claim that there is no fixed relationship between these two constructs? Claiming there is no ‘fixed’ relationship between two constructs is different than claiming there is no relationship. A fixed relationship, taken from principles of physics and mathematics, is one in which the relationship is cohesive and consistent over time. In the present study, self-efficacy had a relationship at single points in time, but it did not have a fixed relationship with self-esteem. In addition, this result may support the claim that self-efficacy and self-esteem are theoretically different constructs (Bandura, 1997; Chen, Gully, & Eden, 2004), because if they were the same they would probably have exhibited a fixed relationship throughout the study.

To summarize, although there were correlations at each point in time, they may have been inflated due to the value that preservice teachers may place on the task of
inclusive teaching as a reflection of their self-worth. Also, the correlations at each point in time do not represent a fixed relationship since the changes to the scores of the two constructs were very different, which also helps to verify the claim that they are theoretically distinct from one another.

**Implications of the Study**

The movement toward inclusive education has challenged teacher educators to provide new knowledge and skills to preservice teachers. There is a robust amount of literature pertaining to the effect of inclusion training on preservice teachers’ attitudes, with much less related to self-efficacy. Also, there are very few studies specifically investigating the effect of direct experience on self-efficacy, and therefore little is known about the type or amount of direct experience during teacher training that will have a positive impact on preservice teacher preparation for inclusion. Therefore, the findings of this study should provide insights for faculty and developers of teacher preparation programs for inclusion, and there are several implications to consider.

The overarching implication is the importance of inclusion training because of its influence on preservice teachers’ self-efficacy for implementing inclusive practices. The findings showed that the inclusion course and the field experience both had significant effects on the development of preservice teacher self-efficacy. The direct experience component further augmented the self-efficacy of the preservice teachers by a significant amount, suggesting that the inclusion course on its own may not be sufficient in preparing preservice teachers for inclusion. While acknowledging that preservice teachers require a solid theoretical framework, closing the gap between theory and
practice by offering opportunities for direct experience is essential. Thus, teacher preparation programs should carefully consider the combination of coursework and direct experiences when designing their inclusion training programs.

Also of consideration for teacher educators, is the context in which the direct experience component occurs. In the present study, the direct experience component was embedded into a field experience within a general classroom at a local school. Research indicates that direct experience opportunities need to be as authentic to real inclusive classroom situations as possible (Bain & Hasio, 2011; Carroll, Forlin, & Jobling, 2003; Gurvitch & Metzler, 2009; Jobling & Moni, 2004) as opposed to contrived contexts such as buddy systems, tutoring, or after school programs for example. Since self-efficacy development is context specific, trying to develop self-efficacy for inclusive practice in a non-inclusive environment would not be as effective. Therefore, the field experience within general education classrooms, as shown in the present study, is an appropriate and authentic context for direct experience opportunities. In fact, Loreman (2010) argued that the field experience is the “only meaningful solution” (p. 63) to improve inclusion training through contact with students with disabilities.

In providing field experiences as a component of inclusion training, careful considerations need to be made since not every practicum setting is a model of good inclusive practice and experiences can vary greatly (Atay, 2007). One suggestion to address this concern is the careful placement of preservice teachers in schools and classrooms that have adopted a strong sense of inclusion and consistently demonstrate effective inclusive practices. In fact, Loreman (2010) suggested that preservice programs should develop a set of criteria, based on elements of inclusive school environments, in
order to select appropriate inclusive field experience placements. However, it was also recognized that due to the lack of willing schools, choices may be limited (Loreman, 2010). Therefore, another suggestion is to establish a well-structured field experience that enhances communication between the university and the placement school, and optimizes the experience of the preservice teacher. For example, in this study, there were clear expectations for the roles and responsibilities for the preservice teacher, the school liaison, the partner teacher, and the university field instructor outlined in the field experience handbook. Also, there was a comprehensive guideline with a detailed daily and weekly schedule for the preservice teachers to follow. This included specific expectations for working with individual and small groups of learners, planning and implementing lessons for the learners, recording reflections in their ethnographic field journal, participating in online discussions, and participating in a final oral presentation to the cohort of preservice teachers and the university field instructor. Downey and Cobbs (2007) emphasized the importance of a well-constructed field experience that provides clear expectations for all stakeholders, ensuring that preservice teachers are supported and gaining the most from their time in the classroom.

The results of the subscale analyses of this study provide more implications for the design of field experiences. For instance, since the lowest gains were from the ‘managing behavior’ subscale, more emphasis should be placed on providing preservice teachers with experiences to further their knowledge and skills for dealing with difficult student behavior. The present study confirmed that direct experience opportunities are an important aspect for developing this specific type of self-efficacy. Also, the fact that the ‘collaboration’ subscale showed a drop in self-efficacy during the field experience
suggests that this area requires more emphasis. For example, it may be effective for preservice teachers to interview parents of students with exceptional needs, or have an opportunity to work with paraprofessionals during their time at their placement school. Essentially, it is useful for teacher educators to carefully examine the three subscales as indicators of what specific types of self-efficacy for inclusive practice may need to be developed during teacher training.

Perhaps the most important implication of this study is the results of the direct experience questionnaire. The findings showed that higher gains in self-efficacy were associated with spending more time individually and in small groups with students with exceptional needs, and less time with observation and whole group instruction of students with exceptional needs. Therefore, designers of field experiences should consider including an explicit requirement for preservice teachers to engage in one on one, or small group experiences with students that have been identified as having special educational needs. This could be similar to the structure that Golder, Norwich and Bayliss (2007) designed for their study on preservice teachers’ attitudes, where participants were required to select one student with special educational needs to work intensively with during their field experience. This type of requirement would ensure that preservice teachers are provided with opportunities to engage one on one with students with exceptional needs, rather than assuming it may happen during the field experience. Also, perhaps limiting the time observing and whole class teaching in order to create time and opportunities to engage more intimately with exceptional learners is a significant consideration.

It is important to note that in the present study there was not an expectation during
the field experience for preservice teachers to work, specifically, with students with exceptional needs. In fact, it was possible that they did not encounter a gifted student or a student with disabilities at all. If the preservice teacher did indicate that they worked with a student, or students, with exceptional needs on the direct experience questionnaire, it was by chance and not because it was a specific expectation of the field experience. Therefore, the researcher of this study suggests designing a field experience with explicit expectations for working with students with exceptional needs through a scaffolded design. With this design, preservice teachers would first spend a considerable amount of time working individually or with small groups of students with exceptional needs, and then begin to teach in a whole class setting while implementing inclusive practices to include the exceptional students. Specifically, preservice teachers would be expected to learn about the individual student’s strengths, difficulties, prior assessments, educational needs, and individual program plan, while also being responsible for assessment, planning, teaching and reviewing the strategies they used with this student. The ultimate goal of the scaffolded field experience would be to apply knowledge and strategies learned from working with the individual student when differentiating lessons for the whole class. A scaffolded design would provide support for preservice teachers, and would gradually move them into a mastery experience situation that replicates the realities of inclusively teaching a diverse group of students.

One last implication of the study is that since the field experience was successful at significantly increasing self-efficacy, it is important to note the length of three weeks as opposed to a shorter amount of time. Bandura (1977) explained that self-efficacy is developed over time and especially through repeated opportunities for successful mastery
experiences. A shorter field experience may not produce the same growth in self-efficacy development as was found in the present study. For inclusion training, the goal should be to establish a strong and stable sense of self-efficacy for implementing inclusive practices before preservice teachers encounter the challenges they will face in their future profession.

**Limitations of the Study**

This study had several limitations. First, the setting of the study was limited to preservice teachers studying at the University of Calgary in Alberta, Canada. Since different universities might have unique student populations, the results are restricted to the boundaries of the characteristics of the participants in the study. In addition, because the sample was not randomly selected, it is not necessarily representative of the population of all preservice teachers. Also, participation in the study was voluntary, which may have skewed the results, since not every preservice teacher in the program participated. For example, preservice teachers may have chosen to participate in the study because they carry strong views regarding inclusion and preparation for teaching diverse students. Also, attrition of participants did occur, and although it was found that attrition bias was not significant, it may still be possible that the results were affected in some way.

Another limitation is the differentiation that may have occurred among the lesson delivery from the eight breakout sessions. The curriculum, learning objectives, readings and assignments were standardized; however, since each session was taught by a different instructor, the variation in delivery may have affected what the preservice
teachers learned, thus influencing the changes in self-efficacy and the results of the study. In addition, the participants were concurrently taking other courses during the time of the study, which suggests that the context of the program, rather than the course itself, may have influenced self-efficacy gains.

The direct experience questionnaire used in this study had limitations. Without a method to accurately qualify and quantify each type of experience during the field experience, the responses were left up to the interpretation of the participant. They were not asked to tally the hours spent with each type of experience during their field experience, therefore their responses to the number of hours may not be entirely accurate.

In addition, the TEIP scale has not undergone a test-retest study; therefore, external reliability cannot be confirmed. Also, both scales used relied on self-reports by the participants. Thus, only the participants’ perceptions of their self-efficacy and self-esteem were collected and it is possible that the actual, objective truth may not be reflected in their answers. Also, response bias is a possibility on self-report measures and can occur on questionnaire items when respondents choose the most extreme response or the most socially desirable response, or when participants respond in a deviant or careless manner (Paulhus, 1991).

The fact that there were non-normal distributions in some of the self-efficacy data may be considered a limitation of the study since parametric tests were used. However, Norman (2010) conducted and compiled previous empirical research, dating back 80 years, to prove that parametric tests such as the ANOVA, and other correlation and regression tests can be used with small samples, non-normal distributions, and likert scales without concern for getting the wrong answer.
Lastly, the study design itself has inherent limitations. The main advantage of repeated measures design is the control of subject variability, since the subjects themselves act as their own control (Wells, 1998). For this reason, the design also requires fewer participants compared to other experimental designs. However, the main limitation of the repeated measures design is the longitudinal threats of history and maturation. This refers to the possibility that events, or physical, intellectual, and emotional changes that naturally occur with participants over time, can affect the participants’ performance on the measure of the dependent variables. For all of these reasons, generalizations of the results of the study should be taken with caution.

**Recommendations for Future Research**

The present study, along with previous research, indicated that direct experience with students with exceptional needs during teacher training had a positive impact on preservice teachers’ self-efficacy for teaching in inclusive classrooms. However, further research in this area is warranted given the relatively limited amount available to draw conclusions from. Specifically, it would be valuable for more researchers to use the TEIP scale to investigate the effect of a combined approach with a course and a field experience.

The current study made some headway into understanding the type and amount of direct experience impacting self-efficacy for inclusive teaching; however, much is still to be known. For example, future research in this area could investigate the effect of a scaffolded approach to the field experience where preservice teachers are expected to work individually with a student with exceptional needs, and then gradually begin whole
class instruction while including that exceptional learner. Also, it would be useful to investigate the effect of carefully planned assignments and expectations during the field experience that take into consideration the subscales of ‘inclusive instruction’, ‘collaboration’, and ‘managing behaviors’. In addition, it would be valuable to examine other possible influences on self-efficacy during field experiences such as vicarious experiences, verbal persuasion, and physiological state.

Finally, mixed methods research would be beneficial for contributing to the growing body of literature in this area. Interviews or focus groups could provide researchers with perspectives and explanations that cannot be captured in quantitative research. As Forlin (2010) stated, it is the role of teacher educators to provide a strong foundation for the preparation of preservice teachers for inclusion. Therefore, continued research in this area will assist teacher educators to understand which experiences, or combination of experiences, are most effective at developing self-efficacy and preparing new graduates for the challenge of inclusive teaching.
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APPENDIX A

Field Experience Expectations

University of Calgary Faculty of Education

Bachelor of Education Program

SEMESTER TWO FIELD CURRICULUM

EDUC 411

Principles of Individual Learning and Development

March 26 – April 20, 2012

The purpose of this three-week field experience is to focus on the complex dimensions of individual learning in classrooms. Each student teacher will be placed in one classroom with a mentor teacher. During this experience student teachers will have practical opportunities to build upon and apply their learning from the semester’s first nine weeks of on-campus learning and also from the fall semester. Student teachers will maintain a daily ethnographic field journal in the style that they have learned and practiced during their semester one field experience. Assignments also include working with individual and small groups of learners under the partner teacher’s mentorship, planning series of curriculum learning engagements/lessons for individual and small groups of learners, gathering artifacts that demonstrate evidence of learning, and participating in Blackboard discussions.

Learning Outcomes:

The following interrelated questions will comprise the overarching orientation to this field experience:

• Who are the learners—in particular? What are each person’s unique and individual strengths?

• How do they experience learning (and learning situations)?

• What kind of experience is meaningful for them and why?

• Under what conditions do learners thrive?
Week One
• Orientation to the school

• Compose ethnographic field notes

• Complete assignments focused on individual students

• Work daily with individuals and small groups with partner teacher’s guidance and mentorship

• Discuss with partner teacher a series of learning experiences that you will be planning/implementing and begin to explore how you will plan for them (i.e. How will you get to know the students? How will you determine where to begin?)

• Participate in Blackboard discussions and peer learning as facilitated by your field instructor (Monday to Thursday each week)

Week Two
• Compose ethnographic field notes

• Work with individuals and small groups daily with partner teacher’s guidance and mentorship

• With partner teacher’s mentorship, plan and implement a series of learning experiences with an individual or small group of learners. Reflect on the students’ and your learning (in conversation with your partner teacher, in your field journal, and on BB with your peers)

• Participate in Blackboard discussions Monday to Thursday

• Work on Final Summary Project

Week Three
• Complete series of learning experiences and reflections as assigned and with partner teacher’s mentorship and guidance

• Compose ethnographic field notes

• Participate in Blackboard discussions

• Complete Final Summary Project and present to university field instructor and peers
Other ongoing expectations and assignments throughout field experience:

• attend staff meetings with permission of principal and partner teacher
• attend parent teacher conferences with permission of principal and partner teacher
• attend special events at the school with permission of principal and school liaison
• participate in all supervision activities with partner teacher

Overview of Semester Two Field Assignments

1) Field Journal

• Maintain detailed ethnographic field notes every day. Your field instructor will ask to see your journal each time she/he visits you. The quality of your field journal comprises a significant aspect in your field instructor’s assessment in this field experience.

• Write reflections on working with individual students

• Pose questions (and seek out answers or reflect on them)

• Note direct observations

• Gather school documents (handbook, map, important parts of school website, etc)

The following sections should also be in your field journal and should be shared with your partner teacher for discussion and feedback:

• Document in detail the work you did with individuals and groups during each day throughout the field experience. Document what you noticed, what you learned, what you think the students learned, what surprised you, etc. Provide evidence for your reflections. These reflections should also be available to your partner teacher.

• Create a section for your Curriculum Planning/Learning Assignment. Please refer to the assignment description in weeks 2/3 for more detail. At the minimum, this section must include your planning, your reflections on working with the students, and your reflections on your own learning. This section must be available to your partner teacher.

2) Curriculum Planning/Learning Assignment

The purpose of this assignment is to plan a series of learning experiences for an individual or small group of learners, focusing on the learning outcomes for this field experience.
3) Blackboard Seminars with University Field Instructor

The field instructor will facilitate an online conversation in a Blackboard classroom during the three-week field experience. Each week, several orienting questions, themes and topics will be posed and a dialogue will be facilitated amongst the student teachers. Students are expected to participate in a forum each week, beginning on Monday and ending on Thursdays.

4) Final Oral Summary Project

Oral presentations will be given to University field instructor and cohort peers in a seminar at your school on final Thursday or Friday – dates and times will be organized and communicated by your field instructor.

You should work on your final summary project throughout your field experience.

Focus on the following questions through gathering and sharing strong evidence. Include artifacts as evidence (i.e. student’s work, excerpts from your field journal, photographs, comments from your partner teacher, stories about what happened, excerpts from Blackboard discussions, etc).

1) What have you learned about individual learners and learning? What evidence do you have to support your claims about what you’ve learned?

2) What was one significant event or observation that surprised you?

3) How do you relate to your subject specialization? Has it changed as a result of this experience? What was it about your own learning experience that motivated you to choose this area to take up as your teaching specialization? What did you see or experience in your classrooms that would bring students into loving the learning in this discipline or inspire commitment to and interest in disciplines? What significant learning do you bring from this field experience about learners and your subject discipline?

4) Now that you’ve been in schools and classrooms, what do you think that diversity means in the context of a classroom and school?

5) What new questions do you have going into your next year/field experience/learning?
APPENDIX B

Teacher Efficacy for Inclusive Practice (TEIP) Scale

When responding to the following statements, please think of yourself teaching a class that includes students with diverse racial, cultural and economic backgrounds, and varying levels of learning, medical and behavioral needs.

<p>| I can make my expectations clear about student behavior. | 1 | 2 | 3 | 4 | 5 | 6 |
| I am able to calm a student who is noisy or disruptive. | 1 | 2 | 3 | 4 | 5 | 6 |
| I can make parents feel comfortable about coming to school. | 1 | 2 | 3 | 4 | 5 | 6 |
| I can assist families in helping their children do well in school. | 1 | 2 | 3 | 4 | 5 | 6 |
| I can accurately gauge student comprehension of what I have taught. | 1 | 2 | 3 | 4 | 5 | 6 |
| I can provide appropriate challenges for very capable students. | 1 | 2 | 3 | 4 | 5 | 6 |
| I am confident in my ability to prevent disruptive behavior in the classroom before it occurs. | 1 | 2 | 3 | 4 | 5 | 6 |
| I can control disruptive behavior in the classroom. | 1 | 2 | 3 | 4 | 5 | 6 |
| I am confident in my ability to get parents involved in school activities of their children with disabilities. | 1 | 2 | 3 | 4 | 5 | 6 |
| I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated. | 1 | 2 | 3 | 4 | 5 | 6 |
| I am able to get children to follow classroom rules. | 1 | 2 | 3 | 4 | 5 | 6 |</p>
<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tbody>
<tr>
<td>I can collaborate with other professionals (eg. special education teachers, speech pathologists) in designing educational plans for students with disabilities.</td>
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<td>I am able to work jointly with other professionals and staff (eg. teacher assistants, other teachers) to teach students with disabilities in the classroom.</td>
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<td>I am confident in my ability to get students to work together in pairs or in small groups.</td>
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<td>I can use a variety of assessment strategies (eg. portfolio assessment, modified tests, performance based assessment, etc.).</td>
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<tr>
<td>I am confident in informing others who know little about laws and policies relating to the inclusion of students with disabilities.</td>
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<tr>
<td>I am confident when dealing with students who are physically aggressive.</td>
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<tr>
<td>I am able to provide an alternate explanation or example when students are confused.</td>
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# APPENDIX C

Subscales of the Teacher Efficacy for Inclusive Practice (TEIP) Scale

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Efficacy for inclusive instruction</strong></td>
<td>I can accurately gauge student comprehension of what I have taught.</td>
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<td></td>
<td>I can provide appropriate challenges for very capable students.</td>
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<tr>
<td></td>
<td>I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated.</td>
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<tr>
<td></td>
<td>I am confident in my ability to get students to work together in pairs or in small groups.</td>
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<tr>
<td></td>
<td>I can use a variety of assessment strategies (eg. portfolio assessment, modified tests, performance based assessment, etc.).</td>
</tr>
<tr>
<td></td>
<td>I am able to provide an alternate explanation or example when students are confused.</td>
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<tr>
<td><strong>Efficacy in collaboration</strong></td>
<td>I can make parents feel comfortable about coming to school.</td>
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<tr>
<td></td>
<td>I can assist families in helping their children do well in school.</td>
</tr>
<tr>
<td></td>
<td>I am confident in my ability to get parents involved in school activities of their children with disabilities.</td>
</tr>
<tr>
<td></td>
<td>I can collaborate with other professionals (eg. special staff (eg. teacher assistants, other teachers) to teach students with disabilities in the classroom.</td>
</tr>
<tr>
<td></td>
<td>I am able to work jointly with other professionals and staff (eg. teacher assistants, other teachers) to teach students with disabilities in the classroom.</td>
</tr>
<tr>
<td></td>
<td>I am confident in informing others who know little about laws and policies relating to the inclusion of students with disabilities.</td>
</tr>
<tr>
<td><strong>Efficacy in managing behavior</strong></td>
<td>I can make my expectations clear about student behavior.</td>
</tr>
<tr>
<td></td>
<td>I am able to calm a student who is noisy or disruptive.</td>
</tr>
<tr>
<td></td>
<td>I am confident in my ability to prevent disruptive behavior in the classroom before it occurs.</td>
</tr>
</tbody>
</table>
| Efficacy in managing behavior (cont.) | I can control disruptive behavior in the classroom.  
I am able to get children to follow classroom rules.  
I am confident when dealing with students who are physically aggressive. |
APPENDIX D

Rosenberg Self-Esteem (RSE) Scale

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.

1. On the whole, I am satisfied with myself.  
   SA  A  D  SD

2. *At times, I think I am no good at all.  
   SA  A  D  SD

3. I feel that I have a number of good qualities.  
   SA  A  D  SD

4. I am able to do things as well as most other people.  
   SA  A  D  SD

5. *I feel I do not have much to be proud of.  
   SA  A  D  SD

6. *I certainly feel useless at times.  
   SA  A  D  SD

7. I feel that I’m a person of worth, at least on an equal plane with others.  
   SA  A  D  SD

8.*I wish I could have more respect for myself.  
   SA  A  D  SD

9. *All in all, I am inclined to feel that I am a failure.  
   SA  A  D  SD

10. I take a positive attitude toward myself.  
    SA  A  D  SD

Scoring: SA=3, A=2, D=1, SD=0.

Items with an asterisk are reverse scored, that is, SA=0, A=1, D=2, SD=3.

Sum the scores for the 10 items. The higher the score, the higher the self-esteem. Scores between 15 and 25 are within normal range; scores below 15 suggest low self-esteem.

# APPENDIX E

**Demographic Questionnaire**

## Demographic Information

Please provide the following information:

<table>
<thead>
<tr>
<th>1) Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) Age</td>
</tr>
<tr>
<td>3) Gender</td>
</tr>
</tbody>
</table>
| 4) Teaching Specialization | **Elementary Education**
O English as a Second Language
O English Language Arts
O French/Second Languages
O Fine Arts
O Inclusive Education
O Mathematics
O Physical Education
O Science
O Social Studies

**Secondary Education**
O English Language Arts
O Fine Arts
O Mathematics
O Physical Education
O Second Languages
O Science (Biology, Chemistry, Physics)
O Social Studies

<table>
<thead>
<tr>
<th>5) Prior experience with an individual, or individuals, with exceptional needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>O Yes, I have a family member with an exceptional need and I have been involved in their care.</td>
</tr>
<tr>
<td>O Yes, I have worked and/or volunteered with an individual, or individuals, with exceptional needs.</td>
</tr>
<tr>
<td>O No, I do not have significant prior experience with an individual, or individuals, with exceptional needs.</td>
</tr>
</tbody>
</table>
APPENDIX F

Direct Experience Questionnaire

Field Experience Information

<table>
<thead>
<tr>
<th>Field experience grade placement:</th>
<th>O Kindergarten</th>
<th>O Grade 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>O Grade 1</td>
<td>O Grade 8</td>
<td></td>
</tr>
<tr>
<td>O Grade 2</td>
<td>O Grade 9</td>
<td></td>
</tr>
<tr>
<td>O Grade 3</td>
<td>O Grade 10</td>
<td></td>
</tr>
<tr>
<td>O Grade 4</td>
<td>O Grade 11</td>
<td></td>
</tr>
<tr>
<td>O Grade 5</td>
<td>O Grade 12</td>
<td></td>
</tr>
<tr>
<td>O Grade 6</td>
<td>O Other:</td>
<td></td>
</tr>
</tbody>
</table>

Consider the amount of experience, if any, you spent with students with exceptional needs during your field experience when rating the following activities. Students with exceptional needs have physical, learning, cognitive, medical, developmental, mental or behavioral disabilities. Giftedness is also an exceptional need.

<table>
<thead>
<tr>
<th>Activity</th>
<th>None</th>
<th>Very Little</th>
<th>Moderate</th>
<th>More than moderate</th>
<th>A great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directly observing a student(s) with exceptional needs</td>
<td>1 no hours</td>
<td>2 up to 1 hour</td>
<td>3 1-2 hours</td>
<td>4 2-3 hours</td>
<td>5 over 3 hours</td>
</tr>
<tr>
<td>Whole class instruction that included a student(s) with exceptional needs (if there were no students with exceptional needs in the class, choose category 1)</td>
<td>1 no hours</td>
<td>2 up to 10 hours</td>
<td>3 10-20 hours</td>
<td>4 20-30 hours</td>
<td>5 over 30 hours</td>
</tr>
<tr>
<td>Small group instruction that included a student(s) with exceptional needs</td>
<td>1 no hours</td>
<td>2 up to 2 hours</td>
<td>3 2-4 hours</td>
<td>4 4-6</td>
<td>5 over 6 hours</td>
</tr>
<tr>
<td>Individual, direct instruction with a student with exceptional needs</td>
<td>1 no hours</td>
<td>2 up to 1 hour</td>
<td>3 1-2 hours</td>
<td>4 2-3 hours</td>
<td>5 over 3 hours</td>
</tr>
</tbody>
</table>
APPENDIX G

Presentation Notes for Soliciting Participants

My name is Jodi Peebles, and I am a doctoral candidate with the University of Calgary. Other than my doctoral studies, I have no other affiliations with the University of Calgary as an instructor or in any other role. I am conducting research in the area of teacher education for inclusive education. Specifically, my research is aimed at examining the effect of preservice teachers’ direct experience interactions with students with exceptional needs on preservice teachers’ self-efficacy for teaching in inclusive classrooms. Everyone enrolled in EDUC 407: Diversity and Learning is invited to participate in this study. Participation in this study is voluntary and will not affect your standing or success in this course. You may also choose to withdraw from the study at anytime.

If you agree to participate in the study, the requirement is to complete an online questionnaire at 3 points of time during EDUC 407: Diversity and Learning. The questionnaire takes approximately 15 to 20 minutes to complete. The questionnaire requires you to provide information regarding your perceptions of your self-efficacy and self-esteem through a rating scale. At the first point in time, you will also be required to provide some demographic information including your name, age, gender, teaching specialization and prior experience with individuals with exceptional needs. At the final point in time, the questionnaire will include a rating scale regarding the type of experience and the amount of time you spent with students with exceptional needs during your field experience.
Within the next couple of days, you will receive an email with a link to the online informed consent form and the first online questionnaire. At this time, please review the informed consent form, and if you choose to participate, please click the “I agree” button at the bottom of the consent form and continue to complete the questionnaire. If you choose not to participate, simply click the “I disagree” button. If you do not wish to participate in the study, you will not be sent the other two questionnaires.

In order to fully participate in the study, it is necessary to complete the questionnaire at each of the 3 points in time: within the next 10 days, after the course work, and after the field experience. All information you provide, including email addresses, will remain confidential and will only be viewed by the researcher. Also, the online survey company, SurveyMonkey®, is a secure program that does not share participant information, including email addresses or survey data, with third parties. The data will be exported to a harddrive and a memory stick and will be stored in a secure location at the researchers’ residence. Also, the online questionnaire, including the results, will be deleted from the SurveyMonkey® website within one year of the completion of the final dissertation.

This study contains no known harmful effects to you or your educational experience. You may also choose to withdraw from this study at anytime, no questions asked, by simply not completing any of the 3 questionnaires. The information gained through the research may help to inform teacher training programs. Also, you may benefit from the self-reflection required to respond to the items on the self-esteem and self-efficacy
scales. Self-reflection is considered essential during teacher education as it is seen as a key component of being a professional. Should you agree to participate fully, and you have completed all of the requirements, your name will be entered into a random draw for a number of prizes including an iPad 2 and 20 chances to win a $10.00 Starbucks giftcard.

Thank you very much.
APPENDIX H

Online Consent Form

The purpose of this research project is to examine the effect of direct experience with students with exceptional needs on preservice teachers' self-efficacy for teaching in inclusive classrooms. This study is being conducted by Jodi Peebles, a doctoral candidate at the University of Calgary. You are invited to participate in this research project because you are enrolled in EDUC 407: Diversity in Learning. Other than doctoral studies, the researcher has no other affiliations with the University of Calgary as an instructor or in any other role. Your participation in this research study is voluntary, and you may withdraw at any time.

If you agree to participate in the study, the requirement is to complete an online survey at three points in time during EDUC 407: Diversity in Learning. Each survey takes approximately 10 minutes to complete. The surveys require you to provide information regarding your self-efficacy and self-esteem through a rating scale. At the first point in time you will also include some demographic information. At the final point in time, after your field experience, you will use a rating scale to answer a few items related to your field experience.

Your responses and personal identifiers will be confidential and will only be viewed by the researcher. This study contains no known harmful risks to you or your educational experience. The online survey is being administered by Surveymonkey©, an American software company. As such, your responses are subject to U.S. laws, including the USA...
Patriot Act. The risks associated with participation are minimal, however, and similar to those associated with many email programs, such as Hotmail© and social utilities spaces, such as Facebook© and MySpace©.

You may benefit from the self-reflection required to respond to the items on the self-esteem and self-efficacy scales. Self-reflection is considered essential during teacher education as it is seen as a key component of being a professional. Should you agree to participate fully, and you have completed all of the requirements, your name will be entered into a random draw for a number of prizes including an iPad2 and 20 chances to win a $10.00 Starbucks giftcard. Your instructors for EDUC 407 will not be informed as to whether or not you have opted to participate in this study, excepting for the prize draw winners, who will be notified by individual email from one of your instructors.

The data collected from the questionnaires will be securely stored and password protected on SurveyMonkey.com. SurveyMonkey’s© privacy policy ensures that respondents’ information and responses are not shared or sold to third parties. Also, the data will be exported to a hard drive and a memory stick and stored in a secure location at the researcher’s residence where it will be archived indefinitely. The questionnaire, including the results, will be deleted from the SurveyMonkey© website within one year of the completion of the final dissertation.

If you have any questions about the research study, please contact Jodi Peebles, Graduate Division of Educational Research, Workplace and Adult Learning, (780) 882-0245,
jlpeeble@ucalgary.ca. The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study. If you have any comment or complaint to make regarding your treatment as a participant in this study, you may contact the Senior Ethics Resource Officer at rburrows@ucalgary.ca, (403) 220-3782.

Clicking on the "I agree" button below indicates that you have read the above information and you voluntarily agree to participate.

0 I agree

0 I disagree