An Explanatory Mixed Methods Study of South Australian Preservice Teachers' Self-Efficacy and Preparation for Disability-Inclusive Education

By

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ABSTRACT

Inclusive education for students with disability in Australia is guided by United Nations protocols, legislated through the Australian Disability Discrimination Act (1992) and supported in practice by the Australian Disability Standards for Education (2005). Although South Australia (SA) has retained separate special schools, as well as integrated specialist classes and units within mainstream schools, enrolment of students with disability in regular classes at mainstream schools is the first choice considered for all children. Regular class teachers are expected to have professional knowledge and skills in disability-inclusive education.

Using an explanatory mixed methods research design, this research has explored the self-efficacy and readiness of final year preservice teachers from two South Australian universities to be disability-inclusive teaching practitioners. Self-efficacy has been interpreted using Bandura's self-efficacy theory (Bandura, 1997) and readiness is linked to the requirement that all graduating teachers will be prepared for disability-inclusive education according to the Australian Professional Standards for Teachers at the graduate level (Australian Institute for Teaching and School Leadership, 2011).

The Teachers Efficacy for Inclusive Practices (TEIP) scale (Sharma et al., 2012) was used to measure the preservice teachers' self-efficacy for disability-inclusive teaching and a purposefully developed scale was used to measure the preservice teachers' readiness for the Professional Standards, specifically Standards 1.5 and 1.6, which relate to differentiating the curriculum and inclusion of students with disability. Opportunities for the participants to explain their self-ratings was provided through text based comments in the on-line survey and in follow-up interviews. Separately, information about the composition of the preservice teachers' different ITE degrees was collected from the publicly available prospectus documents and course topic information at the participating universities' websites.

A total of 115 survey participants formed the sample for this research and of these, 13 participated in interviews. These research participants represented 18 different initial teacher education (ITE) courses (out of a possible 25) across the two universities. Analyses of the full corpus of data were integrated and meta-inferences drawn for discussion of the research findings overall. Generalisation of the findings of this research is limited because of the purposeful nature of the research design.

Overall, this sample of preservice teachers presented themselves as highly efficacious and ready for disability-inclusive teaching. A number of variables were found to have significantly affected their preparation. Personal experience of disability positively affected self-efficacy for the subscale Specialised Response. Living with disability negatively affected self-efficacy for the subscale Inclusive Instructions. Males felt less efficacious for collaboration than females. Preservice teachers who had combined their education

degree with disability studies felt more efficacious for providing a specialised response and they felt more ready to find and learn new disability specific information, as well as to differentiate the curriculum. Those who had early childhood placements felt less ready to practice their legal obligations and less ready to communicate with parents and carers of students with disability. Similarly, those in secondary placements felt less ready to communicate with parents and carers. Preservice teachers who had their placement in a specialist setting were significantly more efficacious to provide a Specialised Response but felt less efficacious for Inclusive Instructions.

This sample of preservice teachers provided comments on how they thought their ITE course could be improved in relation to their professional preparation for disability-inclusive education. They requested more disability related information earlier in the course, so they had opportunities to practice on more than one professional placement experience. They also wanted more knowledge and skills for managing challenging behaviours, collaborating with other professionals and communicating with parents and carers of students with disability.

The concept that teachers require different levels of knowledge and types of skills to include students with disability in regular classes, particularly for those with higher support requirements, was inferred by the participants of this research. This has been interpreted and discussed in relation to the Multi-tiered Systems of Support (MTSS) framework and the Australian Professional Standards for Teachers. The findings have highlighted that some of the teaching practices contained in the TEIP scale were aligned with the competencies of proficient or highly advance teachers, not graduates—according to the Professional Standards. These findings suggests there may be benefit in theoretically aligning the hierarchies of the MTSS framework and the Australian Professional Standards for Teachers with the inclusive teaching practices listed in the TEIP scale. This new perspective could be used to guide universities' ITE curricula development, so graduates are being fully developed for their professional responsibilities of disability-inclusive teaching throughout their ITE program.

DECLARATION

I certify that this thesis:

1. does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university

2. and the research within will not be submitted for any other future degree or diploma without the permission of Flinders University; and

3. to the best of my knowledge and belief, does not contain any material previously published or written by another person except where due reference is made in the text.

Joanne Shearer

Date.....25 August 2023.....

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LIST OF ACRONYMS

AITSL	Australian Institute for Teaching and School Leadership
ASD	Autism Spectrum Disorder
CFA	Confirmatory Factor Analysis
CI	Confidence Interval
DECD	Department for Education and Child Development
DDA	Disability Discrimination Act
DP	Dialectical Pluralism
EFA	Exploratory Factor Analysis
ITE	Initial Teacher Education
LSM	Local School Management
MTSS	Multi-tiered Systems of Supports
PST	Preservice Teacher
SA	South Australia
SSO	School Support Officer
TA	Thematic Analysis
TEIP	Teacher Self-efficacy for Inclusive Practices
TRB	Teachers Registration Board
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
UNISA	University of South Australia

CHAPTER ONE INTRODUCTION

The purpose of this research is to measure and explain South Australian (SA) preservice teachers' preparedness (i.e., their self-efficacy and readiness) at the conclusion of their university based initial teacher education (ITE) program to include students with disability aged 5 to 18 years in regular classes at mainstream schools (i.e., not including specialist settings). Mixed methods methodology was used to seek answers to multidimensional research questions.

The findings aim to contribute new knowledge for education faculty staff and the broader community of education stakeholders in SA to assist with improvements to disability-inclusive education. The SA context of this research is significant because research of this type has not been undertaken in SA previously, and it is know from previous research in this field that cultural context is an influential variable in preservice teacher self-efficacy for disability inclusive education (Wray et al., 2022).

Across Australia there is variability in ITE programs and school based experiences due to jurisdictional oversight by states and territories. Nationally, the Australian Government oversees education but delivery and accountability remain the responsibility of the states and territories. This includes the registration of teachers and the accreditation of ITE programs. Although the significance of this research is primarily for the SA education sector, it may also be applicable to other jurisdictions where there is a focus on strengthening preservice teacher preparation for disability-inclusive education.

The current ethos of the Australian education systems (including SA) is to improve the education experiences for students with disability and enhance their educational outcomes. This context is one motivating factor for undertaking this research. Another is the recent United Nations drive to uphold its member states' obligations to not only support the right to education for students with disability but "to the greatest possible extent, include them in the least restrictive educational environment" (UNESCO, 2021, p. 25), that being regular classes at mainstream schools.

The implementation of disability-inclusive education in Australia has been driven by a rights-based agenda and reflects the desire for students with disability to be included in mainstream schools with adjustments for their individual learning requirements. The intent of disability-inclusive education has been to nurture socially inclusive communities and pursue equality in educational outcomes through differentiated learning experiences (Ainscow, 2020; Lewis & Bagree, 2013; Romero-Contreras et al., 2017; UNICEF, 2017; Winzer & Mazurek, 2017).

Forlin et al. (2013) in their review of best practices in disability-inclusive education (commissioned by the Australian Government) stressed that if participation for students became an issue arising from disability (or

gender, behaviour, poverty, culture, refugee status and so forth), the desirable approach should not be to establish special programs but to expand mainstream attitudes, structures and teaching approaches, so that all students can be accommodated at one school site. When choosing mainstream education, parents and carers of students with disability should expect that their children are welcomed and encouraged to engage in their educational experiences alongside their peers without disability. Forlin (2012) also advised that, "an inclusive education system cannot work in isolation. While education can take a leading role, it needs to be supported by the development of a more inclusive society if it is to be maintained and sustainable in the long term" (p. 181). In this context, Forlin emphasised the responsibility of universities to maintain up-to-date knowledge of disability-inclusive education theories and practices to prepare inclusive ready teachers effectively. Education providers have come to expect that that newly graduated teachers will be prepared and are confident for teaching students with disability in regular classes, according to the Australian Professional Standards for Teachers (Australian Institute for Teaching and School Leadership, 2011).

The Disability Discrimination Act (DDA) (Commonwealth of Australia, 1992) created the impetus for changes to disability-inclusive education in Australia. The DDA mandates that teachers across the country have professional obligations to provide for the educational needs of students with disability at mainstream schools on the same basis as students without disability. Students cannot be excluded from school or deprived access to the curriculum. Adjustments and differentiation are expected. This law is explained for educators through the Australian Disability Standards for Education (Commonwealth of Australia, 2005). The term *on the same basis* means that students with disability must have opportunities and choices which are comparable with those offered to students without disability. This applies to admission or enrolment, participation in courses or programs and use of facilities and services (South Australia Department of Education and Children's Services, 2007). The onus rests with schools across Australia to demonstrate non-discriminatory practices, to adjust for the additional needs of students with disability and to ensure they are free from harassment and victimisation. As such, there is a high prevalence of students with disability attending regular classes at mainstream schools acrossi Australia and historically, SA has had higher numbers of students with disability in mainstream education than some other states or territories (Forlin, 2006).

The Australian Bureau of Statistics' most recent data from the population survey of disability, ageing and carers (2018) indicated that 380,000 children between the ages of 5 and 18 years who attend school have a disability. This represents 10% of the total student population. Overall, school age children with disability in Australia go to school at similar rates to those without disability. The vast majority attend a mainstream school (89%). Greater numbers of students with disability are in regular classes (71%) than in separate special classes (18%)—and even though more students with *severe* or *profound* disability were found to be enrolled at special schools (19.7%) compared with their peers with other types of disability (2.3%), still the

majority were enrolled at mainstream schools and attended regular classes (59%). With such high rates of inclusion, universities have an important responsibility to provide ITE programs that equip graduate teachers with the knowledge, skills and confidence for disability-inclusive educational practice. But are they doing so?

Concerns have been raised that newly graduated teachers are beginning their careers underprepared to support students with disability in regular classes. The latest review of Australian ITE programs found deficits in classroom management skills and the ability to engage with families and carers of students with disability (Paul, 2021). The topic of education has also been a component of the Australian Royal Commission inquiry into violence, abuse, neglect and exploitation of people with disability, established in 2019 (see https://disability.royalcommission.gov.au). The Commissioners had found that the education system had fallen short for many young people with disability and their families, and noted a growing body of literature emphasising the need to better prepare preservice teachers to work in inclusive settings. They acknowledged that this may require new or additional skills, behaviours and beliefs to be shared during their ITE programs and supportive transition programs for graduate teachers as they begin their teaching careers (Idle et al., 2022). The full report of the Commissioners was pending at the time of writing.

Earlier Australian based research, conducted in 2011, suggested that inadequacy in preservice teacher training was a hinderance to successful implementation of disability-inclusive education. At the time, these researchers emphasised that one introductory subject directly related to disability-inclusive education was not enough for preservice teachers to feel well prepared and confident. They also discussed the importance of quality mentoring for disability-inclusive teaching when preservice teachers are on their professional placement (Hemmings & Woodcock, 2011). Further, more recent discussions of the trends in disability-inclusive education indicate that inclusion works best when teachers are pedagogically flexible, well supported by school leaders and operate in a collaborative environment with systemic supports (Ainscow, 2020; Mitchell, 2015; Munro, 2018; UNESCO, 2021).

Even though policy directives which promote inclusion of students with disability at mainstream schools are underpinned by empirical research and are well supported by a global agenda for inclusion, there remains significant deficits in the implementation of disability-inclusive education across all states and territories of Australia and worldwide. Concerns have been raised that the use of special schools in both developed and developing countries remains popular (Mitchell, 2015). In fact, Winzer and Mazurek (2017), in their discussion of the international pursuit of disability-inclusive education have suggested there appears to be an increasing demand for more specialised settings. This demand seems to be based upon continuing negative perceptions of disability within mainstream educational communities and a view that regular settings are unable to provide the supports and adjustments that are required for students with disability to achieve educational success (Winzer & Mazurek, 2017). Mitchell (2015) too has suggested that the

conflicting ideologies of mainstream versus separate specialised education for students with disability have contributed to slow progress towards inclusive education by governments and educational communities. It appears that disability-inclusive education is conditioned by national identity and constructed within a framework of social, cultural, and economic conditions (Winzer & Mazurek, 2017).

In 2013 the Australian Government ratified new education legislation nationally. While the main focus of that law was to guide the allocation of funding, Section 77(2)(e) of the Act strengthened the expectations of educational jurisdictions towards students with disability by re-emphasising the requirement of schools' compliance with existing equal opportunity legislation (South Australian Government, 1984), the DDA (Commonwealth of Australia, 1992) and its supplementary Disability Standards for Education (Commonwealth of Australia, 2005). In this context, three main obligations were clear.

- To consult with all relevant stakeholders to understand the impact of a student's disability and to determine whether any adjustments or changes are needed to assist the student.
- To make reasonable adjustments where necessary.
- To develop and implement strategies to prevent harassment and victimisation of people with disability. (Australian Government, 2013)

Although all staff of Australian schools (teachers, school assistants and leaders) are obliged to know the expectations of schools under the DDA and are required to develop professional competencies in disability-inclusive education, one could surmise from the need to restate these obligations in the new Act that schools are not achieving successful inclusion of students with disability to the degree that the Australian Government is seeking. The supply of graduate teachers who have the required positive attitude, pedagogical skills and confidence to meet their professional obligations to teach students with disability has been identified as an ongoing need (Teacher Education Ministerial Advisory Group, 2014).

At a definitional level, inclusive education is no longer focused mainly on the inclusion of students with disability in mainstream education but the concept encompasses inclusion of <u>all</u> groups of marginalised children. Mitchell (2009) clarified that education must fit the diversity of learners we find in every school, in every classroom, in every country—a view that was re-emphasised recently by the UNESCO who acknowledged that although inclusive education had been commonly associated with the needs of children with disability, and their relationship between special and mainstream education, its interpretation was now broader in scope (UNESCO, 2020). The organisation underlined that *'all* means *all'*.

Therefore, in its broadest sense, inclusive education means mainstream schools accommodating diversity of gender, ethnicity, ability and social background. (UNESCO, 2020). Its purpose is to allow "students of all backgrounds to learn and grow side by side, to the benefit of all" (UNICEF, 2022 Inclusive Education

webpage). In order to differentiate between inclusive education for all students and inclusive education for students with disability specifically, the Australian Government has adopted the term 'disability-inclusive education' and explained its meaning as follows.

> Disability-inclusive education enables children (or adults) with disabilities to access education within regular/mainstream schools and learning settings alongside peers without disabilities, in the classrooms they would be attending if they did not have a disability, or within environments that best correspond to their requirements and preferences. (Diplomatic Academy, 2019, p. 5)

For ease of reference, this term along with any other associated terms such as disability-inclusive teaching or disability-inclusive schooling has been used throughout this thesis, so it is clear that this research is unambiguously related to inclusive education for students with disability.

In relation to the meaning of the term disability—the SA Department for Education has defined disability in the following way.

> The total or partial loss of the person's bodily or mental functions, or of a part of the body, the presence in the body of organisms causing disease or illness, or the malfunction, malformation, or disfigurement of a part of the person or body. A disability includes a disorder or malfunction that results in the person learning differently from a person without the disorder or malfunction, or a disorder, illness or disease that affects a person's thought processes, perception of reality, emotions or judgment, or that results in disturbed behaviour. It includes a disability that presently exists, or previously existed but no longer exists, or may exist in the future, or is imputed to a person. (Department for Education, 2020, pp. 6-7)

This definition has been integrated into the Department's policy on education provisions for students with disability, and its use is to ensure students with disability are identified, appropriately included in education programs and are provided with suitable adjustments according to their personalised needs. The policy further explains the roles of different personnel to meet the education system's legal responsibilities for providing appropriate learning programs and services for students with disability in the context of the DDA (Department for Education, 2020). It is also likely that the intention of the definition was to distinguish students with disability from those with other learning difficulties or disadvantaged backgrounds who may also require a specialised or individualised education response but for whom the resource arrangements are different (Mitchell, 2015).

In spite of good intentions, the SA Department for Education's definition draws heavily on the medical model of disability by highlighting deficits in biological and psychological function that affect learning, which some authors would argue is problematic because students are defined by their weaknesses rather than their strengths (Mitchell, 2015; Slee, 2011). As such, the SA Government's policy has potential to substantiate and perpetuate negative attitudes towards students with disability and promote the need for separate specialised settings rather than full inclusion. It has been suggested by one past SA parliamentarian that the greatest barrier to overcome for students with disability in a mainstream school in SA is actually an attitudinal barrier from staff and fellow students that damns them with the soft bigotry of low expectation (Vincent, 2017). This comment suggests there are socially constructed perceptions of disability which negatively influence the way in which the education system operates for students with disability in SA schools.

All Australian states and territories have been slow to move to a fully inclusive model for students with disability. The relationship between high levels of needs and increased frequency of enrolment in separate special education settings has been reported in the Australian census statistics (Australian Institute of Health and Welfare, 2022). Variations in understanding the requirements of students with disability and how to make necessary adjustments exist within and across school settings. Separate specialised education for students with disability has continued to be utilised and justified as a suitable alternative to the mainstream school experience. Recent research by de Bruin (2019b), which examined disability-inclusive education policy reforms and placement data in the United States of America (USA) and Australia, found that segregating students with disability, especially autistic students, had increased relatively more in Australia than in the USA over the past decade (based on proportional data analyses). This is likely because separate specialised educational settings are valued within Australia, although, as already emphasised, this is more so for students with higher levels of support requirements (Australian Institute of Health and Welfare, 2022). The Australian Government stated recently that while supporting the principles and practices of disability-inclusive education is generally considered the most effective approach, “good quality special schools and appropriate and periodic use of integration approaches within mainstream settings can be valuable” (Diplomatic Academy, 2019, p. 5), creating dissonance with the message that '*all means all*'.

If the disability-inclusive agenda is to progress positively in SA, preservice teachers must be prepared and committed to the '*all means all*' inclusive model. They must have a positive attitude and practical skills for disability-inclusive teaching, with strong self-efficacy and commitment to the policy directive. They must understand both their professional responsibilities and teachers' legal obligations. At the *graduate* level of competency, preservice teachers are currently required to meet the Professional Standards for Teachers (Australian Institute for Teaching and School Leadership, 2011)including Professional Standard 1.5: *Differentiate teaching to meet the specific learning needs of students across the full range of abilities* and

Professional Standard 1.6: *Strategies to support full participation of students with disability*. While these are the Professional Standards most often associated with teaching students with disability there are other standards that have relevance, such as Standard 1.1: Knowledge and understanding of physical, social and intellectual development and characteristics; Standard 3.1: Setting learning goals; Standard 3.7: Involving parents/carers; Standard 4.3: Managing challenging behaviours; and Standard 7.2: Understanding legislative, administrative and organisational requirements.

In 2017 the SA Senate Committee on *Access to the South Australian Education System for Students with Disability* reported that the SA education system still had many areas for improvement in relation to inclusive education for students with disability. The Committee made 94 recommendations ranging from rights-based entitlements to the school environment, educational planning, early interventions, transitions, managing behaviour, allied health assistance and school attendance. Of particular interest was recommendation 10.2 re-stating the benefits of at least one compulsory unit on special education in all accredited Australian teacher preservice degrees (South Autralian Senate Select Committee, 2017, p. 10), even though it had been shown previously that one topic was not enough (Hemmings & Woodcock, 2011).

Researchers and policy makers have begun to focus their attention on the systemic changes required to support regular classroom teachers in their disability-inclusive approach to teaching. Affirmative leadership, additional resource allocation and preservice teacher training have been identified as necessary components to progress (Ainscow, 2020; Woodcock & Woolfson, 2019). Encouragingly, in the SA education context, the SA Government has taken an affirmative stance to ensure every SA public school has access to an autism specialist staff member on site to improve inclusion for autistic students in particular (Mullins, 2018).

The Teachers Registration Board of SA (TRB) is the statutory body responsible for registration of all teachers in SA and for the accreditation of all ITE programs offered by higher education institutions (i.e., universities). Up until 2012 ITE programs across Australia were not consistent, again because of jurisdictional variations in each state and territory (Teachers Registration Board of South Australia, 2021). In 2011, with guidance from the Australian Government, there began a national approach for accreditation of ITE programs to improve national consistency for the teaching profession. Standards for teaching program accreditation are reviewed on a four-year cycle (Australian Institute for Teaching and School Leadership, 2015).

In SA, the TRB has worked collaboratively with universities and supported the work of the Australian Institute for Teaching and School Leadership (AITSL) to implement the national *Accreditation of initial teacher education programs in Australia: Standards and Procedures* (Australian Institute for Teaching and School Leadership, 2017). These standards and procedures are separate to the Professional Standards for Teachers but related. They set out the requirements for all ITE programs and draw on the knowledge and vision of experts in education to drive program improvements. Quality assurance of teacher education

programs is considered essential to ensure every program is preparing classroom ready teachers with the skills they need to make a positive impact on school students' learning, including that of students with disability included in regular classes at mainstream schools (Australian Institute for Teaching and School Leadership, 2015).

Looking forward, the United Nations goals for improvements in inclusive educational practices are now set to 2030 (UNESCO, 2021). These goals reiterate that achieving inclusive education fully requires a commitment not only at the school level but at the systems level of educational implementation. This improvement focused landscape of disability-inclusive educational reform represents the backdrop for this research. The objective is to provide new and insightful information on the self-efficacy and preparedness of SA preservice teachers for disability-inclusive teaching and to make suggestions for improvements in ITE program design based on the findings. To that end, the following research questions are proposed.

1.1 Primary research question:

To what extent do final year preservice teachers at SA universities feel prepared to teach students with disability in regular classes at mainstream schools, considering their personal experiences and engagement with their ITE program?

1.2 Supplementary research questions:

1.2.1 Influences on preparation

Which variables influence preservice teachers' self-efficacy for disability-inclusive education?

Which variables influence preservice teachers' perceptions of their readiness to meet the Graduate Standards related to disability-inclusive teaching, specifically Professional Standard 1.5 (differentiating the curriculum) and Professional Standard 1.6 (including students with disability)?

1.2.2 Course Content

Which elements of the ITE courses are perceived to be effective in enhancing the preparation of preservice teachers for disability-inclusive teaching?

How have the ITE courses addressed concerns of preservice teachers related to disability-inclusive teaching?

1.2.3 Student Review

What are the suggestions, if any, of preservice teachers to improve the ITE program as it relates to preparation for disability-inclusive teaching in regular classes at mainstream schools?

1.3 Researcher as an instrument

My interest in this topic has been shaped by my personal and professional experiences. Having been born, educated, and employed in SA for my entire life, I have a strong connection to the local education system and a personal connection to the wellbeing of children with disability.

Early life experience

In the late 1940s and early 1950s my aunt and uncle had two children born with Spinal Muscular Atrophy. By the time I was born, both of my cousins with disability had passed away, at the ages of eight and three years, respectively. My cousins with disability have always been included in family stories and their disability was never hidden. Over the years, as my aunt told me different stories of her children, one in particular caught my interest—of how her son (their second child) was interested in astronomy. She had wondered if he would have pursued this area of interest if he had grown to be an adult man. My view of people with disability was forming. At primary school I befriended a young boy with physical disability due to the condition of Spina Bifida, but when it came to transitioning to secondary school, he did not come with us. I don't recall any students with disability at my secondary school.

Early in my working life I was employed as an untrained support worker at a sheltered workshop[1]. It was the mid to late-1980s and by then the theoretical concepts of 'normalisation', 'quality of life' and 'mainstream inclusion' of people with disability were beginning to find their way to the forefront of academic and political debate (see for example Brown et al., 1992; Nirje, 1985; Renwick et al., 1996; Salisbury, 1991; Wolfensberger, 2011). At that time, many people with disability in SA were living in institutions, including children. Most adults with disability either did not work or worked in sheltered workshops. Options for community-based supports and inclusive services were gaining momentum but were limited. While training to be a teacher I was offered a short-term position to teach the Arts at a special school as an hourly paid instructor. This work required a degree of differentiation to meet the various needs of the special school students across all year levels. It was great practical experience for a young and enthusiastic preservice teacher.

[1] Sheltered workshops are separately located places where adults with disability are involved in vocational activities under supervision.

Professional life

After I became qualified and registered to teach in SA, I found myself again working directly with people with disability rather than as a teacher in a classroom at a school. I worked as a Living Skills Educator supporting people with intellectual disability to live in their local communities. Over the next decade I straddled between teaching jobs and those related to community based disability services. I completed a Master of Disability Studies degree with a dissertation on the quality of life of children with disability who were attending mainstream schools (Shearer, 2010). I also worked with a team of international academics developing a new Family Quality of Life survey tool (Isaacs et al., 2007). It was designed to capture the lived experiences of families of people with disability to understand their life quality and provide insight as to how social reforms could improve life for these families.

Following this, I was employed by the Ministerial Advisory Committee: Children and Students with Disabilities, reporting to the SA Government Minister for Education and Child Development on issues related to education for students with disability. The Committee had responsibility to convey well researched information on pertinent topics to the Minister responsible for this portfolio. Topics included whole school approaches to behaviour management and interventions; transitions in the early years for children with disability; best practice in teaching students with Asperger's syndrome and keeping children with disability safe from sexual predation and abuse (see https://www.decd.sa.gov.au/maccswd-publications). Later, I was employed by a large SA based disability organisation that focused primarily on therapy services for children with disability. This was when I began my PhD study in 2016.

Personal beliefs

I have been fortunate to integrate the education and disability service dimensions of my career with my interest in inclusion and quality of life for people with disability and their families. From an early age I became intrigued with the way communities included or excluded people with disability in practical ways and socially. Disability is an interaction between features of the person and features of the overall context in which the person lives (International Classification of Functioning Disability and Health, 2002).

Over the years I have developed a strong view that professional training and positive approaches to include people with disability in their communities provides a successful defence against discrimination. It is my opinion that preservice teachers benefit greatly from learning disability-inclusive pedagogy during their ITE program and must be committed to inclusion policy and practices in order to be confident in including students with disability in their classes. This includes knowing how best to liaise with families of students with disability and in advocating for their needs.

I adopted mixed methods methodology as my research design to provide a broad and balanced approach to this research. I have used statistical methods for determining which variables have significant effect on preservice teachers preparation and I have listened to the voices of the research participants to understand their viewpoints in more depth. I ensured their intended data contributions were verified by them. Subjectivity is an integral part of social science inquiry and in particularly qualitative methodology. It is expected and accepted (Braun & Clarke, 2022). That is why interpretivism was adopted as the epistemological paradigm. It was not possible for me to separate myself from what I already know when analysing and discussing the data generated by this research to inform our collective knowledge further. As Guba and Lincoln (1994) explain, "The investigator and the object of investigation are linked such that who we are and how we understand the world is a central part of how we understand ourselves, others and the world [we are investigating]" (cited in Denzin & Lincoln, 2017, p. 116).

The remaining chapters of this dissertation situate this research into a global context through presentation of others' findings from a review of the relevant literature. The philosophical underpinnings of the chosen methodology are explained along with a description of the methods used for data collection and analyses. The findings of the data analyses are separated into two chapters, the first of which presents the quantitative results based on statistical tests of the scale data, and the second presents the findings of qualitative analyses of the survey comments and interview responses of the research participants, as well as content analysis of ITE course documents. These qualitative data were collected with the intention of explaining the statistical findings, as well as answering the other research questions. The final chapter discusses the integrated findings overall and draws conclusions from meta-inferences. Suggestions for further research are proposed. Supplementary material related to this research is presented in the appendices.

CHAPTER TWO LITERATURE REVIEW

The intention of this research is to provide information for universities and the broader education community on approaches that could assist with the preparation of graduate teachers to teach students with disability in regular classes at mainstream schools. Studying preservice teachers' self-efficacy for disability-inclusive education is not new. Researchers have been interested in the link between self-efficacy and the capability of teachers and preservice teachers to provide disability-inclusive education for over 40 years (see Tümkaya & Miller, 2020; Wray et al., 2022; Zee & Koomen, 2016 for examples of recent literature reviews). It is known from previous research that self-efficacy for disability-inclusive education is associated with positive attitudes towards teaching students with disability (Sharma & Nuttal, 2016; Sharma & Sokal, 2015; Specht et al., 2016; Weisel & Dror, 2006; Yada et al., 2022), although the direction of that association is unclear (Yada et al., 2022) meaning that whether self-efficacy affects attitudes or vice versa, the findings are not definitive. It is also known that self-efficacy is the strongest predictor of intention to implement disability-inclusive teaching practices (Knauder & Koschmieder, 2019; Opoku et al., 2021; Sharma et al., 2021), as well as a predictor of preservice teachers resilience for implementing disability-inclusive teaching (Yada et al., 2021). Links between higher self-efficacy, greater effort, persistence, resilience and improved professional performance all have been demonstrated (see for example, Jordan, 2018; Leyser et al., 2011; Malinen et al., 2013; Sharma & George, 2016; Sharma et al., 2021; Yada et al., 2021; Zee & Koomen, 2016). International research has identified that cultural-historical contexts also play an important role in the development of self-efficacy for disability-inclusive education (Engelbrecht & Savolainen, 2018; Savolainen et al., 2012; Sharma et al., 2018; Yada et al., 2018). In spite of the volume of research studies on self-efficacy for disability-inclusive teaching, it has been suggested that more multidimensional and longitudinal research would help to strengthen the overall findings in this field (Zee & Koomen, 2016).

It is appropriate therefore, to study preservice teachers' self-efficacy for disability-inclusive education in local contexts and to use the more in-depth approach of mixed methods methodology. Fewer research studies concerned with preservice teacher self-efficacy have been designed using mixed methods (Tümkaya & Miller, 2020).

Australian based research communities encourage studies in inclusive education (see Monash University, 2023; Queensland University of Technology, 2023) so that more definitive information on the factors that are influencing the development of strong self-efficacy and commitment to implement inclusive teaching are known. Findings of local studies not only help ITE program development in Australia for the next generation of teachers but can also contribute knowledge about inclusive educational practices globally.

This literature review covers the main areas of research associated with the development of preservice teacher self-efficacy for disability-inclusive teaching: trends in inclusive education for students with disability, influences on preservice teachers' self-efficacy and readiness for disability-inclusive teaching and ITE program design related to disability-inclusive education.

The method used for conducting the literature review was narrative (Juntunen & Lehenkari, 2021; Lawrence & Brenda, 2016). The primary research question was divided into categories and a logic grid was created to generate a list of related search terms for more advanced searching if and when it was needed (University of Adelaide, 2021). The four categories of interest that formed the headings of the logic grid *were inclusive education, teaching students with disability, preservice teachers' self-efficacy for inclusive teaching* and *initial teacher education course content related to students with disability*. Relevant databases, such as ProQuest, ERIC and Google Scholar were accessed via the Flinders University library website and some general internet searching via Google was undertaken when appropriate. Peer reviewed publications of empirical research were the main source of information to learn about recent research activities and their findings. Grey literature was also consulted where relevant (Grey Literature Network, 2014). Snowballing was the method used to build up the volume of literature reviewed (i.e., using the reference lists of significantly relevant papers to identify additional papers for review). I used an element of judgement to keep the literature focused on preservice teachers as the target population rather than teachers already in professional practice. Overall, scholarly papers from peer reviewed journals, books, systematic reviews conducted by other researchers and grey literature have contributed to frame this research for investigating Australian preservice teacher preparation to provide disability-inclusive education at mainstream schools.

2.1 Teaching students with disability in mainstream education

Developing inclusive pedagogical skills to teach students with disability and demonstrating a positive attitude towards disability-inclusive education are proficiencies expected of 21st century teachers in Australian schools (Australian Institute for Teaching and School Leadership, 2011; Graham, 2019). These requirements are set against a backdrop of broadening responsibilities for teachers and school leaders, and it is acknowledged that teachers' work has been described by some as more complex and challenging in the 21st century than at any other time previously (Graham, 2019; Lewis & Bagree, 2013). There is flexibility in the Australian Curriculum for teachers to accommodate the different rates at which children learn and make adjustments accordingly (Australian Curriculum Assessment and Reporting Authority, 2022). In Australia, data is collected annually via the Nationally Consistent Collection of Data on School Students with Disability (NCCD) to estimate the levels of adjustments that are taking place at schools. In 2020 it was reported that approximately 20% of students with disability required some level of adjustment to access the curriculum. The majority of these adjustments related to cognitive disability (55%) followed by social-emotional

disability (30%). There were 12% of adjustments related to physical disability and 3% to sensory disability, which reflects the lower number of students with physical disability or sensory disability than other groups such as intellectual disability or autism (cited at Australian Institute of Health and Welfare, 2022).

Based on his review of international literature, Mitchell (2015) reminded educators that while some students with disability do require specific adaptations to the school and classroom environment, as well as other forms of assistance to learn (e.g., learning materials in braille for those with vision impairment or sound-field amplification systems for those who are hard of hearing), most students with disability benefit from "the systematic, explicit and intensive application of a wide range of effective teaching strategies" (p. 16). To understand which strategies are effective, the environmental conditions of schools and the types of student learning activities that demonstrate quality disability-inclusive education (with beneficial outcomes for all students) have been studied frequently, often with many practical texts published to assist preservice teachers, teachers and school leaders in the provision of disability-inclusion education (see for example, Hattie, 2023; Hyde et al., 2022; Loreman et al., 2011; Mitchell & Sutherland, 2020; Westwood, 2018; Woodcock et al., 2013).

After undertaking his meta-analysis of the international evidence-base on special education strategies, Mitchell (2015) summarised the findings by grouping strategies into clusters. These were—learning strategies, environmental conditions, teacher behaviours, parent involvement, the classroom climate, universal design, assistive technologies, peer and co-operative group teaching by students, self-regulated learning and social skills training. There is general agreement in the literature that higher student achievement is associated with the capability of teachers to engage in quality evidence based inclusive teaching practices, support provided by leadership and the collective efficacy of the whole school community (Florian et al., 2016; Hanushek et al., 2019; Hattie, 2023).

Munro (2018) argues that it is the teacher's ability to adapt their teaching style to account for the varying cognitive, emotional and social capabilities of the students in their classes which is the most important factor for including diverse learners in the classroom. Munro (2018) theorises that the premise of differentiation for inclusion requires an appreciation of students' different learning requirements or 'profiles' and that common pedagogic practice makes assumptions about how students learn based on the 'bell curve' model of curriculum development. His theory infers that, "the extent to which the classroom is inclusive for a particular student is determined by the degree of match between their learning style and the [teacher's] pedagogic practice" (p. 145). The term learning style is used by Munro to encompass variability in students' learning requirements and he explains that some students' profiles "merit specific adjustments and modifications to the regular teaching… and to differentiate the instructions, educators need to take account of how these students know and learn" (Munro, 2018, p. 145).

Florian and Black-Hawkins (2011) use the term inclusive pedagogy (as distinct from the concepts of inclusive education and inclusive practice) to describe best-practice skills required by inclusive teachers. Their qualitative research, which was undertaken with 11 teachers from two Scottish primary schools, resulted in discussion of teachers' 'craft knowledge' with an emphasis on the importance of differentiating learning activities without emphasising a lack of ability for some students and thereby, (inadvertently or purposefully) relegating them to the group of those with lesser capability, and separating them from their peers. In this context, the inclusive pedagogical approach is considered different to the additional needs approach which prevails in many Australian schools (Boyle & Anderson, 2020; de Bruin, 2019a). In a separate study, Goodall (2018) was concerned to learn more about disability-inclusion from the perspective of autistic students in the UK. He interviewed 15 students who were engaged in an alternative education program outside of the mainstream schooling system. His findings showed that these autistic students felt more could have been done for them to flourish in their previous mainstream educational environments. These students said they would have benefited from a more flexible approach to pedagogy and a better understanding of their learning requirements. The common theme among these researchers' findings is the need for disability-inclusive teachers to possess the ability to assess their students' learning requirements and be able to differentiate their teaching practices in a nuanced manner, so as not to marginalise students within their own learning communities.

Winter and O'Raw (2010) were commissioned by the Irish National Council for Special Education to undertake an international review of disability-inclusive literature to inform strategic progress for disability-inclusive education in that country. The researchers found that teachers were more successful at disability-inclusive education if they had the support of leadership, additional experts, specialised resources, assistive technologies and family involvement, as well as time to engage in ongoing professional learning. Their findings augment those of Canadian based researcher, Tim Loreman (2007), who designed the seven pillars of support structure based on his review of international literature concerning best practices in disability-inclusive education. He identified the seven attributes of successful disability-inclusive education as positive attitudes; supportive policy and leadership; school and classroom processes grounded in research-based practice; flexible curriculum and pedagogy; community involvement; meaningful reflection; and necessary training and resources. It has also been found that teachers benefit from collaboration with likeminded disability-inclusive peers (Florian & Black-Hawkins, 2011), and students benefit when teachers actively listen to what students themselves have to say about their learning (Bourke & O'Neil, 2020; Florian & Beaton, 2018; Winter & O'Raw, 2010). Commonly it has been found that the responsibility of disability-inclusive education falls not only with the classroom teacher but is shared with other stakeholders such as school leaders, expert consultants, parents and carers.

Improved disability-inclusive education is a topic of great interest in Australia currently (Best et al., 2018; Graham, 2019; Paul, 2021; Royal Commission into Violence Abuse Neglect and Exploitation of People with Disability, 2020; Saegones et al., 2015; UNESCO, 2021). It has its origins in the principles of normalisation and social role valorisation (Wolfensberger, 1972; Wolfensberger, 1983), the declarations of human rights for children and people with disability (United Nations General Assembly, 1989, 2006), the guidance of the Salamanca Statement and Framework for Action on Special Needs Education (United Nations Education Scientific and Cultural Organisation, 1994), as well as the Dakar Framework for Action and the Millennium Development goals (UNESCO, 2000), plus a growing value of diversity in humankind through social connectedness and recognition of individuals' achievements not their disabling conditions (O'Brien et al., 2018).

The importance of differentiation as a capability for teachers to respond to the diversity of their students has been given particular emphasis in the Australian Professional Standards for Teachers (see Australian Institute for Teaching and School Leadership, 2011 Standard 1.5). Some consider a classroom to be less inclusive without differentiation for the diversity of students' learning profiles (Lindner & Schwab, 2020; Munro, 2018). Pre-service teacher self-efficacy for differentiated instruction is a developing area of specific research interest (Scarparolo & Subban, 2021)

In SA, the ongoing need for improvements in the way disability-inclusive education is provided was the impetus for the three education sectors in SA (public, Catholic and independent) to collaborate and agree upon a common set of principles for the inclusion of students with disability in mainstream education. These principles were published to guide early learning centres and schools with the aim of improving educational outcomes for children and students with disability (Ministerial Advisory Committee: Students with Disabilities, 2018). In summary, the principles stated that disability-inclusive classrooms were benefited by teachers with a positive attitude, who have skills for assessing students' learning requirements with the ability to differentiate accordingly for the diverse range of their students and to positively support challenging behaviours. It also involves the support of school leaders, the provision of adequate resources and scope for engagement with those who have specialist knowledge including effective partnership with parents and carers.

In SA, some schools have begun to implement the Multi-tiered Systems of Support (MTSS) framework as an initiative to improve outcomes for the full range of students at their school, from a whole of school and systems perspective (Whyalla Secondary College, n.d.). The MTSS is as a comprehensive approach to the identification of learning needs with a focus on assessment, instruction and interventions to achieve positive educational outcomes for all students across all learning domains with a special emphasis on the inclusion of diverse learners at mainstream schools (Burns et al., 2015; de Bruin, 2022; Thurlow et al., 2020). The MTSS evolved as an education framework out of an approach to public health supports in the

USA. Concerns were raised in that country that some students in mainstream settings were not qualifying for specialist education provisions yet still required additional supports for their academic achievements and managing challenging behaviours (de Bruin, 2022). Initially, work to enhance the education experience for students in the USA resulted in the Response to Intervention (RTI) and Positive Behaviour Support (PBS) models of assessment and intervention but these approaches were being delivered in isolation to one another and did not account for the interrelated nature of learning difficulties and personal challenges experienced by students with additional needs (de Bruin, 2022; Thurlow et al., 2020). The MTSS was proposed as a framework for the integration of different approaches to fill the gap for students with such complex learning requirements. MTSS goes beyond a single intervention approach and is not a program but a problem-solving model (Burns et al., 2015). It was derived from the needs of students in regular classes at mainstream schools, rather than those from specialised settings (Burns et al., 2015). Its success depends on the quality of the data that is collected and that problems are considered not only at the student level but also at the system level (Pullen et al., 2019).

The MTSS framework is intended to align academic, behavioural, social, and emotional supports to improve educational outcomes (Burns et al., 2015). It is designed as a continuum of tiered instruction and intervention supports with all students in mind, including those with more significant needs that require an individualised response (de Bruin, 2022). The three tiers refer to the levels of support that students receive and although they are hierarchical in nature they are additive—those students who receive more specific supports at Tier 2 or Tier 3 levels, also continue to receive Tier 1 supports (Thurlow et al., 2020). There are two critical elements for the MTSS framework—"a good screening and ongoing progress monitoring process for providing timely information on whether students are responding to instructional supports, and use of evidence-based instructional supports," (Thurlow et al., 2020, p. 3).

The following explanations have been cited from the American Institutes for Research website concerning MTSS and are provided here to explain the different levels of assessment, instruction and intervention—which are the *tiers*. Tier 1 supports are provided for all students (100%), Tier 2 supports are estimated to be required by approximately 15% of a school's student population and Tier 3 supports for approximately 5% (Whyalla Secondary College, n.d.). Additional supports may be required only temporarily, to assist students with specific areas of development (de Bruin, 2022), and most importantly, students should not be regarded as Tier 2 or 3 students but simply receiving tiers 2 or 3 supports.

Tier 1: Core Programming (Universal for all)

Core programming at Tier 1 includes academic, social, emotional, and behavioural curriculum, instructions and support aligned to grade-level standards and student needs. At Tier 1, educators use instructional strategies and practices shown to be effective for the student population and educational context. In

effective Tier 1 systems, most students benefit from Tier 1 programming alone and teachers use differentiation to ensure all students can access and benefit from core programming. Consistency in the use of evidence-based practices and supports is essential for collective [student] efficacy at Tier 1. Effective Tier 1 ensures positive school climate and conditions for learning.

Tier 2: Supplemental Interventions (Targeted for Some)

At Tier 2, schools provide small group, standardized academic interventions or targeted behavioural or mental health supports using validated intervention programs. Teams select or design interventions and support that have demonstrated positive effects for desired outcomes and are aligned with student needs. Tier 2 interventions and supports are delivered with fidelity at an appropriate duration and frequency to ensure students have increased opportunities for practice and corrective feedback.

Tier 3: Intensive Intervention (Individualised for a Few)

At Tier 3, schools implement intensive intervention to help students with severe and persistent learning and/or behavioural needs, including students with disabilities. Data-based individualization (DBI) is a validated approach to providing intensive intervention in academics and behaviour. It is not a specific program, but a data-driven process that is characterized by increased intensity and individualization of instructions and tailored supports. (American Institutes for Research, 2023)

Understanding current thinking and promising pedagogical practices related to disability-inclusive education, and the methods that are being used successfully by education systems, school communities and classroom teachers to implement best practice is relevant to preservice teachers' preparation for disability-inclusive teaching for which universities have responsibility (Florian et al., 2016). Unfortunately, in Australia, recent findings indicate that early career teachers continue to feel inadequately prepared for teaching students with disability in their regular classrooms (Paul, 2021), and consequentially, preservice teachers feelings of ill-preparedness and poor self-efficacy for practicing disability-inclusive teaching perpetuates the challenges of implementing disability-inclusive education. Kate de Bruin suggests that the MTSS framework provides "a road map for achieving an inclusive education system"(de Bruin, 2022, p. 36) and is a way forward for Australia to achieve a nationally consistent system that embraces the expectations of the United Nations assembly to include all children successfully in mainstream education, including those with more significant additional needs (United Nations, 2016, 2018). In relation to the SA education system, Graham et al. (2020) recommended the implementation of MTSS for all SA schools following an independent review of the use of suspensions, exclusions and expulsions by SA public schools. The SA Department for Education wanted to know if it was complying with international conventions, legislative requirements, governmental

and departmental policies and procedures. The recommendation to implement the MTSS framework was under consideration by the SA government at the time of writing this thesis.

2.2 Preservice teachers' self-efficacy and preparation for disability-inclusive education

Self-efficacy is defined as a psychological concept that permeates all domains of human living and represents "beliefs in one's capabilities to organize and execute the course of action required to produce given attainments" (Bandura 1997, 3). Bandura identified links between self-efficacy, human motivation and human agency (Bandura, 1997; Sharma & George, 2016). In summary, he explained that personal self-efficacy provides a strong indication of an individual's sense of capability to achieve immediate tasks and larger goals, including those related to one's occupation and work life. For example, teachers are unlikely to use proven strategies, known to be effective for student learning (e.g., scaffolding), unless they have a personal belief in their skills and capabilities to support students when needed (Zee & Koomen, 2016). Bandura explained that people with a strong sense of self-efficacy are more likely to achieve success and to be mentally healthier (even if their sense of self-efficacy exceeds their personal ability) than persons with a low sense of self-efficacy, who are more likely to become stressed and susceptible to depression (Bandura, 1995). He suggested that overestimation of self-efficacy appraisal was a benefit because it drives higher performance, whereas cautious self-efficacy appraisal results in habitual behaviours and conservative achievements based on lower expectations (Bandura, 1995). In other words, "An individual's motivation to do a particular task and actions may not be based on what he or she really is [able to do] but on what he or she believes he or she can do" (Sharma & George, 2016, p. 38).

Self-efficacy has its roots in social cognition theory and has been explained as "the product of a dynamic interaction between personal, behavioural and environmental influences" (Sharma & George, 2016, p. 37). Bandura framed the development of an individual's self-efficacy around four major sources of human interaction: mastery of tasks, vicarious experiences, verbal persuasion and psychological and affective states (Bandura, 1997). He advised further that the most effective influence in creating strong self-efficacy was the experience of mastering tasks. In addition to individual self-efficacy, Bandura also discussed the importance of collective self-efficacy for social enhancement, particularly in institutional contexts such as schools. He explained,

> The task of creating environments conducive to learning rests heavily on the talents and self-efficacy of teachers. Evidence indicates that classroom atmospheres are partly determined by teachers' beliefs in their instructional self-efficacy... [However], teachers operate collectively within an interactive social system, rather than as isolates… [and]

> schools in which staff members collectively judge themselves capable of promoting academic success imbue their schools with a positive atmosphere for development. (Bandura, 1995, pp. 19-21)

The concept of collective self-efficacy and its relationship to the development of an individual teacher's self-efficacy has been explored with a Norwegian teacher cohort of 246 participants and was found to be a separate but positively and strongly related concept (Skaalvik & Skaalvik, 2007). Skaalvik and Skaalvik (2007) suggested that the strength of this relationship was likely to be associated with the effect of vicarious experiences—i.e., that through observation of other teachers who successfully manage various aspects of teaching in specific ways, another teacher's self-efficacy can be strengthened. It would also seem that in the context of Bandura's theory, collective self-efficacy plays an important role in the implementation of MTSS. The concept of collective self-efficacy has implications for university ITE programs also when it comes to preservice teachers' self-efficacy development and their engagement in school based professional experiences. Australian researchers have commented previously on the importance of recruiting quality mentor teachers who are supported by whole school approaches from whom preservice teachers can learn and develop strong self-efficacy for disability-inclusive teaching (Hemmings & Woodcock, 2011; Scarparolo & Subban, 2021).

Bandura's social cognitive theory related to self-efficacy (Sharma & George, 2016) along with Ajzen's Theory of Planned Behaviour (1991) have been important contributors to research studies concerning preservice teachers' readiness to practice disability-inclusive education (see for example, Loreman et al., 2013; Malinen et al., 2013; Opoku et al., 2021; Savolainen et al., 2012; Sharma & Nuttal, 2016; Sharma et al., 2021; Specht et al., 2016; Subban et al., 2021). Bandura's theory has been a springboard for the development of different self-efficacy scales to measure the relationship between self-efficacy and a diverse range of other phenomena (e.g., performance, outcomes and wellbeing), which have relevance for both teachers and preservice teachers (see for example, Dembo & Gibson, 1985; Jordan, 2018; Leyser et al., 2011; Sharma et al., 2012; Skaalvik & Skaalvik, 2007; Tschannen-Moran et al., 1998; Zee & Koomen, 2016). Zee and Koomen (2016), Sharma and George (2016) and Wray et al. (2022) provide summaries of teacher self-efficacy scale development and the findings of research using these measures. They emphasise the volume and variety of studies which have been undertaken including specific foci, for example, on self-efficacy and instructional support, classroom organisation, emotional support, teachers' wellbeing and job satisfaction, teacher education and professional learning, school climate, experience of people with disability and internal attributes such as attitudes and confidence. They and others (Tschannen-Moran & Hoy, 2001) also cite research related to teacher self-efficacy and student outcomes (such as student motivation and achievement). It has been found that teachers with higher levels of self-efficacy work longer with struggling students, attend to additional needs more readily, engage effectively with parents, and make

fewer negative predictions about students' abilities (Dembo & Gibson, 1985; Zee & Koomen, 2016). Moreover, studies have shown that self-efficacious teachers and preservice teachers have more positive attitudes toward disability-inclusive education and sociocultural diversity than inefficacious teachers (Ahsan et al., 2012; Malinen et al., 2012).

The difference between an individuals' general self-efficacy and context specific self-efficacy was discussed by Sharma and George (2016) as an important distinction when it comes to self-efficacy for disability-inclusive education. They referred to the work of Tschannen-Moran et al. (1998) who emphasised that when teachers make their own self-efficacy judgements, they need to consider both the task that is being asked of them and its context. Tschannen-Moran et al. (1998) proposed that teachers may feel more or less efficacious in different situations, and suggested that the judgement of specific self-efficacy for various teaching responsibilities relates to an "analysis of the teaching task" on every occasion and an "assessment of personal teaching competence" for that task (Tschannen-Moran et al., 1998, p. 228). If teachers are novices or the task is new or students' abilities are different to those which they have experienced previously, teachers' self-efficacy may be lower until a positive performance feedback loop is established, through which a stronger sense of self-efficacy can develop over time. This means that just because a teacher has strong self-efficacy for teaching in general does not necessarily mean they have equivalent self-efficacy for the requirements of teaching a diverse group of students in their regular classroom (Perera et al., 2019; Sharma & George, 2016). This idea was also emphasised by Malinen et al. (2013) when they reflected on the educational structure of the Finish educational system, where special education remains a separate area of study to mainstream education at university, and every school has special education teacher as a resource. There is some evidence that regular teachers' feeling of self-efficacy in teaching students with diverse needs may be lowered when special education options are available, particularly when students with special education needs are withdrawn for tuition by specialist teachers (Malinen et al., 2013).

The question of whether self-efficacy is malleable and can be changed also has been discussed significantly in the literature, particularly with regard to the impact of university ITE courses on preservice teachers' perceived self-efficacy for inclusive education. This period of professional development is regarded as an optimal time to influence teachers' future capabilities for disability-inclusive teaching practice (Lambe & Bones, 2006). Encouragingly, a recent Australian study concerning preservice teachers' perceptions of their self-efficacy changes, following their first professional placement, indicated that preservice teachers were able to evaluate their self-efficacy both in general terms and in specific subdomains of teaching (Ma et al., 2021). This links to the Tschannen-Moran et al. (1998) model of general and specific self-efficacy development being separate phenomena.

Tschannen-Moran and Hoy (2001) envisioned a future where initial teacher education programs placed an emphasis on the mastery experiences element of Bandura's theory of self-efficacy in their course structure because of the positive influence that mastery practice has on self-efficacy and in turn, how strong self-efficacy positively effects educational outcomes for students. They suggested how ITE programs could be enhanced by progressively supporting the self-efficacy development of preservice teachers.

> Teacher preparation programs could come to look more like apprenticeships, with a gradual shift from the vicarious experience and verbal persuasion of a university classroom to more mastery teaching experiences throughout the program, with steadily increasing levels of complexity and responsibility. There would be a gradual withdrawing of scaffolding and supports rather than the sink-or-swim practicum experiences many novice teachers now experience. (Tschannen-Moran & Hoy, 2001, p. 802)

Over the past two decades, researchers have concentrated on specific dimensions of preservice teacher self-efficacy for disability-inclusive education and importantly how these relate to satisfactory preparation of teachers for the skills of disability inclusive teaching in practice, such as differentiation, providing Inclusive Instructions, knowing how to collaborate with others including parents and carers and classroom behaviour management (see for example, Keppens et al., 2021; Lancaster & Bain, 2021; Scarparolo & Subban, 2021; Tümkaya & Miller, 2020; Wray et al., 2022).

In relation to Australian studies, Hemmings and Woodcock (2011) engaged a group of 138 preservice teachers from a regional university in New South Wales in a study concerning their views about inclusion and the readiness to teach in inclusive classrooms. At that time, they found their cohort felt underprepared to teach students with diverse learning needs including those with disability. A decade later, the reality of preservice teachers feeling underprepared for the skills required to teach in classrooms with diverse students including those with disability was again found by the Australian Government in their review of initial teacher education. The government reported that the preservice teachers involved in their review felt underprepared for "supporting diverse learners, classroom management and family/carer engagement" (Paul, 2021, p. 37).

While it has been shown that coursework topics on inclusive education have improved the self-efficacy of preservice teachers for disability-inclusive education (Forlin et al., 2009; Lancaster & Bain, 2007; Leyser et al., 2011; Sharma & Nuttal, 2016; Sharma & Sokal, 2015), Sharma and George (2016) also explained that there is contrasting evidence in the literature regarding little or no change in preservice teacher self-efficacy for disability-inclusive education after having undertaken disability related topics and the associated professional experience of teaching with students with disability as part of their ITE program. There are likely to be a number of reasons why these findings are conflicting, including the different types of

experiences that preservice teachers have had prior to undertaking their ITE program of study, their different expectations of the course, the varying quality of mentor teachers with whom they engage during practical placement, the influence of different collective self-efficacy found at schools and universities, and variations in education policies and practices at the local level (Forlin et al., 2009; Lambe & Bones, 2008; Lancaster & Bain, 2007; Loreman et al., 2013).

It has been suggested that preservice teachers' heightened awareness of the requirements for disability-inclusive education after studying inclusive education in theory and then undertaking practical experience can also lead to greater tension and concern when they realise that the resources required to fulfil the expectations of disability-inclusive teaching may not be available to them when they graduate. Woodcock, Hemmings and Kay's previously mentioned group of preservice teachers from regional Australia (New South Wales) showed no or little change in self-efficacy for disability-inclusive teaching as a result of their inclusive education experiences, which had been facilitated by their university program (Woodcock et al., 2012). The researchers suggested that the four-week professional placement may have been too short to develop mastery and confidence, and that perhaps the increased knowledge of the difficulties and challenges faced by teachers may have nullified any positive changes gained from the university-based inclusive education topic they had undertaken prior to their practicum. Notably, this cohort's level of self-efficacy to begin with was low and remained low overall.

Comparable results were found by Sharma and Sokal (2015) concerning 28 Australian and 60 Canadian preservice teachers who participated in a study comparing the outcomes of their respective ITE program topics on inclusive education—one provided by an Australian university (based in Victoria) and the other by a Canadian university (based in Manitoba). The Australian cohort of preservice teachers showed improvement in self-efficacy, a reduction in concerns and gains in confidence to include students with disability in their classrooms. While the Canadian cohort of preservice teachers showed improvement in self-efficacy, along with a reduction in concerns, they had more apprehension about including students with special needs in their classrooms. In their discussion of the findings, the researchers emphasised the importance of mentor teachers while students are on professional placement, and how their influence can be either positive or negative depending on their attitudes towards inclusion and the quality of teaching that is observed. They also suggested that ITE course developers should ensure course content focuses on ways resources can be obtained and used effectively to teach in disability-inclusive classrooms. Similarly, Forlin and Chambers (2011) in their study involving Western Australian preservice teachers found that raised level of awareness about disability-inclusive education heightened their cohorts' concerns about teaching students with disability.

Sharma and George (2016) suggested that participation in an inclusive education course at university may not be enough to see positive change in self-efficacy—a view supported more recently by Gigante and

Gilmore (2020) who also found that preservice teachers who chose to complete a disability elective as part of their Queensland based university ITE course reported more positive attitudes but not higher perceived self-efficacy for disability-inclusive education. Further evidence from a four-country study involving Canadian, Australian, Chinese and Indonesian preservice teachers, designed to understand self-efficacy for teaching in inclusive classrooms (and international differences) showed that a comprehensive course on disability-inclusive education and opportunities to gain mastery of new knowledge through practical experience, with sufficient support from professionals who are capable teachers of students with disability were all essential components for shaping preservice teachers' high sense of self-efficacy for disability-inclusive education (Loreman et al., 2013). In a study related to practicing teachers from China, Finland and South Africa, Malinen et al. (2013), the researchers also found that higher teacher self-efficacy results from experiences of positive classroom situations in which challenges have been overcome rather than merely from information and observations being shared.

Each of these studies has brought new insights to the discussion of preparation for disability-inclusive education. Collectively their findings support Bandura's self-efficacy theory that successful mastery experiences coupled with vicarious observations of effective teaching practices, along with constructive feedback are important influences in the development of highly efficacious preservice teachers—yet opportunities for mastery are the most influential. It follows that providing opportunities to gain mastery through multiple experiences over the full course of a preservice teacher's ITE program is advantageous for the formative development of high self-efficacy in disability-inclusive teaching.

The relationship between attitudes, concerns and self-efficacy for disability-inclusive education is discussed in the literature and has often been (and continues to be) the focus of studies concerning disability-inclusive education. The influence of attitudes towards disability-inclusive education and understanding concerns about disability-inclusive teaching was studied early by researchers in the development of their knowledge on this topic, on the assumption that the advancements in the implementation of disability-inclusive policy was dependent on teachers taking a positive approach towards change (see for example, Ahsan et al., 2012; Avramidis & Norwich, 2002; Beacham & Rouse, 2012; Forlin et al., 2011; Killoran et al., 2013; Malinen et al., 2012; Savolainen et al., 2012). A review of the literature by Avramidis and Norwich (2002) twenty years ago identified that attitudes towards disability-inclusion were strongly influenced by the nature and severity of the disabling condition of the students and less by variables that affected teachers' abilities. They also found that environmental issues such as physical access and additional human resource support influenced teachers' attitudes and concerns towards disability-inclusive education. Studies more recently involving Australian preservice teachers have progressed this viewpoint to show that a positive relationship between attitudes towards disability-inclusive education and self-efficacy for teaching students with disability in regular classrooms remains an influential factor, but note there is also recognition that knowledge and skills

for disability-inclusive teaching can be acquired (Cologon, 2012; Forlin et al., 2009; Gigante & Gilmore, 2020). Forlin et al. (2009) undertook a study involving 603 preservice teachers from four countries, of which 270 were Australian. They found that closer contact with people with disabilities and involvement in teaching students with diverse needs had a significant effect on improving attitudes towards disability-inclusion. Another Australian study, involving 163 preservice teachers in their second year of an education degree (based at a Queensland university), confirmed the beneficial effects of disability-Inclusive Instructions when theoretical learnings are delivered alongside applied activities that emphasise effective inclusive teaching strategies, along with challenging but positive professional experiences within disability-inclusive classrooms (Gigante & Gilmore, 2020). These researchers confirmed the positive correlation between attitudes and self-efficacy and they also found that those participants who had better knowledge of disability legislation reported more positive attitudes and higher perceived efficacy than those who reported being less knowledgeable. Yet it was also found that those who had chosen a disability elective reported more positive attitudes but not higher perceived efficacy.

Sharma and Nuttal (2016) sought to understand more about the effects of a disability specific preservice teaching course and compared pre-and post-test results for 33 preservice teachers who undertook a nine-week elective course as part of their education degree. They found that the course which they delivered positively affected students' attitudes and self-efficacy for inclusion while also reducing their concerns. Based on their findings, they suggested that the following elements were important not only as coursework content but also for integrating into the preservice teachers' professional placements.

- bolstering pre-service teachers' knowledge about the individual child rather than the disabling condition of the child and notions of limited capabilities
- addressing concerns about overall academic standards for the class
- acknowledging teacher workload and providing adequate resources
- providing skill development in teaching techniques, and
- knowing how to collaborate with other professionals.

2.3 Initial Teacher Education related to students with disability

As mentioned in the introductory chapter, across Australia there are standards and procedures to guide ITE course development and an accreditation process for universities to deliver ITE programs. In SA, it is the SA TRB that has the jurisdiction for accreditation of ITE programs. It is clear that ITE programs must deliver a workforce that meets graduate level proficiencies according to the Professional Standards for Teachers (Australian Institute for Teaching and School Leadership, 2011). The ITE Program Standards specify that "program development, design and delivery take account of contemporary and emerging developments in education, curriculum requirements, community expectations and local, employer and national system

needs, including workforce demands for teaching specialisations"(Australian Institute for Teaching and School Leadership, 2015, p. 13).

Researchers who have focused on the conditions of successful disability-inclusive education have been calling for a paradigm shift in ITE programs (Cumming et al., 2018; Florian & Linklater, 2010; Forlin, 2010), claiming they have not kept pace with the expectations of the education community (Forlin & Chambers, 2011). The requirement to include content related to students with disability and knowledge on how to differentiate the curriculum to accommodate individualised approaches for diverse learners first became mandated from 2011 (Australian Institute for Teaching and School Leadership, 2017). The guidelines have been revised since their inception, in 2015, 2018 and in 2019. Consistently, graduate teachers from Australian universities have been expected to *Demonstrate broad knowledge and understanding of legislative requirements and teaching strategies that support participation and learning of students with a disability* (Professional Standard 1.6) and *Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities* (Professional Standard 1.5) (Australian Institute for Teaching and School Leadership, 2011, p. 11). In addition to these two standards, Sahli Lozano et al. (2021) identified the following as particularly relevant to teaching students with disability also —(Standard 3.1) *Set learning goals that provide achievable challenges for students of varying abilities and characteristics*; (Standard 3.7) *Describe a broad range of strategies for involving parents/carers in the educative process;* (Standard 4.3) *Demonstrate knowledge of practical approaches to manage challenging behaviour* and (Standard 7.2) *Understand the relevant legislative, administrative and organisational policies and processes required for teachers according to school stage*.

For the past decade, preservice teachers in Australia studying general education degrees have received more content focused on disability-inclusive education than at any time previously (Australian Institute for Teaching and Learning, 2020; Australian Institute for Teaching and School Leadership, 2011; Commonwealth of Australia, 2005; Sokal & Sharma, 2017). However, the effectiveness of ITE programs to deliver confident outcomes for graduate teachers in relation to teaching students with disability has not progressed as far as would be desired and their under preparedness continues to be a concern. In 2015 the Australian Institute for Teaching and School Leadership (AITSL) reported that more than half of the early career teachers surveyed in 2013 were not satisfied with their pre-service education as it related to supporting students with disability—a shortcoming which was again recently emphasised by the Government in their report on the review of quality initial teacher education in Australia (Paul, 2021).

Australian based research previously found that all except three of the 35 Australian universities preparing preservice teachers to teach students with disability included a core unit on inclusion or special needs education as part of their four-year bachelor program, which demonstrated progress. However, these researchers also expressed concern about the outcomes of these topics because they found there was a

distinct lack of relevant qualifications held by the academics convening these courses (Stephenson et al., 2012). After comparing their research with that of Dempsey's (1994), which was undertaken 20 years earlier, they concluded it was possible that pre-service teachers at Australian universities were becoming less well prepared to teach students with disability than they had been previously. Similar findings were found by researchers based in the USA (Hamman et al., 2013). It was suggested from that research that there may be a need to "better understand what contribution pre-service, general education teacher-preparation faculty [staff] make to student teachers' self-efficacy for working with students with disabilities, and identifying the resources they might need to become more effective" (Hamman et al., 2013, p. 253).

Graham and Scott (2016) undertook a literature review on teacher preparation for disability-inclusive education for the Victorian Department for Education in 2016. They found that the most influential factors were

- developing knowledge about socio-cultural issues, disabilities and difficulties that can affect students' learning,
- ensuring knowledge is developed around evidence-based teaching strategies that facilitate the learning of diverse students,
- developing collaborative skills,
- providing opportunities for reflective practice,
- preparing a workforce of responsive teachers who are confident in collecting and analysing data about teaching and learning,
- ensuring that the academics and professional practitioners teaching pre-service teachers are skilled and experienced in disability-inclusive education, and
- organising and supporting practicum experiences in a variety of schools and classrooms where disability-inclusive practices are modelled well.

Professional experience placements are a required element of all ITE courses in Australia (Australian Institute for Teaching and School Leadership, 2015). They facilitate opportunities to translate theoretical understandings into practice and as discussed previously, mastery of teaching experiences is the most influential factor for development of high levels of self-efficacy. Preservice teachers are expected to engage in professional placement for a minimum of 65 days when undertaking a Master of Teaching degree or a minimum of 80 days when undertaking a Bachelor's degree, and to have a range of experiences while learning their profession, including teaching students from different year levels with exposure to diversity of student needs and diversity of school communities. Critical to this practical aspect of their learning are high quality partnerships schools. The importance of partnership schools that demonstrate exemplary practice in

the precepts of inclusion and equity with strong leadership commitment towards students with disability has been discussed by Graham and Scott (2016) and LeCornu (2015). Others have identified that the effect of teaching students with disability in regular classes at mainstream schools has mixed results regarding the alleviation of concerns for disability-inclusive teaching. For example, after exposure to teaching students with disability while on professional placement, Hemmings and Woodcock's (2011) found that their sample of regionally located pre-service teachers from Australia had a new appreciation of the need to manage their time and energy effectively, for additional resources (both physical and human), of the reliance of teachers on teaching assistants and a recognition of the importance of site-based professional learning, plus the necessity of a positive commitment by a school community towards students with disability for disability-inclusive education to work. In response to their findings, these researchers suggested that ITE programs needed to increase the breadth of pre-service teachers' professional placements so they experienced a wider range of educational settings and were better prepared with more confidence to teach in inclusive classrooms. Hemmings and Woodcock also suggested that tracking pre-service teachers' professional experience learning journey could "go a long way to help course designers determine how best to realise the elusive goal of adequately training pre-service teachers for inclusive education" (Hemmings & Woodcock, 2011, p. 24).

LeCornu (2015) in her discussion of effective ITE professional experience (a report commissioned by AITSL) identified seven components of professional experience placement which had been identified in the research literature as playing a key role. She grouped these into three categories.

- High quality integrated ITE programs that are well structured, managed and supported.
- High quality placements that have high quality supervising teachers and a high-level commitment from school leadership.
- High quality partnerships between schools, universities and the broader education system.

More recently, Ma et al. (2021) reported on the qualitative component of their research involving preservice teachers based at a Sydney university, to identify post professional experience placement changes in self-efficacy for preservice teachers who had teaching experience in regular classes at mainstream schools. The participants had embarked on their final two professional experience placements of either 20 or 30 days across subsequent years and were interviewed after each placement. They had completed coursework topics in education, inclusive education, classroom management and assessment along with specific curriculum topics before going on placement and had been surveyed using the Teachers Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001) to gather quantitative self-efficacy data. Both primary focused and secondary focused preservice teachers were involved in the research. They found from interviewing their participants that most preservice teachers reported improvement in their overall teaching self-efficacy, which was attributed to the mastery experiences that their professional placements

had offered, but these increases in self-efficacy were not smooth across all the subdomains of teaching practice that had been examined. The emotional states of the participants were found to be a strong influence on self-efficacy. Classroom management was the subdomain of teaching that was of most concern for these preservice teachers. Engaging students in the lessons they had pre-prepared was the subdomain for which they felt most confident, but this was when the lessons were teacher controlled, not student controlled. The flexibility required to deal with variations in teaching task difficulty was a subdomain for which the sample group felt less efficacious. The researchers concluded that "the conditions of the placements influenced TSE [teacher self-efficacy] changes," (Ma et al., 2021, p. 71), and they suggested that teaching ability is formative. Because this sample were at the beginning of their teaching careers, they needed to work on their flexibility over the course of their ITE program to deal with variations in teaching demands. This view concurs with that of Munro (2018) discussed earlier in relation to teachers' ability to adapt their teaching style being the most important factor for including diverse learners in a regular classroom.

Further, another similarly focused study comparing New South Wales primary teachers with high and low efficacy for inclusive education found that teachers with higher self-efficacy in their inclusive teaching ability were able to be flexible and responsive to students' strengths and needs, they could focus on student successes and encouraged students to be self-regulating. Whereas teachers with lower self-efficacy for inclusive education focused their classroom strategies on grouping students or differentiating task around students' abilities. They also focused on managing students' behaviours and were reliant upon the help of teaching assistants to cater for students with additional learning requirements (Woodcock et al., 2022).

It is clear from the research literature that universities have a responsibility to provide quality ITE programs that enhance preservice teachers' self-efficacy for disability-inclusive education in a formative manner, so it is strong when they begin their teaching career, and they are more likely to implement what they have learnt. Specific course content related to disability-inclusive education is an important factor, as is knowledge of policies and legislation (Wray et al., 2022) however, after reviewing the literature, Tümkaya and Miller (2020) found the strongest predictor of pre-service teachers self-efficacy was their field experience (professional placement).

In conclusion, there may be benefit in screening placement schools for an assurance that effective teaching practices demonstrating disability-inclusive teaching are experienced by preservice teachers and that feedback received from mentor teachers is supportive of disability-inclusive education. These conditions are more favourable to enhance preservice teachers' self-efficacy for disability-inclusive teaching. Quality vicarious and mastery experiences of teaching students with disability in regular classrooms is necessary. Studies have shown that preservice teachers gain mastery progressively throughout their ITE course by engaging in professional placements at different settings with support and guidance from their university

tutors (see for example, Ma et al., 2022). The personal attributes of preservice teachers such as gender, age, previous experience of people with disability and personality, as well as the year level focus of their teaching have all been found to have some influence on preservice teachers' self-efficacy but different studies' findings with different cohorts of participants are inconsistent concerning the effects of these variables. Of them, previous experience of people with disability appears to be the most consistently influential factor to enhance the self-efficacy of preservice teachers for disability-inclusive teaching (Wray et al., 2022).

Conducting further research on the self-efficacy and preparation of final year preservice teachers for disability-inclusive education in SA using mixed methods methodology has offered a new multidimensional way of providing an additional contribution to this field of research to expand our knowledge further. Preservice teachers were provided with different avenues to explain from their perspectives what worked well for them to learn the craft of disability-inclusive teaching and where their ITE programs could be improved.

CHAPTER THREE METHODOLOGY

Effective research is designed so the methods of collecting and analysing data will answer the research questions in an ethical manner. It is the combining of research theory with methods that determines methodology (Hesse-Biber & Leavy, 2011). It is important that the theoretical framework of research is explained, so the philosophical assumptions are clearly stated along with a description of the research methods used (see Creswell & Creswell, 2018; Creswell & Plano Clark, 2018; Fetters, 2020; Greene, 2007; Hesse-Biber & Leavy, 2011; Lincoln & Guba, 2016; Lincoln et al., 2018; Mertens, 2012; Plano Clark & Ivankova, 2017). This chapter provides

- details of the research design and its philosophical underpinnings,
- information about the participants and how they were sampled,
- details of the methods used for data collection and analysis,
- ethical considerations, and
- comments on the research limitations.

3.1 Research Design

The questions of this research are multifaceted and could be answered best by using a mixed methods design, which facilitates the collection of both quantitative and qualitative data for analysis and discussion. Johnson and Onwuegbuzie (2004) explain that mixed methods research is "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study" (p. 17). The specific style of mixed methods design used for this research was a *follow-up explanations* variant of the *explanatory sequential mixed methods* design where the data sets have *equal status* (Creswell & Plano Clark, 2018; Fetters, 2020).

By using mixed methods methodology, I was able to draw together different ontological and epistemological viewpoints—namely, post positivism and social constructionism with interpretivism for analysis. The research was designed to

- quantitatively measure the self-efficacy of preservice teachers for disability-inclusive teaching using the Teacher Efficacy for Inclusive Practices (TEIP) scale (Sharma et al., 2012),
- collect quantitative and qualitative data to understand preservice teachers' perspectives and feelings about their readiness for teaching students with disability, in the context of the professional standards expected of them as graduate teachers (Australian Institute for Teaching and School Leadership, 2011),

- listen to preservice teachers' stories and hear their views on disability-inclusive education based on the theoretical learnings and practical experiences that they gained over the course of their university ITE program,
- hear the opinions of preservice teachers about what worked well for them to learn the craft of disability-inclusive teaching and how their ITE program could have been improved, so they felt more prepared,
- review universities' course documents to glean an understanding about how often disability-inclusive education had been included as a topic of learning during the preservice teachers' ITE programs.

In its basic form an *explanatory sequential mixed methods* design would typically follow the data collection and analyses process depicted in Figure 3.1, according to Creswell and Creswell (2018, p. 602).

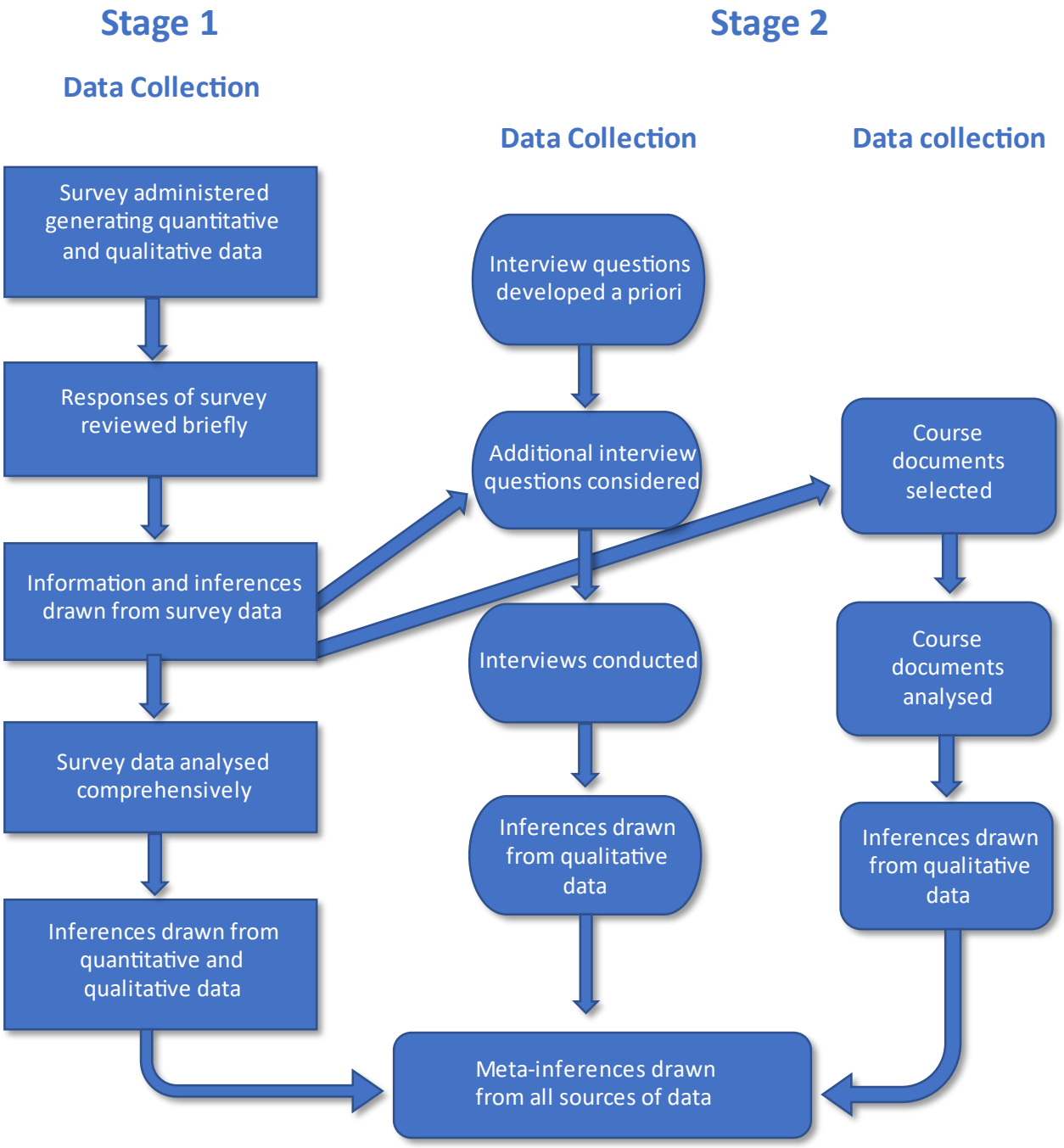
Figure 3.1

Basic explanatory sequential mixed methods research

The intention of this research was to collect the quantitative data first and then the qualitative data to explain the quantitative results, as shown in Figure 3.1, however, it was necessary to alter sequencing of data collection from this typical flow because the subsample of preservice teachers that were to be interviewed in the second stage of the data collection were only available for a short period of time after completing the surveys of the first stage of data collection. The second stage of data collection also involved collecting course document data from the universities' websites. The second stage data sets were collected concurrently but after the preservice teachers had completed their surveys. The expediency requirements of the second stage of data collection meant that the quantitative data collected in the first stage was not able to be analysed fully before progressing with the interviews. Figure 3.2 shows the sequencing of this research's design, and also the analyses activities which were integrated in the final stages of the research to report on the findings overall.

Figure 3.2

This explanatory sequential mixed methods research design



Information provided by the survey participants informed the selection of the course documents and the questions of the interview guide were developed *a priori* rather than after analyses of the quantitative survey because they were needed for ethics approval and for interviews as soon as possible after each participant completed their survey. Importantly, each of the interview participants' survey responses was reviewed prior to conducting their particular interview. This information positioned the interviewee in a context and helped to decide which additional probing questions to ask in situ. To add another layer of

complexity, the collection of survey data ran across three years involving four different cohorts of preservice teachers to ensure sufficient quantitative data were collected to conduct statistical analyses.

Fetters (2020) defines mixed methods research as the integration of qualitative and quantitative approaches in a sustained program of inquiry. As shown in Figure 3.2, three sets of data were collected for this research. The first contained both quantitative and qualitative data and the second and third data sets contained qualitative data only. The strength of integrating the quantitative results with the qualitative findings was to answer the research questions in a more comprehensive way, using meta-analysis and an interpretive method.

While this research design has enabled a broader and deeper explanation of preservice teachers' feelings about their preparation for teaching students with disability than one method alone could have achieved, Stefurak et al. (2015) explains there must be *superordinate goals* with any mixed methods research. For this research, these were

(a) to use purposefully designed scales to measure preservice teachers' self-efficacy and readiness for disability-inclusive teaching and gain insight about which variables are likely to have influenced their preparation

(b) to share information about SA preservice teachers' views on the effectiveness of their ITE courses in preparing them for disability-inclusive education, based on an indicative sample of research participants.

As discussed, the timing for data collection was important. The primary aim was to capture the perspectives of the preservice teachers just before they were about to complete their university teaching course, so as to understand their feelings of preparedness, their enthusiasm and apprehension, as they were about to embark on the profession of teaching. Although numeric data is presented in this thesis, it is the qualitative data that has the stronger voice, and therefore, words have been used as the preferred medium for discussion of the findings overall rather than focusing heavily on the statistics.

This research design has embraced the subjectivity of multiple perspectives and interpretation rather than belief in a single truth (Hicks, 2018; Weinberg, 2014). It is purposefully pluralistic (Fetters, 2020; Johnson, 2017) and has aimed to answer the research questions in a way that meaningfully engages with different data types, as Greene and Hall (2010) suggest, using multiple mental models in the same inquiry space. This design has permitted the combination of different beliefs and has put them in conversation with each other to facilitate deeper understandings based on the convergence and dissonance found through data analyses (Mertens, 2012).

3.2 Theoretical Stance

Mixed methods research design differs from a single methodological design because both quantitative and qualitative data are collected, analysed and discussed in a single study (Creswell & Creswell, 2018; Creswell & Plano Clark, 2018; Fetters, 2020; Greene & Hall, 2010; Hesse-Biber & Leavy, 2011; Johnson & Onwuegbuzie, 2004; Plano Clark & Ivankova, 2017; Tashakkori & Teddlie, 2010). Mixing methods for conducting research has been accepted as a paradigm of inquiry for a relatively short period of time (circa 30 years at the time of writing) and is often referred to as the third paradigm of research along a continuum from positivism to constructivism, or otherwise referred to as, from objectivism to subjectivism (Creswell & Plano Clark, 2018; Johnson & Onwuegbuzie, 2004; Teddlie & Tashakkori, 2012).

The benefits of mixed methods have become more widely appreciated and understood in recent times after a period known as the *paradigm wars* (see for example, Creswell & Plano Clark, 2018; Denzin, 2008; Fetters, 2020; Howe, 1988; Tashakkori & Teddlie, 2010), and the complementary strengths approach for conducting research has become popular (Anderson, 2016; Creswell & Creswell, 2018; Creswell & Plano Clark, 2018; Fetters, 2020; Plano Clark & Ivankova, 2017; Teddlie & Tashakkori, 2009). These benefits of mixed methods include working with larger data sets and applying statistical methods of analysis, while also delving deeper into the perspectives of a smaller sample to understand the phenomenon of an inquiry comprehensively. Johnson and Onwuegbuzie (2004) explain that the goal of mixed methods research is to draw from the strengths of different styles of research and minimise their weaknesses within single studies and across studies. 3.2.1 Dialectical pluralism

There are different styles of mixed methods research based on different philosophical assumptions and processes (Anderson, 2016; Creswell & Creswell, 2018; Fetters, 2020; Plano Clark & Ivankova, 2017; Tashakkori & Teddlie, 2010; Teddlie & Tashakkori, 2012). Theoretically, this research design resonates with the mixed methods stance of Dialectic(al)[2] Pluralism (DP) (Fetters, 2020; Greene, 2007; Greene & Hall, 2010; Johnson, 2017; Stefurak et al., 2015). Stefurak et al. (2015) explain that DP "provides a process philosophy and theory for engaging successfully with differences" (p. 345). Fetters (2020) too explains that DP accepts and embraces multiple worldviews. He states that "the researcher accepts that there are different

[2] Dialectic Pluralism, Dialectical Pluralism and dialectic stance are used by different authors in reference to the same methodology. I have chosen to use the term Dialectical Pluralism and its abbreviation DP for the remainder of this thesis.

approaches to constructing reality [and]…assumes that knowledge will be gained through respectful dialogue among different conceptualisations" (p. 37). Johnson (2017) argues that DP should be viewed as a "meta-paradigm" (p. 157) and Stefurak et al. (2015) explain that it is "a paradigm that dialogues with multiple paradigms" (p. 345). Johnson (2017) contends that "the overarching dialectical approach works well with the concept of metaparadigm because the dialectical approach or 'logic' allows and thrives on conflicting positions and offers a strategy for dynamically 'merging' or combining ideas into new broader/thicker viewpoints" (p. 159).

Using DP to integrate the results and findings of mixed methods research would usually be undertaken by heterogenous teams who are practiced in quantitative and qualitative methodologies. Johnson (2017) emphasises that researchers who come together and practice democracy in their research process, while also investing jointly in their different philosophical stances, advantages all stakeholders. Johnson (2017) also suggests DP is difficult for single researchers because of the need to be trained in multiple paradigms. This endeavour has been pursued by me as a single researcher with the aim of delivering detailed, reliable, credible and trustworthy mixed methods research to answer the questions from a *thicker* viewpoint.

The support of other professionals and peers who have provided their guidance, specialist skills and tutelage in pursuit of this DP stance must be acknowledged. They have assisted greatly with the multifaceted analytical and integrative nature of this type of research design.

With respect to the *different conceptualisations* that DP brings to this research (Fetters, 2020), they are presented by way of different ontologies (i.e., postpositivism and moderate social constructionism), different types of data (i.e., quantitative and qualitative), different data collection methods (i.e., Likert-type scales, open ended questions, interviews and document gathering) and different methods of analysis (i.e., statistical, thematic and content analyses) (Tashakkori & Creswell, 2007). These *different conceptualisations* have been brought together in *respectful dialogue* with one another through contiguous and reflexive interpretation and by using meta inference. Teddlie and Tashakkori (2009) define meta inference as the conclusions generated through integration of the inferences that have been obtained from the results and findings of both the quantitative and qualitative strands of mixed methods research. Teddlie and Tashakkori (2009) would refer to this design of research as an integrated sequential QUAN→QUAL mixed model.

3.3 Ontology

Ontologies express the way the world is viewed and upon which philosophical assumptions we base our beliefs. Ontology questions, "What is the nature of reality?" (Lincoln & Guba, 2016, p. 37). As explained, DP is a form of mixed methods methodology that embraces multiple ontologies or worldviews. Within this research, the worldviews of postpositivism and a moderate form of social constructionism have been

brought together. Postpositivism assumes we can only approximate nature, that there is no true reality. Postpositivist research (and the statistical results it produces) provides a way to make decisions but interaction with research subjects is kept to a minimum (Denzin & Lincoln, 2017). In contrast, Social Constructionism is highly qualitative, and interaction with research participants is expected. Social constructionism has a strong relationship with linguistic and textual data. Social constructionist research is not about identifying objective facts or making truth claims, it presumes all knowledge is provisional and contestable—accounts of circumstances are local, as well as historically and culturally specific (Burr, 2015).

3.3.1 Postpositivism

Postpositivism represents a viewpoint between the realism of positivism and relativism of constructivism (Hicks, 2018). Unlike the surety of positivism, which signifies belief in a singular objectively determined reality, where causal relationships between variables are believed to exist and can be identified, proven and explained (Creswell & Creswell, 2018; Hesse-Biber & Leavy, 2011), postpositivism claims that knowledge can be objective but without the need for absolute certainty (Hesse-Biber & Leavy, 2011; Hicks, 2018). The postpositivist view maintains that everyone has their own perception of reality, and while this can be sought using objective means, such as scaled measurement tools distributed via surveys, the representation of reality remains subjective and therefore, variations are likely to be present across a group and over time. Postpositivist researchers are similar to positivist researchers in that they build evidence to support existing theory and their analytical approach relies on deductive logic and hypothesis testing, but the evidence to confirm or refute a theory is not interpreted in absolute terms (Hesse-Biber & Leavy, 2011). The postpositivist stance agrees there are objective criteria for deciding what constitutes a warranted truth, however, this may come from a fallible source such as human perception (Hicks, 2018). Postpositivism is *reductionistic* in nature—its intent is to reduce ideas into small, discreet sets to test. Themes of reduction, empirical measurement and theory verification are all representative of a postpositivist worldview (Creswell & Creswell, 2018).

Self-efficacy

Parts of this research are based on Bandura's cognitive theory and human perceptions of self-efficacy. That is, the belief that one can execute the needed steps to achieve a goal (Bandura, 1997). As already discussed in the literature review, rating scales have been developed to measure self-efficacy for teaching, both generally and in subdomains. Through these measures, a quantifiable representation of self-efficacy can be assembled based on the understanding that respondents subjectively answer questions that are asked as they view their circumstances at a moment in time. Responses may differ at different times or in different situations. Using this type of data is considered fallible in realist terms because of its questionable reliability but this type of research is accommodated through a postpositivist worldview (Hicks, 2018).

3.3.2 Social constructionism

Social constructionism positions our human understanding of the world as the product of specific socio-historical or social interactional processes on individuals and hence, their worldviews (Weinberg, 2014). The ontology of social constructionism conveys multiple realities where individuals are seen as sense makers of their world based on what they see and experience in connection with one another (Burr, 2015; Creswell, 2009)

> [Constructionism] is the view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context. (Crotty, 1998, p. 42)

The term *constructivism* has often been used to encompass both individual constructivism and social constructionism (Burr, 2015; Gergen, 2020). It is confusing when these terms are used interchangeably, so the differences between them have been explained (Young & Collin, 2004). Succinctly, *constructivism* proposes that each individual mentally constructs their world of experience through cognitive processes while *social constructionism* has the collective social, rather than individual, interests at heart (Young & Collin, 2004). The goal of using social constructionism as a philosophical platform for this research was not only to validate multiple participants' views as sources of truths for the phenomenon being studied (Creswell, 2009) but also to provide a framework for the historical and social contexts of students with disability within mainstream education. The idea of social constructionism in a moderate form has been discussed by Elder-Vass (2012), and Burr (2015) provides her interpretation of his perspective.

> … our self-concepts are shaped by discursive forces. These discursive forces have causal powers and operate… through normative pressures; dominant discourses bring with them expectations about what certain people can say and how they should behave, and these expectations are put into practice and endorsed during social interaction. Such norms are therefore examples of 'real' social structures that have causal powers but are at the same time capable of being transformed through changes in human practice – in other words, we have agency, the capacity to make a difference, to make choices. (p. 109)

Social constructionism from this viewpoint resonates with the evolving social norms of mainstream education for students with disability (Mitchell & Sutherland, 2020; United Nations Education Scientific and Cultural Organisation, 1994; United Nations General Assembly, 2006). Changes in norms have been expressed by educational institutions through their policy developments and by governments through legislation (Department for Education, 2020; Mitchell & Sutherland, 2020). Social change can also be seen in

the way students with disability have come to be regarded over time. Opportunities for students with disability to be included in mainstream education have increased. This shift in social norms has meant that Australian schools are now mandated to make adjustments for the additional needs of students with disability (South Australia Department of Education and Children's Services, 2007). Disability, is no longer viewed as a defect, as it would be represented by the medical paradigm, but rather as a variation of human condition that can be accommodated through a positive attitude, social acceptance and differentiation in normative practices
(Creswell, 2007).

Social constructionism as an ontology for this research embraces the notion that outcomes for students with disability are influenced by their environmental conditions, historical predispositions and norm circles (Burr, 2015; Elder-Vass, 2012; Mitchell & Ziegler, 2013). Norm circles represent groups of people who are committed to enforcing a particular norm. Elder-Vass (2012) explains, “Such groups are social entities with people as their parts, and because of the ways in which the members of such groups interact (*a mechanism*) they have causal power to produce a tendency in individuals to follow standard practices” (pp. 22-23).

This perspective of social constructionism highlights the normative expectations of education for students with disability in education. It is now an expectation that teachers who are newly graduated from university will enter the education workforce with knowledge and skills to support fully the participation of students with disability through inclusive education practices (Australian Institute for Teaching and School Leadership, 2011), unlike 30 years earlier.

3.4 Epistemology

Epistemology relates to the theory of knowledge and how we come to acquire new knowledge. Interpretivism is a branch of epistemology associated with qualitative research and its context. Interpretivism is an epistemology that assumes as researchers we cannot separate ourselves from what we already know when we are analysing and discussing data to increase our knowledge. Guba and Lincoln (1994) explain that “the investigator and the object of investigation are linked such that who we are and how we understand the world is a central part of how we understand ourselves, others and the world [we are investigating]” (cited in Denzin & Lincoln, 2017, p. 116).

While some methods of data collection for this research did not involve direct interaction with research participants (on-line survey and course document review) other methods did (interviews). My own history of professional service within the disability and education sectors, and my knowledge of and support for successful inclusion of students with disability in mainstream schools and their communities (Shearer, 2010) is an influential factor in how the data of this research has been collected and interpreted. That is why

interpretivism is the most appropriate epistemological basis for this mixed methods research design. Using an epistemology that is aligned with the subjectivity of qualitative research potentially creates tension with the more objective stance of postpositivism. That is why I sought to harmonise the differences through adoption of the DP style of mixed methods research (Greene, 2007; Greene & Hall, 2010; Johnson, 2017).

3.5 Axiology

Axiology represents the values that underpin research and its ethical considerations. Denzin and Lincoln (2017) stress the importance of including the axiology of research design alongside the other philosophical dimensions to provide the reader with a clearer understanding of the researcher's values and ethical intentions.

Contextually, it is illegal in Australia to treat people with disability less fairly than people without disability. It is expected that organisations, including schools, will make reasonable adjustments to be inclusive (Australian Human Rights Commission; Commonwealth of Australia, 1992). Researchers have shown that teachers influence outcomes for students with disability (Mitchell & Sutherland, 2020). Yet, across Australia varying views regarding which learning environment is better for students with disability (inclusive or segregated) remains a dominant debate. de Bruin (2019a) and others argue for inclusion based on research evidence (Ainscow, 2020; Banks, 2022), and suggest that doubts about disability-inclusive education are anchored in concerns regarding the extent of a child's disabling condition(s), the specialist supports that are required, parents/carers' preferences and a school community's resources for supporting inclusion (de Bruin, 2022).

At the time this research was conducted, there was a political inquiry in Australia regarding the social inclusion, mis-treatment and vulnerabilities of people with disability (Commonwealth of Australia, 2021). It was an aim of the research to connect with that context by exploring the preparation of a new teachers for disability-inclusive education. The impetus for doing so is underpinned by the values of social inclusion, an appreciation of diversity and the practice of differentiation to cater for the varying needs of students in mainstream education. Therefore, this research also aligns with Creswell and Plano Clark's context driven research paradigm (Creswell & Plano Clark, 2018).

3.6 Research Participants

The target population for this research was preservice teachers undertaking their final year of study towards an education degree at a SA university that would qualify them for teacher registration, and therefore, eligibility to teach at SA schools.

There are four main universities with physical campuses in Adelaide (the capital city of SA) that deliver accredited ITE programs. These are Flinders University, University of South Australia (UniSA), The University of Adelaide and Tabor Institute of Higher Education. These institutions each could have provided access to the target population for this research. All four offered programs leading to a Bachelor's degree in education or Master's degree in teaching[3]. Two offered the full range of courses for different year level preferences in early childhood, primary, primary/middle or secondary teaching, and three provided programs for double degrees, for example Bachelor of Arts/Bachelor of Education. One provided a double degree program with disability studies (Flinders University, 2021)[4]. Only two universities were approached. These were Flinders University and UniSA.

3.6.1 Sampling Methods

In mixed methods research, different sampling stages are defined by the overall research design, known as the research *typology* (Creswell & Plano Clark, 2018). Creswell and Plano Clark (2018) distinguish three types of typologies—convergent, explanatory sequential and exploratory sequential. The topology of this research is *explanatory sequential*, which means the quantitative data was collected before the qualitative data.

The quantitative data collection was embedded in the first stage of this research along with some aspects of the qualitative data collection. In total, three sets of data were collected for this research using two types of sampling methods. These were variations of non-probability sampling—purposive sampling and self-selection. Non-probability sampling is often used in qualitative and mixed methods research with the aim of building understanding through inductive processes (Fielding & Gilbert, 2006). In mixed methods research, non-probability sampling facilitates both inductive and deductive processes.

Firstly, the universities involved in the research were purposefully selected. Then, the survey respondents were self-selected, as were the interviewees. The third set of data (course documents) was also purposefully selected. The interviewees and course documents were nested samples, which means they

[3] The Master of Teaching requires an additional year of study after having undertaken a specialisation at the bachelor level first, for example, in sciences, languages, music or other disciplines. It is a five-year program of study rather than a four-year program.

[4] The double degree in education and disability studies was not accredited beyond the 2019 enrolment. This change occurred after data were collected and did not affect the validity of the findings that are discussed.

were a subset of and related to the first sample of data (survey responses) in order to explain that data (Fetters, 2020).

Purposive sampling

Purposive sampling is a type of non-probability sampling that focuses on particular characteristics that are of interest to answer the research questions. This sampling technique relies on the judgement of the researcher to select the objects to be sampled and contains bias. The idea is to produce a sample that is representative (Berndt, 2020), which means that purposive sampling is prone to researcher bias, and it is not possible to generalise the findings because it is not possible to determine the degree to which the sample is representative of the target population.

Self-selection sampling

Self-selection sampling is also a type of non-probability sampling and the main attribute of using this sampling technique is that participants volunteer to take part in the research of their own accord. One advantage of self-selection sampling is the commitment of the participants to contribute a reasonable amount of information for the research because they choose to be involved and dedicate the time to participate (Berndt, 2020). However, self-selection also has the potential for bias, which may result in the sample not being representative of the population. Findings may be exaggerated or diminished depending on the biases of those who chose to participate (Berndt, 2020; Tranter, 2019).

There was a lower-than-expected response rate of self-selected research participants after the first sampling attempt for this research. Therefore, the chance to win a $50 voucher was introduced as an incentive for the second and third sampling occasions. Incentivizing target populations to participate in research is known to increase the number of response effectively (Fink, 2002), as was the case for this research. The response rates for survey participation improved from 4.8% on the first occasion to 10.9% on the fourth occasion.

University selection

Of the four universities with campuses in Adelaide, Flinders University and UniSA were approached to participate in this research for the following reasons.

- There was potential for the sample size from all four universities to be too large and too difficult to manage given the time and resources available, so the parameters of this research was to reduce the target population for sampling to two universities only.

- It was expected there could be difficulties in achieving approval to conduct the research from some of the universities' permitting authorities because of their unfamiliarity with the researcher and supervisors, which may have caused delays in data collection.
- The universities selected had the highest number of enrolments and could maximize the opportunity for participant contribution. Participant variation was also important, as was providing convenient access to those participants who volunteered for follow-up interviews.

The universities chosen were meant to provide streamlined approval times, facilitate ease of access to the target population, maximize the potential size of responses and the heterogeneity of the sample, all-the-while containing the requirements of the research to a reasonable workload. Easy access to the population was a priority along with familiar staff to assist with gatekeeping. There was never any intention to compare universities with each other. The aim of the research was to understand preservice teachers' feelings of self-efficacy and readiness for teaching students with disability, not to evaluate the universities' ITE program delivery. However, researcher judgment was used in the selection of the participating universities, which again comes with researcher bias (Berndt, 2020; Tranter, 2019).

3.6.2 Course document selection

The ITE course documents sampled were only those represented by the research participants, based on the degrees they had studied. The sampling of course documents occurred concurrently with interview data collection and continued over three years. Course document data was used to explore the preservice teachers' responses further and validate other data that had been collected using the method of triangulation. Content related to the topics of each ITE course was purposefully selected from the publicly available prospectus documents at the universities' websites. While the information sourced was indicative of the ITE course content that would have been provided to the sample of preservice teachers who participated in this research, it was not possible to know if the material was exactly the same or had changed over the time that these preservice teachers had been studying. Therefore, this data was considered representative only, and as a snapshot in the context of time. Not all of the ITE courses available at both universities were included in this sample. Out of a possible 25 courses offered by both universities, 18 were represented by the research participants with only 17 ITE courses having information available for review because one of the courses was no longer offered and information about that course had been removed from the university's website.

3.7 Sampling time frame

Table 3.1 presents the time frame and sequencing of data collection across three distinct time periods across the two and a half years that it took for the full corpus of data to be collected. The academic year in Australia goes from January to December.

Table 3.1

Periods of data collection

Period of time	Semester 2 cohort July – Oct 2018	No. of responses	Semesters 1 & 2 cohorts June – Oct 2019	No. of responses	Semester 1 cohort Aug 2020	No. of responses	**Total responses**
	Sample 1		Sample 2		Sample 3		
On-line survey	Pilot version	39	Modified version	63	Modified version	26	**128**
Interviews	Semi-structured interview guide with prompts and additional questions informed by survey responses	1	Semi-structured interview guide with prompts and additional questions informed by survey responses	7	Semi-structured interview guide with prompts and additional questions informed by survey responses	5	**13**
Course documents	Courses represented	12	Additional courses represented	4	Additional courses represented	2	**18**[a]

[a]Information on the Bachelor of Education (Primary and Middle) was no longer available at the university's website, so data was collected for 17 ITE courses only.

3.8 Sampling frames

3.8.1 Survey participants

Approximately 1700 preservice teachers were offered the opportunity to participate in the on-line survey. All who participated had completed their final professional learning placement and contributed to the research before completing their degree. As already mentioned, the timing of their participation was very specific, to capture their perspectives while their most recent school based practical experience was fresh in their mind.

Sampling occurred over two and a half years and across four different semester periods. Flinders University preservice teachers could undertake their final professional placement in the first or second semester, while those at UniSA could undertake their final placement in second semester only. In all, the invitation to

participate was extended to six different cohorts of preservice teachers, and the time frame of the data collection period spanned from second semester of 2018 to second semester of 2020.

Table 3.2 presents this timeframe along with the approximate number of preservice teachers invited to participate and the overall total number of respondents who did participate. It was not possible to determine the absolute number of preservice teachers from the target population who received information about the research due to some record keeping irregularities. That is why these numbers are approximate.

University staff promoted the research, managed the distribution of information and shared the link to the on-line survey on my behalf.

Table 3.2

Distribution timeframe

2018		2019				2020		
Semester 2 July – Oct		Semester 1 June – Aug		Semester 2 July – Oct		Semester 2 Aug		**TOTAL**
Flinders University	279	Flinders University	110	Flinders University	234	Flinders University	230	**853**
UniSA	451	UniSA	-	UniSA	400	UniSA	-	**851**
TOTAL	730		110		634		230	**1704**

Note. All distribution figures are approximate.

The preservice teachers available time to participate in the research was relatively short for each data collection period. This was a time when they were very busy completing assignments and preparing for exams, and it is expected that these demands competed with and were a barrier to research participation for some, and likely contributed to the lower than anticipated response rates. Unfortunately, sampling in 2020 was also disrupted by the Coronavirus pandemic. At that time, there were social distancing constraints imposed on the preservice teachers and public activity was hindered by intermittent isolation (*lock downs*) enforced by the SA government as a health protection measure. During 2020 preservice teachers were required to engage with their ITE courses via on-line learning rather than face to face and some preservice teachers were unable to complete their professional placements as expected. It is likely that these restrictions also contributed to lower-than-expected response rates.

It was not feasible to continue collecting data beyond 2020 because of this research's time limitations. Also, data from subsequent cohorts would have been confounded due to changes in the ITE program (as per the four-year cycle of review and accreditation by the TRB). Even though the overall sample size was smaller than expected, the desired minimum recruitment of more than 100 participants for valid statistical analyses had been achieved. Some publications suggest large samples sizes are necessary (e.g., more than 350

responses) for quantitative analysis and others propose that smaller samples are acceptable (Grace-Martin; Hancock et al., 2019). It was decided that the smaller than expected sample of participants from the four data collection periods across the three years of data collection in 2018, 2019 and 2020 would suffice.

The final number of survey participants across the three years of data collection was 128. Invalid responses were discarded (Fink, 2002; Tranter, 2019). These were considered invalid either because it was obvious that the survey had been started but the respondents' interest had wavered and not enough questions had been completed, or the time stamp on Qualtrics record showed that the participant had engaged with the survey for only a few minutes or seconds—not long enough to complete the survey properly. Thirteen of the 128 responses were discarded for these reasons leaving a data corpus of 115 responses. The overall response rate was approximately 7%. Table 3.3 details the number of surveys distributed, the number of responses received, the response rates and number of follow up interviews completed for each year of data collection.

Table 3.3

Participant response rates

Activity	2018		2019		2020		**Total**	
	Semester 2 July – Oct	Response rate	Semester 1 & 2 June – Oct	Response rate	Semester 2 Aug	Response rate		Response rate
Surveys distributed	≈730		≈744		≈230		≈1704	
Responses received	39		63		26		128	-
Valid responses	35	4.8%	55	7.4%	25	10.9%	115	7%
Interviews completed	1	3%	7	13%	5	20%	13	11%

3.8.2 Interviewees

At the completion of the on-line survey, participants were asked if they would be willing to continue with the second stage of the research and be part of the self-selected sample group for follow up interviews. Those who wished to volunteer were asked to provide their contact details. These were kept confidential on a separate spreadsheet and retained for the purpose of interview sampling only.

There were 20 preservice teachers who left their contact details and 13 were interviewed. This represents 11 percent of the survey sample. The seven who did not participate in interviews were either unable to be contacted or their reply indicated that they had changed their mind and no longer wanted to participate. Only two attempts for contact were made.

The 13 interview participants represented all year levels of teaching but primary teaching was represented the most (n=8) and early childhood the least (n=1). Four had a secondary teaching focus. They also represented professional placements across the full range of year levels and all three education sectors in SA (Public, Independent and Catholic). There was a higher proportion of female interviewees (n=12) than males (n=1) and approximately 50% had undertaken their ITE course combined with disability studies/special education. These demographics skewed this sample's profile when compared with the overall sample of participants. This skewness of the interview data and its potential for bias was considered in discussion of the findings overall. Table 3.4 provides a profile of the interview participants according to their gender, age bracket, ITE course and professional placement type.

Table 3.4

Demographic profile of interview participants

Interviewee no., gender and age	ITE course	Type of placement	Location of placement	Education sector	School context of placement	Year levels
1 Female 18-23 years	Bachelor of Education (Secondary)/ B. Health Sciences	R –12 main.	Regional	Catholic	Secondary	7 to 10
2 Female 18-23 years	Bachelor of Education (Secondary)/ B. Arts	R - 12 main.	Regional	Independ.	Secondary	7 & 10
3 Female 24+ years	Bachelor of Education (Primary R-7 & Special Education)/ B. Disability Studies	Primary main.	Metro.	Public	Primary	6 & 7
4 Female 24+ years	B. Education (Primary R-7 & Special Education)/ B. Disability Studies	Primary main.	Metro.	Public	Early childhood special class	Foundation to 2
5 Female 18-23 years	Bachelor of Education (Primary R-7 & Special Education)/ B. Disability Studies	R - 12 main.	Metro.	Public	Primary	5 & 6
6 Male 24+ years	Bachelor of Education (Secondary)/B. Arts	R -12 main.	Regional	Public	Secondary	10 to 12
7 Female 18–23 years	Bachelor of Education (Early Childhood)	R - 12 main.	Metro.	Independ.	Early childhood	Foundation
8 Female 24+ years	Bachelor of Education (Primary & Middle)	Primary main.	Metro.	Public	Primary	6 & 7
9 Female 18–23 years	B. General Science/ Master of Teaching (Primary R-7)	R - 12 main.	Metro.	Public	Primary	3
10 Female 18–23 years	Bachelor of Education (Secondary)/B. Arts	Secondary main.	Metro.	Public	Secondary	9
11 Female 24+ years	Bachelor of Education (Primary R-7 & Special Education)/ B. Disability Studies	Specialist Centre	Metro.	Public	Primary class	3
12 Female 24+ years	Bachelor of Education (Primary R-7 & Special Education)/ B. Disability Studies	Secondary main.	Metro.	Public	Secondary special Class	10
13 Female 18–23 years	Bachelor of Education (Primary R-7 & Special Education/ B. Disability Studies	Primary main.	Metro.	Public	Primary	7

Note. R = reception, which is the first year of school and the year in which the curriculum level *Foundation* is taught. Year 12 is the final year of school and can incorporate an additional year known as year 13 for those students who repeat this year. Main = Mainstream, Ind. = Independent, Metro. = Metropolitan.

3.9 Instruments for data collection

3.9.1 Questionnaire for the on-line survey

Surveys provide the means to gather larger amounts of data from a large group of people and are an effective way of finding out what people are feeling, as well as their viewpoints on a topic (Walter, 2019). The questionnaire used for this survey of preservice teachers was developed and distributed using Qualtrics software (https://www.qualtrics.com). The questionnaire contained a mix of question styles and was laid out in three parts. There were 37 questions with an extra two embedded questions that were supplementary and only answered by respondents who had selected *Other* in response to the previous questions. Therefore, the maximum number of questions for any respondent to answer overall was 39. It took participants approximately 15 to 20 minutes to complete the questionnaire.

By using Qualtrics, it was possible to structure how each of the questions was answered using checkboxes and radio buttons, as well as drop-down menus, text boxes and scales. Closed questions required either one response only or multiple responses depending on the data sought and open-ended questions were restricted to a maximum word limit of 100 words. The questionnaire facilitated the collection of both quantitative and qualitative data. Once the on-line version of the questionnaire was completed, it was tested with a peer who had expertise in Qualtrics survey construction.

There were two measures within the questionnaire for collecting quantitative data. Both used Likert-type scales and were administered via the on-line survey. The first was the published Teacher Efficacy for Inclusive Practices (TEIP) scale developed by Sharma et al. (2012). The second was a set of purposefully designed questions that related to preservice teachers' readiness to practice the graduate standards of teaching associated with teaching students with disability, i.e., Standards 1.5 and 1.6 (Australian Institute for Teaching and School Leadership, 2011). An ordinal rating scale was used to capture these feelings of the research participants in numeric format.

At the beginning of the survey, categorical questions were asked to collect some demographic variables of the sample. These formed the independent variables for statistical analyses, while the self-efficacy and readiness data formed the dependent variables. In addition, the questionnaire provided seven opportunities for participants to elaborate qualitatively on their rated responses with comments of up to 100 words.

The following sections explain the structure of the questionnaire in greater detail, and an example of the questionnaire is included in Appendix One in Microsoft Word format.

3.9.1.1 Part 1

Screening question

The very first question of the survey was designed to screen for valid participants from the target population (Laerd Dissertation, 2012). It was a dichotomous question requiring a 'yes' or 'no' response. The question asked if the preservice teacher had completed their final professional placement. If the response was "no", the participant would automatically be taken to the end of the survey where a polite note thanked them for their interest and explained that they were not eligible to participate in the research. This method was possible using the conditional software programming capability of Qualtrics. If the preservice teacher answered "yes" to this screening question, they could continue and complete the survey.

Demographic questions

The next nine questions of Part 1 used a mix of dichotomous and multiple-choice response options to collect the demographic information. Some questions permitted only one response and others multiple responses. The result was a profile of the participants in the sample and their attributes. The questions inquired about their age and gender, their personal experience of disability, the type of teaching course they had undertaken, the year levels they had taught and the type of students' disability they had encountered while on professional placement. Two questions were supplementary and asked for more information on any *other* type of disability that their students may have been diagnosed with, that was not listed in the drop-down menu and if the respondent had identified as having a disability themselves, what type of disability that was. Text boxes were used for responding to both of these supplementary questions. If the participants had not selected 'other' or 'yes' to the respective preceding questions, these supplementary questions were not displayed. Again, this question style was possible using the conditional software programming capabilities of Qualtrics.

The demographic information was later grouped into four categories:

- *personal attributes* (age; gender)
- *personal experience of disability* (lived with a disability themselves; had experience of disability through a family member or close friend)
- *ITE course type* (year level focus of the degree [early childhood, primary or secondary teaching]; combined education degree with disability studies/special education or not)
- *professional placement* (year level focus of placement; regular class placement or not; type of students' disability encountered while on placement).

3.9.1.2 Part 2

TEIP scale

The second part of the questionnaire contained the 18 item TEIP scale used to measure self-efficacy for inclusive education (Sharma et al., 2012). Several instruments have been designed to measure self-efficacy for teaching students with disability. Some of the more commonly used instruments are the Webb Self-efficacy Scale (Ashton, Olejnik, Crocker, & McAuliffe, 1982), Teacher Self-efficacy Scale (Gibson & Dembo, 1984), and Teachers' Sense of Self-efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001). The TEIP scale was selected for this research because it specifically measures self-efficacy for teaching in inclusive classrooms and had been reliably used with preservice teachers in Australia and internationally (Tümkaya & Miller, 2020; Wray et al., 2022). Bandura (1977) advised that tools used to measure self-efficacy should be task specific and the TEIP met that criterion. The TEIP measures overall self-efficacy but is also divided into three subscales. These are *Inclusive Instructions*, *Collaboration* and *Managing Behaviour*. The scale had been tested for internal consistency using Chronbach's alpha for all three factors, as well as overall. The reliability coefficient for the total scale was 0.89 suggesting that the scale had adequate internal consistency to measure the construct (Sharma et al., 2012).

Respondents were asked to rate their level of agreement to statements on a six-point Likert-type scale ranging from (1) *strongly disagree* to (6) *strongly agree*. Radio buttons were used to represent each point on the Likert-type scale in the Qualtrics based questionnaire, and only one response was permitted.

The designers of the scale recognised that "one limitation of [their] study was that no qualitative data were collected as the major purpose was to design a scale for quantitatively measuring teaching self-efficacy…[but they] strongly recommend[ed] that future users of the TEIP collect qualitative data in the form of open-ended questions to make greater sense of the quantitative data" (Sharma et al., 2012, p. 17). This was achieved in the survey by inviting comments using an open-ended question at the end of the questionnaire, and also incorporating follow up interviews with a nested subsample of survey respondents into the research design.

3.9.1.3 Part 3

Graduate Standards

The third part of the survey contained nine questions. The first six of these related to preservice teachers' readiness to practice the AITSL graduate standards for teaching students with disability (Australian Institute for Teaching and School Leadership, 2011).

In 2018 the first round of preservice teachers surveyed were asked to provide comments only on their readiness to practice the following standards as graduate teachers.

1) *Differentiating the curriculum for students with disability in regular classes*
2) *Practicing the legal obligations of teaching students with disability*
3) *Finding and learning new disability specific information if required*
4) *Seeking specialist assistance to assist teaching students with disability in regular classes*
5) *Liaising with other professionals to include students with disability in regular classes*
6) *Communicating with parents and carers of students with disability*

Text boxes were provided for their short answer comments. After this first round of data collection, it became evident that a semantic scale was also necessary for measuring the preservice teachers readiness for these graduate standards because the original short answer responses were low in number. The scale was included to improve the speed and ease with which responses could be made. A four-point Likert-type scale containing nominal categories was developed in an ordinal manner. The four-points of the scale ranged from (1) *not at all* to (4) *yes very* and radio buttons were used in the Qualtrics version. Only one option could be selected. The text boxes for explanatory comments were kept and the word limit remained at 100 words.

The modifications to these questions were reviewed and approved by the university's ethics committee prior to their use with subsequent cohorts of preservice teachers but this part of the questionnaire was not tested for its validity with a sample of indicative survey participants before its use because of time constraints. However, the face and content validity was checked by the university staff supervising this research who found that the questions asked clearly related to the Professional Standards 1.5 and 1.6 of the Professional Standards at the graduate teacher level. The approved changes were minor enough that the 2018 data were still able to be used in the final corpus of data for analysis, although the numeric readiness ratings for this group were missing data.

Other comments

After these readiness questions, an open-ended question was included asking the respondent if they would like to make any other comments. A text box was used and again, 100 words was the limit imposed for responses.

Contact details

The last two questions of part three provided an opportunity for the survey participants to leave their contact details for a follow up interview and/or to go into the draw to win one of the $50 vouchers, as acknowledgment of their contribution to the research. This was the end of the questionnaire and respondents were thanked for their participation.

3.9.2 Interview guide

Brinkman (2018) argues that qualitative research interviews should not be conducted for their own sake but should be purposefully prepared and conducted to serve the researcher's goal of producing knowledge. Research interviews have the capacity to be issue oriented and they provide researchers with an opportunity to focus on and gain detailed information related to their particular research topic (Hesse-Biber & Leavy, 2011). The reason for conducting interviews with this subsample of preservice teachers was to provide them with an opportunity to explain their survey responses further, to get a better understanding about their ITE experiences and their feelings about teaching students with disability in regular classrooms, to hear their views on how successful they felt their ITE course was in preparing them for disability-inclusive education and how they thought it could have been improved. The interview data was intended to add richness and depth to the research, which would not have been available through the on-line survey responses alone.

A semi-structured interview guide with open-ended questions and scope for variations, to expand on the interviewees' responses and explore for more of an explanation, or ask for clarification when needed, was the selected style for this research (Teddlie & Tashakkori, 2009). Semi-structured interviewing is the most commonly used style in human and social sciences (Brinkman, 2018). The interview guide facilitated each interviewee being asked the same set of questions, as well as additional questions asked in situ. Each interview was therefore different to others.

The questions for interviewing were developed based upon my knowledge of the questions asked in the survey, the literature on self-efficacy for disability-inclusive teaching and the professional standards expected of graduate teachers (see Appendix Two). As already mentioned, these questions were developed a priori. The aim of the questions was to open up the conversation for the interviewees to discuss the following:

- the context of their professional placements in detail
- their experiences of working with children with disability, including others whom they may have worked with in other contexts

- their views on including students with disability in regular classrooms at mainstream schools,
- the skills and knowledge they felt they needed to teach students with disability and whether they felt they needed more
- how they sought and received extra help to teach students with disability in their classes when that was needed
- their perceptions of the ITE courses, including which parts had been helpful in learning how to teach students with disability
- their views about how the ITE courses could be improved for disability-inclusive education
- how and with whom they would seek extra support for teaching students with disability as new graduates
- plus any other comments that may have been helpful to the overall aims of this research.

3.10 Data collection methods

The length of each period for data collection varied from one month up to five months at the longest. Although the additional time it took to achieve the requisite number of greater than 100 responses protracted the data collection process, and there were large gaps between data collection events, the advantage was to have achieved a greater number of participants with an improved response rate overall, and to have increased the number of courses that were represented by the sample (see profile of survey respondents section 4.2, pages 100-102).

3.10.1 Survey distribution

Survey distribution began in 2018 and was completed in 2020. Distribution was on-line because this is the most convenient way of accessing a target population at low cost (Creswell & Creswell, 2018). The preservice teachers who participated in this research were accustomed to receiving electronic communications from their universities—meaning, the target population was technologically literate. The survey was self-administered and anonymity was assured. Although on-line surveys are commonplace for university students, a low response rate and the potential for sampling bias were risks (Manfreda et al., 2008; Walter, 2019), so the survey was designed to be completed quickly and easily, and reminders were used to prompt participation.

The target group of preservice teachers were informed of the research via both universities using information materials designed for this purpose. This included an introductory letter, with reference to ethics approval and an information sheet (Appendices three, four and five). The universities' database and

communication systems were used to email all of the preservice teachers in their final year of study. This invitation to participate was facilitated by university staff to maintain anonymity. A short explanation of the research was included in the body of the email and an electronic link to the on-line survey hosted by Qualtrics.

Follow up reminders were given verbally during tutorial classes and electronically via email to prompt preservice teachers to complete the survey after their professional placement. Prompts are an effective method for increasing survey responses (Van Mol, 2017). The positive effect of prompting the preservice teachers to participate in this research was evident when comparing the dates that the university staff prompted students with a surge in the number of completed questionnaires.

The survey was distributed first between July and October 2018, then for a second and third time in June, July and August of 2019, and for a fourth time in July 2020. This final distribution was to preservice teachers at Flinders University only.

As already mentioned, the early part of 2020 was disrupted by the global Coronavirus pandemic and many university students were unable to continue their usual pattern of study because of public health and social measures designed to restrict the spread of COVID-19[5]. This disruption was unprecedented and for preservice teachers there was uncertainty about whether they would be able to undertake their final professional placements to complete their degrees. The universities' supervising staff reported that many students were feeling stressed and unable to focus on more than keeping up with their final year requirements. COVID-19 related restrictions included social distancing and periods of isolation when transmission of the virus was widespread. In consultation with the university supervisors, it was deemed inappropriate to ask the preservice teachers to undertake anything additional, including participating in this research. The cohort of first semester preservice teachers in 2020 were not informed of the research. However, by July, the SA Government had been able to control the spread of the virus and restrictions eased. University students had returned to campus and preservice teachers were able to complete their professional placements at schools. The second semester preservice teachers for 2020 were informed of the research and invited to participate.

Appendix Six describes in more detail the circumstances of survey distribution, and includes information about the dates, distribution numbers and method of encouragement for participation.

[5] COVID-19 was the disease caused by the Coronavirus.

3.10.2 Interviews

Skills of interviewing

Hesse-Biber and Leavy (2011) explain that qualitative interviews are a special kind of knowledge-producing conversation. The relationship between the interviewer and interviewee is critical to the process of constructing meaning. They advise that the researcher and interviewee should be working *on the same plane*, so the degree of status hierarchy is reduced. Brinkman (2018) also explores the power relation of an interview and reminds researchers that the purpose of an interview is for the researcher's benefit—to extract descriptions, narratives and texts which are available as data for analysis and interpretation. The interview, therefore, is one-directional in that the interviewer asks the questions and the interviewee provides the answers, and the interviewees should be regarded as experts on the topic of inquiry.

Interviews rely on the researcher starting the conversation with a question and then actively listening to the responses of the interviewee. Building rapport is important, so the interviewee feels safe, comfortable and valued to engage in the conversation (Hesse-Biber & Leavy, 2011). This includes selecting the right environment to conduct the interview—one that is convenient for the interviewee and secure for them to share their information. The role of the interviewer during the interview is to provide verbal support and to encourage the interviewee to share their information freely. It is also the role of the interviewer to guide the flow of the conversation using the questions contained in their interview guide, to steer the conversation so it remains on topic, to listen for markers that may be of interest to follow up, and to seek elaboration if needed using probes (Hesse-Biber & Leavy, 2011). These are the skills required of an experienced interviewer: skills that I had developed through my many and varied professional experiences of qualitative research.

Style of interview

The style interview used for this research was semi-structured, which meant being able to engage in the dialogue of the interview conversation with leeway to follow up on whatever angles were important to the research (Brinkman, 2018). The pre-developed set of questions were used as a guide with scope for deviation according to new points of interest or emphases that were relevant to pursue. Kvale and Brinkman (2009, p. 138) refer to this as "the art of second questions", which requires the interviewer to be engaged through active listening, to have knowledge of the topic, an ear for the interview theme and a sensitivity toward the social relationship of the interview. This art results in the uniqueness of each interviewee's story being shared in detail, with potential for new dimensions to be explored. As I was conducting the interviews, I made a mental note of any interesting new dimensions that emerged as the interviews progressed and kept track of these in a notebook. I used the opportunity of subsequent

interviews to explore these further with mindfulness for the developing trends. This enhanced the quality of the research purposefully.

Method of recording interviews

All of the interviews were audio recorded using a smartpen device designed for this task (https://us.livescribe.com/). Written notes were taken at the same time as a backup in case the technology failed. The audio recording meant that I had a verbatim record of the information shared, which I later transcribed and provided back to the interviewee for verification. This process contributed to the rigor of the research (Morse, 2018). The audio recording method also ensured that during face to face interviews I could be present in the conversation and attentive throughout the interview. I was able to maintain eye contact, smile and use other forms of body language to create an environment that was empathic, comfortable and safe. I was also able to watch for non-verbal cues from the interviewee to gauge how they were feeling during the interview and respond appropriately to their needs.

3.10.3 Interviewee participation

All of the survey participants had received background information about me and the research aims prior to participating in the research. As mentioned, this was provided through the university staff who acted as gatekeepers for the sampling process. They verified the authenticity of the research on my behalf. For those who continued their involvement through to the interview stage, I provided this background information again. This doubly ensured that the participants understood the aims, processes and expected outcomes of the research, plus any potential beneficence of participating. I provided a copy of the interview questions and a consent form (Appendices two and seven) for each interviewee to sign, confirming their consent to participate.

Location and duration of interviews

The different methods of conducting the interviews were to meet face to face at the same physical location or face to face on-line using videoconferencing technology, or for the interview to be conducted over the telephone. Usually the amount of data collected via telephone is less, and these interviews are different because gesturing, eye contact and other means of showing interest and building rapport are not possible (Hesse-Biber & Leavy, 2011). Therefore, my preferred method of interviewing was face to face (either in person or on-line). However, the interview participants were given the choice.

The interviewees also chose the day and time of the interview, and I asked those who met with me face to face to choose the location. The location of an interview is important, so the interviewee is in a comfortable environment and feels secure to share their information freely without concern (Hesse-Biber & Leavy, 2011;

Mason, 2002). From my perspective, it was also important to be in an environment that was conducive to audio recording the conversation. I had made it known to all of the interviewees that I wanted to audio record the conversation and sought their written consent to do so beforehand. Therefore, minimizing the background noise was a consideration when selecting the location. Some participants opted to meet me at a café and others in a meeting room at the university. For those undertaken at a café, I pre-arranged a quieter table with the proprietors. For those who chose to meet with me via videoconference or by telephone, choosing a date and time that was convenient for them was the priority. Interacting through remote meetings was a familiar activity for this group who were very adept at using technology.

Of the 13 interviews in total, eight were face to face and were conducted at a physical location with me present. One face to face interview was conducted via videoconference and there were four telephone interviews.

The typical time for an interview theoretically is 30 minutes to one hour with some variations (Hesse-Biber & Leavy, 2011). The shortest interview was just under 20 minutes, which was a telephone interview, and the longest was almost an hour, which was face to face. The average length of time was 36 minutes. Appendix Eight provides details of each interview including the date, location and length of time each one took.

Trustworthiness of the data

At the conclusion of each interview, I thanked the participants for their involvement and discussed with them the timeframe for typing the transcription and the importance of their review of the transcription's content to be sure their contribution had been recorded correctly. I also spoke briefly about the timeframe for data analysis and reporting on my findings. Some participants exchanged telephone numbers with me because they wanted to be contacted again when I had completed the research and had published the findings. For me, this was an indication of the good rapport I had built with these interview participants. The interviewees were provided with a copy of their transcription for review within one to two weeks of their interview. A small number of changes were made to some of the interview transcripts at this stage. Once finalised, approval to use the transcripts as data for my research was provided by the interviewee in writing via email.

3.10.4 Course Document Review

At the time of this research, there were multiple pathways for becoming a graduate teacher in SA. Across the two universities there were 25 degree courses accredited— five at UniSA and 20 at Flinders University. There were four year-level streams—early childhood, primary (R-7), primary/middle and secondary. Opportunities to complete a double degree with education were also available. Double degree pathways included the Arts, General Science, Languages, Health Science, Design and Technology, Food and Textiles

Technologies, Special Education and Disability Studies. Primary/middle education was the only year level of teaching that did not offer a double degree combination. All other year levels could be combined with education degrees as follows.

- Early childhood education with the Arts, Special Education and Disability Studies
- Primary (R-7) education with the Arts, General Science, Special Education and Disability Studies
- Secondary education with the Arts, Science, Health Sciences, Languages, Design and Technology, Food and Textiles Technology and Special Education.

Course document information was freely available at the universities' websites. I chose to review the ITE course documents for two reasons. I wanted another data source to verify aspects of information that would be shared by the research participants through their surveys and interviews, and I was keen to gain further insight about how the professional expectations of teaching students with disability in regular classes at mainstream schools was being presented to current and prospective preservice teachers through the universities' documentation. I gathered the aims and objectives of the courses, as well as different topic information. My intention was to look for content related to students with disability and inclusive educational practices. I also used this data to verify any course related information shared by the survey and interview participants.

This dimension of my research design allowed me to draw inferences from a third data set. It was anticipated that this data would highlight new aspects and contribute a different voice to the research—that of the document writers. As Hesse-Biber and Leavy (2011, p. 228) explain, "We can learn about social life, whether it be norms or values or socialisation or social stratification, by looking at the things we produce that reflect macro social processes and our worldview".

Universities use their websites as a marketing and information sharing tool. Through their websites they capture the attention of potential students and inform them of the type of learning being offered for various professions including teaching. Course and topic information is intentionally available to assist potential students with their decision making prior to enrolment. I hypothesized that content analysis of the texts related to education degrees would add a new dimension of depth to my understanding of what preservice teachers expected from their ITE program of study. I was curious about the volume of content related to teaching students with disability contained in these documents. Triangulation was the method I used to link this data to that of the other two data sets.

Process of data collection

The ITE course information was collected over a 27-month period beginning in June 2018 through to September 2020. This length of time was necessary to determine which course documents to collect

because only those courses that had been undertaken by the preservice teachers participating in this research were sampled.

Written text from the topic overviews and detailed course information was copied from the websites and pasted into a Microsoft Excel workbook with a different worksheet for every degree reviewed (n=17). The information was collected from

- the degree overviews,
- explanations of how the ITE courses related to the teaching profession,
- anticipated learnings from the program of study,
- the four-year timetable of compulsory and elective topics, and
- each topics' aims and expected learning outcomes.

Unfortunately, it was not possible to be sure that the documents reviewed were those accessed by the preservice teachers prior to enrolling in their ITE programs because of time lapse. In fact, it was highly likely that the documents reviewed were not the same, which meant sampling error was present for this data set. But this was not so important because the intention was only ever to use these documents as indicative samples. At a face level, they provided an additional source of verification for the preservice teachers' data.

3.11 Methods of analyses

The methods of analyses for each of the data sets was aligned to their respective paradigms and data types. The quantitative ratings data collected using the two scales of the survey, along with the demographic data, were analysed using statistical methods. The qualitative data generated by the survey comments and interviews were analysed using thematic analysis (TA), in particular the codebook style of TA known as template analysis (King & Brooks, 2017). The qualitative data of the course documents were analysed using content analysis.

3.11.1 Quantitative data

Creswell and Creswell (2018) explain that quantitative data can be controlled through design and statistical analysis and depending on the validity and reliability of the measures used, the results of analysis can lead to meaningful interpretations for discussion.

Analysis of the self-efficacy scale data involved confirmatory and exploratory factorial analyses, reliability and normality measures, descriptive statistics and inferential statistics appropriate for non-parametric continuous data (t-tests and ANOVA with bootstrapping). Analysis of the readiness scale data involved

reliability and normality measures, descriptive statistics and inferential statistics appropriate for non-parametric categorical data (Chi square test).

These statistical analysis processes were facilitated by Microsoft Excel (https://www.microsoft.com/en-au/microsoft-365/excel), Mplus version 8.6 (http://www.statmodel.com/verhistory.shtml) and IBM SPSS version 27 (https://www.ibm.com/spss?lnk=flatitem) software.

The survey data were extracted from Qualtrics upon completion of the final data collection period in 2020. They were entered into IBM SPSS statistical software (IBM Corporation, 2020). Due to some Intrusion Detection System (IDS) problems, exporting the data directly from Qualtrics to IBM SPSS was not possible and therefore, the data were transferred manually. As the total sample was small (N=115), a manual approach was viable. The data entry process was undertaken by two people to mitigate data entry errors. The data set was cleansed as part of this process. It was also possible to cross reference data reports from Qualtrics with those generated from IBM SPSS as the data were progressively analysed to verify consistency and re-check for errors.

Initially, the demographic data contained in part 1 of the survey were coded as the groupings had been presented to the research participants in the questionnaire. Later, some of these variables were recoded into smaller groups for ease of analyses. For example, instead of having five separate age groups these data were collapsed into two groups only: 18-23 years (school leavers) and 24+ years (mature entry). Similarly, the full range of course types were collapsed into three groups: early childhood, primary and secondary and two groups were used to represent education degree types: those combined with disability studies or special education and those that were not.

The self-efficacy ratings data contained in part 2 of the survey were treated as continuous and coded as an interval scale from one to six. Initially, the professional standards readiness data contained in part 3 of the survey were coded as an ordinal scale from one to four, but later they data were collapsed and re-coded into a binary scale because the results were heavily positively skewed. The two categories were “very ready” and “less ready”. If additional comments were present to explain the readiness rating, or not, these data were nominally coded as “yes” or “no” using IBM SPSS. This coding served as a prompt for me to review the respondents’ comments later, as part of the qualitative analysis. It was particularly useful for reviewing outliers’ responses.

3.11.2 Qualitative data

TA was selected at the approach for analysing the qualitative data generated by the survey comments and interviews because it is a form of analysis that is not bound to theory but rather embraces flexibility. It works on the understanding that a continuum of thought exists for researchers between deductive and inductive analytical approaches; experimental and interpretive epistemology; and realist and constructionist

ontology (Braun & Clarke, 2022). It is an approach that requires the researcher to take time, to revisit and reflect on the data, to rethink what information is being shared by the research participants through the data set and understand the assumptions that sit behind the way their information is framed into themes (Braun & Clarke, 2022; King & Brooks, 2017). Template analysis is a style of TA that offers a middle ground approach (Braun & Clarke, 2022). “Template analysis is a form of TA which emphasises the use of hierarchical coding but balances a relatively high degree of structure in the process of analysing textual data with the flexibility to adapt it to the needs of a particular study,” (Brooks et al., 2015, p. 203). Template analysis is not as bound to a coding frame or measures of coding reliability as other, more rigid styles codebook TA (Braun & Clarke, 2022). The flexibility of template analysis allowed me to adapt the themes according to research requirements. In this way it was well suited to mixed methods and its different philosophical underpinnings (Brooks et al., 2015). When using template analysis, it is important to remember that the template generated out of reviewing, coding and developing themes from the qualitative data is used as a tool for analysis and is not an end point of itself (King & Brooks, 2017).

There are six sequential steps involved in the process of using TA but different levels of flexibility in following these steps is expected across different styles. (Braun & Clarke, 2006; Creswell, 2021; King & Brooks, 2017). Template analysis is a flexible style that is iterative in its implementation. As the template is developed and the findings interpreted, the quality of analysis is checked and re-checked. The six steps of conducting template analysis identified by King and Brooks (2017) are

- familiarisation with data,
- preliminary coding,
- clustering of codes and themes,
- producing an initial template,
- applying and developing the template further,
- final interpretation.

The final version of the template used can be viewed in Appendix Ten. Its finalisation involved the amalgamation of the survey and interview data into one corpus for generating the main themes of discussion. This enabled a holistic, rather than fragmented, explanation of the research with meta-inferences.

When quotations from the interviews or survey comments were used, the participants' identification number, gender, age grouping and ITE course type, plus other relevant variables such as year level taught during professional placement or personal disability, were noted. This adds to the credibility of the findings by providing an audit trail back to the original data source.

Interview data

Each of the interview transcripts were stored electronically by the university's secure cloud based system and uploaded into Nvivo version 12 software (QSR International Pty Ltd, 2018) for coding and thematic analysis. The interview transcripts were analysed first and progressively as each of the interviews was completed. This meant only one interview transcript was analysed in the first year followed by more in the second year and so on.

I had transcribed each of the interviews myself, so I was already familiar with the data but familiarised myself further by re-reading the transcripts on several occasions. I began initial coding without the use of any *a priori* codes. I was keen to keep close to the data and to let it speak to me in the context of the research questions, and I wanted to respect the discourse that had been shared by the preservice teachers that participated in the interviews. For this reason, some of the initial codes were *in vivo* style, meaning I used the actual words of the interviewee (Saldaña, 2016), such as *challenging behaviours*, *limited information* and *disappointing*. I then broadened the coding as I interpreted the interviewees' meaning from different perspectives.

I also used attribute coding to categorise the interviews based on the demographic profile of the interviewee. Attribute coding is the notation of basic descriptive information, such as participant characteristics (age, gender etc.) or location (early childhood, primary or secondary classes) that gives context for analysis and interpretation (Saldaña, 2016). I coded the year level focus of the participants' degrees and professional placement experiences, as well as the types of students' disabilities they had encountered while on placement. I then began to cluster the codes into themes to look for any relationship to the quantitative data. The output of this process contributed to the development of an initial template with a view to use this for coding both the interview and survey comments. Once all of the interviews were initially coded and some themes had been developed, I revisited this data again using the *a priori* codes. This style of coding makes use of a predetermined list of codes and is often used when research builds on previous research findings (Saldaña, 2016). The *a priory* codes used were the six domains of the readiness scale questions: *differentiating the curriculum; practicing teachers' legal obligations; finding and learning new disability specific information; seeking specialist assistance; liaising with other professionals; communicating with parents and carers.*

I was also cognizant of other factors that may have influenced the interpretation of the data, such as fewer males in the overall sample, the small amount of detail in their survey comments and the skewness of interview data because many of the interviewees in this subsample were female and about half of them had combined their education degree with disability studies/special education. I was aware that the subjectivity of my data interpretation would affect the findings but subjectivity is expected and accepted when using TA

(Braun & Clarke, 2022). My own professional experiences and my contributions when I engaged in interviewing would also have brought biases to the research.

Survey comments

Analysis of the survey comments data began only after the final survey was completed in September 2020. The survey comments were extracted from Qualtrics and electronically imported into Nvivo version 12 software (QSR International Pty Ltd, 2018). This automatic process organised each respondents' comment according to the survey question that they related to via the software's recognition of content contained in the text boxes. In effect, this meant that the comments were already coded by the six domains of the readiness scale questions, as well as the seventh text box which contained *any other comments*.

I familiarised myself with the data by reading each of the comments multiple times. Some comments were lengthy and contained information that was relevant such as, "Have students' best interest at heart and committed to going above and beyond to make sure they experience the most growth in their learning." Other responses were very brief containing only a few words or a short sentence, such as "Haven't been taught a lot about this at uni". Sometimes the comments did not make sense and were not used.

I employed a deductive approach at this stage to seek explanations for the statistical results that had shown significant relationships between the independent and dependent variables to assist with my analyses. I coded the data according to the self-efficacy subscales of *Inclusive Instructions, Collaboration, Managing Behavio*ur, and *Specialised Response*. Attribute coding was also used to categorise the independent variable characteristics of each survey respondent. This enabled me to bring together the independent variables with the dependent variables. For example, all of the comments made by males related to communicating with parents and carers could be viewed as a subset of the data, and all of the differentiation comments made by respondents who had their professional placement in an early childhood class could be viewed separately, and so forth. After preliminary coding I was able to look for additional content that could be coded differently to also explain the statistical results.

The style of coding used for analysing the final open-ended question was evaluation coding because I was seeking to understand the respondents' summative viewpoints about their ITE courses and whether they felt confident and prepared to teach students with disability in their regular classes at mainstream schools when they graduated. Evaluation coding looks for three elements in the data—an assessment of quality through descriptions, an opinion about how the program performed when compared to the expected outcomes and any recommendations for change that may improve the program (Saldaña, 2016). If a respondent' comment made in response to this final open-ended question expanded on their self-efficacy or readiness rating, then I coded the comment (or part of it) using the *a priori* codes discussed earlier.

This full set of coded data relating to the survey comments was reviewed multiple times using the iterative process of template analysis, and this was done sympathetically with my iterative review of the interview data. These two data sets were then brought together, which involved clustering the codes into themes, applying the initial template and further developing it. By bringing the survey and interview data together using this common template I was also contributing to the process of triangulation, which was being used for data convergence. Triangulation is the process of corroborating evidence from different sources of data and is one way of contributing to the accuracy and credibility of research findings (Creswell, 2021), it can be used to integrate findings (Bowen, 2009; Creswell, 2021).

King and Brooks (2017) explain that template analysis can be ongoing and iterative over the full course of data analysis because of its flexibility and the multiple ways in which qualitative data can be interpreted. For pragmatic reasons, they say at some point the researcher needs to decide whether they have produced a template that can satisfactorily meet the needs of the research considering time and other resource availability. This research was time bound and had limited resources, so after applying the template on several occasions across the full corpus of qualitative data the analysis was ended for final interpretation of the findings. This is when meta-inferences were generated from integrated analyses of both the qualitative and quantitative data (Teddlie & Tashakkori, 2009).

Course documents

As already mentioned, the purpose of collecting the ITE course document data was for triangulation. The course documents were analysed using content analysis to look for frequency of content related to disability-inclusive education. Content analysis of documents requires data to be examined in order to elicit meaning and gain understanding. “Content analysis is one of the very few research methods than can be employed qualitatively or quantitatively, opening up a wide array of methodological possibilities” (Hesse-Biber & Leavy, 2011, p. 227). This additional method was well-suited to this mixed methods research design. It is unobtrusive and involves collecting and analysing data without the need for human interaction (Hesse-Biber & Leavy, 2011).

The first step was to determine which topics were associated with disability-inclusive teaching. These were then counted for each of the 17 ITE courses reviewed. The topics selected were either directly related to teaching students with disability: *Educating for diversity and inclusion*; *Students with numeracy difficulties; Students with literacy difficulties* and *Differentiation for diverse learners,* or they were indirectly related to teaching students with disability but related to the professional requirements of teachers to be disability-inclusive educators: *Teaching and educational contexts*; *Relationships for learning*; *Learners and their development* and *The professional educator*. All of the topics selected, except three, were part of the suite of topics offered through degrees in Education. The three exceptions were offered through Health Sciences

and related to mental health; sport and society; and inclusive and adaptive practices in sport and physical education. There were other topics related exclusively to disability offered through the Disability Studies degree but I did not include these in my analysis because they would have too heavily biased the results. The Education branded topics were of most interest.

There were a number of special education topics that were optional for preservice teachers to choose from when undertaking the fifth year of study for the Master of Teaching pathway. I did not include these topics either because it was not possible to determine which of these would have been selected by the research participants.

The second step to analysing this data was to use NVivo's text search capability to search the documents for words relevant to disability-inclusive education. The five stem words chosen to search for were *diversity*, *disability*, *differentiation*, *inclusion* and *special*. The number of occurrences for each of these stemmed words were tallied to understand their prevalence across all of the courses.

By analysing the prospectus documents and course topic information using these two approaches I was able to expose variations in ITE course structure—highlighting where disability-inclusive education language was used often or not. This analysis helped me to understand which topics had been designed with disability-inclusive education in mind and showed this content had been shared in the prospectus information.

I also attempted to query the course documents for factors of inclusive teaching, i.e., *Inclusive Instructions, Collaboration, Managing Behaviour* and *Specialised Response*, but I found inconsistencies that compromised this method of analysis. The semantics of the language used in the ITE course documents showed that these documents were intended to refer to preservice teachers, not school students or teaching staff. For example, searching for the stem word *Collaboration* resulted in discussion of the requirement of preservice teachers to collaborate with one another to complete an assignment. The focus was not on preservice teachers' collaborating with other professionals or parents and carers of students at schools. This finding highlighted that the ITE course documents had been written from the perspective of the preservice teachers as students engaged in learning, whereas the self-efficacy scale was written from the perspective of teachers enacting their professional responsibilities by engaging with students' parents and carers and collaborating with others (i.e., teaching assistants and other allied professionals). I found that it was not possible to achieve validity using this method of analysis because of the differences in language nuance that had been used.

3.12 Ethical considerations

This research (7942) was approved by Flinders University Social and Behavioural Research Ethics Committee (SBREC) on 3 April 2018 with modifications approved on 14 May 2019 (see Appendix Five).

At the time of data collection, I did not work at either of the universities involved in this research, so there was no potential for conflict of interest. The anonymity of the survey participants could be assured. My principal supervisor from Flinders University and a senior lecturer from University SA were gatekeepers to the population of interest. Personal communication occurred only after participants had completed the on-line survey and elected to provide their contact details.

Consent from participants who completed the survey was implicit. All of the final year preservice teachers at both universities had received information about the research via the university staff, and if they did not want to participate, they simply did not complete the survey.

Participants' contact details were provided for two purposes only, either to be eligible to receive one of the $50 'thank you' vouchers and/or to volunteer to be interviewed. All participant names, contact details and any identifying information was kept confidential.

Those who had volunteered to be interviewed were provided with more information about the research (verbally if contact was via telephone), and if they still agreed to continue with the interview stage, they were provided with extra information via email. This additional information outlined the research objectives along with other details, and signed consent to be interviewed was requested. Participant anonymity was guaranteed for all survey participants and reassurance about confidentiality was given to all of the interview participants. Names were used only when the interviews were transcribed and identification numbers were allocated for reporting on the findings of the research.

From the participants perspective, completing the survey and then engaging in a follow up interview was a time commitment burden, and sharing stories of their ITE experience through interviews may have led the participants to become distressed, particularly if their experiences had been difficult and/or unsuccessful. The information sheet provided to the participants (see Appendix Four) acknowledged the burdens and risks of being involved in this research, and advice was included on how these might be minimised, as well as the contact details for my primary supervisor if they wished to contact her independently.

The interview participants were provided with their interview transcript for review within two weeks of their interview. Some made changes for the purposes of data validity and confidentiality at that time. The interviewees were then asked for final approval to use their transcript as data via email before analyses began. The interview participants retained a copy of their signed consent form and a copy of their final interview transcript for their records.

3.13 Limitations of the research

Generalisation of the findings from this research is limited because the participants were not selected at random and there is no way of knowing how representative the sample group is of the total population. This means that the findings are context dependent.

It is likely that if the sampling process was replicated, a different group of participants would respond and present their perspectives differently. In doing so, the findings may also be different (Berndt, 2020; Fielding & Gilbert, 2006; Lohr, 2019).

The data of this research represents the participants' perspectives at the time of survey completion, which may have been influenced by variables that are unknown. For example, the full effect of the coronavirus pandemic on the 2020 cohorts' university based learning and professional placement experiences was not explored.

Although inferences from the research were able to be analytically determined and may be pertinent to other educational contexts, they are specifically relevant to this sample of preservice teachers only and not necessarily the total population of preservice teachers in SA even though the characteristics may appear similar (Lohr, 2019).

The sample size for this research is small and the data contains biases. In particular, the interview data is biased towards preservice teachers who undertook a double degree in Education and Disability Studies and therefore, were advantaged with more knowledge about disability than is typically shared with preservice teachers during their ITE program. The findings of the interviews are skewed towards the perspectives of this group.

The data related to readiness for the Professional Standards for Teachers at the graduate level is limited to content related to Standards 1.5 and 1.6. In future studies concerning the graduate standards for disability-inclusive education it is recommended that questions related to other standards be included. Specifically, Standard 1.1: *Demonstrate knowledge and understanding of physical, social and intellectual development and characteristics of students and how these may affect learning*; Standard 3.1: *Set learning goals that provide achievable challenges for students of varying abilities and characteristics;* Standard 3.7: *Describe a broad range of strategies for involving parents/carers in the educative process*; Standard 4.3: *Demonstrate knowledge of practical approaches to manage challenging behaviour*; and Standard 7.2: *Understand the relevant legislative, administrative and organisational policies and processes required for teachers according to school stage*.

CHAPTER FOUR FINDINGS OF QUANTITATIVE DATA ANALYSES

Chapter four focuses on analyses of the quantitative data to answer, in part, the main research question: to what extent do final year preservice teachers feel prepared to teach students with disability in regular classes at mainstream schools? The results of statistical procedures provide insight to answer supplementary questions related to which variables influence preservice teachers' self-efficacy for disability-inclusive education, and which variables influence preservice teachers' perceptions of their readiness to meet the Graduate Standards related to disability-inclusive teaching, specifically Professional Standard 1.5 (differentiating the curriculum) and Professional Standard 1.6 (including students with disability). These data highlight components of the ITE courses and aspects of preservice teachers' personal experiences that significantly affect preservice teachers' self-efficacy for disability-inclusive teaching, as well as their perceived readiness to meet the Australian Professional Standards for Teachers related to teaching students with disability in regular classes at the level expected of them as graduate teachers.

Statistical test preliminaries are reported early in this chapter and include reliability coefficients with confidence intervals for both the TEIP and readiness scales, factor analyses of the self-efficacy data, and normality of data distribution to determine the plausibility of using bootstrapping to increase confidence when interpretating the results of statistical procedures is included. Possible sampling bias due to the different periods of data collection with different cohorts of preservice teachers is also evaluated. A descriptive profile of participants who responded to the survey comes next and is followed by a description of the central tendencies of their responses to the self-efficacy scale. The chapter then reports on the significant associations between the dependent and independent variables across the two sets of quantitative data. An explanation of the approach for quantitative data integration is provided, which includes alignment of the self-efficacy and readiness data with the Multi-tiered Systems of Support (MTSS) framework. Commentary on data collection limitations and missing data concludes the chapter. Chapter five reports on analyses of the qualitative data collected for this research, so as to explain the quantitative results.

4.1 Statistical test preliminaries

Preliminary checks on the suitability of the data for using statistical procedures were undertaken to ensure that assumptions related to the procedures used were not violated. The results of these preliminary tests offer confidence to appropriately draw conclusions from the data analyses.

4.1.1 Reliability

The reliability coefficients are reported in Table 4.1 using both Cronbach's alpha and McDonald's omega with 95% confidence intervals. The scale developers (Sharma et al., 2012) reported an alpha coefficient of 0.89 for reliability of the TEIP scale. The alpha coefficient of the SA sample was 0.74, which was less but still acceptable. The 95% confidence interval range was from 0.685 to 0.842. The omega coefficient of the SA sample was 0.80 with the 95% confidence interval ranging from 0.710 to 0.858, again indicating satisfactory reliability of this sample of data (Hayes & Coutts, 2020).

The scale to measure preservice teachers' readiness for meeting the professional standards at the graduate level was also tested for its reliability. All six measures of readiness were included. Only 70 responses were available for this test due to missing data and listwise deletion based on all variables in the procedure. This lower number of responses was due mostly to the 2018 cohort not having the option to rate their readiness using a numeric scale. The reliability test was undertaken again using both Cronbach's alfa and McDonald's omega and the results were 0.78 for both measures with a 95% confidence interval range from 0.695 to 0.854, indicating satisfactory reliability for this sample of data also.

Table 4.1

Factor analysis with reliability coefficients and summary statistics for the original TEIP scale data and the SA sample.

	A					B				
	TEIP Study (n=609)[a]					SA Study (n=109)				
	Factor Loadings					Factor Loadings				
Items	II	C	MB	Total		II	C	MB	SR	Total
1. Inclusive Instructions					1. Inclusive Instructions					
Variety of assessments	0.85				Variety of assessments	0.73				
Providing alternative explanations	0.90				Providing alternative explanations	0.58				
*Designing individualised learning tasks	0.79									
Gauge student comprehension	0.86				Gauge student comprehension	0.59				
Working with very capable students	0.84				Working with very capable students	0.43				
Making students work in small groups	0.86				Making students work in small groups	0.81				
2. Collaboration					2. Collaboration					
Assisting families to help their children		0.70			Assisting families to help their children		0.90			
Working jointly with professionals		0.75			Working jointly with professionals		0.55			
Involving parents in school activities		0.84			Involving parents in school activities		0.54			
Making parents feel comfortable		0.77			Making parents feel comfortable		0.86			
Collaborating with professionals		0.71			Collaborating with professionals		0.46			
*Informing others about laws and policies		0.59								

Note. II = Inclusive Instructions; C = Collaboration; MB = Managing Behaviour; SR = Specialised Response. The three items marked with an asterisk (*) were grouped together to create the fourth factor for the SA sample named Specialised Response. IBM SPSS software was used to calculate Cronbach's Alpha coefficients and 95% Confidence Intervals (CI), as well as Omega values and 95% CIs.

Table 4.1 continued

Factor analysis with reliability coefficients and summary statistics for the original TEIP scale data and the SA sample.

	A					B				
	TEIP Study (609) [a]					SA Study (n=109)				
	Factor Loadings					Factor Loadings				
	II	C	MB	Total		II	C	MB	SR	Total
3. Managing Behaviour					3. Managing Behaviour					
Ability to prevent disruptive behaviour			0.78		Ability to prevent disruptive behaviour			0.72		
Controlling disruptive behaviour			0.81		Controlling disruptive behaviour			0.89		
Ability to calm a disruptive student			0.77		Ability to calm a disruptive student			0.32		
Getting children to follow classroom rules			0.68		Getting children to follow classroom rules			0.52		
*Dealing with physically aggressive students			0.66							
Making expectations clear			0.52		Making expectations clear			0.53		
					4. Specialised Response					
*Designing individualised learning tasks	0.79				*Designing individualised learning tasks				0.64	
*Informing others about laws and policies		0.59			*Informing others about laws and policies				0.58	
*Dealing with physically aggressive students			0.66		*Dealing with physically aggressive students				0.68	
Cronbach's alpha	0.93	0.85	0.85	0.89		0.79	0.79	0.78	0.68	0.74
95% CI						.72 to .84	.72 to .83	.68 to .84	.53 to .79	.69 to .84
Omega						0.79	0.78	0.80	0.69	0.80
95% CI						.71 to .85	.69 to .83	.71 to .86	.56 to .80	.71 to .86

Note. II = Inclusive Instructions; C = Collaboration; MB = Managing Behaviour; SR = Specialised Response.

4.1.2 Factorial analyses of the TEIP scale

Factor analysis assists researchers to understand the relationships among variables (i.e., which variables are associated with which latent constructs). Confirmatory Factor Analysis (CFA) starts with a theory about how many factors are expected to be present and which items are expected to load onto these factors. Exploratory Factor Analysis (EFA) is used to group variables into clusters based on shared variance without any preconceived notion of their association (Boateng et al., 2018; Thompson, 2004). Both CFA and EFA were undertaken on this sample of data for all 18 items of TEIP scale. It was important to understand if the subscale structure of the SA data compared with the factorial groupings of the published scale (Sharma et al., 2012) so CFA was conducted first. Mplus version 8.6 (http://www.statmodel.com/verhistory.shtml) was the software used for both CFA and EFA.

The developers of the scale had used Varimax rotation when undertaking EFA on their original data set and determined that the 18 items could be grouped into three factors reliably. These were named *Inclusive Instructions*, *Collaboration* and *Managing Behaviour*. Their EFA had been guided by the theories of Nunnally (1978), who recommended a ratio of 10 subjects to one item as a sufficient number of responses for EFA to be acceptable (i.e., a sample size of 180), and also Tabachnik and Fidell, (2001), who recommend a sample size of at least 300 as acceptable (cited in Sharma et al., 2012). The sample size of Sharma et al. (2012) for EFA on that occasion was 609, which was more than adequate. The sample size of the SA data was only 115 responses, which would not have been considered large enough to undertake EFA according to the aforementioned statistical experts. Nonetheless, advice varies and it was determined that both CFA and EFA on the SA data was acceptable using a different value-added estimation tool specific for ordinal data (de Winter et al., 2009; Grace-Martin; Mundfrom et al., 2005). The Weighted Least Square Mean and Variance Adjusted (WLSMV) estimator was used (Beauducel & Herzberg, 2006; DiStefano & Morgan, 2014). There were missing responses for some TEIP items which needed consideration. Therefore, the number of responses used for factorial analyses of the SA TEIP data was 110 (see Appendix Eleven for a report on the frequencies and the percentage of responses for each individual item). Also, the patterns of the Likert-scale distributions were skewed towards agreement making the six-point items even more ordinal in nature. The matrix of Polychoric correlations among the raw items of the TEIP scale is reported in Appendix Twelve (Drasgow, 2004), and the correlation matrix for the six-item Graduate Standards readiness scale is reported in Appendix Thirteen.

The results of the CFA showed that the theoretical three factor model of the published TEIP scale (Inclusive Instructions, Collaboration and Managing Behaviour) did not provide satisfactory goodness of fit for the SA sample of data (see Appendix Fourteen). EFA was then conducted and the results also showed that three factors were not adequate to group all 18 items into their associated subscales. The difficulty in factorial groupings for the SA sample related to the small sample size and large number of items to group. Geomin

oblique rotation was used as the method of rotation because the latent factors were likely to be correlated with each other (Browne, 2001). Further examination of the EFA results showed that four factors provided satisfactory goodness of fit with qualitative judgement about the allocation of some items (see Appendix Fifteen).

The final Geomin rotated factor loadings for each of the 18 items across four factors are presented in Table 4.2 The factors have been colour coded for easier reference. The original factors named Inclusive Instructions (blue), Collaboration (green) and Managing Behaviour (red) were retained with fewer items, and a fourth factor named Specialised Response (orange) was added.

There were three items of the 18 item scale that had closely aligned factor ratings across two different subscales. These items could have been grouped either way. A decision regarding the factor groupings for these items was guided by a desire to keep the subscales of the SA sample as closely aligned as possible to the original theoretical subscales of the TEIP for coherence of discussion with others' research results. The item, *I am able to calm a student who is disruptive or noisy* was grouped with other behaviour related items into the Managing Behaviour factor rather than into the Collaboration factor. Similarly, both of the items, *I can collaborate with other professionals (e.g., itinerant teachers or speech pathologists) in designing educational plans for students with disabilities* and *I am able to work jointly with other professionals and staff (e.g., aides, other teachers) to teach students with disabilities in the classroom* were grouped with other items related to collaboration rather than include these in the newly created Specialised Response factor.

Table 4.2

Results of Geomin rotated EFA of the SA TEIP sample.

TEIP scale items	Inclusive Instructions	Collaboration	Managing Behaviour	Specialised Response	TEIP statements of self-efficacy items
CLREXPST	0.273*	0.104	**0.525***	-0.019	I can make my expectations clear about student behaviour
CALMDISR	0.021	0.334*	**0.319***	0.058	I am able to calm a student who is disruptive or noisy.
PARENTCO	0.015	**0.863***	0.003	-0.206*	I can make parents feel comfortable coming to school.
HELPFAM	-0.134	**0.896***	0.065	0.034	I can assist families in helping their children do well in school.
GGESTUDC	**0.593***	0.165	0.194*	-0.063	I can accurately gauge student comprehension of what I have taught.
CHALLCAP	**0.426***	0.051	0.036	0.331*	I can provide appropriate challenges for very capable students.
PREVENTD	0.034	-0.024	**0.721***	0.178	I am confident in my ability to prevent disruptive behaviour in the classroom before it occurs.
CONTROLD	0.074	0.065	**0.898***	-0.01	I can control disruptive behaviour in the classroom.
PARENTIN	-0.011	**0.537***	0.034	0.304*	I am confident in my ability to get parents involved in school activities of their children with disabilities.
DESIGNLE	0.026	0.19	0.062	**0.638***	I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated.
CHNFOLLO	0.475*	-0.052	**0.521***	0.03	I am able to get children to follow classroom rules.
COLLABOT	0.025	**0.444***	-0.022	0.460*	I can collaborate with other professionals (e.g., itinerant teachers or speech pathologists) in designing educational plans for students with disabilities.
TEACHWOR	0.174	**0.476***	-0.229*	0.547*	I am able to work jointly with other professionals and staff (e.g., aides, other teachers) to teach students with disabilities in the classroom.
STUDWORK	**0.811***	0.007	-0.003	0.068	I am confident in my ability to get students to work together in pairs or in small groups.
VARIEDAS	**0.732***	0.109	0.121	-0.007	I can use a variety of assessment strategies (e.g., portfolio assessment, modified tests, performance-based assessment, etc.)
KNOWINCL	-0.112	-0.022	0.21	**0.581***	I am confident in informing others who know little about laws and policies in relation to the inclusion of students with disabilities.
CONFSTUD	-0.252*	0.005	0.314*	**0.682***	I am confident when dealing with students who are physically aggressive.
ALTEXPLS	**0.581***	-0.146	-0.012	0.374*	I am able to provide an alternate explanation or example when students are confused.

4.1.3 Normality and bootstrapping

The TEIP data of 110 responses for this research were also tested for normality—that is, how well the distribution of responses reflected the 'bell-shaped' curve of a normal distribution (Voght, 1999). This was necessary to determine if bootstrapping could be used. Normality was assessed for each of the four factors (Inclusive Instruction, Collaboration, Managing Behaviour and Specialised Response). The histogram and box plot results are presented in Appendix Sixteen showing the distribution of scores and outliers. Overall, the data approximated a normal distribution for all four factors but was positively skewed with a small number of outliers. Bootstrapping was able to be used (Haukoos & Lewis, 2005).

Bootstrapping is a process that replicates the sample of data that has been collected many more times (for example, 100, 1000 or 5000 times) to produce an artificially larger sample of data that can be statistically analysed using parametric statistical tests, assuming normal distribution. As Voght (1999, p. 29) explains, "Rather than make assumptions about underlying population distributions to estimate the standard error, one estimates on the basis of repeated random samples (with replacement) from one's [own] sample". The technique was used to address both the small sample size and the positively skewed nature of the data with a small number of outliers. "The bootstrap is a computationally intensive statistical technique that allows the researcher to make inferences from data without making strong distributional assumptions about the data or the statistic being calculated" (Haukoos & Lewis, 2005, p. 360). With the assistance of bootstrapping, it was possible also to estimate the 95% confidence intervals.

4.1.4 Evaluating plausible sampling bias

It was important as a preliminary test to determine if combining the data from all year groups into one corpus of data was justified without the effect of biasing based on the year in which the data were collected. Each participant's response was separated into the year in which they completed the survey (2018, n=35; 2019, n=55; 2020, n=25) and the three samples were compared.

First, the profiles of the participants from each sample (2018, 2019 and 2020) were analysed for demographic similarities and differences. Frequencies were reviewed based on the following nine independent variables.

- Age at two levels (18-23 years and 24+ years)
- Gender at two levels (male and female)
- Living with disability themselves at two levels (yes or no)
- Other personal experience with disability at two levels (yes or no)
- Course type by three levels (early childhood, primary and secondary)
- Degree type at two levels (disability studies/special education component or not).

- Year level of final professional placement by three levels (early childhood, primary and secondary)
- Mainstream or specialist setting for professional placement at two levels (yes or no)
- Disability experience on placement at eight levels for each student disability type

The results are presented in Table 4.3. Percentages are presented alongside frequencies to assist in understanding of the comparative ratios. The proportions across each sample were noticeably different in the three areas only, noted in the dot points below. Aside from these differences, the demographic proportions of each sample were acceptably similar.

- The 2018 sample had a higher proportion of respondents undertaking a double degree with disability studies/special education (46%) compared to those who were not (54%).
- The 2019 sample had less preservice teachers studying an early childhood degree (15%).
- The 2020 sample had a substantially higher number of female participants (96%).

Table 4.3

Demographics of participants by year of response

Year of data collection	Age in years		Gender		Lives with disability		Experience of others' disability		Course by year level			Disability studies/special education	
	18-23	24+	Male	Female	Yes	No	Yes	No	Early Childhood	Primary	Secondary	Yes	No
2018 (n=35)	22	13	10	24	0	33	15	20	9	17	9	16	19
%	63%	37%	29%	69%	0%	94%	43%	57%	26%	48%	26%	46%	54%
2019 (n=55)	37	18	12	43	9	45	28	27	8	26	21	12	43
%	67%	33%	22%	78%	16%	82%	51%	49%	15%	47%	38%	22%	78%
2020 (n=25)	15	10	1	24	2	23	9	16	8	8	9	8	17
%	60%	40%	4%	96%	8%	92%	36%	64%	32%	32%	36%	32%	68%
TOTAL (n=115)	74	41	23	91	11	101	52	63	25	51	39	36	79
%	64%	36%	20%	79%	10%	88%	45%	55%	22%	44%	34%	31%	69%

Demographics of participants by year of response

Year of data collection	Placement year level			Regular class placement		Students' disability types on placement							
	Early Childhood	Primary	Secondary	Yes	No	Develop-mental delay	Intellectual disability	Physical disability	Hearing impair-ment	Vision impair-ment	Autism Spectrum Disorder	Speech/ language impairment	Significant challenging behaviour
2018 (n=35)	14	12	9	24	11	10	18	5	5	3	25	11	14
%	40%	34%	26%	69%	31%	28%	51%	14%	14%	9%	71%	31%	40%
2019 (n=55)	16	21	18	44	11	22	35	12	11	8	43	29	24
%	29%	38%	33%	80%	20%	40%	64%	22%	20%	15%	78%	53%	44%
2020 (n=25)	10	6	9	21	4	9	15	3	5	4	22	13	10
%	40%	24%	36%	84%	16%	36%	60%	12%	20%	16%	88%	52%	40%
TOTAL (n=115)	40	39	36	89	26	41	68	20	21	15	90	53	48
%	35%	34%	31%	77%	23%	27%	59%	17%	18%	13%	78%	46%	42%

Note. One preservice teacher from the 2018 cohort was either indeterminate, intersex or unspecified about their gender, and three preservice teachers did not respond to the question about living with disability.

Statistical tests were then conducted to compare the sample groups' means for the four subscales of the TEIP scale. The first test used to compare means was the Kruskal-Wallis test for non-parametric data (facilitated by IBM SPSS). This test was used to see if the mean self-efficacy subscale scores were significantly different across the samples[6]. The Kruskal-Wallis test revealed no significant differences in levels of self-efficacy across the samples. The effect size was assessed using an on-line effect size calculator suitable for the Kruskal-Wallis test (https://www.psychometrica.de/effect_size.html). Referring to Cohen's *d*[7], small to medium effects were present for Inclusive Instructions, *d* = .37; Collaboration, *d* = .24 and Specialised Response, *d* = .27, and only a very small effect size for Managing Behaviour, *d* = .13.

This statistical testing was repeated using a one-way between groups analysis of variance (ANOVA) on the four self-efficacy factors of each sample group. As this is a test usually used for parametric data, bootstrapping to 5000 samples with a 95% confidence interval level was applied (facilitated by IBM SPSS).

The ANOVA showed a between groups variance that was significant for the factor of Inclusive Instructions only. The Brown-Forsythe robust test of equality of means confirmed violation of the homogeneity of variance assumption for this factor, and the ANOVA results confirmed that the 2019 and 2020 groups were significantly different in their self-efficacy scores: F (2,107) = 3.8, p = 0.26. The effect size of 0.07 (calculated using Eta squared) indicated that the effect of this difference was medium according to Cohen's classifications (cited in Pallant, 2013, p. 218). That is, the year that the participants completed the survey accounted for 7% of the variation between their self-efficacy scores for Inclusive Instructions, with the 2020 group feeling more efficacious than the 2019 group. Post-hoc comparisons using the Tukey HSD test also showed that the mean score for Inclusive Instructions for the 2019 group (M=4.9, SD =0.5) was significantly different to that of the 2020 group (M=5.3, SD =0.6). However, the 2018 group (M=5, SD =0.4) did not differ significantly from either the 2019 group or the 2020 group. No other significant differences in self-efficacy were found across the sample groups based on the year the data were collected.

To complete the analysis of differences by year, a Chi-square test of independence (with Yates Continuity Correction) was undertaken on the readiness scale data by the year that the participants completed their survey (remembering that participants from years 2019 and 2020 only had the opportunity to respond using the semantic scale because this was added after the first sample of data was collected). The tests

[6] There were two cases of missing data from the 2018 cohort and three from the 2019 cohort. Therefore, N = 110 for this statistical test.

[7] Effect sizes according to Cohen's *d* definitions are small = 0.2; medium = 0.5 and large = 0.8.

indicated no significant association between the readiness of preservice teachers for the professionals standards of disability-inclusive education and the year they completed the survey. Table 4.4 summarizes the results.

Table 4.4

Chi-square test of independence between readiness for graduate standards and year of survey response.

Graduate Standards		Less ready		Very ready		Total		X^2 (1)	*p*	*phi*	95% CI
		n	%	*n*	%	*n*	%				
Differentiate the curriculum (*N*=77)	2019	27	69.2	25	65.8	52	67.5	.104	.747	.037	[-.19, .26]
	2020	12	30.8	13	34.2	25	32.5				
Practice teachers' legal obligations (*N*=75)	2019	28	65.1	23	71.9	51	68	.385	.535	-.072	[-.29, .15]
	2020	15	34.9	9	28.1	24	32				
Find and learn disability specific information (*N*=74)	2019	27	67.5	23	67.6	50	67.6	.000	.989	-.002	[-.23, .23]
	2020	13	32.5	11	32.4	24	32.4				
Seek specialist assistance (*N*=74)	2019	31	66	19	70.4	50	67.6	.152	.696	-.045	[-.26, .19]
	2020	16	34	8	29.4	24	32.4				
Liaise with other professionals (*N*=72)	2019	25	71.4	25	67.6	50	69.4	.126	.722	.042	[-.19, .27]
	2020	10	28.6	12	32.4	22	30.6				
Communicate with parents & carers (*N*=71)	2019	31	68.9	18	69.2	49	69	.001	.976	-.004	[-.24, .24]
	2020	14	31.1	8	30.8	22	31				

Note. 95% Confidence Intervals (CI) for effect size are based on 5000 bootstrap samples.

It was not possible to determine what may have caused the differences in mean self-efficacy scores for Inclusive Instructions between the 2019 and 2020 sample groups. Given there was no practical importance concerning this difference and no significant differences in the readiness for professional standards scores for each sample of respondents, along with demographic profiles that were proportionally similar, it was decided to combine the data into one set for the remainder of analyses but to keep the Inclusive Instructions differences in mind when interpreting the findings. Therefore, the discussion of results and

findings of this research is based on the entire set of responses from each of the different years of sampling as one corpus of data, rather than by individual year groups.

4.2 Profile of survey respondents

The majority of the research participants were school leavers in the 18-to-23-year range (n=74; 64%). Twenty-five were aged from 24 to 30 years (21%) with a further 10 aged from 31 and 40 years (9%). Only six participants were older than 41 years (5%). These pre-specified age groupings were collapsed into two levels for the purpose of further analysis (18-23 years and 24+ years). Across these two groups, 64% of the sample were school leavers (18-23 years) and 35% had begun their ITE course when they were older (24+ years), which was consistent with the universities' enrolment statistics at the time.

Analysis of the participant profile by gender revealed that the sample was skewed with more females (n=91; 79%) than males (n=23; 20%) and only one preservice teacher was indeterminate, intersex or unspecified about their gender. This also was representative of the population demographic at the time and consistent with other preservice teacher self-efficacy studies undertaken in Australia (Gigante & Gilmore, 2020; Ma et al., 2022; Sharma & Nuttal, 2016; Woodcock et al., 2012).

Regarding the participants personal experiences of disability, 11 preservice teachers (almost 10%) said they lived with disability themselves. The types of disabilities represented in the sample were autism spectrum disorder, hearing impairment, profound deafness, vision impairment, depression, anxiety, dyslexia and cerebral palsy. Also, almost half of the participants reported that they had experience of disability through a family member or close friend (n=52; 45%).

With regard to the different types of ITE courses being undertaken by these research participants, 25 (22%) were undertaking ITE courses with a focus on early childhood teaching; 47 (41%) were undertaking ITE courses with a focus on primary teaching, four (3%) were undertaking a primary to middle school ITE course and 39 (34%) were undertaking ITE courses focused on secondary teaching. The number of participants who were undertaking a primary to middle school teaching course was low because this course was offered only by UniSA. For practical reasons related to proposed statistical analyses, these participants were added into the primary teaching group. Overall the sample represented 18 of the possible 25 ITE courses provided by the two participating universities.

A breakdown of these ITE course groups by gender revealed a higher number of females (n=23) undertaking early childhood teaching than males (n=2) at a ratio of approximately 12:1. There were also more females (n=38) undertaking primary teaching than males (n=13) and similarly, more females (n=30) undertaking

secondary teaching than males (n=8) but these latter proportions were more balanced (approximately 3:1 and 4:1 respectively) compared with the total gender ratio, which was 4:1 females to males.

Education degrees combined with another degree were popular among the survey participants with 86% of the sample completing either undergraduate double degrees or an undergraduate degree with a Master of Teaching. Of the options available, most of the survey participants had combined their education degree with the Arts (n=46; 40%) or Disability Studies (n=36; 31%). A smaller subset had combined their education degree with Sciences (n=14; 12%) or Languages (n=3; 3%). Just 16 (14%) of the survey participants were completing an education degree only.

There was an even spread of year levels in which the preservice teachers had taught during their final professional placement. Forty participants (35%) had taught in an early childhood class; 39 (34%) had taught in a primary class and 36 (31%) had taught secondary students. The majority had been placed in a regular class (n=89; 77%), which was more favourable from a research purpose perspective, however, a smaller number had completed their final professional placement in a specialist setting (n=26; 23%), which created a point of difference from which to analyse the effect of this variable on the self-efficacy and readiness scores of the respondents.

All of the survey participants reported experience in teaching students with disability in their classrooms while on their professional placements. They had been asked to select the primary disability diagnosis of their students from a drop-down menu with more than one category pre-specified plus the option to select *other* and then describe the disability type using a text box. It was assumed that the preservice teachers may have experienced teaching more than one student with disability in their class or that some students may have been diagnosed with more than one disability type. All of the *other* disability types (n=14) were allocated retrospectively to one of the pre-specified categories based on my knowledge of different disability types and assumptions about the effects of these disabilities on learning. Cognitive learning disorders, such as dyslexia, auditory processing disorder and acquired brain injury (n=6), were grouped into the intellectual disability category and trauma or anxiety (n=5) were grouped as significant challenging behaviours. Health related issues such as early onset arthritis and Cystic Fibrosis (n=2) were grouped as physical disability and sensory disorder (n=1) as autism spectrum disorder. The most frequent student disability type encountered by the participants was autism spectrum disorder (ASD)—78% of all respondents reported a student with autism in their class. This was followed by intellectual disability (60%). The least frequent type of disability encountered was vision impairment (13%). Table 4.5 summarises the demographic profile of the survey participants including the number and range of disabilities encountered during their final professional placements.

Table 4.5

Profile of Survey Respondents

Variable		n	%
Age	18 to 23 years	74	64
	24 + years	41	36
Gender[a]	Male	23	20
	Female	91	79
Living with disability		11	9.5
Experience of disability through family or close friends		52	45
Year level focus of the ITE course			
	Early Childhood	25	22
	Primary	51[b]	44
	Secondary	39	34
Degree type			
	Arts	46	40
	Disability Studies	36	31
	Science	14	12
	Languages	3	3
	Education alone	16	14
Year level of professional placement			
	Early Childhood	40	35
	Primary	39	34
	Secondary	36	31
Professional placement type			
	Regular class at mainstream school	89	77
	Specialist setting	26	23
Disability Type			
	Developmental Delay	41	36
	Intellectual Disability	69	60
	Physical Disability	20	17
	Hearing Impairment	21	18
	Vision Impairment	15	13
	Autism Spectrum Disorder	90	78
	Speech or Language Impairment	53	46
	Significant Challenging Behaviours	50	43

Note. N=115. More than one disability type may have been experienced by the preservice teachers while on their final professional placement.

[a] One respondent indicated their gender was indeterminate, intersex or unspecified and has not been included.

[b] Four respondents who were undertaking a primary to middle school ITE course have been included in the primary year level data.

In summary, this sample of participants was representative of preservice teachers enrolled in ITE programs of the participating universities from a demographic perspective. The higher number of females than males was indicative of biasing due to a higher number of females enrolled in early childhood teaching degrees.

The spread of year levels by course type was equivalent but the ability to undertake an education degree with disability studies was unique to Flinders University in SA. This option was not available after 2021 due to changes in Australian Government accreditation requirements.

4.3 Central tendency statistics of the TEIP scale

Lang and Secic (2006) explain that mean scores and standard deviations are most appropriate when presenting the descriptive statistics of normally distributed data but medians and range are more appropriate for skewed (non-normal) distributions. Further, means and confidence intervals are important when presenting estimation data, noting that the technique of bootstrapping was used for analyses of this data and therefore, confidence intervals were able to be determined.

The TEIP scale was structured so that respondents were asked to rate their level of agreement on 18 statements using a six-point Likert-type scale ranging from (1) *strongly disagree* to (6) *strongly agree*. The scale had a midpoint of 3.5 and the total possible range of scores was from 18 to 108 with a midpoint of 63. The participants' scores represented their feelings of self-efficacy for disability-inclusive teaching practices, as a snapshot in time. The lower the score the less efficacious the preservice teacher was feeling and the higher the score the stronger their self-efficacy. Overall, the efficacy scores of the respondents ranged from 52 to 108. Only two participants had scores below 63 (the midpoint of the scale) again indicating the positively skewed nature of the responses.

Positive skewness is not unexpected in self-report social science studies. It is linked to social desirability bias, which occurs when research participants tend to answer questions in a way that presents them in a socially acceptable way (Stockemer, 2019). This might be expected to be the case for final year preservice teachers who are asked to report on their confidence and preparedness for teaching just as they are preparing to graduate ready for employment. The anonymity of survey respondents and opportunity for completion of the survey in their own time, and at a location suitable to them, were measures used in this research to counter social desirability biasing of the data.

As already discussed, a closer look at the range of responses using histograms and box plots for each of the four factors showed an approximately normal distribution pattern (albeit positively skewed), with a small number of outliers for each factor (see Appendix Sixteen). The significance of variance was examined using Kolmogorov-Smirnov and Shapiro-Wilk tests facilitated by IBM SPSS. A significance in variation of $< .05$ was found suggesting violation of the assumption of normality but this could be explained by the outliers, which were consistently the same respondents.

The central tendencies of the data by each of the four TEIP factors are presented in Table 4.6 and the central tendencies of the data for all items of the TEIP scale are presented in Table 4.7. The preservice teachers of this sample perceived themselves to be most well prepared for Inclusive Instructions, which has been a common finding of researchers using the TEIP scale to measure self-efficacy for disability-inclusive education (Tümkaya & Miller, 2020).

Table 4.6

Central tendencies of the four factors of the TEIP scale

Factors of the TEIP	*M*	*SD*	95%CI	*Md*	IQR
Inclusive Instructions	5.02 [a]	.534	[4.9, 5.1]	5	4.8,5.4
Collaboration	4.81	.635	[4.7, 4.9]	4.9	4.4,5.4
Managing behaviour	4.82	.533	[4.7, 4.9]	4.8	4.6,5.2
Specialised Response	4.42	.82	[4.3, 4.6]	4.3	4,5

[a] The 2020 cohort of respondents reported significantly higher self-efficacy scores for Inclusive Instructions than the other years, with a small effect size.

Table 4.7

Central Tendencies of all 18 Items of the TEIP Scale

Factors	TEIP scale items	*M*	*SD*	95% CI	*Md*	IQR
Inclusive Instructions						
	I can accurately gauge student comprehension of what I have taught.	4.93	.66	[4.8, 5.1]	5	5,5
	I can provide appropriate challenges for very capable students.	4.87	.768	[4.7, 5.0]	5	4,5
	I am confident in my ability to get students to work together in pairs or in small groups.	5.15	.705	[5, 5.3]	5	5,6
	I can use a variety of assessment strategies (e.g., portfolio assessment, modified tests, performance-based assessment, etc.)	5.06	.797	[4.9, 5.2]	5	5,6
	I am able to provide an alternate explanation or example when students are confused.	5.07	.703	[4.9, 5.2]	5	5,6
Collaboration						
	I can make parents feel comfortable coming to school.	4.95	.833	[4.8, 5.1]	5	4,5
	I can assist families in helping their children do well in school.	4.82	.732	[4.7, 5]	5	4,5
	I am confident in my ability to get parents involved in school activities of their children with disabilities.	4.27	.918	[4.1, 4.5]	4	4,5
	I can collaborate with other professionals (e.g., itinerant teachers or speech pathologists) in designing educational plans for students with disabilities.	4.87	.992	[4.7, 5.1]	5	4,6
	I am able to work jointly with other professionals and staff (e.g., aides, other teachers) to teach students with disabilities in the classroom.	5.13	.84	[5, 5.3]	5	5,6
Managing Behaviour						
	I can make my expectations clear about student behaviour	5.11	.743	[4.8, 5.3]	5	5,6
	I am able to calm a student who is disruptive or noisy.	4.79	.734	[5, 5.3]	5	4,5
	I am confident in my ability to prevent disruptive behaviour in the classroom before it occurs.	4.6	.804	[4.5, 4.8]	5	4,5
	I can control disruptive behaviour in the classroom.	4.63	.8	[4.5, 4.8]	5	4,5
	I am able to get children to follow classroom rules.	4.95	.843	[4.8, 5.1]	5	5,5
Specialised Response						
	I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated.	4.93	.583	[4.8, 5.1]	5	4,6
	I am confident in informing others who know little about laws and policies in relation to the inclusion of students with disabilities.	4.31	1.1	[4.1, 4.5]	4	4,5
	I am confident when dealing with students who are physically aggressive.	4.02	1.19	[3.8, 4.2]	4	3,5

The majority of TEIP items had a median point of 5, again showing the positively skewed nature of the data. The highest mean was 5.15—*I am confident in my ability to get students to work together in pairs or in small groups.* Three of the statements had a median point of 4 suggesting these were areas of lower self-efficacy for some of the respondents. The statements which scored lower related to

- *confidence in dealing with students who are physically aggressive,*
- *informing others who know little about laws and policies in relation to the inclusion of students with disabilities*, and
- *the ability to get parents involved in school activities of their children with disabilities.*

Of these three statements, *confidence in dealing with students who are physically aggressive* was the TEIP item with the lowest mean (4.02).

Although the data were positively skewed, all of the items had some preservice teachers who disagreed with the statements (see Appendix Eleven). Those statements with most disagreements were again related to self-efficacy for

- *dealing with students who are physically aggressive* (28.4% of respondents disagreed),
- *informing others who know little about laws and policies in relation to the inclusion of students with disabilities* (20.2% of respondents disagreed), and
- *getting parents involved in school activities of their children with disabilities* (15.5% of respondents disagreed).

Outliers were present for 12 of the 18 items of the scale. These 12 items are listed below and have been grouped by their subscale factors. The results provide an indication of the areas where some preservice teachers felt least prepared for disability-inclusive teaching.

Inclusive Instructions

- *accurately gauge student comprehension of what I have taught*
- *use a variety of assessment strategies (e.g., portfolio assessment, modified tests, performance-based assessment, etc.)*
- *provide an alternate explanation or example when students are confused*
- *ability to get students to work together in pairs or in small groups*

Collaboration

- *make parents feel comfortable coming to school*
- *ability to get parents involved in school activities of their children with disabilities*
- *work jointly with other professionals and staff (e.g., aides, other teachers) to teach student with disabilities in the classroom*

Managing behaviour

- *make my expectations clear about student behaviour*
- *confident in my ability to prevent disruptive behaviour in the classroom before it occurs*
- *control disruptive behaviour in the classroom*
- *get children to follow classroom rules*

Specialised Response

- *informing others who know little about laws and policies in relation to the inclusion of students with disabilities*

These descriptive findings suggested that overall, this sample of preservice teachers were feeling positively self-efficacious for disability-inclusive teaching. The areas of least self-efficacy appeared to be spread across all four factors of disability inclusive teaching and related to the development of individualised learning programs (Inclusive Instructions and Specialised Response), involving parents and other support personnel in the learning programs of students with disability (Collaboration), managing classroom behaviours, particularly physical aggression (Managing Behaviour and Specialised Response) and informing others of laws and policies related to disability-inclusive education (Specialised Response). These professional practice competencies were explored further using statistical tests to determine any associations of significance and their effect sizes.

4.4 Mean differences for TEIP factors

Statistical tests suitable for each data type were selected to examine the mean scores in relation to the independent variables identified below to see if any main effects or interactions were of significance. Independent-samples t-tests (two tailed) were used to compare mean score differences in TEIP factors against the six binary variables of

- age (grouped as school leavers or mature entry),
- gender (male and female),
- living with disability or not,
- experience of disability through a family member or close friend or not,
- combining the education degree with disability studies/special education or not, and
- whether the preservice teacher's final professional placement was in a regular class or specialist setting.

Independent-samples t-tests (two tailed) were also used to compare mean score differences against each of the eight different types of students' disabilities that the preservice teachers encountered while on professional placement.

- Developmental delay
- Intellectual disability
- Physical disability
- Hearing impairment
- Vision impairment
- Autism spectrum disorder
- Speech or language impairment
- Significant challenging behaviours

A one-way between groups AVOVA test was conducted to compare the mean score differences against the three year level foci of ITE courses. Participants were grouped into early childhood (n=24), primary (n=51) or secondary (n=35) teaching based on the degree in which they were enrolled. These data had been collected at question 5 (Part 1) of the survey: *Which Initial Teacher Education course are you enrolled in?*

A one-way between groups ANOVA test was also conducted to compare the mean score differences against the year levels of the classes in which the preservice teachers had undertaken their most recent professional placement. Participants were grouped into early childhood (n=40), primary (n=38) or secondary (n=32) teaching according to their responses to question 6 (Part1) of the survey: *Which year level did you teach during your recent professional placement*?

The results of each statistical test were analysed to know which independent variables had significant effects on all factors of preservice teachers' self-efficacy for disability-inclusive teaching at the <.05 level. Bootstrapping to 5000 samples was applied to account for the small sample, skewness of the data and to accommodate the small number of outliers that might have been responsible for significant variation.

The effect sizes were categorised according to Cohen's *d* definitions for t-tests: .2 = small; .5 = medium; .8 = large, and in the case of the ANOVA tests, *eta squared* was the statistic used to determine effect sizes, defined as .01 = small; .06 = medium and .14 = large (Pallant, 2013).

In addition, Levine's test for equality of variances was used to determine if equal variances could be assumed or not. Equal variances were assumed for most statistics unless otherwise noted below the table of results. Corresponding degrees of freedom (*df*) are also noted. CI is the abbreviation used for confidence intervals. These were calculated to the 95% level with the assistance of bootstrapping. For ease of reference, those variables that had a significant effect on the preservice teachers self-efficacy for disability-inclusive teaching with medium to large effect size have been highlighted in bold text, coloured in orange and denoted by asterisks in the tables of results.

Each TEIP factor is presented in its own section for the remainder of the first part of this chapter beginning with Inclusive Instructions. A summary of noteworthy results is reported at the beginning of each section with suggested inferences reported at the conclusion. These summaries formed the basis for qualitative data follow-up.

4.4.1 Inclusive Instructions

The statistical test results showed three variables that significantly affected self-efficacy scores for Inclusive Instructions (p <.05) with medium to large effect sizes. These were living with disability, having professional experience in a specialist class (rather than a regular class) and engaging in professional experience with an early childhood class rather than secondary classes.

The results suggested that preservice teachers living with disability felt less efficacious for Inclusive Instructions than their peers without disability (see Table 4.9), and if a preservice teacher undertook professional experience with a specialist class rather than a regular class, they reported lower self-efficacy for the subscale Inclusive Instructions that those from regular classes (see Table 4.13). In addition, the results suggested that preservice teachers who had their final professional placement in early childhood classes felt less efficacious for Inclusive Instructions than those who had their placement in secondary classes. However, there were no significant mean differences between teaching experiences in primary and early childhood classes, nor primary and secondary classes (see Table 4.12).

No other variables showed significant differences in the mean self-efficacy scores for the factor of Inclusive Instructions but some showed small effect sizes. These were the experience of disability through a family member or friend, whether the degree was combined with disability studies or special education and the varied experiences of teaching students with different disability types while on professional placement.

Personal attributes - age and gender

Table 4.8 shows there were no significant differences between the self-efficacy scores of preservice teachers who were school leavers (18-23 years) and those who were mature entry (24+ years) for Inclusive Instructions, nor for gender. The effect size of the mean differences based on age and gender was very small.

Table 4.8

Self-efficacy for Inclusive Instructions by Age and Gender.

Variables		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	95% CI
Age	18-23 years	71	5.00	.519	-.209	.835	-.04	[-.43, .35]
	24+ years	39	5.03	.567				
Gender	Male	22	4.96	.519	-.516	.607	-.12	[-.59, .35]
	Female	88	5.02	.54				

Personal experience of disability

Table 4.9 shows there was a significant difference between the self-efficacy scores of preservice teachers who lived with disability themselves and those who did not for Inclusive Instructions. The effect size was large and negative.

Table 4.9

Self-efficacy for Inclusive Instructions of Preservice Teachers Living With Disability

Variable		*n*	*M*	*SD*	*t* (106)	*p*	Cohen's *d*	95% CI
Living with disability	**No**	97	5.05	.52	2.39	**.018***	**.76**	[.13, 1.4]
	Yes	11	4.65	.499				

* $p < .05$

However, table 4.10 shows there were no significant differences between preservice teachers who had experienced disability through a family member or close friend compared with those who hadn't and the effect size was small and positive.

Table 4.10

Self-efficacy for Inclusive Instructions of Preservice Teachers who Experience Disability through Family or Close Friends

Variable		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	95% CI
Experience of disability through family or close friends	No	61	4.94	.501	-1.67	.099	-.32	[-.70, .06]
	Yes	49	5.11	.559				

ITE Course type

The results of a one-way ANOVA test of differences between the mean self-efficacy scores of preservice teachers who were undertaking courses focused on early childhood (n = 24), primary (n = 51) or secondary teaching (n = 35) showed no significant differences in self-efficacy for Inclusive Instructions: F (2, 109) = 1.79 *p* =.172.

Table 4.11 shows there were no significant differences between the mean self-efficacy scores of preservice teachers who were undertaking a double degree with disability studies or special education compared to those who were undertaking either an education degree alone or combined with another type of specialisation (e.g., arts, sciences or languages). There was a small positive effect for this variable.

Table 4.11

Self-efficacy for Inclusive Instructions by Course Type

Variable		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	
								95% CI
Double degree with disability studies/special education	No	75	5.07	.558	1.61	.110	.33	[-.07, .73]
	Yes	35	4.9	.464				

Professional placement type

Table 4.12 presents the results of a one-way ANOVA test of differences between the mean self-efficacy scores of preservice teachers who had undertaken their professional placement in an early childhood class, primary class or with secondary classes and shows a significance difference at the $p < .05$ level in self-efficacy for Inclusive Instructions. The effect of this variable was positive and medium in size. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for preservice teachers in early childhood classes was significantly less than those who taught in secondary classes but not compared to those who taught in primary classes. Further, there were no significant differences between preservice teachers who taught in a primary class with those who had taught secondary classes.

Table 4.12

Self-efficacy for Inclusive Instructions by Professional Placement Year Levels

Variable	*n*	*M*	*SD*	*F* (2, 109)	*p*	η^2	
Professional learning year level							95% CI
Early childhood	4.86	4.79	.5				
Primary	38	5.06	.548	3.15	**.047***	**.06**	[.00, .15]
Secondary	32	5.16	.521				

* $p < .05$

Table 4.13 shows there was a significant difference at the $p < .05$ level in mean self-efficacy scores between preservice teachers who had their professional placement in a regular class and those who were placed in a specialist class with a medium negative effect size. The results of this independent t-test indicate that preservice teachers who were placed in specialist classes felt less efficacious for Inclusive Instructions than those who had their experience in regular classes.

Table 4.13

Self-efficacy for Inclusive Instructions by Professional Placement in Regular class or Not

Variable		*n*	*M*	*SD*	*t* (107)	*p*	Cohen's *d*	
								95% CI
Regular class	**No**	25	4.79	.426	-2.37	**.019***	**-.54**	[-.99, -.09]
	Yes	84	5.07	.540				

* $p < .05$

Professional experience of student with disability

The differences between the mean scores of preservice teachers' self-efficacy for the subscale Inclusive Instructions were also examined in relation to their experience of different types of students' disability while on professional placement. Table 4.14 presents the results. No significant differences for any specific type of disability were found. The largest effect size was -.46, which was medium and associated with the positive experience of teaching students with vision impairment. There were small effects associated with the experience of teaching students with developmental delay (-.20), physical disability (-.21) and speech or language impairment (.23). Those who had the experience of teaching students with developmental delay or physical disability reported slightly higher levels of self-efficacy, while those who had the experience of teaching students with speech or language impairment reported slightly lower self-efficacy scores. It appeared from these results that self-efficacy for inclusive instruction is not significantly affected by a student's disability type. Therefore, disability type was not a predictor of efficacy for inclusive instruction according to this sample of preservice teachers.

Table 4.14

Self-efficacy for Inclusive Instructions by Placement Experience of Students' Disability Types

Variable		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	
Students' disability types								95% CI
Developmental delay	No	69	5.02	.556	.1	.921	-.20	[-.37, .41]
	Yes	41	5	.5				
Intellectual disability	No	49	5.05	.541	.645	.521	.12	[-.25, .5]
	Yes	61	4.99	.53				
Physical disability	No	92	5	.527	-.822	.206	-.21	[-.71, .29]
	Yes	18	5.11	.575				
Hearing impairment	No	90	5	.511	-.495	.622	-.12	[-.61, .36]
	Yes	20	5.07	.64				
Vision impairment	No	96	4.99	.531	-1.60	.112	-.46	[-1, .11]
	Yes	14	5.2	.52				
Autism Spectrum Disorder	No	24	4.94	.393	-.947[a]	.348	-.18	[-.63, .28]
	Yes	86	5.04	.567				
Speech or language impairment								
	No	58	5.07	.508	1.17	.247	.23	[-.15, .6]
	Yes	52	4.95	.56				
Significant challenging behaviours								
	No	66	5.02	.541	.044	.965	.01	[-.37, .39]
	Yes	44	5.01	.529				

Note. Preservice teachers may have experienced more than one disability type in their classes during their professional placement.

[a]Equal variances not assumed *df* = 52

According to the analyses of this sample of preservice teachers' mean self-efficacy scores, neither age, gender, having experience of disability through a family member or close friend, the type of ITE course undertaken nor the experience of teaching students with disability while on professional learning placement had a significant effect on their self-efficacy for providing Inclusive Instructions in the classroom.

However, the self-efficacy of preservice teachers who lived with disability themselves was significantly negatively affected in relation to providing Inclusive Instructions, as was that of preservice teachers who had undertaken their professional learning placement in a specialist class. In addition, there was a significant difference in self-efficacy for the subscale Inclusive Instructions between preservice teachers who had undertaken secondary teaching practice for their professional learning placement and those who had early childhood teaching practice, inferring that secondary focused teaching placements enhance self-efficacy for inclusive instruction more than early childhood placements. This may be due to a clearer

understanding of the needs of adolescent students with disability compared to those in their early childhood years.

4.4.2 Collaboration

Regarding the TEIP factor of Collaboration (with school assistants, other allied professionals and with parents and carers of students with disability), the statistical tests showed two variables that had significant effects on self-efficacy scores (p <.05). These were gender, which had a medium effect—suggesting that male preservice teachers felt less efficacious for Collaboration than females (see Table 4.15)—and teaching students with vision impairment during professional placement, which had a very large positive effect (see Table 4.20). Preservice teachers who had taught students with vision impairment were significantly more efficacious for Collaboration than those who had taught students with other types of disability at the <.001 level.

No other variables showed significant differences in the mean self-efficacy scores for the factor of Collaboration but some showed small to medium effect sizes. These variables were preservice teachers who were living with disability themselves, the experience of disability through a family member or close friend, combining an education degree with disability studies or special education and the varied experiences of teaching students with different disability types while on professional placement. Interestingly, teaching students with intellectual disability had a small negative effect on self-efficacy for Collaboration but this effect was not significant.

Personal attributes – age and gender

Table 4.15 shows there were no significant differences between the self-efficacy scores of preservice teachers who were school leavers (18-23 years) and those who were mature entry (24+ years) and the effect size of age was very small. In contrast, there was a significant difference in the mean self-efficacy scores associated with gender and the effect size was medium, indicating that males felt less efficacious for Collaboration than females.

Table 4.15

Self-efficacy for Collaboration by Age and Gender

Variables		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	95% CI
Age	18-23 years	71	4.78	.605	-.662	.509	-.13	[-.52, .26]
	24+ years	39	4.86	.692				
Gender	**Male**	22	4.5	.623	-2.60	**.011***	**-.62**	[-1.1, -.15]
	Female	88	4.88	.618				

* p < .05

Personal experience of disability

Table 4.16 presents results showing the difference between the mean self-efficacy scores of preservice teachers who lived with disability themselves and those who did not was approaching significance and the effect size of this variable was medium. This implies that those who lived with disability themselves felt less efficacious for Collaboration than preservice teachers who did not have disability.

Table 4.16

Self-efficacy for Collaboration of Preservice Teachers Living with Disability

Variable		*n*	*M*	*SD*	*t* (106)	*p*	Cohen's *d*	
								95% CI
Living with disability	No	97	4.86	.611	1.99	.050	.63	[.00, 1.3]
	Yes	11	4.47	.694				

Table 4.17 shows no significant differences between self-efficacy scores of preservice teachers who experienced disability through a family member or close friend compared with those who had not. The effect size was small and positive indicating that preservice teachers with family or friends with disability were a little more efficacious for Collaboration than those without this type of relationship.

Table 4.17

Self-efficacy for Collaboration of Preservice Teachers who Experience Disability through Family or Close Friends

Variable		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	
								95% CI
Experience of disability through family or close friends	No	61	4.71	.68	-1.72	.088	-.33	[-.71, .05]
	Yes	49	4.92	.559				

ITE Course type

The results of a one-way ANOVA test of differences between the mean self-efficacy scores of preservice teachers who were undertaking courses focused on early childhood (n=24), primary (n=51) or secondary teaching (35) showed no significant differences in self-efficacy for Collaboration: F (2, 109) = .48, p=.62.

Table 4.18 also shows no significant differences between the mean self-efficacy scores of preservice teachers who were undertaking a double degree with disability studies or special education compared to those who were undertaking either an education degree alone or combined with another type of

specialisation (e.g., arts, sciences or languages) The effect size was small and positive indicating that preservice teachers undertaking a double degree with disability studies or special education were a little more efficacious for Collaboration than those who were not.

Table 4.18

Self-efficacy for Collaboration by Course Type

Variable		*n*	*M*	*SD*	*t* (85)	*p*	Cohen's *d*	
								95% CI
Double degree with disability studies/special education	No	75	4.75	.68	-1.41	.164	-.26	[-.66, .14]
	Yes	35	4.92	.518				

Note. Equal variances not assumed df=85

Professional placement type

The results of a one-way ANOVA test of differences between the mean self- efficacy scores of preservice teachers who had undertaken their professional placement in an early childhood class (n=40), primary class (n=38) or with secondary classes (n=32) showed no significance differences at the p <.05 level for self-efficacy in Collaboration: F (2,109) = .685, p =.506.

Table 4.19 shows no significant differences between the mean self-efficacy scores of preservice teachers who had their professional placement in a regular class and those who were placed in a specialist class with a very small effect size.

Table 4.19

Self-efficacy for Collaboration by Professional Placement in Regular class or Not

Variable		*n*	*M*	*SD*	*t* (56)	*p*	Cohen's *d*	
								95% CI
Regular class	No	25	4.87	.476	.777	.441	.15	[-.3, -.59]
	Yes	84	4.78	.675				

Note. Equal variances not assumed df = 56

Professional experience of student with disability

The differences in mean scores of preservice teachers' self-efficacy for Collaboration were also examined in relation to their experience of students' different disability types while on professional placement. Table 4.20 presents results showing significant differences between the mean scores of preservice teachers who had experience teaching students with vision impairment and those who did not. The effect size was very large, suggesting these preservice teachers who had this experience felt more efficacious for Collaboration than their peers who had not taught students with vision impairment.

There were no other significant differences based on the students' disability types but there were small to medium effect sizes related to the experiences of teaching students with developmental delay (-.25), intellectual disability (.22), physical disability (-.30), hearing impairment (-.28) and autism spectrum disorder (-.44). Once again it was of interest that the results suggested the experience of teaching students with intellectual disability had a negative effect on preservice teachers' efficaciousness for Collaboration with others including parents and carers.

Table 4.20

Self-efficacy for Collaboration by Placement Experience of Students' Disability Types

Variable		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	
Students' disability types							95% CI	
Developmental delay	No	69	4.75	.619				
					-1.28	.204	-.25	[-.64, .14]
	Yes	41	4.91	.657				
Intellectual disability	No	49	4.89	.6				
					1.16	.248	.22	[-.16, .6]
	Yes	61	4.74	.66				
Physical disability	No	92	4.78	.625				
					-1.17	.246	-.30	[-.81, .21]
	Yes	18	4.97	.683				
Hearing impairment	No	90	4.78	.593				
					-1.11	.269	-.28	[-.76, .21]
	Yes	20	4.95	.8				
Vision impairment	No	96	4.73	.63				
					-3.34	**.001*** **	**-.96**	[-1.5, -.38]
	Yes	14	5.31	.413				
Autism Spectrum Disorder	No	24	4.59	.706	-1.9	.06	-.44	[-.9, .02]
	Yes	86	4.87	.605				
Speech or language impairment	No	58	4.83	.621				
					.353	.725	.07	[-.31, .44]
	Yes	52	4.78	.657				
Significant challenging behaviours	No	66	4.78	.621				
					-.574	.567	-.11	[-.49, .27]
	Yes	44	4.85	.661				

Note. Preservice teachers may have experienced more than one disability type in their classes during their professional placement.

***p < .001

These results suggest that experience in teaching students with vision impairment is a strong predictor of positive self- efficacy for Collaboration. This might be because the learning requirements of students with vision impairment necessitate the use of specialist equipment and liaison with other expert professionals who are familiar with the use of such equipment to adapt learning tasks for these students. This supposition requires further exploration through analysis of the qualitative data collected for this research.

4.4.3 Managing Behaviour

Regarding the TEIP factor of Managing Behaviour, the statistical tests again showed that teaching students with vision impairment during preservice teachers' professional placement had a medium positive effect on preservice teachers self-efficacy, which was significant at the p< .05 level (see Table 4.26).

No other variables showed significant differences in the mean self-efficacy scores for the factor of Managing Behaviour but some showed small effect sizes. These variables were age; preservice teachers who were living with disability themselves; the experience of disability through a family member or close friend and the experience of teaching students with different disability types while on professional placement.

Personal attributes – age and gender

Table 4.21 shows no significant differences between the mean self-efficacy scores of preservice teachers who were school leavers (18-23 years) and those who were mature entry (24+ years), nor for gender. The effect size of age was small, indicating that older preservice teachers reported slightly higher levels of self-efficacy for the subscale Managing Behaviour than school leavers. The effect size for gender was very small.

Table 4.21

Self-efficacy for Managing Behaviour by Age and Gender

Variables		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	95% CI
Age	18-23 years	71	4.77	.512	-1.16	.247	-.23	[-.62, .16]
	24+ years	39	4.9	.567				
Gender	Male	22	4.76	.684	-.53	.597	-.12	[-.59, .34]
	Female	88	4.83	.492				

Personal experience of disability

Table 4.22 shows no significant differences between the mean self-efficacy scores of preservice teachers who lived with disability themselves and those who did not. However, the effect size of this variable was medium indicating that those who lived with disability themselves felt less efficacious for the subscale Managing Behaviour.

Table 4.22

Self-efficacy for Managing Behaviour of Preservice Teachers Living with Disability

Variable		*n*	*M*	*SD*	*t* (106)	*p*	Cohen's *d*	
								95% CI
Living with disability	No	97	4.85	.501	1.35	.18	.43	[-.2, 1.1]
	Yes	11	4.62	.772				

Table 4.23 shows no significant differences between self-efficacy scores of preservice teachers who experienced disability through a family member or close friend compared with those who had not. The effect size was small and positive, indicating that those who had personal experience of disability reported slightly higher self-efficacy for the subscale Managing Behaviour.

Table 4.23

Self-efficacy for Managing Behaviour of Preservice Teachers who Experience Disability through Family or Close Friends

Variable		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	
								95% CI
Experience of disability through family or close friends	No	61	4.75	.577	-1.5	.138	-.29	[-.66, .09]
	Yes	49	4.9	.466				

ITE Course type

The results of a one-way ANOVA test showed no significant differences in mean self-efficacy scores for the subscale Managing Behaviour between preservice teachers who were undertaking courses focused on early childhood (n=24), primary (n=51) or secondary teaching (35): F (2, 109) =.38, *p* =.685.

Table 4.24 shows no significant differences between the mean self-efficacy scores of preservice teachers who were undertaking a double degree with disability studies or special education compared to those who were undertaking either an education degree alone or combined with another type of specialisation (e.g., arts, sciences or languages). The effect size was very small.

Table 4.24

Self-efficacy for Managing Behaviour by Course Type

Variable		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	
								95% CI
Double degree with disability studies/special education	No	75	4.84	.576	.774	.440	.16	[-.24, .56]
	Yes	35	4.76	.431				

Professional placement type

The results of a one-way ANOVA test showed no significance differences in mean self-efficacy scores for the subscale Managing Behaviour between preservice teachers who had undertaken their professional placement in an early childhood class (n=40), primary class (n=38) or with secondary classes (n=32): F (2,109) = .952, *p* =.389.

Table 4.25 shows no significant differences for the subscale Managing Behaviour between the mean self-efficacy scores of preservice teachers who had their professional placement in a regular class and those who were placed in a specialist class. The effect size was very small.

Table 4.25

Self-efficacy for Managing Behaviour by Professional Placement in Regular class or Not

Variable		*n*	*M*	*SD*	*t* (107)	*p*	Cohen's *d*	
								95% CI
Regular class	No	25	4.86	.418				
					.404	.687	.09	[-.36, .54]
	Yes	84	4.81	.568				

Professional experience of student with disability

Table 4.26 presents the differences between the mean scores of preservice teachers' self-efficacy for the subscale Managing Behaviour in relation to their experience of students' different disability types while on professional placement. The results showed there was a positive significant effect when preservice teachers had the experience of teaching a student with vision impairment. The effect size was medium, suggesting preservice teachers who had this experience have stronger self-efficacy for managing behaviour.

There were no other significant differences related to the different types of students' disability but there were small effect sizes related to the experiences of teaching students with developmental delay (-.27), physical disability (-.34) and hearing impairment (-.37). Interestingly, there was a very small negative effect of the experience of teaching students with intellectual disability.

Table 4.26

Self-efficacy for Managing Behaviour by Placement Experience of Students' Disability Types

Variable		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	
Students' disability types								95% CI
Developmental delay	No	69	4.76	.554				
					-1.36	.175	-.27	[-.34, .06]
	Yes	41	4.91	.49				
Intellectual disability	No	49	4.86	.516				
					.675	.501	.13	[-.25, .51]
	Yes	61	4.79	.549				
Physical disability	No	92	4.79	.517				
					-1.3	.196	-.34	[-.84, .17]
	Yes	18	4.97	.603				
Hearing impairment	No	90	4.78	.44				
					-1.02 [a]	.319	-.37	[-.84, .12]
	Yes	20	4.98	.831				
Vision impairment	No	96	4.77	.511				
					-2.27	**.025***	**-.65**	[-1.2, -.08]
	Yes	**14**	**5.11**	**.606**				
Autism Spectrum Disorder	No	24	4.77	.583				
					-.529	.598	-.12	[-.58, .33]
	Yes	86	4.83	.521				
Speech or language impairment		58	4.77	.556				
	No				-.959	.34	-.18	[-.56, .19]
	Yes	52	4.87	.507				
Significant challenging behaviours								
	No	66	4.78	.567	-.882	.379	-.17	[-.55 .21]
	Yes	44	4.87	.479				

Note. Preservice teachers may have experienced more than one disability type in their classes during their professional placement.

[a]Equal variances not assumed *df* = 21

* $p < .05$

It was not clear why the experience of teaching students with vision impairment would have significantly positively affected the self-efficacy of preservice teachers for the subscale Managing Behaviour. Perhaps this result was an artefact of the sample group, given the sample size was small (n=15, 13%). It is curious that the experience of teaching students with vision impairment positively affected self-efficacy for disability inclusive teaching across a number of TEIP factors. A larger study specifically inquiring about the effect of teaching students with vision impairment on preservice teachers preparation for disability-inclusive teaching seemed warranted.

4.4.4 Specialised Response

Regarding the TEIP factor of Specialised Response (i.e., designing individualised learning tasks; informing others about laws and policies and dealing with physically aggressive students), the statistical tests showed that undertaking an education degree combined with disability studies or special education significantly positively affected the preservice teachers' self-efficacy scores at the < .001 level, as did the experience of undertaking professional learning in a specialist class. Both of these variables had very large positive effects on self-efficacy for providing a specialised response (see Tables 4.30 and 4.31 respectively). The experience of teaching students with significant challenging behaviours during professional placement also had a significant positive effect on self-efficacy for Specialised Responses at the < .001 level, and the effect size was large. The experience of teaching students with vision impairment had a significant positive effect at the <.01 level, with a very large effect size. The experience of teaching students with developmental delay or autism had a significant medium positive effect at the <.05 level (see Table 4.32). In addition, having experienced disability through a family member or close friend also had a significant positive effect at the $p < .05$, and the effect size was medium (see Table 4.29).

These results suggested that preservice teachers who have had personal experience of disability and have focused specifically on learning more about disability studies, as well as teaching students with disability, felt significantly more efficacious for the subscale Specialised Response than those who did not have this additional knowledge and experience. This was also true for those preservice teachers who had experience teaching students with significant challenging behaviours, vision impairment, developmental delay and autism spectrum disorder irrespective of these experiences being in a regular or specialist classes.

No other variables showed significant differences in the mean self-efficacy scores for the factor of Specialised Response but some showed small effect sizes. These were the personal attributes of age, gender and living with disability, plus the experiences of teaching students with other disability types while on professional placement.

Mature entry preservice teachers, males and those living with disability had stronger self-efficacy for providing a specialised response, along with those who had professional experience teaching students with hearing impairment, physical disability and speech or language impairment.

Personal attributes – age and gender

Table 4.22 shows no significant differences for the subscale Specialised Response between the mean self-efficacy scores of preservice teachers who were school leavers (18-23 years) and those who were mature entry (24+ years), nor based on gender. The effect size of age was small, indicating that older preservice teachers reported slightly higher levels of self-efficacy for providing a specialised response than school leavers. The effect size for gender was also small, indicating that males reported slightly higher levels of self-efficacy for providing a specialised response.

Table 4.27

Self-efficacy for Specialised Response by Age and Gender

Variables		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	95% CI
Age	18-23 years	71	4.34	.757	-1.39	.167	-.28	[-.66, .12]
	24+ years	39	4.56	.915				
Gender	Male	22	4.59	.885	1.11	.271	.26	[-.20, .74]
	Female	88	4.38	.802				

Personal experience of disability

Table 4.28 shows no significant differences between the mean self-efficacy scores of preservice teachers who lived with disability themselves and those who did not for the subscale Specialised Response. The effect size of this variable was medium indicating that those preservice teachers who lived with disability felt more efficacious for providing a specialised response than their peers without disability.

Table 4.28

Self-efficacy for Specialised Response of Preservice Teachers Living with Disability

Variable		*n*	*M*	*SD*	*t* (106)	*p*	Cohen's *d*	95% CI
Living with disability	No	97	4.38	.789	-1.32	.189	-.42	[-1.0, .21]
	Yes	11	4.73	1.08				

Table 4.29 shows there were significant differences between self-efficacy scores of preservice teachers who experienced disability through a family member or close friend compared with those who had not. The effect size was medium and positive, indicating that those who had this personal experience of disability reported stronger self-efficacy for providing a specialised response to students with disability than those without this personal experience.

Table 4.29

Self-efficacy for Specialised Response of Preservice Teachers who Experience Disability through Family or Close Friends

Variable		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	95% CI
Experience of disability through family or close friends	No	61	4.22	.809	-2.95	**.004****	**-.57**	[-.95, -.18]
	Yes	**49**	**4.67**	**.77**				

** $p < .01$

ITE Course type

The results of a one-way ANOVA test showed no significant differences in mean self-efficacy scores for the subscale Specialised Response between preservice teachers who were undertaking courses focused on early childhood (n=24), primary (n=51) or secondary teaching (35): F (2, 109) = .354, p =.703.

Table 4.30 presents results showing significant differences between the mean self-efficacy scores of preservice teachers who were undertaking a double degree with disability studies or special education

compared to those who were undertaking either an education degree alone or combined with another type of specialisation (e.g., arts, sciences or languages) for the subscale Specialised Response at the <.001 level with a very large effect size. Those who were combining education with disability studies or special education reported much higher levels of self-efficacy for providing a specialised response.

Table 4.30

Self-efficacy for Specialised Response by Course Type

Variable		*n*	*M*	*SD*	*t* (98)	*p*	Cohen's *d*	95% CI
Double degree with disability studies/special education	No	75	4.19	.831	-5.56	**<.001*** **	**-.97**	[-1.4, -.54]
	Yes	**35**	**4.91**	**.526**				

Note. Equal variances not assumed df = 98
***p < .001

Professional placement

The results of a one-way ANOVA test showed no significance differences at the <.05 level for self-efficacy for the subscale Specialised Response between the mean self-efficacy scores of preservice teachers who had undertaken their professional placement in an early childhood class (n=40), primary class (n=38) or with secondary classes (n=32): F (2,109) = .239, p =.788.

Table 4.31 shows significant differences for the subscale Specialised Response between the mean self-efficacy scores of preservice teachers who had their professional placement in a regular class and those who were placed in a specialist class, with a very large effect size. As would be expected, those preservice teachers who were placed in a specialist class reported much higher self-efficacy for a Specialised Response than preservice teachers in regular classes.

Table 4.31

Self-efficacy for Specialised Response by Professional Placement in Regular class or Not

Variable		*n*	*M*	*SD*	*t* (64)	*p*	Cohen's *d*	95% CI
Regular class	**No**	**25**	**4.96**	**.512**				
					5.24	**<.001*** **	**.93**	[.47, 1.4]
	Yes	84	4.25	.823				

Note. Equal variances not assumed df = 64
***p < .001

Professional experience of student with disability

The differences between the mean scores of preservice teachers' self-efficacy for the subscale Specialised Response were also examined in relation to their experience of students' different disability types while on professional placement. The results are presented in Table 4.32. Significant differences were found at the < .001 level between those who had experienced teaching students with significant challenging behaviours and those who had not. This effect size was large. There were also significant differences at the < .05 level for preservice teachers who had experienced teaching students with vision impairment, with a very large effect size, and for those who experienced teaching students with developmental delay or autism, with medium effect size. In all instances those preservice teachers who had these experiences reported higher self-efficacy scores.

There were no other significant differences based on the students' disability types but there were small to medium effect sizes related to the experiences of teaching students with speech or language impairment (-.22) hearing impairment (-.20) and physical disability (-.42).

Table 4.32

Self-efficacy for Specialised Response by Placement Experience of Students' Disability Types

Variable		*n*	*M*	*SD*	*t* (108)	*p*	Cohen's *d*	
Students' disability types							95% CI	
Developmental delay	No	69	4.29	.803	-2.25	**.026***	**-.44**	[-.83, -.04]
	Yes	**41**	**4.64**	**.808**				
Intellectual disability	No	49	5.05	.73	-.833 [a]	.406	-.16	[-.53, .22]
	Yes	61	4.48	.887				
Physical disability	No	92	4.36	.826	-1.63	.106	-.42	[-.93, .09]
	Yes	18	4.70	.74				
Hearing impairment	No	90	4.39	.725	-.794	.429	-.20	[-.68, .29]
	Yes	20	4.55	1.17				
Vision impairment	No	96	4.33	.809	-3.2	**.002****	**-.92**	[-1.5, -.34]
	Yes	**14**	**5.05**	**.597**				
Autism Spectrum Disorder	No	24	4.13	.785	-2.01	**.047***	**-.46**	[-.92, -.01]
	Yes	**86**	**4.5**	**.815**				
Speech or language impairment								
	No	58	4.33	.824	-1.15	.253	-.22	[-.59, .16]
	Yes	52	4.51	.812				
Significant challenging behaviours								
	No	66	4.20	.795	-3.57	**< .001*****	**-.69**	[-1.08, -.30]
	Yes	**44**	**4.74**	**.754**				

Note. Preservice teachers may have experienced more than one disability type in their classes during their professional placement.

[a]Equal variances not assumed *df* = 107.9

*p < .05, **p < .01, ***p < .001

These results suggest that having the practical experience of working with students with significant challenging behaviours (including physical aggression) positively influences the self-efficacy of preservice teachers for providing disability-inclusive education. Self-efficacy for designing learning tasks so that the individual requirements of students with disabilities are accommodated was positively affected by the experience of teaching students with vision impairment and students with developmental delay. Overall, these results imply that experience in teaching students with disability while on professional placement improves self-efficacy for disability-inclusive education. One would expect this was achieved for the preservice teachers involved in this research through mastery and vicarious learning experiences, which Bandura (1997) emphasised as important influences in the development of self-efficacy for specific tasks.

4.5 Analyses of Graduate Standards Readiness scale

This second scale of the on-line survey was developed to measure preservice teachers' perceived readiness to practice specific aspects of the Australian Professional Standards for Teachers—those that were relevant to teaching students with disability (i.e., Standards 1.5 and 1.6), at the graduate level. The six questions provided a four-point Likert-type scale for preservice teachers to indicate whether they felt very ready, somewhat ready, not really ready or not at all ready for providing these aspects of disability-inclusive education.

The total number of responses received for each of the six readiness questions varied from 77 to 71 (N=115, 67-62%). As previously explained, approximately one third of the data were missing from this section of the survey (Part 3) because the first cohort of preservice teachers from 2018 (n=38) were not provided with the option to answer the questions using a scale format—they were able to provide comments only. In addition, there were some incomplete surveys, so the response numbers for each question differed.

Table 4.33 provides a summary of the central tendency statistics for each of the six professional practice domains. The scale ranged from (1) *not at all ready* to (4) *very ready*, with a median point of 2.50. The vast majority of survey participants reported being either *very ready* or *somewhat ready* to practice these professional standards. This meant the data were highly positively skewed towards readiness. Therefore, the responses were reclassified into two levels only for analyses—*very ready* or *less ready*.

Table 4.33

Central Tendency Statistics for Readiness to Practice Graduate Standards for Teachers

Domain of readiness	No. responses	Missing responses	Mean	Median
Differentiate the curriculum	77	38	3.44	3
Practice teachers' legal obligations related to students with disability	75	40	3.35	3
Find and learn new disability specific information, if required	74	41	3.39	3
Seek specialist assistance to assist teaching students with disability in regular classes	74	41	3.26	3
Liaise with other professionals to include students with disability in regular classes	72	43	3.49	4
Communicate with parents and carers of students with disability	71	44	3.32	3

Statistical tests were undertaken using a Chi square test of independence for all six readiness domains against the nine independent variables. The Chi square test of independence was the most appropriate test to use because this scaled data was nominal and non-parametric. Significance was determined by a value of X^2<.05 and the effect sizes were categorised according to Cohen's criteria for *phi*, which defines 2 by 2 tables and 2 by 3 tables as .10 = small; .30 = medium; .50 = large (Pallant 2013).

Due to the volume of data tested, only results that showed small, medium or large effects, some of which were also statistically significant, have been reported. Variables showing a small, medium or large effect size are highlighted in bold, and those that are statistically significant have been highlighted coloured orange for ease of reference. Missing data have been excluded.

4.5.1 Differentiate the Curriculum

A total of 77 responses were received for the question on readiness related to differentiating the curriculum. The mean response was a readiness level of 3.44 out of 4. The analysis of data using two levels showed that an approximately equal number of respondents were either very ready (n=38; 50.6%) or less ready (n=39; 49.4%) to differentiate the curriculum. Of those who felt less ready, only four (5.2%) said they were not really ready (i.e., a score of 2).

This readiness domain is related to both the TEIP factor of inclusive instruction and the individual TEIP item of designing learning tasks so that the individual needs of students with disabilities are accommodated (which was included in the factor of Specialised Response). Corroborating with the high level of readiness reported for differentiating the curriculum, the factor of Inclusive Instructions had the highest mean score

of the TEIP factors (5.02 out of 6) and designing individualised learning tasks had the highest mean score of the three items that made up the factor of Specialised Response (4.93 out of 6). Collectively, these results suggest that the preparation of preservice teachers to adapt the curriculum to meet individual student's needs is an aspect of disability-inclusive teaching being emphasised strongly in their ITE programs.

The experience of teaching students with disability while on professional placement had the most significant effect on preservice teachers preparation for differentiating the curriculum (as it did also for preservice teachers' self-efficacy in Inclusive Instructions and Specialised Response). In particular, teaching students with autism (p<.001), developmental delay (p< .01)and vision impairment (p< .02) were statistically significant predictors of readiness to differentiate the curriculum. The results for each disability type are presented in Table 4.40.

The only other independent variable which had a statistically significant effect on differentiating the curriculum was undertaking a disability studies or special education degree combined with education, as shown in Table 4.34. This group of preservice teachers felt more ready to differentiate the curriculum with a small positive effect size: $X^2(1, N = 77) = 4.6$, ***p* = .03, *phi* = .25**, 95% CI (.02, .45).

Table 4.34

Readiness to Differentiate the Curriculum by Course Type

Disability Studies/ Special Education	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
No	33	**84.6**	24	63.2	57	74
Yes	6	15.4	14	**36.8**	20	26
Total	39	100	38	100	77	100

Table 4.35 presents the Chi-square test results in relation to gender and shows no statistical significance for this variable: $X^2(1, N = 77) = .93$, $p = .34$, ***phi* = -.11**, CI (-.33, .12). A small effect was found indicating that females felt less ready to differentiate the curriculum than males.

Table 4.35

Readiness to Differentiate the Curriculum by Gender

Gender	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Male	5	12.8	8	**21.1**	13	16.9
Female	34	**87.2**	30	78.9	64	83.1
Total	39	100	38	100	77	100

Note. One respondent indicated their gender was indeterminate, intersex or unspecified and has not been included in these statistics.

Table 4.36 presents the Chi-square test results related to preservice teachers with disability themselves and shows no statistical significance for this variable: $X^2(1, N = 77) = 1$, $p = .31$, ***phi* = .12**, CI (-.11, .33). There was a small effect indicating that preservice teachers with disability felt more ready to differentiate the curriculum than their peers without disability.

Table 4.36

Readiness to Differentiate the Curriculum by Living with Disability

Living with disability themselves	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
No	35	**89.7**	31	81.6	66	85.7
Yes	4	10.3	7	**18.4**	11	14.3
Total	39	100	38	100	77	100

Table 4.37 presents Chi-square test results that show no statistical significance associated with the year level focus of the teaching course: $X^2(2, N = 77) = 1.3$, $p = .53$, ***phi* = .13**, CI (.04, .37). There was a small positive effect indicating that those who were studying primary teaching felt more ready to differentiate the curriculum than those studying early childhood. However the effect for those studying secondary teaching was not notably different to that of those studying primary teaching. This result concurs with the t-test results showing that early childhood preservice teachers felt less efficacious for Inclusive Instructions.

Table 4.37

Readiness to Differentiate the Curriculum by Year Level of ITE Course

Year level focus of the ITE course	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Early childhood	10	**25.6**	6	15.8	16	20.8
Primary	15	38.5	18	**47.4**	33	42.9
Secondary	14	35.9	14	36.8	28	36.3
Total	39	100	38	100	77	100

Table 4.38 presents Chi-square test results that show no statistical significance associated with the preservice teachers' year levels of teaching during their final professional placement and readiness to differentiate the curriculum: $X^2(2, N = 77) = 1.3$, p = .53, **phi = .13**, CI (.04, .38). There was a small positive effect size indicating that those who had placements in primary classes felt more ready to differentiate the curriculum than those who had professional experiences in either early childhood or secondary classes.

Table 4.38

Readiness to Differentiate the Curriculum by Year Level of Final Professional placement

Year level focus of professional placement	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Early childhood	15	**38.5**	11	28.9	26	33.8
Primary	11	28.2	15	**39.5**	26	33.8
Secondary	13	**33.3**	12	31.6	25	32.4
Total	39	100	38	100	77	100

Although the results presented in Tables 4.37 and 4.38 did not show statistical significance, there was an inference suggesting that differentiating the curriculum for students with disability may not be as strong a focus of the universities' early childhood curriculum as it is of the primary teaching curriculum. This idea was followed up further by reviewing the course documents (see chapter five, section 5.3).

Table 4.39 presents Chi-square test results that show no statistical significance associated with special class professional placement and readiness to differentiate the curriculum: $X^2(1, N = 76) = 3.6$, $p = .06$, ***phi* = -.22**, CI (-.42,.01). There was a small positive effect for those preservice teachers who had a specialist class placement compared to those who had their professional placement experience in regular classes.

Table 4.39

Readiness to Differentiate the Curriculum by Regular Class Placement or Not

Placement in regular class	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
No	4	10.3	10	**27**	14	18.4
Yes	35	**89.7**	27	73	62	81.6
Total	39	100	37	100	76	100

Note. 76 responses were received for this readiness question

As mentioned, the preservice teachers' experiences of teaching students with different types of disability during their final professional placement had a significant effect on their readiness to differentiate the curriculum The Chi-square test results are presented in Table 4.40 for each type of disability. There was a significant association in readiness when the preservice teachers experienced teaching students with developmental delay: $X^2(1, N = 77) = 7.0$, ***p* = .01, *phi* = .30**, CI (.08, .51), vision impairment: $X^2(1, N = 77) = 5.4$, ***p* = .02, *phi* = .27**, CI (.06, .44) and autism. The effect size in these cases was positive and medium to large but teaching autistic students had the largest effect with the most statistically significant association:

X^2(1, N = 77) = 14, ***p = <.001, phi = .42***, CI (.25, .57). There was also a small positive effect on readiness for differentiating the curriculum when the preservice teachers experienced teaching students with physical disability: X^2(1, N = 77) = 1.5, *p* = .22, ***phi* = .14**, CI (-.09, .35) or significant challenging behaviours: X^2(1, N = 77) = 1.6, *p* = .21, ***phi* = .14**, CI (-.08, .36) but these associations were not significant.

Table 4.40

Readiness to Differentiate the Curriculum by Placement Experience of Teaching Students with Disability

Students' disability types	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Developmental delay (*p* =.01)	10	25.6	21	**55.3**	31	40.3
Vision impairment (*p* =.02)	2	5.1	9	**23.7**	11	14.3
Autism Spectrum Disorder (*p<.001*)	25	64.1	37	**97.4**	62	80.5
Physical disability	5	12.8	9	**23.7**	14	18.2
Significant challenging behaviours	13	33.3	18	**47.4**	31	40.3

Note. N= 77. Preservice teachers may have experienced more than one disability type in their classes during their professional placement.

Together, these findings indicate that gaining additional knowledge about students with disability through the university teaching course (both in theory and during professional placement) assists preservice teachers to feel more ready to differentiate the curriculum.

4.5.2 Practice teachers' legal obligations

A total of 75 responses were received for the question related to readiness for practicing teachers' legal obligations related to students with disability. The mean response was 3.35. The analysis of data using two levels showed more respondents felt less ready (n=43; 57.3%) than those who felt very ready (n=32; 42.7%). Of those who felt less ready, six respondents (8%) said they were not really ready (i.e., score of 2) for this aspect of their professional practice.

Table 4.41 presents Chi-square test results that show no statistical significance associated with gender: X^2(1, N = 75) = .80, *p* =.37, ***phi* = -.10**, 95% CI (-.32, .13). There was a small effect indicating that more male respondents were very ready to practice their legal obligations related to teaching students with disability than females.

Table 4.41

Readiness to Practice teachers' legal obligations by Gender

Gender	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Male	6	14	7	**21.9**	13	17.3
Female	37	**86**	25	78.1	62	82.7
Total	43	100	32	100	75	100

Note. One respondent indicated their gender was indeterminate, intersex or unspecified and has not been included in these statistics.

Table 4.42 presents Chi-square test results that show no statistical significance associated with the type of ITE course undertaken and readiness to practice teachers' legal obligations related to students with disability: $X^2(1, N = 75) = 1.7$, p = .19, ***phi* = .15**, 95% CI (-.08, .37). There was a small positive effect if the preservice teacher had combined their education degree with disability studies or special education rather than undertaking an education degree alone or a double degree combined with a non-disability related specialisation, for example, arts or sciences.

Table 4.42

Readiness to Practice teachers' legal obligations by ITE Course Type

Disability Studies/ Special Education	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
No	34	**79.1**	21	65.6	55	73.3
Yes	9	20.9	11	**34.4**	20	26.7
Total	43	100	32	100	75	100

Table 4.43 presents Chi-square test results that show no statistically significant association between the year level focus of the ITE course and readiness to practice teachers' legal obligations: $X^2(2, N = 75) = 4.6$, $p = .53$, ***phi* = .25**, 95% CI (.08, .47). There was a small to medium effect indicating that preservice teachers who were undertaking courses with a focus on secondary teaching felt more ready to practice their legal obligations related to students with disability than those who were undertaking courses in early childhood or primary teaching. Notably, the greatest variance was with preservice teachers who had a focus on early childhood teaching.

Table 4.43

Readiness to Practice teachers' legal obligations by Year Level of ITE Course

Year level focus of the ITE course	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Early childhood	12	**27.9**	4	12.5	16	21.3
Primary	20	**46.5**	13	40.6	33	44
Secondary	11	25.6	15	**46.9**	26	34.7
Total	43	100	32	100	75	100

Table 4.44 presents Chi-square test results that show a statistically significant association between the year levels taught during the final professional placement and readiness to practice teachers' legal obligations: $X^2(2, N = 75) = 6.5$, ***p* = .04, *phi* = .29**, CI (.12, .51). There was a medium effect size for this variable implying that those who had experienced their final professional placement in secondary or primary classes felt more ready to practice their legal obligations than those who had their placement in an early childhood class.

These results again prompted a review of the course topics information to understand how much content related to disability and inclusive education policy was being presented within the early childhood ITE program.

Table 4.44

Readiness to Practice teachers' legal obligations by Year Level of Placement

Year level focus of professional placement	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Early childhood	20	**46.5**	6	18.8	26	34.7
Primary	13	30.2	13	**40.6**	26	34.7
Secondary	10	23.3	13	**40.6**	23	30.6
Total	43	100	32	100	75	100

Table 4.45 presents Chi-square test result showing that the experience of teaching autistic students during the preservice teachers' final professional placement was significantly associated with readiness to practice teachers' legal obligations related to students with disability, with a small to medium positive effect size: $X^2(1, N = 75) = 3.9$, ***p* = .047, *phi* = .23**, CI (01, 41). Other small positive effects were found to be associated with the disability types of hearing impairment: $X^2(1, N = 75) = .80$, $p = .37$, ***phi* = .10**, CI (-.13, .33) and significant challenging behaviours: $X^2(1, N = 75) = 3.0$, $p = .08$, ***phi* = .20**, CI (-.03, 4.2). Interestingly, a small

negative effect was found when preservice teachers had the experience of teaching students with speech or language impairment: $X^2(1, N = 75) = 1.4$, $p = .24$, ***phi* = -.14**, CI (-.36, .09). However, the association of these three latter disability types with preservice teacher readiness for practicing legal obligations was not significant.

Table 4.45

Readiness to Practice teachers' legal obligations by Placement Experience of Teaching Students with Disability

Students' disability types	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Autism Spectrum Disorder (*p* = .047)	31	72.1	29	**90.6**	60	80
Hearing impairment	6	14	7	**21.9**	13	17.3
Speech or language impairment	26	**60.5**	15	46.9	41	54.7
Significant challenging behaviours	13	30.2	16	**50**	29	38.7

Note. N=75. Preservice teachers may have experienced more than one disability type in their classes during their professional placement.

4.5.3 Find and learn new disability specific information, if required

A total of 74 responses were received for the question related to readiness to find and learn disability specific information, if required. The mean response was 3.39 out of 4. Analysis of the data using two levels showed that more respondents felt less ready (n=40; 54.1%) than those who felt very ready (n=34; 45.9%). Of those who felt less ready, five respondents (6.8%) said they were not really ready to perform this task, if required (i.e., a score of 2).

Tables 4.46 and 4.47 present Chi-square test results that show no statistically significant association between age or gender on preservice teachers' readiness to find and learn new disability specific information. There was a small positive effect for age: $X^2(1, N = 74) = 1$, $p = .32$, ***phi* = .12**, CI (-.21, .35), as well as a small positive effect for gender: $X^2(1, N = 74) = .89$, $p = .35$, ***phi* = -.11,** 95% CI (-.33, .12) indicating that preservice teachers who began their ITE course as a mature entry person felt more ready to find and learn new disability specific information than school leavers, and more males were very ready to do so than females.

Table 4.46

Readiness to Find and learn new disability specific information by Age

Age	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
18-23[a]	28	**70**	20	58.8	48	64.9
24+ years[b]	12	30	14	**41.2**	26	35.1
Total	40	100	34	100	74	100

[a] school leavers
[b] mature entry

Table 4.47

Readiness to Find and learn new disability specific information by Gender

Gender	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Male	5	12.5	7	**20.6**	12	16.2
Female	35	**87.5**	27	79.4	62	83.8
Total	40	100	34	100	74	100

Note. One respondent indicated their gender was indeterminate, intersex or unspecified and has not been included in these statistics.

Table 4.48 presents Chi-square test results that show a significant positive association between combining an education degree with disability studies or special education and preservice teachers readiness to find and learn new disability information with a small effect size: $X^2(1, N = 74) = 4$, ***p* = .045, *phi* = .23**, 95% CI (.01, .46).

Table 4.48

Readiness to Find and learn new disability specific information by Course Type

Disability Studies/ Special Education	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
No	33	**82.5**	21	61.8	54	73
Yes	7	17.5	13	**38.2**	20	27
Total	40	100	34	100	74	100

Table 4.49 presents Chi-square test results that show no statistically significant association between the year level of preservice teachers' final professional placement and their readiness to find and learn new disability specific information: $X^2(2, N = 74) = 5$, $p = .08$, ***phi* = .26**, CI (.08, .5). There was a small to medium

effect of this variable indicating that preservice teachers who had their professional experience in primary classes felt more ready to find and learn new disability specific information than those who had experienced early childhood classes. The difference for those who taught in secondary classes was not notable.

Table 4.49

Readiness to Find and learn new disability specific information by Year Level of Placement

Year level focus of professional placement	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Early childhood	18	**45**	8	23.5	26	35.1
Primary	10	25	16	**47.1**	26	35.1
Secondary	12	30	10	29.4	22	29.8
Total	40	100	34	100	74	100

Table 4.50 presents Chi-square test results that show no statistically significant association between preservice teachers who had their final professional placement in a specialist class rather than a regular class and their readiness to find and learn new disability specific information: $X^2(1, N = 73) = 1.7$, $p = .19$, ***phi* = -.15**, CI (-.37, .08). There was a small effect indicating that those who had their placement in a specialist class were more ready to find and learn new disability specific information.

Table 4.50

Readiness to Find and Learn new Disability Specific Information by Regular Class Placement or not

Placement in regular class	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
No	5	12.5	8	**24.2**	13	17.8
Yes	35	**89.7**	25	73	60	81.6
Total	40	100	33	100	73	100

Note. 73 responses were received for this readiness question due to one incomplete survey

Table 4.51 presents Chi-square test results showing no statistical significance associated with the practical experience of teaching students with disability that affected preservice teachers' readiness to find and learn new disability specific information. There were small positive effects associated with the experience of teaching students with developmental delay: $X^2(1, N = 74) = 2.3$, $p = .13$, ***phi* = .18**, CI (-.05, .40), vision impairment: $X^2(1, N = 74) = 1.6$, $p = .20$, ***phi* = .15**, CI (-.09, .36), autism spectrum disorder: $X^2(1, N = 74) = 1.2$, $p = .27$, ***phi* = .13**, CI (-.10, .33) and significant challenging behaviours: $X^2(1, N = 74) = 2.3$, $p = .13$, ***phi* = .18**, CI (-.05, .40).

Table 4.51

Readiness to Find and learn new disability specific information by Placement Experience of Teaching Students with Disability

Students' disability types	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Developmental delay	12	30	16	**47.1**	28	37.8
Vision impairment	4	10	7	**20.6**	11	14.9
Autism Spectrum Disorder	30	75	29	**85.3**	59	79.7
Significant challenging behaviours	12	30	16	**47.1**	28	37.8

Note. N= 74. Preservice teachers may have experienced more than one disability type in their classes during their professional placement.

4.5.4 Seek specialist assistance

A total of 74 responses were received for the question related to seeking specialist assistance when teaching students with disability in regular classes. The mean score was 3.26 out of 4. The analysis of the data using two levels showed that fewer respondents were very ready (n=27; 36.5%) to seek specialist assistance compared to those who felt less ready (n=47; 63.6%). Of those who felt less ready, six respondents (8.1%) said they were not really ready (i.e., a score of 2), and one respondent (1.4%) was not at all ready (i.e., a score of 1). This was the most variance of all six domains of readiness.

Table 4.52 presents Chi square test results that show a significant association with the type of disabilities that the preservice teachers' encountered during their final professional placement and their readiness to seek specialist assistance. The experience of teaching students with physical disability: $X^2(1, N = 74) = 4.3$, ***p* = .04, *phi* = .24**, CI (-.00, .46) and those with vision impairment: $X^2(1, N = 74) = 7.3$, ***p* = .01, *phi* = .32**, CI (.07, .53) had a significant positive effect with small to medium effect size. There were also smaller positive effects associated with the experience of teaching students with developmental delay: $X^2(1, N =74) = 3.6$, $p = .06$, ***phi* = .22**, CI (-.02, .45) and speech or language impairment: $X^2(1, N = 74) = 1.4$, $p = .24$, ***phi* = .14**, CI (-.09, .36) but without significance.

Table 4.52

Readiness to Seek Specialist Assistance by Placement Experience of Teaching Students with Disability

Students' disability types	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Physical disability (*p*=.04)	5	10.6	18	**29.6**	13	17.6
Vision impairment (*p* = .01)	3	6.4	8	**29.6**	11	14.9
Developmental delay	14	29.8	14	**51.9**	28	37.8
Speech or language impairment	23	48.9	17	**63**	40	54.1

Note. N=74. Preservice teachers may have experienced more than one disability type in their classes during their professional placement.

Table 4.53 presents Chi-square test results showing no statistical significance associated with the year levels of the preservice teachers' final professional placements and their readiness to seek specialist assistance: $X^2(2, N = 74) = .75$, $p = .69$, ***phi* = .1**, CI (.04, .36). There was a small positive effect indicating that preservice teachers who had their experience in primary classes felt more ready to seek specialist assistance than those who had their experience in secondary classes, but there were no notable differences in the levels of readiness of those who had their professional experience in early childhood classes.

Table 4.53

Readiness to Seek Specialist Assistance by Year Level of Placement

Year level focus of professional placement	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Early childhood	16	34	9	33.3	25	33.8
Primary	15	32	11	**40.7**	26	35.1
Secondary	16	**34**	7	26	23	31.1
Total	47	100	27	100	74	100

4.5.5 Liaise with other professionals

A total of 72 responses were received for the question related to liaising with other professionals to include students with disability in regular classes. The mean score was 3.49 out of 4. The analysis of the data using two levels showed that an approximately equal number of respondents were very ready (n=37; 51.4%) or less ready (n=35; 48.6%). Of those who felt less ready, two respondents (2.8%) said they were not really ready (i.e., a score of 2).

Table 4.54 presents Chi-square test results showing no statistical significance associated with the year levels taught during the preservice teachers' final professional placement and their readiness to liaise with other professionals: $X^2(2, N = 72) = 5.2$, $p = .07$, ***phi* = .27**, CI (.09, .5). There was a medium positive effect indicating those who had experience in primary classes felt more ready than those who were placed in early childhood or secondary classes.

Table 4.54

Readiness to Liaise with Other Professionals by Year Level of Placement

Year level focus of professional placement	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Early childhood	15	**42.9**	10	27	25	34.7
Primary	8	22.9	18	**48.6**	26	36.1
Secondary	12	**34.2**	9	24.4	21	29.2
Total	35	100	37	100	72	100

Table 4.55 presents Chi-square test results that show preservice teachers' experience of students with disability while on their final professional placement had a positive effect on their readiness to liaise with other professionals. The association was significant when they experienced teaching students with vision impairment: $X^2(1, N = 72) = 4.8$, ***p* = .03, *phi* = .26**, CI (.05, .44). The effect size was small. The effect of this variable was also present but smaller and not significant when they had taught students with autism spectrum disorder: $X^2(1, N = 72) = 3.6$, $p = .06$, ***phi* = .23**, CI (-.01, .43), physical disability: $X^2(1, N = 72) = 2.0$, $p = .16$, ***phi* = .17**, CI (-.07, .38) and developmental delay: $X^2(1, N = 72) = 1.6$, ***p* = .21**, *phi* = .15, CI (-.09, .37).

Table 4.55

Readiness to Liaise with Other Professionals by Placement Experience of Teaching Students with Disability

Students' disability types	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Vision impairment (*p* = .03)	2	5.7	9	**24.3**	11	15.3
Autism spectrum disorder	25	71.4	33	**89.2**	58	80.6
Physical disability	4	11.4	9	**24.3**	13	18.1
Developmental delay	11	31.4	17	**45.9**	28	38.9

Note. N=72. Preservice teachers may have experienced more than one disability type in their classes during their professional placement.

Table 4.56 presents Chi-square test results showing no statistical significance associated with preservice teachers personal experience of disability through a family member or close friend on their readiness to liaise with other professionals: $X^2(1, N = 72) = 2.0$, $p = .16$, ***phi* = .17**, 95% CI (-.07, .39). There was a small positive effect found indicating that those with this experience were more ready than those without.

Table 4.56

Readiness to Liaise with Other Professionals by Experience of Disability through Family or Close Friend

Experience of disability through family or close friend	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
No	21	**60**	16	43.2	37	51.4
Yes	14	40	21	**56.8**	35	51.4
Total	35	100	37	100	72	100

Table 4.57 presents Chi-square test results showing no statistical significance associated with the type of course the preservice teachers were undertaking and their readiness to liaise with other professionals: $X^2(1, N = 72) = 1.4$, $p = .23$, ***phi* = .14**, 95% CI (-.1, .35) There was a small positive effect found indicating that those who had combined their degree with disability studies or special education were more ready than those who had not.

Table 4.57

Readiness to Liaise with Other Professionals by Course Type

Disability Studies/ Special Education	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
No	28	**80**	25	67.6	53	72.9
Yes	7	20	12	**32.4**	19	27.1
Total	35	100	37	100	72	100

These findings suggest that personal experience of disability, as well as gaining additional disability knowledge through university (both in theoretical terms and through practical experience) assists preservice teachers to feel very ready to liaise with other professionals when teaching students with disability in regular classes. In addition, those who had the opportunity to practice teaching in primary classes indicated they felt more ready to liaise with other professionals than those who had early childhood or secondary class experiences.

4.5.6 Communicate with parents and carers of students with disabilities

A total of 71 responses were received for the question related to communicating with parents and carers of students with disability. The mean score was 3.32 out of 4. The analysis of the data using two levels of readiness showed that many more respondents felt less ready (n=45; 63.4%) compared to respondents who felt very ready (n=26; 36.6%) to communicate with parents and carers of students with disability. Of those who felt less ready, three respondents (4.2%) said they were not really ready (i.e., a score of 2).

Table 4.58 presents Chi-square test results that show a significant positive association between the year level of professional placement and readiness to communicate with parents and carers, with a medium effect size: $X^2(2, N = 71) = 6.3$, ***p* = .04, *phi* = .30**, CI (11, .54). Those who had the opportunity to practice teaching in primary classes felt more ready to communicate with parents and carers of students with disability than those who practiced teaching in early childhood or secondary classes.

Table 4.58

Readiness to Communicate with Parents and Carers of Students with Disability by Year Level of Placement

Year level focus of professional placement	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Early childhood	19	**42.2**	6	23.1	25	35.2
Primary	11	24.4	14	**53.8**	25	35.2
Secondary	15	**33.4**	6	23.1	21	29.6
Total	45	100	26	100	71	100

The Chi-square test results showed no statistically significant association between the practical experience of teaching students with disability while on professional placement and the readiness of preservice teachers to communicate with parents and carers of students with disability. There were small positive effects when teaching students from five of the eight disability types. These were:

Developmental delay: $X^2(1, N = 71) = 2.5$, $p = .11$, ***phi* = .19**, CI (-.05, .42)

Hearing impairment: $X^2(1, N = 71) = 2.9$, $p = .09$, ***phi* = .20**, CI (-.05, .44)

Autism Spectrum Disorder: $X^2(1, N = 71) = 1.7$, $p = .19$, ***phi* = .16**, CI (-.07, .35)

Speech or language impairment: $X^2(1, N = 71) = 1.1$, $p = .30$, ***phi* = .12**, CI (-.11, .36)

Significant challenging behaviours: $X^2(1, N = 71) = 1.6$, $p = .21$, ***phi* = .15**, CI (-.08, .38)

Of interest, there was a small negative effect when the preservice teachers experienced teaching students with intellectual disability: $X^2(1, N = 71) = 1.0$, $p = .32$, ***phi* = -.12**, CI (-.36, .11).

Table 4.59

Readiness to Communicate with Parents and Carers of Students with Disability by Placement Experience of Teaching Students with Disability

Students' disability types	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Developmental delay	14	31.1	13	**50**	27	38
Intellectual disability	28	**62.2**	13	50	41	57.7
Hearing impairment	5	11.1	7	**26.9**	12	16.9
Autism spectrum disorder	34	75.6	23	**85.5**	57	80.3
Speech or language impairment	22	48.9	16	**61.5**	38	53.5
Significant challenging behaviours	14	31.1	12	**46.2**	26	36.6

Note. N = 71. Preservice teachers may have experienced more than one disability type in their classes during their professional placement.

Table 4.60 presents Chi-square test results showing no statistical significance associated with gender: X^2(1, N = 71) = .84, p = .36, ***phi* = .11**, CI (-.13, .31). There was a small effect indicating that males felt less ready to communicate with parents and carers than females.

Table 4.60

Readiness to Communicate with Parents and Carers of Students with Disability by Gender

Gender	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
Male	9	**20**	3	11.5	12	52.9
Female	36	80	23	**88.5**	59	47.1
Total	45	100	26	100	71	100

Note. One respondent indicated their gender was indeterminate, intersex or unspecified and has not been included in these statistics.

Table 4.61 presents Chi-square test results showing no statistical significance associated with having experience of disability through a family member or close friend and readiness to communicate with parents and carers of students with disability: X^2(1, N = 71) = .1.6, p = .21, ***phi* = .15**, 95% CI (-.09, .38). There was a small positive effect indicating that those with this experience were more ready than those without.

Table 4.61

Readiness to Communicate with Parents and Carers of Students with Disability by Experience of Disability through Family or Close Friend

Experience of disability through family or close friend	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
No	26	**57.8**	11	42.3	37	52.1
Yes	19	42.2	15	**57.7**	34	47.9
Total	45	100	26	100	71	100

Table 4.62 presents Chi-square test results showing no statistical significance associated with combining an education degree with disability studies or special education on readiness to communicate with parents and carers of students with disability: $X^2(1, N = 71) = 2.9$, $p = .09$, ***phi* = .20**, 95% CI (-.04, .43). There was a small to medium positive effect when preservice teachers had done so.

Table 4.62

Readiness to Communicate with Parents and Carers of Students with Disability by Course Type

Disability Studies/ Special Education	Less ready		Very ready		Total	
	n	%	*n*	%	*n*	%
No	36	**80**	16	61.5	52	72.9
Yes	9	20	10	**38.5**	19	27.1
Total	45	100	26	100	71	100

Overall, these findings suggest that if preservice teachers draw on their personal experiences of disability, as well as their specialist disability skills, which they are learning through more content related to disability studies or special education, as well as the experiences they gain through teaching students with disability while on their professional placements, they are more ready to communicate with parents and carers of students with disability than those who haven't had this additional disability exposure. The findings also indicate that preservice teachers who undertake their professional learning in early childhood or secondary classes, and those who are male, are less ready to communicate with parents and carers of students with disability.

4.6 Summary of results

The results of the quantitative analyses of this sample of data have shown there were a number of variables that had a significant effect on the preservice teachers' self-efficacy for disability-inclusive teaching and their readiness to meet the Australian Professional Standards for Teachers at the graduate level. Table 4.63 presents a summary of the variables that have a significant effect on self-efficacy for disability-inclusive teaching, including their effect sizes. Table 4.64 presents a summary of the variables that have a significant effect on readiness for the graduate standards, including their effect sizes.

Table 4.63

Summary of variables that have significant association with TEIP Factors with effect sizes.

Variables	Significant effects by self-efficacy factor	Effect
Personal attributes		
Gender	Males felt less efficacious for Collaboration than females.	Medium
Personal experience of disability		
Living with disability	PSTs with disability felt less efficacious for Inclusive Instructions than their peers without disability.	Large
Experience of disability (family or friend)	PSTs with prior experience of people with disability felt more efficacious for Specialised Responses.	Medium
ITE course type		
Degree with Disability Studies/ Special Education	PST who combined their education degree with disability studies or special education felt more efficacious for Specialised Responses.	Large
Professional placement type		
Professional learning by year levels	PSTs who had their professional placement in an early childhood class felt less efficacious for Inclusive Instructions.	Medium
Specialist setting placement	PSTs who had their professional placement in a specialist setting felt less efficacious for Inclusive Instructions.	Medium
	PST who had their professional placement in a specialist setting felt more efficacious for Specialised Response.	Large
Professional experience of students with disability		
Developmental Delay	PSTs who had taught students with developmental delay felt more efficacious for Specialised Response.	Medium
Vision Impairment	PSTs who had taught students with vision impairment felt more efficacious for Collaboration.	Large
	PSTs who had taught students with vision impairment felt more efficacious for Managing Behaviour.	Medium
	PSTs who had taught students with vision impairment felt more efficacious for Specialised Response.	Large
Autism Spectrum Disorder	PSTs who had taught autistic students felt more efficacious for Specialised Response.	Medium
Significant Challenging Behaviours	PSTs who had taught students with significant challenging behaviours felt more efficacious for Specialised Response.	Large

Note. Orange denotes those independent variables which had a large effect on self-efficacy factors. PSTs = preservice teachers

Table 4.64

Summary of variables that have significant association with professional standards domains of readiness with effect sizes.

Variables	Significant effects by readiness domains	Effect
ITE course type		
Degree with Disability Studies/ Special Education	PST who combined their education degree with disability studies or special education felt more ready to differentiate the curriculum.	Small
	PST who combined their education degree with disability studies or special education felt more ready to find and learn new disability specific information.	Small
Professional placement type		
Professional learning by year levels	PSTs who had their professional placement in an early childhood class felt less ready to practice teachers' legal obligations.	Medium
	PSTs who had their professional placement in an early childhood class felt less ready for communicating with parents and carers.	Medium
	PSTs who had their professional placement in a primary class felt more ready to communicate with parents and carers.	Medium
	PSTs who had their professional placement in a secondary class felt less ready to communicate with parents and carers.	Medium
Professional experience of students with disability		
Developmental Delay	PSTs who had taught students with developmental delay felt more ready to differentiate the curriculum.	Small
Physical Disability	PSTs who had taught students with physical disability felt more ready to seek specialist assistance.	Small
Vision Impairment	PSTs who had taught students with vision impairment felt more ready to differentiate the curriculum.	Small
	PSTs who had taught students with vision impairment felt more ready to seek specialist assistance.	Small
	PSTs who had taught students with vision impairment felt more ready to liaise with other professionals.	Small
Autism Spectrum Disorder	PSTs who had taught autistic students felt more ready to differentiate the curriculum.	Small
	PSTs who had taught autistic students felt more ready to practice teachers' legal obligations.	Small

Note. The largest effect of any variable on the professional readiness domains was medium-sized. PSTs = preservice teachers

Table 4.65 provides a suggestion of how the readiness domains are associated with the four factors of self-efficacy for the purposes of data integration, which has helped frame the discussion of the meta-inferences of this research in chapter six.

Table 4.65

Alignment of Self-Efficacy Factors and Graduate Readiness Domains for Inclusive Teaching

Self-efficacy Factors	Graduate Readiness Domains
Inclusive Instructions; Specialised Response	Differentiate the curriculum
Inclusive Instructions; Managing Behaviour; Specialised Response	Practice teachers' legal obligations
Inclusive Instructions; Managing Behaviour	Find and learn new disability specific information
Inclusive Instructions; Collaboration; Managing Behaviour; Specialised Response	Seek specialist assistance to assist you to teach
Inclusive Instructions; Collaboration; Managing Behaviour	Liaise with other professionals for inclusion
Collaboration	Communicate with parents and carers

4.6.1 Self-efficacy and professional standards readiness in the context of the Mutli-tiered Systems of Support framework

Another way of interpreting the results was to overlay the central tendency statistics of the TEIP and professional standards readiness data onto the three tiers of the Multi-tiered Systems of Support (MTSS) framework. This approach to analysing the data was novel and in doing so it revealed an innovative way of looking at the different levels of preservice teachers' self-efficacy and readiness according to the three-tiered structure. Table 4.66 presents how I arranged the TEIP scale items and readiness scale domains into the MTSS three-tiered framework. For example, I made a subjective decision that two of the items from the TEIP Specialised Response subscale logically aligned with Tier 3 levels of support that are intensive and individualised, i.e., *designing individualised learning tasks for students with disability* and *knowing how to respond to physically aggressive behaviours*— because these supports usually relate to only a few students in a class. The third item of the Specialised Response factor, i.e., *informing others who know little about laws and policies relating to the inclusion of students with disability*, aligned logically with the definition of Tier 1 levels of support because inclusive school culture is for all students and is therefore, universal. However, it is noted that others who adopt this approach of integrating the MTSS framework with items of the TEIP and the Australian professional standards for teachers may do so differently and therefore, this method of analysis is presented here as an example rather than definitive.

The results shown in Table 4.66 are arranged from highest to lowest mean score in each Tier. The mean scores were converted to a base score out of 100 to ensure a common denominator was used because of the different points on each scale (i.e., 6 and 4). This table of scores represents a different way of showing the higher and lower levels of preservice teachers' preparation according to their self-ratings.

Table 4.66

Self-efficacy and readiness scale items aligned according to the MTSS framework

Tier	Items	Mean scores	/100
1 Universal (All)	Ability to get students to work together in pairs or in small groups	5.15/6	86
	Make my expectations clear about student behaviour	5.11/6	85
	Use a variety of assessment strategies (e.g., portfolio assessment, modified tests, performance-based assessment, etc.).	5.06/6	84
	Practice teachers' legal obligations related to students with disability	3.35/4	84
	Make parents feel comfortable coming to school	4.95/6	83
	Able to get children to follow classroom rules	4.95/6	83
	Accurately gauge student comprehension of what I have taught	4.93/6	82
	Assist families in helping their children do well in school	4.82/6	80
	Ability to prevent disruptive behaviour in the classroom before it occurs	4.60/6	77
	Informing others who know little about laws and policies related to the inclusion of students with disabilities	4.31/6	72
	Ability to get parents involved in school activities of their children with disabilities	4.27/6	71
2 Targeted (Some)	Liaise with other professionals to include students with disability in regular classes	3.49/4	87
	Differentiate the curriculum	3.44/4	86
	Work jointly with other professionals and staff (e.g., aides, other teachers) to teach students with disabilities in the classroom	5.13/6	86
	Find and learn new disability specific information if required	3.39/4	85
	Provide an alternate explanation or example when students are confused	5.07/6	85
	Provide appropriate challenges for very capable students	4.87/6	82
	Control disruptive behaviour in the classroom	4.63/6	77
3 Intensive, Individualised (Few)	Communicate with parents and carers of students with disability	3.32/4	83
	Designing learning tasks so that the individual needs of students with disabilities are accommodated	4.93/6	82
	Seek specialist assistance to assist teaching students with disability in regular classes	3.26/4	82
	Collaborate with other professionals (e.g., itinerant teachers or speech pathologists) in designing educational plans for students with disabilities	4.87/6	81
	Calm a student who is disruptive or noisy	4.79/6	80
	Confident when dealing with students who are physically aggressive	4.02/6	67

Table 4.66 highlights that self-efficacy in providing Tier 3 levels of support to managing physically aggressive behaviour is the area of professional skill development for which this sample of preservice teachers felt least prepared. This is followed by the universal teaching practices (Tier 1 supports) of involving parents of children with disability in school activities and informing others who know little about laws and policies related to the inclusion of students with disabilities. Low levels of self-efficacy for the subscale Managing

Behaviour featured again as an area requiring more skill development to provide Tier 1 supports (ability to prevent disruptive behaviour in the classroom before it occurs) and also Tier 2 supports (control disruptive behaviour in the classroom).

The highest levels of preparation in the participant group were related to Tier 2 supports—readiness to liaise with other professionals to include students with disability in regular classes and to differentiate the curriculum—as well as self-efficacy for working jointly with other professionals and staff (e.g., aides, other teachers) to teach students with disabilities in the classroom. Self-efficacy in the ability to get students to work together in pairs or in small groups (Tier 1 supports) was also strong.

Laying out the data in this way emphasised areas of professional learning that were strongest and those that may need more consideration by universities when designing ITE course curricula for the development of disability-inclusive teachers.

Chapter five expands on these findings and presents the analyses of qualitative data, seeking explanations for the data so far, and developing themes that reflect the most significant influences on preservice teachers' preparation for disability-inclusive education.

4.6.2 Limitations

The process of aligning the TEIP factors with graduate standards related to disability inclusive teaching practices identified that this research did not ask for information specifically about preservice teachers' readiness to manage students' behaviours when the graduate readiness scale questions were developed. Managing Behaviour was a factor captured by the TEIP scale items, so not including a question related to managing behaviour in Part 3 of the questionnaire was an oversight in the data collection method. After realising this omission, I revisited the AITSL professional standards and found that the Professional Standards relating to managing classroom behaviours were described as part of Standard 4: *Creating supportive and safe learning environments*. This implies that the knowledge and skill requirements for teachers to manage classroom behaviours are universal and not specifically aligned with any subgroup of students. The Professional Standards that were aligned to teaching students with disability specifically (Standards 1.5 and 1.6) do not comment on managing students' behaviours. This separation could be intentional so as not to purposely associate students with disability with challenging behaviours.

The professional standards for teachers at the graduate level are:

4.1.1 Support Student Participation: Identify strategies to support inclusive student participation and engagement in classroom activities.

4.1.2 Manage Classroom Activities: Demonstrate the capacity to organize classroom activities and provide clear directions.

4.1.3 Demonstrate knowledge of practical approaches to manage challenging behaviour.

(Australian Institute for Teaching and School Leadership, 2011)

Other standards that could have been included in this way are Standard 1.1: Knowledge and understanding of physical, social and intellectual development and characteristics; Standard 3.1: Setting learning goals, Standard 3.7: Involving parents/carers and Standard 7.2: Understanding legislative, administrative and organisational requirements. I made a note of these additional professional standards, so as to incorporate these areas of knowledge and skill requirement into the interpretation of these data analyses. However, omitting these extra standards is an oversight in the research design and forms a gap in the relationship between measuring self-efficacy for disability-inclusive teaching and readiness for the graduate standards related to teaching practices for disability-inclusive education. This gap is something that should be addressed in future studies that follow the same or a similar model of research.

CHAPTER FIVE FINDINGS OF QUALITATIVE DATA ANALYSES

Chapter five reports on the findings of qualitative data analyses. The sections of this chapter contain comments from both the survey respondents and interview participants to explain the variables that were found to have a significant effect on preservice teachers' preparation for disability-inclusive education (see summary of variables in Tables 4.63 and 4.64 of chapter four). The first part of chapter five is sectioned according to the four factors of the TEIP scale that was used to measure self-efficacy for disability-inclusion. For ease of reference, the items of the TEIP scale that relate to each factor being considered have been restated at the beginning of each subsection. The second part of the chapter is sectioned according to the six domains of readiness related to the AITSL Professional Standards for Teachers and teaching students with disability, at the graduate level. The template used for thematic analysis of both sets of these data (see Appendix Ten) assisted with integration of the responses. Other themes that developed out of inductive analyses to answer the remaining research questions related to the influence of and improvements for ITE programs are presented at the end of part two of the chapter. The final section of the chapter presents the findings of content analysis of the course documents.

5.1 Self-efficacy for disability-inclusive education

5.1.1 Inclusive Instructions

- *Accurately gauging student comprehension of what has been taught*
- *Providing appropriate challenges for very capable students*
- *Getting students to work together in pairs or in small groups*
- *Using a variety or assessment strategies*
- *Providing an alternate explanation or example when students are confused.*

Personal experience of living with disability

The statistical test results suggested that living with disability has a significantly large negative effect on preservice teachers' self-efficacy for the subscale Inclusive Instructions. Of the 11 respondents with disability who participated in the survey, only seven provided any additional comments, and there were only two whose comments related to Inclusive Instructions, but these did not explain the relationship to Inclusive Instructions directly.

One preservice teacher with vision impairment said, “I feel mostly confident in teaching children with disabilities if I was to work in a regular classroom” (No 10: female, 18-23 years, Bachelor of Education [Early Childhood and Special Education]/ Bachelor of Disability Studies).

This preservice teacher had her final professional placement in a specialist setting and her comment infers that she may have intended to work in a specialist setting rather than in mainstream education. It is likely that her experience of specialist education and disability studies influenced the way she responded to this question more than her personal experience of living with disability. However, it is difficult to know from the limited data available. Her score for Inclusive Instructions approximated the overall mean of 5.02 for this factor.

The second preservice teacher living with depression explained his feelings in detail during his interview. He was feeling inadequately skilled and suggested that his ITE course could have provided him with more content on how to teach the full range of students he had been faced with during his professional placement at a mainstream school. He was teaching secondary students with a curriculum focus on English and History. It is important to know that he did not have electronic access to his students’ learning profiles or any of their individualised learning plans. This exacerbated his challenges in getting to know the students and structuring their learning tasks according to their individual needs. He said:

> Essentially my approach was to aim low and make sure that the broad goals of the lesson could be met by every student and then the students that required [a] higher level could be extended. It might have been [for] comprehension or vocab. I was right at the edge of my ability there. I wasn’t prepared for it at that [lower] level… I felt I did not have enough low-level literacy skills to teach the kids. I think that was the thing that held me back the most.
>
> [When undertaking] the English specialisation subjects (I did middle school secondary and senior secondary), I was provided with a lot of advice on teaching but nothing specific on additional needs. There is no time to teach literacy strategies…. I found when it came to explicit teaching – because I had real issues with this on my placement— [I did not know] how long to explicit teach for, sometimes I would be right and sometimes I would be wrong. It was a really frustrating aspect… There was one student with high levels of disability in a year 12 class, which you could not miss. She had Prada Willi syndrome. I was outside my levels of feeling comfortable to deal with [this student].
>
> No. 37 (Interview 6): male, 24+ years, Bachelor of Education [Secondary]/ Bachelor of Arts

It was not possible to determine if his propensity for depression influenced his lower self-efficacy for the subscale Inclusive Instructions more or less than his university experiences. His Inclusive Instructions self-efficacy score was 4.8 compared with the overall average of 5.02. From his comments, it seemed that his expectations of and disappointment with his ITE course had the greater effect.

The importance of being provided with enough disability related content throughout the ITE course to assist with the development of strong self-efficacy for the subscale Inclusive Instructions was a common theme that continued to arise in the comments of many of the preservice teachers from this sample of research participants. This issue will be discussed in more detail in the final chapter of the thesis.

Professional placement experience by year level

The statistical test results suggested that undertaking professional placement in an early childhood setting led to significantly lower self-efficacy for the subscale Inclusive Instructions than undertaking professional placement in secondary classes, with a medium effect size. There were several comments that provided more insight regarding this relationship. Mostly, these related to understanding more about different types of disability and to have gained this knowledge from the university course.

> I do not feel confident about what is best for different types of disabilities and students. I think a subject at university specifically about different types of disabilities and how to support the learning of children with a disability would be beneficial.
>
> No. 3: female, 18-23 years, Bachelor of Education [Early Childhood] (year 2 placement)

> I would be more confident if I had a broader and deeper understanding of a range of disabilities and their impacts on learning. While my topics have loosely covered differentiation, I do not feel prepared to teach children who have a disability... I wish I knew before I enrolled so that I could have enrolled in the Bachelor of Special Education…however, my ideal would be to have a full 4 year degree of just education topics including more on disabilities, differentiation, inclusion and child development [within it].
>
> No. 8: female, 24+ years, Bachelor of Education [Early Childhood]/ Bachelor of Arts, (preschool placement)

> I learnt a lot about teaching children with disabilities during my placement however I feel that [the university] did not include enough about this and specific disabilities in their content of subjects [particularly] in the Bachelor of Arts degree.
>
> No. 69: female, 18-23 years, Bachelor of Education [Early Childhood] (year 1 placement)

Further, one of the preservice teachers interviewed commented on the challenges of teaching young students with disability. Although she was confident about Inclusive Instructions (with a self-efficacy score of 5.8 compared to the average of 5.02), she too expressed frustration that she had not learnt enough about teaching students with disability from her ITE course.

> I think it is complex particularly in *Foundation*[8] when lots of students are in the process of having that diagnosis, so they are in a difficult phase of not having all the support that they need.
>
> I felt as though I did not have enough general knowledge of the different disabilities. I feel like that is something that I would like to have more of at university because it is such a significant thing… Throughout the textbooks it mentions differentiation and additional needs, but it is not addressed enough for how big the implications it has, as a teacher… I don't feel like I feel concerned about teaching students in the class with disability. From my placements, I found that even if I feel as though my knowledge isn't adequate, there is always somebody else that I can seek out to gain that knowledge. So, I don't feel concerned or feel like I will be alone and not knowing where to go. I feel frustrated, and I know that some of my peers feel the same, that we would have liked to have more information and time spent around teaching students with disabilities because it is so prevalent.
>
> No. 31 (Interview 7): female, 18-23 years, Bachelor of Education [Early Childhood] Honours (Reception placement)

This view was reiterated further by other preservice teachers who had their professional experience in early childhood settings.

> If teachers are to be truly inclusive in their classrooms, I feel that every education degree should have more disability studies embedded in the degree.
>
> No. 48 (Interview 4): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies (Reception to year 2 special class placement)

[8] Foundation is the first level of the curriculum taught in Reception, the first year of school.

> Speaking to other students also studying education, at times they seem like they are way too underprepared to know anything in relation to students with disabilities in their classroom.
>
> No. 11: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies (year 1 placement)
>
> I feel as though there should be a specific topic on supporting students with disabilities that is offered.
>
> No. 12: female, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts (year 1 placement)

In relation to the significant difference in levels of self-efficacy for the subscale Inclusive Instructions of the respondents who had undertaken their professional experience in secondary classes, it was not clear why this cohort scored higher. There were some comments that positively emphasised inclusion of secondary students with disability in regular classes and differentiation for their learning needs—yet there were also a number of comments expressing a desire to learn more about disability-inclusive education from the university. For example,

> I would definitely like to learn more, as I want to do right by my students, especially those with disabilities.
>
> No. 7: female, 24+ years Bachelor of Education (Secondary)/ Bachelor of Science (year 10 placement)
>
> I believe universities must offer more information and support on how to educate students with disabilities, as they are almost always integrated into regular classes.
>
> No. 9: female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (year 10 placement)
>
> In my opinion, I feel that I should have heard from people living with disabilities when being taught in my university course.
>
> No. 87: female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Languages (year 9 placement)

Two of the preservice teachers interviewed who had secondary teaching experiences described how they positively supported their students with disability by making adjustments.

> One of my students with dyslexia, instead of doing an essay on the industrial revolution machines, he actually built one out of technic Lego and then talked about it instead of having to do the essay (which he was standoffish about it and said, “No, I am not going to do it”). Obviously, from his perspective he thought his dyslexia was a barrier for this assignment. He did this instead and he loved. It. And we did visual timelines and stuff instead of written timelines.
>
> No. 56 (Interview 2): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (years 7-10 placement)

> There was a student who had a disability which could have been a physical disability involving brain cancer and tumours. I never got confirmation on the actual condition. From what I could gather from a discussion with a colleague, it could have affected their cognitive abilities for reading and writing and processing auditory information. I adjusted my practice to involve him. I brought in practical organizers, so he did not have to read. I gave him the option to verbally talk about stuff. I made the class help with the ICT, so he could sit at the computer and work the PowerPoints. He had closer access to it and could concentrate that way.
>
> No. 37 (Interview 6): male, 24+ years, Bachelor of Education (Secondary)/ Bachelor of Arts (years 10-12 placement)

It wasn’t only preservice teachers who had placements in secondary classes who provided excellent examples of implementing the practical skills of Inclusive Instructions. The following preservice teacher was undertaking a primary focused ITE course and had combined her education degree with disability studies. She explained,

> I did an investigation to find the total volume of the chocolates [in a box] and I created all these different tiered questions and put the kids into mixed readiness groups, so the students with disabilities were supported by the high readiness kids in my absence while I got the SSO to float around between groups. They were able to work together on the same learning outcome but within their zone of proximal development. Essentially, just working with the questions that were designed for them. I made sure I designed tasks like that. I was the one that took the kids with special needs, so I would often do small group work with them or I would use mixed readiness [learning tasks].
>
> No. 13 (Interview 13): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies (year 5 placement)

Many of the preservice teachers interviewed explained how helpful the topic *Differentiation for diverse learners* had been to understand how to accommodate the varied learning requirements of students in their classes. Below are two examples from interviewees who were undertaking a secondary focused ITE course.

> The differentiation topic was most helpful. I think not only did they do a good job of mapping out a few of the disabilities and diversities that would be encountered in the classroom, I think they did a good job of actually bringing forth a few ideas as to how to implement different plans for those students. Like tiered lesson plans or scaffolding. Things that I hadn't heard of until I did the topic…I wondered why no one had mentioned these already because they seem so important. I feel like so often in the education topics that I have done, they talked a lot about theories and ideas… but very little about how you can actually do this when you are teaching it. Which has been a little frustrating in all honesty. That is what was good about the differentiation topic. The fact that I could actually walk away from it and think I am going to do that and that will help this and so on.
>
> No. 20 (Interview 9): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (year 9 placement)

> Luckily, the differentiation topic, and the education process in general, gave us a broad outline of how to deal with students. So, through word of mouth and observation I was able to identify what the students' required and how I could help to differentiate the topic to make sure they had access to it.
>
> No. 37 (Interview 6): male, 24+ years, Bachelor of Education (Secondary)/ Bachelor of Arts (years 10-12 placement)

One of the preservice teachers who was undertaking an early childhood course combined with disability studies also commented on how important differentiation was for disability-inclusive teaching in the early years.

> Through doing pre assessments and formative assessments I was able to determine the children's different readiness levels and differentiate their lessons accordingly. Differentiating allows the children to be learning at their level and to progress with their learning.
>
> No. 11: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies (year 1 placement)

When the course topics of the three early childhood ITE courses represented by this sample were reviewed only two degrees offered a topic related to inclusion of diverse learners—the Bachelor of Early Childhood (Honours) and Bachelor of Education Early Childhood and Special Education/Bachelor Disability Studies. The Bachelor of Education (Early Childhood)/Bachelor of Arts did not include such a topic in the course curriculum. It would appear from the responses of preservice teachers in this sample that all early childhood preservice teachers would benefit from undertaking a topic related to differentiation for inclusion of students with disability.

It was not fully explained through the qualitative comments of the survey or interview responses why preservice teachers who had their professional experience in secondary classes were significantly more efficacious for Inclusive Instructions than those who experienced early childhood placements, except for the comment that it is difficult in the early years to know how to respond to students with additional needs when the students are in the process of getting a diagnosis, and the additional supports that are required by the students are not yet in place. Early childhood educators characteristically have a strong focus on the development of the child holistically and see every child as a capable learner when they begin formal education. The additional needs of students with disability are often subtly accommodated within early learning activities involving play and exploration. However, this inclusive context does not necessarily address how preservice teachers learn to prepare for the diversity of their students' needs when they have disability.

On the other hand, secondary educators characteristically have a stronger focus on curriculum content and assessment and require explicit information when adaptations are provided. Specht and Metsala (2018) found that Canadian secondary teachers were more efficacious for inclusive instruction when they believe students' abilities are malleable. One could assume that the secondary students with disability encountered by the preservice teachers participating in this research had a clear diagnosis of additional need and the supports they required were more likely to be in place at their schools, including more professional input from allied specialists and collaboration around the students' learning requirements, which resulted in adaptations and flexibility for students to learn. While systemic components related to disability-inclusive education, such as diagnoses, funded supports and additional professional services appear to make a difference to secondary preservice teachers' understanding of disability-inclusive education, it is their belief about the malleability of learning and teaching that has a greater effect on their efficacy for disability-inclusive teaching (Specht and Metsala, 2018). The secondary preservice teachers who participated in this research perhaps were more exposed to students' differences and more confident in their content knowledge, so any adaptations required for disability-inclusive teaching were clearer and able to be enacted. However, this is supposition and to be conclusive about the effect of classroom based and school system variables on the development of preservice teachers self-efficacy for disability inclusive education across the different year levels of schooling would require more targeted research at a local level.

Professional experience in a specialist setting

The results of statistical tests also showed that if preservice teachers had undertaken their professional placement in a specialist setting, rather than in a regular class, they were significantly less efficacious for Inclusive Instructions with a medium effect size. This seems the antithesis of what one would expect. There were only a few comments that provided any potential explanation. Of those who provided extra information, all but two were undertaking a degree combined with disability studies, and four were interviewed. Therefore, their views were likely to be biased by the additional knowledge and experiences they gained through the disability studies component of their degree.

One of the respondents who was undertaking an early childhood focused course said,

> I have experience differentiating the curriculum in small groups and one-on-one in a special school, but do not have experience differentiating in a regular class.
>
> No. 76: female, 18-23 years, Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies

Others explained how they felt that professional learning in a specialist setting was beneficial for both specialist and mainstream teaching.

> I found [my placement in a special education unit] to be a really good experience. Having that back up from the knowledge of those particular kids [with autism], when so many kids have autism in regular classes. That was a really good experience to help me with either being in a special education setting when I get to work or even being in mainstream settings. I think it is going to be something good to reflect on.
>
> No. 48 (Interview 4): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Having had the opportunity to experience teaching in a specialist setting seemed to stimulate further consideration about preferred work settings with different outlooks from different respondents, as the following two quotes demonstrate.

> I always wanted to be a mainstream teacher. I wanted to be able to walk into any classroom with any students and teach... Now, I want to teach special education. I think that all mainstream teachers, even if they are not doing special education or disability, should have to go into a special education unit, so they have that experience of what it is like teaching students with disabilities.
>
> No. 16 (Interview 12): female, 24+ years, Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

> I did my placement at the specialist school, and I learnt a lot through that, but I don't feel as confident going into a special school… I would feel more confident going into a mainstream school.
>
> No. 17 (Interview 10): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

These two preservice teachers also expressed their reservations about inclusion for all students with disability, emphasising their views about the importance of appropriate levels of support for disability-inclusive education to be successful.

> I do think that 90% of the time you can do inclusion if they are supported. I think it is great for social interaction and communication. I think it benefits students from doing that. However, I do believe if it is a severe disability and they have got a health support officer and a normal support officer, I think it is very difficult to integrate into mainstream. I do think a lot of the kids on my last placement, in the specialist unit, could have definitely gone into mainstream if they had support.
>
> No. 16 (Interview 12): female, 24+ years, Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

> I believe that inclusion should be supported fully, as much as is possible. I believe that it is possible for a lot of students to be included at mainstream schools but for some with really severe, particularly physical disabilities, then mainstream schools just can't support them. I think they need to be supported. There is just not the equipment, there is just not the knowledge. So, I am all for inclusion but not for some.
>
> No. 17 (Interview 10): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Taking this point further, another preservice teacher who was interviewed discussed her mentor teacher's opinion that there needed to be more special placement options available. She recounted their conversation while on placement.

> I was told by my mentor teacher that a lot of the kids who were in the special education setting probably should have been in a higher special education needs class. He said there is so much call for it these days that there are not enough places for everybody to be in the correct setting. There are probably kids in the regular classes that could have used the extra help of being in a special education class.
>
> No. 48 (Interview 4): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

This preservice teacher went on to describe the positive effect of reverse integration for some of the students who were withdrawn from their regular classes to participate in specialist tuition alongside peers in the specialist class. She noted the following.

> We did have some of the kids from reception to year 2 in the mainstream setting come into our class for some extra time. There were a couple that needed extra help with their English so they would come into our writing classes and a couple who needed some extra help with Math and so they would come in for some extra help with their math classes, and they loved it in there. They said it was so quiet and peaceful compared to 30 kids in the other class.
>
> No. 48 (Interview 4): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

These comments draw attention to the influence of practical experiences and verbal persuasion upon preservice teachers' development while they are on their professional placement. Although there were not many comments that could explain the lower self-efficacy scores of this sample of preservice teachers, it would seem that the experience of a specialist setting brings into question the suitability of regular classes for some students with disability. It appears possible from this sample of data that the awareness gained through their experience in a specialist setting may negatively affect preservice teachers' feelings of confidence, self-efficacy and support for Inclusive Instructions in regular classes by showcasing alternatives. Or it could simply mean that this sample of preservice teachers were not feeling well prepared for disability-inclusion. As the following preservice teacher's comment indicates.

> I don't know if I feel that I am ready, but I think everybody probably feels like that from what I understand. I think once you get out there and start experiencing it, it is going to be a completely different ball game. I am sure I will be fine. There is going to be a lot of professional development that I am going to try and do, to give myself more confidence with what I am doing.
>
> No. 48 (Interview 4): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

5.1.2 Collaboration

- *Making parents feel comfortable*
- *Assisting families in helping their children do well at school*
- *Getting parents involved in the school activities of their children with disability*
- *Collaboration with other professionals (e.g., itinerant teachers or speech pathologists) in designing education plans for students with disability*
- *Working jointly with other professionals and staff (e.g., aides, other teachers) to teach students with disability in the classroom.*

Personal attribute of gender

The statistical results suggested that males were significantly less efficacious for the subscale Collaboration than females with a medium effect size. Of the 23 males in the sample, only nine provided additional survey comments and one was interviewed, limiting the data from which to explain this result.

One male respondent said that he had not had an opportunity to work with parents and carers, yet he did feel confident to do so. He also commented on the importance of a collaborative work environment.

> It is important to have a collaborative staffroom, that all help each other and discuss ideas. I have not experienced [communicating with parents and carers of students with disability] myself yet, however, I do feel confident if I was put in the scenario.
>
> No 24: male, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

This preservice teacher's self-efficacy score for Collaboration approximated the overall average for the sample which was 4.81.

Another male respondent commented briefly that liaising with other professionals "represented higher qualifications" to facilitate disability-inclusion and that when communicating with parents and carers, "there must be a lot of quality between conversations" (No 53: male, 24+ years Bachelor of Arts, Master of Teaching [Primary R-7]).

Two other respondents commented on the importance of collaborating with more experienced teachers, and one reflected on how negative school culture may be an obstacle when trying to implement disability-inclusive education.

> Drawing on more experienced practitioner knowledge is important…[but] I think the existing culture amongst practicing teachers will be an obstacle.
>
> No 64: male, 24+ years Bachelor of Arts/ Master of Teaching (Secondary Pathway)

> I know that there are plenty of people to go see in schools and through the teachers and tutors that I have met throughout my university experience.
>
> No 110: male, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts

These respondents also expressed appreciation for the relationship between parents/carers and teachers but again, with some reservation expressed by the secondary focused respondent.

> My professional experience taught me that parent and teacher communication is important to building respect and relationships, whilst also gaining a better understanding of how to support and teach the students.
>
> No 110: male, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts

> I think paying close attention to parent expectations for their child helps focus efforts to some extent, but this might be difficult if the diagnosed needs differ to those the parents see as important.
>
> No 64: male, 24+ years Bachelor of Arts/ Master of Teaching (Secondary Pathway)

In contrast to the lower ratings of male preservice teachers for Collaboration, there were many females who had high self-efficacy for Collaboration. It was very clear from some of the interviewees how greatly they appreciated collaborating with other teachers, specialist professionals and parents and carers. The following three quotes by female respondents are representative. However, they still do not fully explain the significant variation in this factor based on gender.

> Working with other teachers in the school who teach the same students with disabilities will help with creating strategies for individual students across all subjects, so they are consistent and safe for the student. Frequently re-viewing the negotiated education plans with the other teachers allows an up-to-date education plan for individual students, which can be added to as they make progress.
>
> No. 56 (Interview 2): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

> As a high school teacher, I would probably go and ask other teachers of the students to see what they are doing or what the student is even like in their classroom, maybe I am getting a completely different side of them to someone else. To see what I could implement that maybe they are doing that is good for the student. I would also speak to any mentor or leadership team that are across that. If there is a disability unit, I could speak to them too.
>
> No. 20 (Interview 9): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

> At the last placement we were working with the speech therapist and OTs [occupational therapists] but mainly speech therapist. That was good because it was something that I had never seen before. How you have joint collaboration and you are working together for the students' goals, which I thought was awesome.
>
> No. 16 (Interview 12): female, 24+ years, Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Professional experience of teaching students with vision impairment

Teaching students with vision impairment while on professional placement had a significantly large positive effect on self-efficacy for the subscale Collaboration. However there was very little qualitative data to draw on to explain these results. Of the 15 preservice teachers who had this experience, nine provided survey comments and of those, two were also interviewed. Their data were of a general nature rather than specifically related to teaching students with vision impairment, so interpretation was undertaken with caution. A review of their survey comments and interview responses indicated high levels of confidence regarding professional collaboration and in particular, working with parents and carers, but these could not be attributed directly to the experience of teaching students with vision impairment. Some indicated they had not had a lot of experience in the area of collaboration while on placement. Once again, there was no clear explanation about why the self-efficacy of this subsample of preservice teachers had been so positively affected by the experience of teaching students with vision impairment when compared to the experience of teaching students with other disability types. There is an implied explanation that preservice teachers of students with vision impairment may liaise more often with others to meet the specific learning requirements of their students. However, more research into this suggestion is needed for this viewpoint to be valid. For reference, the following comments are provided as examples of the positive experiences of these preservice teachers, all of whom taught students with vision impairment.

> I had the benefit of working with allied heath staff to support student learning. It is very important to involve parents as much as possible in their child's learning. I was able to use and communicate through an app on the school iPad called SEESAW. This allowed me to send through videos of student learning and evidence.
>
> No 54: female, 24+ years Bachelor of Arts (Education [Primary R-7] Pathway)

> On both of my placements there have been special education coordinators… we had meetings and we were given checklists to learn about supplementary and substantial evidence. There was a constant informative thing going on between special education coordinators and the teachers… I went to the special education teacher and asked them to tell me all about the kids, and accessing their negotiated education plans as well was really good… Parents are an important party regarding students with disabilities. Communicating with parents allows strategies for the students to be implemented at school and at home. Parents can help encourage a student at home and help them achieve the best that they can.
>
> No. 56 (Interview 2): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

> I would speak to the special educator if I needed to find out more information. I would also speak to other teachers too, to gain their knowledge.
>
> No. 11: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies

The following comments from two different research participants suggested approaches that preservice teachers could take to engage collaboratively with others for the benefit of students with disability. Both of these research participants also had experience teaching students with vision impairment.

> [Seeking specialist assistance from] leadership, other staff, and professionals for particular disabilities. [Liaising with other professionals] in staff meetings and PLCs [professional learning communities]. Talking, discussing and questioning. Trying to improve practice. Talking and having those discussions with parents. Talking about what might work at home or might not. Do they have any ideas and telling them how their child is tracking along.
>
> No. 86: female, 18-23 years Bachelor of Education (Primary)

> Professionals who support these students such as OTs [Occupational therapists] Speech therapists, Psychologists… [I would] communicate with them to ensure there is consistency across all support platforms. [I would] learn from these professionals to increase the standard of my support to ensure the student can participate on the same basis as abled peers. Differentiate instructions, content and assessment to achieve true inclusion [and seek out] professionals to assist [who] may be a fellow special educator or developmental educator…
>
> Communication with the student's family is paramount to ensure the nature of the support in the classroom is consistent with the support out of the classroom. This could include weekly check ins, daily posts on a communication platform such as SEESAW, or in a communication book. I can constantly learn from their family to increase the quality of my support to ensure the student can meaningfully progress within in a mainstream environment.
>
> No. 13 (Interview 13): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

There was also a notable theme in the comments of this subsample of preservice teachers that some had limited experience working with parents and carers of students with disability. This was for varied reasons. One preservice teacher explained the disruption to collaboration caused by the Coronavirus pandemic.

> Due to COVID-19 I wasn't able to fully form a connection with the parents. However, [there was] one of the parents I was able to communicate with, and ask questions about how her child was doing, and ways that I could've supported him.
>
> No. 11: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies

5.1.3 Managing Behaviour

- *Making expectations clear about student behaviour*
- *Calming a student who is disruptive or noisy*
- *Preventing disruptive behaviour in the classroom before it occurs*
- *Controlling disruptive behaviour in the classroom*
- *Getting children to follow classroom rules.*

Professional experience of teaching students with disability

The experience of teaching students with vision impairment featured as a variable that significantly positively affected self-efficacy for the subscale Managing Behaviour with a medium effect size. Unfortunately, the survey comments and interview responses of this sample of preservice teachers did not explain clearly why teaching students with vision impairment so positively affected this factor of disability-inclusive teaching.

One of the preservice teachers who had taught students with vision impairment and had also taught a student with autism spectrum at a rural school (on a previous professional placement) reflected upon her mentor teacher's approach to managing challenging behaviour, which had been poor. It had left an impression on her, and she said,

> At one of the schools, it was pretty bad to the point where the teacher was dragging this child kicking and screaming out the door due to a meltdown. Which was hard to watch—but I was just a student teacher. I couldn't do anything about it… It happened because I was teaching narrative writing and this student was fixated on—he only wanted to write about facts. He did not want to make stuff up. I had tried working with him to try and get a bit of a story line that had some real bits in it and then some made up bits. Kind of with a beginning, middle and end is what we were focusing on. Still a bit of a story. I had my mentor teacher [overseeing] and I think she just pushed him a little bit too far with a mindset that he had to do it and he had to do it before he could go out to lunch and enforced that punishment because he had to do it. It went badly… This boy was only just diagnosed and was only just in the process of receiving support…He was leaving [the school] at the end of the year. There was a bit of a mind frame that he was leaving, so it was not our problem.
>
> No. 13 (Interview 13): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

This experience highlighted for her the importance of positive relationships between teachers and their students. If she had worked with that particular student while on her final placement, after learning more about managing behaviour from her university course, she would have handled the situation differently. Her score in self-efficacy for managing behaviour was 6, which was very strong compared with the average of 4.82. She said,

> [It] all comes back to the relationships and getting to know them. Relationships are really important. Getting the students to trust you and their whole wellbeing and having a

> positive learning environment and a safe learning environment is really valuable…A big area that I have grown [in] over that time is Positive Behaviour Support (PBS). I think that is really valuable and I have learnt a lot about that through university and applying that in the classroom. If I had have done PBS before the experience of teaching in the rural school with the student with ASD [autism spectrum disorder], it might have gone a bit differently for that student.
>
> No. 13 (Interview 13): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Other interviewees also commented on the value of knowing about students' disabilities and their learning preferences to develop trusting relationships and, in turn, support students' educational engagement. The following two quotes were from interviewees who had undertaken secondary Arts teaching. Both preservice teachers showed insightfulness regarding the importance of relationships and students' engagement in learning tasks.

> I focus on the relationships side of things a lot and getting to know the kids and then when you have that breakthrough you can make the exchanges work. A lot of my classes have been [with students who are] highly disengaged or [have] social issues. What can you do if you don't have that relationship? They are not going to sit there.
>
> No. 37 (Interview 6): male, 24+ years, Bachelor of Education (Secondary)/ Bachelor of Arts

> I had [a student] with autism spectrum disorder and anxiety, I knew that she did not like speaking up in front of the class, so obviously, I did not call on her to do that because if I had she probably wouldn't have wanted to be in my classroom anymore. And the year 8 boy who had autism spectrum disorder and some behaviour management issues, I knew that he was more likely to have a behaviour episode if he felt like he was being ignored in the class. So, any time he made a little comment or actively participated, it did not really matter what it was, I would acknowledge him in some way.
>
> No. 20 (Interview 9): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

These preservice teachers had learned how to implement preventative measures to avoid escalation of challenging behaviours in the classroom. Curiously, the younger, female preservice teacher's self-efficacy for the subscale Managing Behaviour was not strong, scoring 3.6 compared with the average of 4.82, indicating

that perhaps these experiences may have had a negative effect on her self-efficacy development. Neither of these two research participants had taught students with vision impairment.

Another one of the interviewees (who had taught students with vision impairment) reflected on the challenges she had experienced when teaching a student with ASD and translating behaviour management theory into practice. She recounted the situation she had been faced with when on professional placement, identifying gaps in her learning. Her score for the subscale Managing Behaviour was 4.6, a little lower than average.

> I really wish I had more experience with behaviour management. We learn about the theories, but it is so different in the classroom. I had a situation where a kid with ASD in the classroom wasn't very nice to a lot of the other kids. [At university] we learnt how to deal with it [by explaining] to everyone [in the class] why [the kid was] doing it. When I tried to explain, they said "I don't care if he is autistic, it is unfair that he is doing something different to other people". You find that kids react a lot differently in a real scenario… In terms of the whole behaviour management stuff, you can't exactly learn how to implement that properly until you are actually on the spot doing it. At uni you are not going to be presented with every single scenario that a kid is going to bring up.
>
> No. 56 (Interview 2): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

Sharing more content on managing classroom behaviour as part of the ITE course was a common theme raised by the research participants, as indicate by the following comments.

> Learning about behaviour management at university would really be a help. Even doing a whole day course and getting a certificate on effective behaviour management would be very useful to this degree.
>
> No. 56 (Interview 2): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

> Definitely behaviour management, I found throughout all of my placements it is a very lacking subject. We are not taught much about it at all, especially in the education [degree]. When I asked about it, they just sort of said, well that's what placement is for, that is where you will learn about behaviour management. But I just felt that was a huge lacking.
>
> No. 36 (Interview 5): female, 18-23 years, Bachelor of Education (Primary R-7 and Special Education/ Bachelor of Disability Studies)

> I feel as though managing problematic behaviours of students with disabilities are one of the greatest challenges for teachers and something that I would be unprepared for if it wasn't for my SSO position.
>
> No. 65: male, 18-23 Bachelor of Education (Secondary)/ Bachelor of Health Sciences

After reflecting on the qualitative data related to behaviour management, it remained unclear why preservice teachers who had the experience of teaching students with vision impairment felt more efficacious for managing behaviour compared with others in the sample. It could only be presumed that preservice teachers who had experienced other disability types, and not vision impairment, scored much lower—or perhaps the group of students with vision impairment taught by this sample of preservice teachers presented with behaviours in the classroom that were easy to manage.

5.1.4 Specialised Response

- *Designing individualised learning tasks*
- *Informing others who know little about laws and policies related to disability-inclusion*
- *Dealing with students who are physically aggressive*

Personal experience of disability through family or friends

The statistical test results indicated that preservice teachers who had personal experience of disability through family or a close friend were significantly more efficacious for the subscale Specialised Response with a medium effect size.

One interviewee who had close personal experience of disability explained how she had learned so much more from working regularly with students with disability (because she had been employed as a teaching assistant while undertaking her ITE course). She knew how to read students' behaviours and respond appropriately to individual students requirements, so they were engaged in learning. Disruptive behaviours were curbed. She emphasised the importance of knowing the students well to understand their learning requirements and behaviours.

> It is [about] allowing them a little bit of choice and a little bit of flexibility within their learning to then be able to re-engage. Highlighting and trying to stay on top of behavioural issues before they become [difficult] behavioural issues. Trying to catch the early warning signs of over stimulus or under stimulus or stress indicators and things like that. Trying to identify them before the eruption occurs and obviously following whatever is in place. If you catch it early, this particular child (depending on the need of

> the child) might need to go outside and listen to music for 10 minutes or this child might need to go outside and run around for 10 minutes. If really varies depending on the need of the child. As a placement teacher going in, just trying to get to know the child early enough within the placement to try and catch those warning signs.
>
> No. 33 (Interview 8): female, 24+ years Bachelor of Education (Primary and Middle)

Another interviewee who had close personal experience of a person with disability explained how important it was to have access to information about students' disabilities, to be an informed and positively responsive teacher—to know about their learning preferences, behavioural needs and family profile. She recounted her experience of using student information while on placement.

> [The school] had each student's profile and they had their NEP [Negotiated Education Plan] on that profile and they also scanned in reports that might be relevant from psychologists, psychiatrists, GPs to let you know how the student can react to certain situations. They also listed things that the student likes, so you can talk about likes and dislikes. They had things that actually helped the student, that they had already tested and had discussions with the student about putting it in the NEP, and that means the staff will be able to see it. [For example] they will know that if [the student] asks to go and get a drink that means that [the student] actually just needs a break. Or, if [the student says] I'm really thirsty, that [the student] actually just needs to go and have some time out because [the student] just needs to go for a walk. Things like that were all in [the student's profile] so as a pre-service teacher I came in and understood that straight away.
>
> No. 96 (Interview 1): female, 18-23 years, Bachelor of Education (Secondary)/ Bachelor of Health Sciences

These interview data highlighted the advantages of being familiar with disability when individualising learning for students with disability to provide a Specialised Response.

ITE course type – with disability studies

The statistical test results indicated also that preservice teachers who had combined their education degree with a degree in disability studies were significantly more efficacious for the subscale Specialised Response with a large effect size.[9]

There was only limited information from the survey comments and interview responses about why this group had stronger self-efficacy for Specialised Response. A review of the course documents indicated that these preservice teachers received more targeted information about disability in relation to legislation and policy frameworks, individualised planning and positive behavioural support for challenging behaviours than those who did not combine their education degree with disability studies.

One of the interviewees explained how the disability studies topic on positive behaviour support had given her additional skills and knowledge to call upon when faced with students who had significant challenging behaviours. When asked which course topics had been most beneficial to her, she said:

> Definitely positive behaviour support, that was one of my favourite topics… and also the mindset that I have developed. Not looking at behaviours as a problem but looking for the antecedent to the behaviour and recognising what is setting off the student. Instead of going, "Oh that student is being horribly behaved, let's send them out". It is more about searching for the answer. I think that this degree has really shaped my thinking around that, which really helps in understanding students with disabilities.
>
> No. 36 (Interview 5): female, 18-23 years, Bachelor of Education (Primary R-7 and Special Education/ Bachelor of Disability Studies)

The topic, *Positive Behaviour Support,* was available only to students who completed the double degree with disability studies.

[9] The combination of these degrees was available only through Flinders University at the time of the study, and as of 2022 this double degree program was no longer offered due to changes in Australian Government accreditation requirements. New programs with a focus on inclusive and specialised education were to replace the former double degrees.

Another interviewee described observations of a physically aggressive student while on her regular class placement and said:

> We had four parents request private meetings with us to say they wanted that kid out of the class, the one with the challenging behaviour because he was bigger and more violent… He had 1:1 support for all free time, recess and lunch, and he still managed to smash a kids head in and chip all his teeth. He stuck someone with a fork. I have no idea why they wouldn't report as much on him as I would have.
>
> No. 74: (Interview 3): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

She went on to explain that this student had no diagnosis other than emotional disturbances. His funding for additional support was linked to his aboriginality and there were two other children from his family at the school, both boys were violent and the girl was shy and withdrawn. This preservice teacher had seen the girl come to school with black eyes from her siblings' physical violence at home. She did not elaborate to explain how she would have responded if the student had shown physical violence towards her but clearly, from her interview comments, this experience and potentially the knowledge she had from her disability studies degree had positively affected her self-efficacy for providing a specialised response, (for which she scored 5.33 compared to the average of 4.42) and in particular, on her confidence in dealing with physically aggressive students, which she rated as 6.

The first interviewee highlighted the issue of limited knowledge for those preservice teachers who were not undertaking disability studies. She emphasised the differences for those combining their ITE course with the Arts in particular. She noted:

> A concern is the Arts degree where they don't do a lot with disabilities. I find that it is really lacking and that's where a lot of [preservice teachers] would feel overwhelmed with the diversity of the classroom... Some key topics that we do, I don't understand why the others don't do [also]. Topics like 'students with literacy difficulties' and 'students with numeracy difficulties', it would be really helpful. All [preservice teachers] should be doing that. Positive behaviour support definitely should be touched in education… In tutorial discussions, just hearing their queries… sometimes the [preservice teachers] are recognising that they are not knowledgeable enough… they know themselves they are not ready to teach students with disabilities.
>
> No. 36 (Interview 5): female, 18-23 years, Bachelor of Education (Primary R-7 and Special Education/ Bachelor of Disability Studies)

This viewpoint was supported by another interviewee who had not combined disability studies with her education degree. She commented,

> When I think about the topics that Disability [Studies] and Education students do…The first topic I have ever had with any students from Disability [Studies] in my class specifically [was the Professional Educator topic]. Even when I was in Differentiation, I did not have any of those Disability [Studies] students in my class because they had already done Differentiation earlier….They have such a different perspective on so many things. Their perspective is so different to mine. I am learning a lot from my peers. Even though it is not actually a class for that.
>
> No. 109 (Interview 1): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Health Sciences

Professional placement in a specialist setting

The statistical test results indicated that preservice teachers who had their professional placement in a specialist setting were significantly more efficacious for the subscale Specialised Response than those who experienced a regular class, with a large effect size. As discussed earlier, of the 14 preservice teachers who had completed their professional placement in a specialist setting, all but two of them were completing a double degree with disability studies. It is likely that their stronger self-efficacy for providing a specialised response to students with disability is associated with the additional knowledge and skills acquired through the disability studies component of their degrees.

Professional placement experience of teaching students with disability

The statistical test results also indicated that preservice teachers felt more efficacious for the subscale Specialised Response if they had the experience of teaching students with vision impairment (large effect size), significant challenging behaviours (large effect size), developmental delay (medium effect size) or ASD (medium effect size).

Almost all of the preservice teachers in the sample indicated they had experiences in teaching students with at least one of these disability types during their final professional placement (n=103: 89.5%) but it was clear from the survey comments and interview responses that these were varied.

One of the interviewees described the positive behavioural support approach used for supporting a student with a combination of difficulties that affected his learning, including Attention Deficit Hyperactive Disorder

(ADHD), autism (higher functioning), lower literacy levels, slight developmental issues and some issues with his homelife. The interviewee said,

> He would hype himself up and to calm him down the process was to kick him out of the class, to give him five minutes alone and he would come back in.

This interviewee also had experienced teaching a student with Prada Willi syndrome and associated significant challenging behaviours of this disability. He said of that experience,

> I let the mentor and teachers take the role on that because there were often breakdowns where there were two or three teachers, a couple of leadership and maybe the whole SSO team in the room trying to sort the problem out.
>
> No. 37 (Interview 6): male, 24+ years, Bachelor of Education (Secondary)/ Bachelor of Arts

Another interviewee discussed her approach for supporting students with disability and additional needs while on placement but interestingly, she still expressed concern about her preparedness for disability-inclusive education. She explained,

> I basically did not need to [seek any other assistance] because once I figured out that this child had attention deficit, I would break down my instructions, I would write it on the board. This is something that came naturally to me. I was not told to do these things. I wrote on the board for her so that she could see it. One of the students got anxiety when he did not know what to expect out of the day, so I would give him a personalized schedule.
>
> I am a bit concerned that I am not prepared. And I am quite sure that once we get in there, if we are not afraid to ask for help, I think we should be OK. It is basically being aware of the kids and helping them out whenever we can.
>
> No. 21 (Interview 11): female, 24+ years Bachelor of General Science/Master of Teaching (Primary R-7)

A different interviewee described how she had drawn on her experience and knowledge of working with students with disability to be able to help another preservice teacher who was unsure about how to approach the significant challenging behaviours of a student while they were on professional placement. She said,

> We were in an open space environment where there were two teachers in the room with 60 children… [the other preservice teacher] did ask a couple of times about, "how do you deal with this particular child,"—the one that would talk back to us, the trauma child—because he felt that he was butting heads and he did not have the strategies to deal with it. I just said focus on the primary behaviour and once you've picked the primary behaviour to focus on, he will escalate and escalate and start swearing at you and kicking and throwing things, and make sure you focus on that initial behaviour. Just ignore the rest of it. I think that probably helped him a lot but he was very nervous coming into that environment just from having university training.
>
> No. 33 (Interview 8): female, 24+ years Bachelor of Education (Primary and Middle)

The following comment offers an explanation about why preservice teachers develop stronger self-efficacy for providing a specialised response after having had the experience of teaching students with disability.

> For me, going out on to placement was where I learnt a lot of my skills and my knowledge around children with disabilities…how to teach them and learning a lot from my mentors as well…. It is not until you go into placement that [the] information starts to make sense.
>
> No. 16 (Interview 12): female, 24+ years, Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

These scenarios show the variation in self-efficacy for providing a specialised response after engaging with the practical and vicarious experiences of a challenging professional placement. The self-efficacy scores of the preservice teachers quoted above ranged from 3.00 to 5.67 compared with the average of 4.42. It should be mentioned that the experience of teaching students with intellectual disability had a small negative effect on self-efficacy for the subscale Specialised Response, albeit without significance.

Understanding the positive and negative effects of various disability types on the self-efficacy and preparedness of preservice teachers for providing a specialised response (i.e., Tiers 2 and 3 of the MTSS framework) continues to be an area of further research which could help with further development of ITE course curricula that supports disability-inclusive education.

5.2 Comments related to readiness for the Australian Professional Standards for Teachers

This section provides further information to explain preservice teachers readiness for the Australian Professional Standards for Teachers, at the graduate level. The information comes from analyses of both the survey comments and interview transcripts and links in with the explanations provided in the previous section regarding significant variables that affect self-efficacy for disability-inclusive teaching.

5.2.1 Differentiating the Curriculum

Differentiating the curriculum is a focus area of Standard 1 of the Australian Professional Standards for Teachers related to knowing students and how they learn. Specifically, the requirement of graduate teachers is to *demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities* (Australian Institute for Teaching and School Leadership, 2011).

Approximately, an equal number of preservice teachers were either very ready (n=38; 50.6%) or less ready (n=39; 49.4%) to differentiate the curriculum. Six who said they were only somewhat ready to differentiate the curriculum provided extra comments in their surveys to explain their lower ratings and two of these preservice teachers were interviewed (No. 21;48). One of the respondents who was not really ready was also interviewed (No.20).

The variables that affected readiness for differentiating the curriculum with statistical significance were combining the ITE course with a degree in disability studies and having the professional experience of teaching students with developmental delay, vision impairment and/or autism. These variables also had statistically significant positive effects on self-efficacy for the subscale Specialised Response but not on self-efficacy for the subscale Inclusive Instructions (see Table 5.63).

Other variables that were shown to have an effect on readiness for differentiating the curriculum but did not have statistical significance included gender, living with disability, year level focus of the ITE course and year level of the professional placement, whether the placement experience was in a mainstream or specialist class and the experience of teaching students with physical disability or significant challenging behaviours.

A selection of comments related to these variables have been included in the upcoming sections beginning with those variables that had significant influence.

ITE course type – with disability studies

The Chi square statistical test results showed a significant positive relationship between differentiating the curriculum and undertaking an education degree that was combined with disability studies or special education (with a small effect size). Nine of the preservice teachers who had combined their education degree with disability studies or special education provided further comments. Seven of these respondents indicated they were very ready to differentiate the curriculum and two felt only somewhat ready.

The comments below of two preservice teachers who felt very ready highlight that knowing how to respond to the varied learning requirements of students with disability through differentiation was a large part of the double degree program.

> Differentiation is the basis for my entire teaching philosophy.
>
> No. 10: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/Bachelor of Disability Studies

> This has been a massive focus in the special education course. I am confident in differentiating for different students.
>
> No. 17 (Interview 10): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Another preservice teacher's comments revealed her clear understanding of the importance of differentiation as a professional skill, which she had gained through the theoretical component of her ITE course, as well as her professional placement experience in a mainstream year 1 class. This preservice teacher was very ready for differentiating the curriculum.

> Through doing pre-assessments and formative assessments, I was able to determine the children's different readiness levels and differentiate their lessons accordingly. Differentiating allows the children to be learning at their level and to progress with their learning.
>
> No. 11: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies

Similarly, the following preservice teacher emphasised the importance of practicing differentiation while on professional placement. This preservice teacher undertook her placement in a specialist setting and had experience teaching students with developmental day and ASD.

> I have engaged in differentiation of content throughout my placement. Catering to the learning needs of students, making accommodations and modifications where necessary.
>
> No. 88: female, 24+ years Bachelor of Education (Early Childhood and Special Education)/Bachelor of Disability Studies

Another preservice teacher's comment indicated her awareness that the skills of differentiation would be developed further with more practice over time once she began work as a professional teacher. This preservice teacher felt only somewhat ready to differentiate the curriculum.

> [Differentiating the curriculum] is something that will become easier with practice.
>
> No. 48 (Interview 4): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Professional experiences of teaching students with disability

Most of the preservice teachers' survey comments reflected the positive experiences of practicing differentiation in schools while on their professional placement and learning how to teach students with varied learning requirements including those with disability. The following comments reflect skill development and growth in confidence. The first of these was made by a preservice teacher who was very ready to differentiate the curriculum and the second two by preservice teachers who felt only somewhat ready.

> I am confident in differentiating the curriculum to include multiple exit and entry points for all students to participate.
>
> No. 33 (Interview 8): female, 24+ years Bachelor of Education (Primary and Middle) (experience with autism)

> I have found so far, the more I've done at uni and on placement the better I am getting at it, I believe it just will take practice and knowing the students.
>
> No 30: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts (experience with developmental delay; autism)

> I found this [differentiating the curriculum] difficult on placement…I learnt a lot but found that learning through experiences was most helpful (being exposed to disabilities I wasn't aware of etc.)
>
> No. 35 female 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (experience with developmental delay; autism; vision impairment)

There were a number of comments where preservice teachers took the opportunity to describe the processes used for differentiation and some seemed to want to express their clear understanding of the reasons for differentiation. The following comment is one example.

> Differentiation is something that I embed within my teaching, this does not always mean designing individual lesson plans. Rather, considering how the lesson can be modified in order to meet student needs.
>
> No. 31 (Interview 7): female, 18-23 years Bachelor of Education (Early Childhood) (experience with autism)

There were a smaller number of comments that indicated preservice teachers' uncertainty due to limited knowledge of how to assist students with disability. The preservice teacher who made the following comment was feeling somewhat ready to differentiate the curriculum.

> I sometimes feel as though I am unsure on how best to be allowing students to be engaging with the curriculum.
>
> No. 2: female, 18-23 years Bachelor of Science/Master of Teaching (Secondary) (experience with autism)

Personal attributes – gender

When I integrated my analyses of the qualitative comments with the results found from the Chi square test of independence for differentiating the curriculum, the findings confirmed that some of the female preservice teachers found differentiation hard.

Four of the female preservice teachers who felt less ready for differentiating the curriculum explained:

> With the year 7s, I had planned a whole unit on water. I had already differentiated a bit but without knowing where I was going to have to pull students in or extend tasks out. It was a hard thing to do.
>
> No. 109 (Interview 1): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Health Sciences

> It was hard. I think it took me three weeks to work out the differentiation…by the end [of a six-week placement] I saw some progress, but it was hard.
>
> No. 74: (Interview 3): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

I can differentiate tasks for students but find it difficult to do it all the time.

No.79: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts

Since all students have different needs, I find this is the hardest aspect of teaching.

No. 48 (Interview 4): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Three preservice teachers commented on their limited practical experience with differentiation and of these, two had said they were not really ready and one only somewhat ready to differentiate the curriculum. Two explained why in their interviews.

I've had very limited experience in this area. While it has been good to go on placement and interact with students with disabilities, by the time I [had got] there and [got] to work with my class, the student [with additional needs] had been either assigned a different unit all together or they'd been working heavily with an SSO.

No. 20 (Interview 9): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

I believe teaching student teachers about differentiation before going on placement is essential so that one has some knowledge when they start…I do not feel prepared as I haven't got the opportunity to learn, implement and then reflect on my practice.

No. 21 (Interview 11): female, 24+ years Bachelor of General Science/ Master of Teaching (Primary R-7)

This next comment was from a preservice teacher who said she was very ready to differentiate the curriculum, but her remark revealed how challenging she had found the execution of these skills when put into practice.

The hardest part is the time it takes to effectively plan differentiation to meet the range of different needs of individual students, especially in mainstream.

No. 17 (Interview 10): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Personal experience – living with disability

Six of the survey respondents who lived with disability themselves provided additional comments on differentiating the curriculum. Five were very ready and one was somewhat ready. All of their comments were positive. Two of the preservice teachers were interviewed. One had dyslexia, learning disabilities and a history of trauma and the second had depression. Although, they commented positively on their readiness to differentiate the curriculum, inductive analysis suggested that their positivity was not so much related to the influence of living with disability but rather to the benefits of the *Differentiation for diverse learners* topic. This was a topic undertaken just prior to completing the final year professional placement. Both were very ready to differentiate the curriculum and said,

> Undertaking the topic of differentiation was very helpful in helping differentiate my learning task. I was also confident in changing task last minute when I saw not all students were able to do or understanding the task.
>
> No. 36 (Interview 5): female, 18-23 years, Bachelor of Education (Primary R-7 and Special Education/ Bachelor of Disability Studies)

> Luckily, the differentiation topic…gave us a broad outline of how to deal with students. So, through word of mouth and observation I was able to identify what the students' required and how I could help to differentiate the topic to make sure they had access to it.
>
> No. 37 (Interview 6): male, 24+ years, Bachelor of Education (Secondary)/Bachelor of Arts

It appears from these comments that professional experience was also influential in the development of strong self-efficacy. Importantly, the opportunity to receive information from others, make observations and then put the theory into practice, emphasising the importance of mastery.

ITE course type – year levels

In relation to year level focus of the ITE courses, there were no clear trends in the comments regarding how this variable affected readiness for differentiating the curriculum. Therefore, the small positive effect of undertaking a primary teaching course compared to an early childhood course was not explained. This variable did not have statistical significance and further analysis was not pursued.

Although not related directly to the year level focus of teaching, it was worth noting that several preservice teachers commented that it would have been better to learn about differentiating the curriculum earlier in

their ITE course. The following comments from three of the interviewees explain how helpful this topic was for them, why they would have liked to have had the information earlier, and how it would have been beneficial to practice their skills on more than one professional placement.

> I believe that I would be more confident about differentiation if it was introduced at the beginning of the degree and taught more explicitly throughout.
>
> No. 83: female, 24+ years Bachelor of Education (Primary R-7)/Bachelor of Arts

> We did one topic on differentiation only in the first semester…[before] my final prac but not for any other prac I have completed. It was eye opening because nobody had been taught how to write a lesson plan and nobody ever taught you how to write a unit plan and you got to this final subject in this final year and they said, "What are you guys doing, you've been doing it wrong the whole time". How to actually make a task that is specifically differentiated… [even though] I thought it was quite primary focused, you could still draw so much from it… In my third year prac I did not have anything. We had nothing at uni that prepared you for what we were going in to…
>
> I would have adjusted it so that we do a lot of our education subjects a little bit earlier… I would push those subjects that I have had between my third prac and my fourth prac to before my third prac Because I would really like that actual knowledge of how to do things in an explicit way taught to me, so I can apply it to my own teaching.
>
> No. 109 (Interview 1): female, 18-23 years Bachelor of Education (Secondary)/Bachelor of Health Sciences

> When I came back [from professional placement] and we had the differentiation course, I told them this is something that you should be doing before we go out. Because even though I saw some things, and the fact that in the Masters' program we have many varied backgrounds coming in, not all of them have some experience in teaching. It is necessary that we have the differentiation course before we go, so we have some strategies and skills.
>
> No. 21 (Interview 11): female, 24+ years Bachelor of General Science/Master of Teaching (Primary R-7)

Professional placement type – specialist setting

The Chi square results showed a small to medium positive effect of having undertaken a professional placement in a specialist class. The following comments of preservice teachers with this experience explained why differentiation was so important in this setting.

> I had a special education class with very diverse needs - differentiation was required to support students.
>
> No. 54: female, 24+ years Bachelor of Arts (Education (Primary R-7) Pathway)

> The differentiation topic was something that definitely came in to play in [the special] class. Trying to make sure that you are getting the right level of information for the kids you are teaching… that was basically eight different levels with the eight different kids in the class with such special needs.[10]
>
> No. 48 (Interview 4): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Interestingly, some of the interview participants had suggested that preservice teachers should participate in at least one specialist placement during their education degree to become more familiar with the different types of teaching practices required to teach students with disability. As the following interviewee stated,

> I think that all mainstream teachers, even if they are not doing special education or disability, should have to go into a special education unit, so they have that experience of what it is like teaching students with disabilities. I have met so many teachers that have never worked with students with disabilities. I think, hang on a second, you are a teacher, you should be able to teach anyone.
>
> No. 16 (Interview 12): female, 24+ years, Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

[10] In SA mainstream schools there are more students than in a specialist setting, which usually has a maximum of 12 students in a secondary class and 8 students in a primary class.

In contrast to the positive effect of undertaking professional placement in a specialist setting on differentiating the curriculum, as shown by the Chi square test, the results of the t-test for Inclusive Instructions indicated a significant negative effect (with a medium effect size) on the self-efficacy of preservice teachers when they had a specialist placement compared to their peers who had placements in regular classes. These opposing statistical findings raise a question about the respondents' interpretation of differentiating the curriculum and Inclusive Instructions, and the differences that they perceive between these skills of disability-inclusive teaching. When I reflected on the findings and on the five items which composed the overall self-efficacy score for Inclusive Instructions (i.e., using a variety of assessment strategies; providing alternate explanations or examples when students are confused; accurately gauging student comprehension of what is taught; providing appropriate challenges for very capable students; getting student to work together in pairs or small groups), it seemed from the comments made by this sample of SA preservice teachers that differentiating the curriculum was being regarded as a standalone component of education. That differentiating the curriculum was seen as a teaching requirement to engage students with disability in learning tasks regardless of the type of school setting. Whereas Inclusive Instructions were interpreted as a compilation of approaches that were more commonly associated with teaching in a mainstream setting. This may be why the TEIP item related to differentiation of the curriculum—i.e., *I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated*—was not aligning to the factor of Inclusive Instructions in the EFA results. Further research to understand preservice teachers' perceptions of differentiating the curriculum as a component of Inclusive Instructions may be useful in determining the pros and cons of specialist setting professional placement experiences for initial teacher education.

5.2.2 Practicing legal obligations related to students with disability

Understanding teachers' legal obligations in relation to students with disability is another focus area of Standard 1 of the Australian Professional Standards for Teachers related to knowing students and how they learn. Specifically, the requirement of graduate teachers is to *demonstrate broad knowledge and understanding of legislative requirements and teaching strategies that support participation and learning of students with disability.* (Australian Institute for Teaching and School Leadership, 2011). This area of professional practice is also incorporated into Standard 7.2, which relates to compliance with legislative, administrative and organisational requirements.

There were more preservice teachers who felt less ready (n=43; 57.3%) to practice their legal obligations related to students with disability than those who felt very ready (n=32; 42.7%). Of those who felt less ready, six preservice teachers were not really ready. Two of these preservice teachers provided additional comments to explain their survey responses and one was interviewed.

The variables that affected readiness for practicing legal obligations with statistical significance were the year levels taught while on professional placement (those placed in secondary or primary classes felt more ready than those placed in an early childhood class) and the experience of teaching students with autism. Of these variables, preservice teachers who had their placement in an early childhood class were also significantly less efficacious for Inclusive Instructions (with a medium effect size). Teaching students with autism had a significantly large positive effect on self-efficacy for the subscale Specialised Response (see Table 5.63). Most preservice teachers experienced teaching students with autism (78%) therefore, individual comments from this group could not conclusively be related to this variable and have not been shared.

Other variables that were shown to have a small to medium effect on practicing legal obligations related to students with disability but did not have statistical significance were gender, year level focus of the ITE course, combining the ITE course with disability studies and the experiences of teaching students with hearing impairment, significant challenging behaviours and speech and language impairment (the latter of which showed a small negative effect).

When I overlayed the comments obtained via the survey and through interviews, the responses were varied. They indicated that this sample of preservice teachers had a reasonable understanding of teachers' legal obligations to include students with disability, coupled with a clear desire to provide quality education equally. However, it should also be noted that the mean score for this sample of preservice teachers' self-efficacy to inform others who know little about laws and policies in relation to the inclusion of students with disabilities was 4.31, which was the third lowest score of the TEIP items (see Table 4.7, page 98) and also the third lowest score according to my interpretation of self-efficacy and readiness scores against the MTSS framework (see Table 4.66, page 144). These findings suggest that understanding laws and policies related to inclusion of students with disability in mainstream education and being able to confidently communicate these to others is an area of further development for preservice teachers during their ITE program.

Professional placement by year level

When the comments of preservice teachers who had undertaken their professional placement in an early childhood class were reviewed, there was a mixture of sentiments and the significant negative effect of having taught in an early childhood class was not clearly explained. It was obvious that some of this group were concerned about practicing their legal requirements. Three of the six preservice teachers who said they were not really ready for this domain provided some insight about their feelings or preparedness. Although the second preservice teacher had been interviewed, she did not elaborate any further on why she felt she had limited professional understanding of her legal obligations.

> I am not very confident that I am aware of the laws regarding people and students with a disability.
>
> No. 32: female, 24+ years, Bachelor of Education (Early Childhood)

> Although I am aware that I have legal obligations, this is something that I will need to learn more about as I have more general knowledge rather than professional understanding.
>
> No. 31 (Interview 7): female, 18-23 years, Batchelor of Education (Early Childhood)

> This is an area I need to improve on.
>
> No. 113: female, 18-23 years, Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies

In contrast, the following preservice teacher who had her professional placement in an early childhood class expressed views that indicated she was very ready.

> I understand the legal obligation of teachers regarding teaching students with disabilities. It is vital to provide lessons that are accessible to all students whether that be physically or intellectually. No student should ever be left out of an activity due to their disability and it is important for teachers to lead by example in terms of equality and respect for all people.
>
> No. 105: female, 18-23 years, Bachelor of Education (Primary R-&)/Bachelor of Arts

Personal attributes – gender

It is possible that the significant difference in preservice teachers readiness for practicing legal responsibilities when they had undertaken their professional experience in an early childhood class could perhaps be explained by the variable of gender. There were 12 times as many females completing an early childhood ITE course than males and the Chi square test showed that female preservice teachers felt less ready than males for practicing their legal requirements (although this result was not significant). When more comments of females were reviewed there continued to be some indication that this group of preservice teachers were feeling less ready for their legal obligations for disability-inclusive education.

> I have a vague understanding of this, but certainly not enough to feel confident in doing so.
>
> No. 83: female, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts

> More information should be provided by the university about this for general education students who are not studying disability education - every teacher will teach students with disabilities so it is therefore the responsibility of every teacher to understand the needs of all students.
>
> No. 55: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts

> I have a brief understanding of legal obligations and can use common sense to know when students are being unlawfully discriminated or excluded in schools. However, in placement I had little chance to experience this.
>
> No. 36: female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

In addition, the three respondents who said they were not really ready to practice their legal obligations in relation to students with disability were all female. Two provided comments which indicated their awareness of the laws related to disability-inclusive education but unfortunately, they did not explain why their sense of readiness was low.

> There are several different acts which require teachers to include students with disabilities in the classroom. The Disability Standards for Education (2005) requires that all students in the classroom with disabilities must be able to equally participate in the classroom. ACARA also requires an equal opportunity for all students in the classroom.
>
> No. 56 (Interview 2): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

> I know that every student has a right to learn and be included in school and this is no different for students with disabilities. As the teacher, the buck stops with me: it is my job to make sure that my students with disabilities are not excluded or prevented from learning in any way.
>
> No. 7: female, 24+ years Bachelor of Education (Secondary)/ Bachelor of Science

ITE course type – year levels

When the comments of preservice teachers who were undertaking a secondary teaching ITE course were reviewed to seek an explanation for the small to medium positive effect of this variable, again it was not clear why this variation in readiness was present. Concerns were expressed by preservice teachers undertaking secondary teaching. Below are examples. It appeared that most preservice teachers reflected

limited knowledge of this area of the professional expectation and some suggested more information could be provided through their course.

> The law requires it, but I would do this anyway. I think the existing culture amongst practicing teachers will be an obstacle though.
>
> No. 64: male, 24+ years, Bachelor of Arts; Master of Teaching (Secondary Pathway)

> I have not had exposure to the disability discrimination act, besides my own research.
>
> No. 109: (Interview 1): female, 18-23 years, Bachelor of Education (Secondary)/ Bachelor of Health Sciences

> I think I am capable of doing this to some degree because I would never act in a way that is discriminatory or non-inclusive toward ANY student. But in all honesty, I am not very familiar with the legality of it.
>
> No. 20: (Interview 9): female, 18-23 years, Bachelor of Education (Secondary)/ Bachelor of Arts

ITE course type – with disability studies

In contrast, those preservice teachers who had undertaken a combined degree with disability studies or special education appeared to be very well informed about the legalities of disability-inclusive education and were passionate about disability-inclusive teaching, as the following three comments show.

> All students are entitled to an education and the skills I have developed allow me to provide educational lessons and activities to neurotypical and those with disabilities. The DDA [Disability Discrimination Act] provides those with disabilities the legal right to education.
>
> No. 88: female, 24+ years Bachelor of Education (Early Childhood & Special Education)/Bachelor of Disability Studies

> Inclusion refers to processes that allow meaningful participation of students with disabilities in mainstream education as opposed to their mere integration. Students with disabilities must have the same learning opportunities as their peers, must have access to the content (through differentiated practice) and be able to participate in the cohesive learning outcome in the classroom. Micro and macro exclusion must not occur, the needs of students must be accommodated.
>
> No. 13 (Interview 13): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/Bachelor of Disability Studies

> Yes, I do [feel ready], but it shouldn't be a "legal obligation". People with disabilities deserve high quality learning.
>
> No. 122: female, 18-23 years, Bachelor of Education (Secondary)/ Bachelor of Special Education

5.2.3 Find and learn new disability specific information

A teachers' capability to find and learn new disability specific information is another focus area of Standard 1 of the Australian Professional Standards for Teachers related to knowing students and how they learn. The requirement of graduate teachers is again to *demonstrate broad knowledge and understanding of legislative requirements and teaching strategies that support participation and learning of students with disability.* (Australian Institute for Teaching and School Leadership, 2011).

There were slightly more preservice teachers who felt less ready (n=40; 54%) to find and learn new disability specific information than those who felt very ready (n=34; 46%). Of those who felt less ready, five were not really ready and three of these respondents provided additional survey comments to explain their rating but none were interviewed, so further elaboration was not possible.

The only variable that affected readiness for finding and learning new disability specific information with statistical significance was combining the ITE course with disability studies (with a small effect size), which suggests that when specialised knowledge and experience is built into the ITE course, it has a significantly positive impact on preservice teachers' readiness to find and learn new disability specific information.

The effect of some other variables on finding and learning new disability specific information were only small and were not statistically significant. These were gender, age, year level focus of professional placement, placement in a specialist setting and the experiences of teaching students with developmental delay, vision impairment, autism and significant challenging behaviours.

When I analysed the qualitative comments of both the surveys and interviews for this domain there appeared to be no supportive explanation for the effects of gender or age on the preservice teachers' levels of readiness for this professional skill. Nor was there any notable explanation related to the year level focus of the professional placements.

ITE course type – with disability studies

Those preservice teachers who provided positive explanatory comments mostly were undertaking a combined degree with disability studies.

I would be able to do my own research, which is what I had to do for placement. I would source the special educator if I needed to, at a school. I feel like I have a good beginning knowledge on some of the common disabilities and difficulties that may be seen in a classroom.

No. 11: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies

During my placements I was aware of staff sharing information about upcoming professional development opportunities and sharing of information and experiences.

No. 48: female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Three of the preservice teachers who felt not really ready to find and learn new disability specific information were not combining their education degree with disability studies or special education. Their comments are below and are followed by other preservice teachers' comments which also reflect a lack of confidence in this domain.

I haven't been taught a lot about this at uni.

No. 69: female, 18-23 years Bachelor of Education (Early Childhood)

I have not been exposed to this yet, however I am sure there will be resources to help me through this situation.

No. 24: male, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

Other than googling, I don't know of any other specific locations for acquiring that knowledge.

No. 8: female, 24+ years Bachelor of Education (Early Childhood)/ Bachelor of Arts

I had seven students with a range of disabilities (Phelan McDermid syndrome etc.) that I had never heard of. Most common one taught at uni is ASD [Autism Spectrum Disorder] (all of my students were on the spectrum).

No. 54: female, 24+ years Bachelor of Arts (Education (Primary R-7) Pathway)

I think I would be able to do this, but I wouldn't know where to go to find accurate and appropriate information without asking somebody first.

No. 20 (Interview 9): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

I'm not sure how to go about this when accessing it for the first time.

No. 93: female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

Many of these less ready preservice teachers were undertaking an education degree combined with the Arts including four of the five preservice teachers who indicated they were not really ready for finding and learning new disability specific information, but they were from different gender groups, age ranges and from courses with different year level foci. This finding was a prompt to analyse the course documents to understand the level of content related to disability-inclusive education that was being shared through the Arts degree. Appendix Seventeen shows that education degrees combined with the Arts had less disability related topics across all year level foci (early childhood, 4; primary 5; secondary 5). In addition, Table 6.2 shows that education degrees combined with Arts consequentially had the least frequent number of disability related words in their documents for courses focused on early childhood and secondary teaching.

Encouragingly, more than half of the preservice teachers' mentioned their willingness and commitment to use their initiative to learn more about specific disabilities. The following comments provide examples.

> There are many ways you can learn about new disability information. Autism SA [which is a non-government not-for-profit disability organisation] run many courses to give more information about autism for educators. Various on-line modules are available. Asking various health professionals is also another option, as well as asking the Special Education coordinator at the school.
>
> No. 56 (Interview 2): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts

> I feel as though I have a lot to learn regarding specific disability information. I am aware that I can research on-line myself and, in the future, I plan to complete further training or workshops for positive strategies to implement regarding children with specific disabilities.
>
> No. 105: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts

Some of the preservice teachers were noticeably confident about how to access extra information and had already experienced using extra resources to assist them with their own professional learning in addition to ITE course.

> I know there are many resources out there for me to upskill myself. I am in the process of completing an on-line certificate for disability training.
>
> No. 7: female, 24+ years Bachelor of Education (Secondary)/ Bachelor of Science

> SERU [the Special Education Resource Unit of the Department for Education] has been helpful as well as having completed 80 hours of professional development [through my employment as a teaching assistant]
>
> No. 33 (Interview 8): female, 24+ years Bachelor of Education (Primary and Middle)

5.2.4 Seeking Specialist Assistance

The expectation that teachers will seek specialist assistance to support students' learning when required is a focus area of Standard 7 of the Australian Professional Standards for Teachers related to engaging professionally with colleagues, parents/carers and the community. The specific requirement of graduate teachers is to *understand the role of external professionals and community representatives in broadening teachers' professional knowledge and practice* (Australian Institute for Teaching and School Leadership, 2011). For the purposes of this research, the expectation of preservice teachers to seek specialist assistance was incorporated within their requirement to *support participation and learning of students with disability* (i.e., Professional Standard 1.6).

There were many more preservice teachers who felt less ready (n=47; 63.6%) to seek specialist assistance than those who felt very ready (n=27; 36.5%). Of those who felt less ready, six preservice teachers were not really ready and one respondent was not at all ready. Six of these preservice teachers provided additional comments to explain their survey responses and two were interviewed, including the preservice teacher who said they were not at all ready for this domain of professional practice.

The only variables that affected readiness for seeking specialist assistance with statistical significance were the experience of teaching students with either physical disability and/or vision impairment while on professional placement with a small to medium positive effect. Of these, teaching students with vision impairment had a significantly large positive effect on preservice teachers' self-efficacy for both the subscales of Collaboration and Specialised Response, and a significant positive effect on the subscale Managing Behaviour with a medium effect size (see Table 5.63).

Other variables that were shown to have an effect on seeking specialist assistance but did not have statistical significance were the experiences of teaching students with developmental delay and speech or language impairment while on professional placement, and the experience of teaching in a primary class compared with a secondary class, with small positive effects.

When I analysed the qualitative comments of both the surveys and interviews for this domain there were limited explanations for these statistical results. The one preservice teacher who was not at all ready had undertaken a secondary professional placement and had taught students with hearing impairment and autism. She commented:

> I would have to speak to other staff at the school about this because I would not know how to go about it.
>
> No. 20 (Interview 9): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (year 9 placement)

Of the other preservice teachers who said they were not really ready to seek specialist assistance, they were from varied courses and year level foci, and proportionally, they represented a mix of gender and age groupings. A selection of these preservice teachers' comments also reflects limited experience in seeking specialist assistance and their need to ask for help.

> I haven't had a lot of experience talking to specialists but I do understand the importance of all professionals being in contact with each other and bringing together all the information they know on a particular student.
>
> No. 36 (Interview 5): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

> I would need to seek guidance within a school to identify how to go about finding specialist assistance for a student with a disability.
>
> No. 83: female, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts

> I'm not sure where to access this from.
>
> No. 3: female, 18-23 years Bachelor of Education (Early Childhood)

> On my placement I learnt that [specialist assistance] is not always available to you.
>
> No. 69: female, 18-23 years Bachelor of Education (Early Childhood)

Professional experiences of teaching students with disability

The sample of preservice teachers who had the experience of teaching students with physical disability and/or with vision impairment was small (n= 18 and n=15 respectively, and of these six taught both). Ten of these preservice teachers provided additional comments in their survey to explain their responses and three were interviewed. Their comments were positive, as indicated in the sample provided below.

> You can seek specialist assistance from the special education coordinator at the school to help develop a negotiated education plan. Working with the school psychologist and social worker can also help with assistance for some students.
>
> No. 56 (Interview 2): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (experience of teaching students with vision impairment)

[Seeking specialist assistance] can be from peers in the staffroom, parents of the children, staff from the support unit, year advisor (potentially).

No. 24: male, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (experience of teaching students with vision impairment)

I had the benefit of working with allied health staff to support student learning.

No. 54: female, 24+ years Bachelor of Arts (Education (Primary R-7) Pathway) (experience of teaching students with vision impairment and physical disability)

I would speak to the special educator if I needed to find out more information. I would also speak to other teachers too, to gain their knowledge.

No. 11: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies (experience of teaching students with vision impairment and physical disability)

Speech Pathologists provide a valuable contribution to student learning as communication is at the core of how we learn.

No. 55: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts (experience of teaching students with physical disability)

Other preservice teachers also commented on how fortunate it was to have experience working with specialists while on professional placement.

I was able to work with a speech therapist on placement about implementing different approaches and strategies within the classroom to help my student with down syndrome, ASD [autism spectrum disorder] and an intellectual disability. This was very beneficial as I had never experienced this before.

No. 16 (Interview 12): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies (experience of teaching students with intellectual disability, autism and significant challenging behaviours)

Collaborating with other professional is a key part of my practice and something which I have done while on placement as a preservice teacher. I can see that as a graduate I will be seeking professional expertise.

No. 31 (Interview 7): female, 18-23 years Bachelor of Education (Early Childhood) (experience of teaching students with intellectual disability, autism and speech or language impairment)

Others commented on the limited experience they had liaising with specialist professionals to assist students with disability even though they had students with disability in their classes. For example, one respondent explained,

> I have not yet had a chance to work with professionals such as OT's [occupational therapists].
>
> No. 10: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/Bachelor of Disability Studies (experience of teaching students with developmental delay, intellectual disability, autism and significant challenging behaviours)

ITE course type – year levels

A review of those preservice teachers who had their professional experience in primary classes showed awareness of the availability of specialist assistance for students with disability but as reflected in some of the earlier comments, many would need to ask colleagues for help when seeking this assistance.

> I know if the child has an NEP/ILP [Negotiated Education Plan/Individual Learning Plan], then the contact details for the specialist who did the assessment are provided. As for a new assessment, I am not sure at all. I guess this would be a case of asking colleagues or supervisors.
>
> No. 128: female, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts

> If seeking help, I would first go to my coordinator, assistant principal or principal. I would then find out the process for getting in contact with speech therapists, psychologists or any other health profession[al].
>
> No. 105: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts

> I wouldn't initially know how to go about accessing assistance outside of the school. I would require support from leadership to do so.
>
> No. 17 (Interview 10): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

> There are people who know more than we do in these areas, so it is important to listen and work with them to benefit the student.
>
> No. 30: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts

Many comments indicated recognition of more experienced staff within schools that could provide specialist assistance when required, and the importance of liaising with parents or carers. One secondary focused preservice teacher even acknowledged the expertise of the students themselves.

> People within the school who are either the ones who organise [or] give support for students with disabilities, those who have taught them before, their parents, and the student themselves.
>
> No. 2: female, 18-23 years Bachelor of Science/Master of Teaching (Secondary)

5.2.5 Liaising with other professionals

The expectation that teachers will liaise with other professionals to support students' learning when required is again a focus area of Standard 7 of the Australian Professional Standards for Teachers related to engaging professionally with colleagues, parents/carers and the community. The specific requirement of graduate teachers is to *understand the role of external professionals and community representatives in broadening teachers' professional knowledge and practice* (Australian Institute for Teaching and School Leadership, 2011). For the purposes of this research, the expectation of preservice teachers to liaise with other professionals was incorporated within their requirement to *support participation and learning of students with disability* (i.e., Professional Standard 1.6).

Approximately, an equal number of preservice teachers were very ready (n=37; 51.4%) and less ready (n=35; 48.6%) to liaise with other professionals. There were only two who felt not really ready and one of these preservice teachers commented to explain their lower score. She said:

> I wouldn't know initially who to specifically liaise with but once I knew I would seek their advice and complete further training on the topic.
>
> No. 8 Female 24+ years Bachelor of Education (Early Childhood), Bachelor of Arts

The only statistically significant variable that affected the preservice teachers' readiness for liaising with other professionals was the experience of teaching students with vision impairment while on professional placement with small positive effect. As with the domain seeking specialist assistance, teaching students with vision impairment had a significantly large positive effect on preservice teachers' self-efficacy for the subscale Collaboration, and a significant positive effect on the subscale Managing Behaviour with a medium effect size (see Table 5.63).

Other variables that were shown to have a positive effect on liaising with other professionals but did not have statistical significance were having the experience of disability through a family member or close friend, combining the ITE course with disability studies, undertaking professional placement in a primary

class and having the experience of teaching students with developmental delay, autism and physical disability while on professional placement. The effect size of these variables was small to medium.

Professional experience of teaching students with vision impairment

Of the 15 respondents who had the experience of teaching students with vision impairment, seven provided additional comments through the survey and two further commented via interviews. Five of these preservice teachers were very ready to liaise with other professionals and two were somewhat ready. The two preservice teachers who were interviewed were both feeling very ready. The commitment of these preservice teachers to disability-inclusive teaching was clear from their comments, and their experiences of liaising with other professionals appeared to be positive, which explained their strong sense of readiness for this domain. They said,

> Working with other teachers in the school who teach the same students with disabilities will help with creating strategies for individual students across all subjects, so they are consistent and safe for the student. Re-viewing frequently the negotiated education plans with the other teachers allows an up-to-date education plan for individual students, which can be added to as they make progress.
>
> No. 56 (Interview 2): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (experience of teaching students with vision impairment)

> This is where it is important to have a collaborative staffroom that all help each other and discuss ideas.
>
> No. 24: male, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (experience of teaching students with vision impairment)

> SSO workers and other professionals – [I] have experience with explaining tasks to students, to receive support.
>
> No. 35: female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (experience of teaching students with vision impairment)

> I had the benefit of working with allied heath staff to support student learning.
>
> No. 54 Female, 24+ years, Bachelor of Arts (Education (Primary R-7) Pathway) (experience of teaching students with vision impairment)

In staff meetings and PLCs (professional learning communities). Talking, discussing and questioning. Trying to improve practice.

No. 86: female, 18-23 years Bachelor of Education (Primary)
(experience of teaching students with vision impairment)

I am passionate in providing students with the best opportunity to schooling where possible. They deserve high quality education just like any other student. I would advocate with other teachers for my students. There are many benefits for including students with a disability into the regular classroom. I have seen some of these benefits on my recent placement.

No. 11: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies (experience of teaching students with vision impairment)

[These are] professionals who support these students (such as occupational therapists, speech therapists and psychologists) – [I will] communicate with them to ensure there is consistency across all support platforms. [I will] learn from these professionals to increase the standard of my support, to ensure the student can participate on the same basis as abled peers. [I will] differentiate instructions, content and assessment to achieve true inclusion – [the] professionals to assist may be a fellow special educator or developmental educator.

No. 13 (Interview 13): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies
(experience of teaching students with vision impairment)

ITE course type – with disability studies

Although the association between completing an education degree combined with disability studies or special education was not significant, the comments provided by preservice teachers who were undertaking this type of combined course showed their strong commitment to positive learning experiences students with disability and how professional liaison with others can be helpful. The following quotes represent this subsample's viewpoint.

Every staff meeting on placement we had different groups in which we would talk about difficulties within the classroom, this enabled the teaching staff to reflect on different practices and come up with new strategies that could be implemented into the classroom.

No. 16 (Interview 12): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

I feel that this is a very important part of being a teacher. Having everyone work together will produce a better outcome for the student/s.

No. 48 (Interview 4): female, 24+ years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

I would feel confident in working with other professionals for the best outcome for the student.

No. 17 (Interview 10): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

I love collaboration and the sharing of ideas that teaching is, it's all to benefit the children.

No. 10: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/Bachelor of Disability Studies

I always make it a goal to ensure all students are included. This might mean talking to other teachers and questioning why a student might be sitting out and suggest how you could change the activity to include them.

No. 36: female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

Professional placement – year levels

Almost half of the preservice teachers who provided additional comments mentioned the importance of working with other professionals in the best interests of the students, as well as for their own professional learning, to gain new knowledge and skills from others. Although the experience of teaching in a primary class was shown to have a small positive effect, the positive comments of preservice teachers were evident across all year levels including those who had taught in early childhood and secondary classes.

I would be happy to work with other professionals to create student specific plans [and] actions to ensure students are provided with the right support.

No. 105: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts (year 1 placement)

Talking to colleagues who have experience working with students who are diagnosed with disabilities is one of the most valuable ways of seeking more knowledge.

No. 55: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts (year 7 placement)

In staff meetings and PLCs (professional learning communities). Talking, discussing and questioning. Trying to improve practice.

No. 86: female, 18-23 years Bachelor of Education (Primary) (year 1 placement)

I would consider speaking to other classroom teachers as well as leadership if I feel as though I am not knowledgeable enough or need more support in order to meet the needs of my students.

No. 31 (Interview 7): female, 18-23 years Bachelor of Education (Early Childhood) (reception placement)

I would probably speak to staff that also teach that student, also to anyone who might have a significant relationship with the student such as counsellors, SSOs [school support officers], and special education workers at the school. I would ask them for advice and tell them what I had tried. I would also reach out to the child's parent to see if they had more information.

No. 20 (Interview 9): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (year 9 placement)

Teaching is not just a solo profession. You are constantly collaborating, sharing ideas, and gaining support from co-workers and professionals, and I feel confident in my abilities to build these relationships and become a better educator through these relationships.

No. 32: female, 24+ years Bachelor of Education (Early Childhood) (reception placement)

5.2.6 Communicating with parents and carers of students with disability

The expectation that teachers will communicate with parents and carers of students with disability is again a focus area of Standard 7 of the Australian Professional Standards for Teachers related to engaging professionally with colleagues, parents/carers and the community. The specific requirement of graduate

teachers is to *understand strategies for working effectively, sensitively and confidentially with parents/carers.* (Australian Institute for Teaching and School Leadership, 2011). For the purposes of this research, the expectation of preservice teachers to liaise with other professionals was incorporated within their requirement to *support participation and learning of students with disability* (i.e., Professional Standard 1.6).

There were many more preservice teachers who felt less ready (n=45; 63.4%) to communicate with parents and carers of students with disability than those who felt very ready (n=26; 36.6%). Of those who felt less ready, three preservice teachers were not really ready but only one provided additional comments in her survey to explain her response and she was also interviewed.

There was only one variable that affected readiness for communicating with parents and carers of students with disability with statistical significance, which was the year level of professional placement with a medium effect. Those who had their placement in primary classes felt more ready to communicate with parents and carers of students with disability than those who practiced teaching in early childhood or secondary classes. However, this variable did not affect the self-efficacy of preservice teachers for the subscale Collaboration. Gender and the experience of teaching students with vision impairment while on professional placement were the two variables that significantly affected self-efficacy for Collaboration with medium and large effect sizes respectively (see Table 5.63).

Other variables that were shown to have an effect on communicating with parents and carers of students with disability but without statistical significance were gender, personal experience of disability through a family member or close friend, combining the ITE course with disability studies and the experience of teaching students with various different disability types with while on professional placement, including developmental delay, intellectual disability, hearing impairment, autism, speech or language impairment and significant challenging behaviours but not vision impairment. All of these variables had a small to medium positive effect except the experience of teaching students with intellectual disability, which had a small negative effect. Differences in the statistical findings of the effect of these variables on readiness and self-efficacy suggest there may be some ambiguity in preservice teachers' perceptions of what communicating with parents and carers represents.

Professional placement – year levels

When the qualitative comments were overlayed with the statistical results related to communicating with parents and carers of students with disability, the findings showed that preservice teachers who had limited experience liaising with parents and carers and felt less sure about this domain had their professional placement in mainstream early childhood or secondary classes. All of those who provided comments also had the experience of teaching students with intellectual disability in their regular class. There were no

primary focused preservice teachers who provided additional comments in this group to explain their ratings.

One early childhood focused preservice teacher who was not really ready for communicating with parents and carers of students with disability explained,

> This is not something that I have had the opportunity to do while on placement, as it is more likely that parents and carers of a child with a disability are likely to seek the usual classroom teacher for confidentiality reasons, as well as feeling more comfortable. There has not been a need for parents to disclose information to me.
>
> As a pre-service teacher I have had limited opportunity to develop ILPs [Individual Learning Plans] or communicate with parents of a child with a disability about their child's disability. I know that I will be able to do this as a graduate, however I do not feel confident doing so [now] as I have not had the opportunity to [practice].
>
> No. 31 (Interview 7): female, 18-23 years, Bachelor of Education (Early Childhood) Honours (mainstream reception placement)

There were a number of other preservice teachers who had placement in early childhood classes and one who had a secondary placement who explained their feelings of limited preparation for communicating with parents and carers of students with disability.

> I feel nervous about working with parents generally as I feel student teachers are never completely exposed to this having the mentor teacher there. I would be happy to work with parents to create a good relationship between school and home. I do realise though that some families may be easier to work with than others. I would seek assistance from other staff if having any problems.
>
> No. 105: female, 18-23 years, Bachelor of Education (Primary R-&)/Bachelor of Arts (year 1 placement)
>
> Communication is a strong point however I do not know much about students with disabilities.
>
> No. 109 (Interview 1): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Health Sciences (year 9 placement)
>
> I would feel that they would know a lot more than me about it and would feel silly.
>
> No. 106: female, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts (year 1 placement)

> I find that it depends on the type of parent when communicating. Some parents are upfront and honest about their child's disability, while others may be in denial about it.
>
> No. 79: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts (year 2 placement)

In contrast, some of the preservice teachers who had their professional experiences in primary classes provided insightful, positive and confident comments about liaising with parents and carers of students with disability. For example,

> My professional experience taught me that parent and teacher communication is important to building respect and relationships, whilst also gaining a better understanding of how to support and teach the students.
>
> No. 110: male, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts (year 7 placement)

> Of course this is a big part of it. They know the student best so they will be a valuable source of information.
>
> No. 128: female, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts (year 3 placement)

> Parents are an important party regarding students with disabilities. Communicating with parents allows strategies for the students to be implemented at school and at home. Parents can help encourage a student at home and help them achieve the best that they can.
>
> No. 56 (Interview 2): female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Arts (year 7 placement)

> Open communication is key and ensuring what is practiced at home is corroborated at school.
>
> No. 63: female, 24+ years Bachelor of Arts, Master of Teaching (Primary R-7) (year 7 placement)

While most of these positive comments were made by female preservice teachers, and there were very few males who provided additional comments to explain their ratings, it would be incorrect to conclude from this data that males felt less ready to communicate with parents and carers of students with disability than

females, even though the self-efficacy data indicated they were significantly less efficacious for the subscale Collaboration that female preservice teachers.

The findings do suggest that parents and carers of primary aged children with disability are more likely to interact with preservice teachers while they are on professional placement than the parents and carers of children in their early years or in their secondary years.

ITE course type – with disability studies

Many of the comments of preservice teachers who had combined their ITE course with disability studies reflected the valuable experience they had gained through their professional placements and the importance they placed on healthy working relationships with parents and carers. They spoke about parents and carers as a great resource, to know what works well for students and to ensure consistency in approaches between home and school.

> Communication with the student's family is paramount to ensure that the nature of the support in the classroom is consistent with the support out of the classroom. This could include weekly check ins, daily posts on a communication platform such as SEESAW, or a communication book. I can constantly learn from the family to increase the quality of my support to ensure the student can meaningfully progress within a mainstream environment.
>
> No. 13 (Interview 13): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

> I have had a bit of contact with parents, especially talking to students who struggle and giving them good news about their child. I believe it is very important to keep parents updated with good news and not just focusing on the negatives.
>
> No. 36 (Interview 5): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

> [I had] plenty of communication over the course of my placement – in [negotiated education plan] NEP meetings, greeting parents in the morning, communicating about student progress.
>
> No. 108: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies

> Yes, I have had experience in communications with parents and attending NEP meetings was a valuable experience.
>
> No. 120: female, 18-23 years Bachelor of Education (Secondary)/ Bachelor of Special Education

Some preservice teachers from this cohort explained how restrictions due to the COVID 19 pandemic impacted on their ability to form relationships with parents and carers in the usual way.

> This is something I am keen to develop as COVID impacted my relationships with parents this year.
>
> No. 10: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/Bachelor of Disability Studies

> Due to COVID-19 I wasn't able to fully form a connection with the parents. However, I was able to communicate with [one parent] and ask questions about how her child was doing and ways that I could've supported him.
>
> No. 11: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/Bachelor of Disability Studies

5.2.7 Other comments on preparation for disability-inclusive education

More than half of the preservice teachers who provided additional comments made suggestions about how the ITE program could be improved. Most were seeking increased opportunities to learn about and practice the skills of disability-inclusive teaching while undertaking their education degree. Some of the suggestions have already been highlighted, such as more on managing behaviour and learning about different disability types. Other, more general comments follow.

> It is a subject of high interest for me [teaching students with disability], and I am always seeking to develop my practices to ensure all my students are engaged and comfortable.
>
> No. 62: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts

> While my topics have loosely covered differentiation, I do not feel prepared to teach children who have a disability. I wish I knew before I enrolled so that I could have enrolled in the Bachelor/Special Education… my ideal would be to have a full 4-year degree of just education topics including more on disabilities, differentiation, inclusion and child development.
>
> No. 8: female, 24+ years Bachelor of Education (Early Childhood)/ Bachelor of Arts

> There definitely needs to be more knowledge and support given in regard to working with students with disabilities in the education degree.
>
> No. 83: female, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts

> I learnt a lot about teaching children with disabilities during my placement, however I feel that [the university] does not include enough about this and specific disabilities in their content of subjects in the Bachelor of Arts degree.
>
> No. 69: female, 18-23 years Bachelor of Education (Early Childhood)

Some of the preservice teachers who were undertaking the combined degree in education and disability studies/special education also offered advice.

> The double degree has really helped me to know more about students with disabilities. However at times some of the disability topics were too heavily focused on disability, which did not interest me as much. I would rather have learnt more about teaching and children with disabilities in the school system.
>
> No. 11: female, 18-23 years Bachelor of Education (Early Childhood & Special Education)/ Bachelor of Disability Studies

> I just wanted to say the special education and disability degree is really amazing and helps prepare preservice teachers for the reality of a diverse classroom. I believe all preservice teachers should be doing more disability and special education topics.
>
> No. 36 (Interview 5): female, 18-23 years Bachelor of Education (Primary R-7 & Special Education)/ Bachelor of Disability Studies

A small number of respondents explained why they did not feel ready to include students with disability in their regular class, and mostly this was to do with the limited amount of practical experience they had during their education degree, rather than their personal self-efficacy. A number of preservice teachers understood that their learning did not end when they finished their education degree and had expectations of developing their inclusive teaching skills further, beyond university.

> I believe that I am capable of teaching students living with disability; however, I wouldn't say that I am ready yet. Saying that I am ready would mean that I am able to adapt to any situation involving a student living with disability, and there are many disabilities which I have not come across yet throughout my professional experience. I think that

much of the learning in this area for teachers comes from direct experience out in the field once university is finished.

No. 126: male, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts

As a preservice teacher I have had limited opportunity to develop [Individual Learning Plans] ILP's or communicate with parents of a child with a disability about their child's disability. I know that I will be able to do this as a graduate, however I do not feel confident doing so, as I have not had the opportunity to [practice].

No. 31 (Interview7): female, 18-23 years Bachelor of Education (Early Childhood)

Although I believe that my final placement taught me a huge amount about teaching and differentiating for students with disabilities, I know there is still so much knowledge for me to gain through experience and PD [professional development].

No. 26: female, 18-23 years Bachelor of Education (Primary R-7)/ Bachelor of Arts

Some of the preservice teachers commented that their knowledge and confidence for disability-inclusive education had been developed by their experiences of supporting students with disability outside of their university course.

Most of my knowledge and understanding has come from my SSO [school support officer] experience instead of my education degree, which is disappointing.

No. 83: female, 24+ years Bachelor of Education (Primary R-7)/ Bachelor of Arts

I feel as though managing problematic behaviours of students with disabilities is one of the greatest challenges for teachers and something that I would be unprepared for if it wasn’t for my SSO [school support officer] position.

No. 64: male, 24+ years Bachelor of Arts (Master of Teaching (Secondary Pathway)

…I learnt what I know through experience as a SSO [school support officer] in severe disability/behaviour support and through external [professional development] PD. None of my knowledge about supporting students with a disability came from my degree.

No. 33 (Interview 8): female, 24+ years Bachelor of Education (Primary and Middle)

5.3 Course document analysis

The preservice teachers who participated in this research represented 18 of the 25 possible courses from these two universities—3 from UniSA and 15 from Flinders University. Table 6.1 lists these degrees and the number of participants from each degree who responded to the survey. Unfortunately, I found that it was not possible to collect course document information from the website of UniSA for the Bachelor of Education (Primary and Middle) degree because it was no longer offered as a program option. Therefore, the course document data represents 17 of the ITE courses, rather than 18. The analysis of the course documentation was a complementary contribution to this research and this missing data did not impact the research findings greatly.

There were two main aspects of the ITE courses that warranted further review after analyses of both the self-efficacy and readiness data and the comments of both the surveys and interviews. These were the number of course topics related to disability-inclusive education over the preservice teachers' different programs of study, and the amount of disability related content that was incorporated into the different ITE course topics. In order to determine these findings, I generated a list of topics that were related to disability-inclusive education and counted their occurrence across the different degrees and then I counted the frequency of disability related words across all of the ITE course documents.

The list of topics included as disability-inclusive related topics can be found in Appendix Seventeen. These topics were chosen because they contained information in their topic overviews that mentioned the professional responsibility of teachers to provide inclusive education—catering for student diversity in regular classes at mainstream schools. I grouped these topics by course and also by the year in which the topic was studied. This structure highlighted the flow of information across the full program of study. I chose not to include topics that were provided through the disability studies degree for analysis (those prefaced with DSRS) because they would have biased the results too greatly. Topics from education (those prefaced with EDUC) predominated this analysis along with a few topics from health sciences (prefaced with HLPE) but only health sciences topics that appeared relevant to disability-inclusive education. I did not include professional placement topics in this analysis because all of the preservice teachers in the sample had experienced teaching students with disability while on placement, irrespective of which ITE course they had undertaken.

Table 5.1

ITE courses represented in the SA sample of course documents.

ITE degree	Number of participants
Bachelor of Education (Early Childhood) Honours	8
Bachelor of Education (Primary)	4
Bachelor of Education (Primary and Middle)	4
Bachelor of Education (Secondary Design and Technology)	0
Bachelor of Education (Secondary Food and Textiles Technologies)	0
Bachelor of Arts (Education (Primary R-7) Pathway)	2
Bachelor of Arts (Education (Secondary) Pathway)[a]	0
Bachelor of Arts, Master of Teaching (Secondary) Pathway[a]	1
Bachelor of Arts, Master of Teaching (Primary R-7) Pathway[b]	0
Bachelor of Arts, Master of Teaching (Primary R-7)[b]	4
Bachelor of Arts, Master of Teaching (Early Childhood)	0
Bachelor of Arts, Master of Teaching (Secondary)	0
Bachelor of Education (Early Childhood & Special Education), Bachelor of Disability Studies	14
Bachelor of Education (Early Childhood), Bachelor of Arts	3
Bachelor of Education (Primary R-7 & Special Education), Bachelor of Disability Studies	18
Bachelor of Education (Primary R-7), Bachelor of Arts	18
Bachelor of Education (Primary R-7), Bachelor of General Science	0
Bachelor of Education (Secondary), Bachelor of Arts	18
Bachelor of Education (Secondary), Bachelor of Health Sciences	6
Bachelor of Education (Secondary), Bachelor of Languages	2
Bachelor of Education (Secondary), Bachelor of Science	4
Bachelor of Education (Secondary), Bachelor of Special Education	4
Bachelor of General Science, Master of Teaching (Primary R-7)	1
Bachelor of Languages, Master of Teaching (Secondary)	1
Bachelor of Science, Master of Teaching (Secondary)	3
Total number of participants	**115**

Note. The Bachelor of Arts (Education (Secondary) Pathway) and Bachelor of Arts, Master of Teaching (Secondary Pathway) were the same course. Similarly, the Bachelor of Arts (Master of Teaching (Primary R-7) Pathway) and the Bachelor of Arts, Master of Teaching (Primary R-7) were the same course. The greyed out courses were not represented in the course document sample for content analysis. Course documents were not available for the Bachelor of Education (Primary and Middle) at the university's website.

The second part of the course document analysis was completed using the text search function of Nvivo to find disability-inclusion related words across all of the available ITE course information that had been

collected. This included the ITE course topic overviews and topic descriptions for the 17 ITE courses represented by this sample of preservice teachers. The purpose of this analysis was to know how frequently disability-inclusion related words were included in the course documents. The disability studies courses and related topic descriptions were included for this analysis.

It was not possible to know every topic that had been studied by all of the preservice teachers in the sample because all of the ITE course combinations included elements of personal choice, and the research participants had not been asked to specify their entire program of study. For example, when undertaking major or minor areas of teaching for secondary focused ITE courses, preservice teachers could choose from different topics such as health education, languages, drama etc., or, in the case of the Master of Teaching program, preservice teachers could choose up to 36 units of study from many different topics to complete their fifth year including special education topics. Some ITE courses had very limited choice, for example, an education degree combined with disability studies offered only one opportunity for choice. This was in semester two of the fourth year of the program and they could undertake either an additional professional placement relevant to disability service provision or two topics related to specific disability types, e.g., ASD, intellectual disability or sensory, physical and multiple disabilities.

Due to the complexities of data sampling, the findings of the analyses of these data should be read as indicative rather than the actual experiences of this sample of preservice teachers.

5.3.1 ITE topics related to disability-inclusive education

The number of education (EDUC) or health sciences (HLPE) course topics that related in some way to disability inclusive-education over the four- or five-year program of study ranged from two to eleven, out of a total of 32 topics for a four-year Bachelor's degree and 40 topics for a five-year Master of Teaching degree. Converted to a percentage, this range was from approximately 6% to 33% of a Bachelor's degree and a minimum of 10% for a Master of Teaching degree. As would be expected, the ITE courses with the greatest number of disability-inclusive related topics were those combined with disability studies or special education, even though the disability studies topics (DSRS) had been excluded from this analysis. This was because many more special education topics were included in this program of study compared to other education degrees. For example, topics such as *Students with Learning and Behavioural Difficulties*, *Students with Numeracy Difficulties*, *Students with Literacy Difficulties*, *Functional Curriculum Design for Students with Disabilities* and *Assessment and Programming in Special Education* were all EDUC prefaced topics available only to preservice teachers who had combined their education degree with disability studies or special education. When preservice teachers undertook an ITE course focused on education only or they combined it with another non-disability studies degree (such as Arts, Sciences or Languages) the

number of disability-inclusive related topics ranged from two to seven. Most commonly four topics were studied over the full program, which equated to 12.5% of a Bachelor's degree.

Early Childhood preservice teachers received the least content related to teaching students with disability with only two or four topics being offered over the full four-year program. Secondary preservice teachers received the most with either five or seven topics depending on the specialisation that was chosen. Students studying an education degree combined with Health Sciences received additional health related topics of relevance such as, Sexualities and Sexual Health - HLPE2541, Mental Health and Wellbeing - HLPE3541, Inclusive and Adaptive Practices in Sport and Physical Education - HLPE1531 or Sport in Society - HLPE3530. A review of these topic overviews showed that content concerning disability or diversity was specifically included.

5.3.2 Word frequency related to disability-inclusive education

The second approach to content analysis of the data was to use NVivo's text search capability to search for words relevant to disability-inclusive education. The six stem words that I chose to search for were *diversity, disability, differentiation, adaptation, inclusion* and *special*. I tallied the number of occurrences for each of these stemmed words to understand their prevalence across all of the course documents and to review these by year level. I also searched for the phrase *universal design for learning* and *adaptation*, neither of which showed any results. A summary of the query results for the six initial stem words is presented in Table 6.2.

ITE courses combined with disability studies had the most frequent number of disability-inclusion related words. The least were early childhood courses. Of the courses not combined with disability studies, Master of Teaching courses had the most frequent number of disability-inclusion related words. This result was skewed by the fifth year of study, when preservice teachers had the option to choose special education topics as electives. Primary teaching courses had the next most frequent number of disability-related words contained in the topic descriptions of these courses.

The word *diversity* was most frequently used (n=228), reflecting the broader objective of inclusive education. *Disability* was the next most frequently used word (n= 197) but this result was skewed by the extensive use of this word in the disability studies topics (n=155). When I removed education degrees combined with disability studies from the analysis, the word disability was the second least frequently used word across all of the remaining courses (n=42). The least frequently used word was *special* (n=100 when all courses were included in the tally and n=39 without disability studies) and *inclusion* was the second most frequently used word (n=191 for all courses and n= 155 without disability studies).

These results indicate that *diversity* and *inclusion* are commonly used words in the ITE prospectus documents available at the universities' websites. *Disability* and *special* are used much less often. The word *differentiation* was used a little less frequently (n=123) and featured mostly in the Master of Teaching courses (n=12). It did not feature at all in the two early childhood courses that were not combined with disability studies.

A secondary analysis of ITE courses without disability studies, by year level focus showed that the least frequent words used in early childhood course documents were *differentiation* (n=0) and *disability* (n=1); in primary course documents the least frequent words were *disability* (n=15) and *special* (n=16) and in secondary courses documents the least frequent words were *special* (n=19) and *disability* (n=26). The highest frequency word across both early childhood and primary courses was *diversity* (n=14; n=98) and in secondary courses the word was *inclusion* (n=82).

These results suggest that the move towards using the lexicon of inclusion to reflect the diverse range of students at schools has been emphasised in the publicly available teaching course prospectus documents of the universities. Also, the more generalised term, inclusion, is preferred to using disability or special needs specifically. The findings also suggested that disability-inclusive teaching is featured less in early childhood ITE course documents than it is in primary or secondary course documents.

Table 5.2

Number of words counted in ITE course documents by degree type

	ITE Course	Diversity	Disability	Differentiation	Inclusion	Special	TOTAL
Early Childhood	Bachelor of Education Early Childhood (Honors)	10	0	0	4	4	18
	Bachelor of Education (Early Childhood) Bachelor of Arts	4	1	0	6	0	11
	Bachelor of Education (Early Childhood and Special Education) Bachelor Disability Studies	21	51	6	13	20	111
Primary	Bachelor Primary Ed. (Honors)	15	1	1	9	6	32
	Bachelor of Arts (Education (Primary R-7) Pathway)	14	2	7	9	1	33
	Bachelor of Education (PrimaryR-7 Bachelor of Arts	14	2	7	9	1	33
	Bachelor of Education (Primary R-7 and Special Education) Bachelor Disability Studies	26	51	7	12	20	116
	Bachelor of Arts Master of Teaching (Primary R-7)	15	5	12	18	4	54
	Bachelor of General Science Master of Teaching (Primary R-7)	14	5	12	18	4	53
Secondary	Bachelor of Education (Secondary) Bachelor of Arts	7	2	6	7	1	23
	Bachelor of Education (Secondary) Bachelor of Health Sciences (Health Education)	11	3	6	8	3	31
	Bachelor of Education (Secondary) Bachelor of Health Sciences (Physical Education)	11	2	6	8	1	28
	Bachelor of Education (Secondary Bachelor of Languages	8	2	6	7	1	24
	Bachelor of Education (Secondary) Bachelor of Science	7	2	6	7	1	23
	Bachelor of Education (Secondary) Bachelor of Special Education	16	53	5	11	21	106
	Bachelor of Arts Master of Teaching (Secondary Pathway)	12	5	12	15	4	48
	Bachelor of Languages Master of Teaching (Secondary Pathway)	12	5	12	15	4	48
	Bachelor of Science Master of Teaching (Secondary Pathway)	11	5	12	15	4	47
	SUB TOTAL COURSE TOPIC FREQUENCIES	**228**	**197**	**123**	**191**	**100**	839
	Prospectus overviews all university courses	38	40	6	21	62	167
	TOTAL	**266**	**237**	**129**	**212**	**162**	1006

Note. Early Childhood degrees ranged from 11 to 18 words counted (*M*=15) but when combined with Special Education/Disability Studies the number of words = 111. Primary degrees ranged from 32 to 54 words counted (*M*=41) but when combined with Special Education/Disability Studies the number of words = 116. Secondary degrees ranged from 23 to 48 words counted (*M*=34) but when combined with Special Education/Disability Studies the number of words = 106. The least frequent number of words found in an Early Childhood degree was 11 (Bachelor of Education [Early Childhood] with Bachelor of Arts); a Secondary degree was 23 (Bachelor of Education [Secondary] with Bachelor of Arts or Science) and a Primary degree was 32 (Bachelor Primary Ed. [Honors]).

5.4 Summary of findings

The findings of this qualitative analysis indicate that the preservice teachers who participated in this research were feeling quite well prepared and confident to begin their careers as graduate teachers but there were some areas of reservation, as well as areas for which they had little experience or knowledge in relation to disability-inclusive teaching practices.

Influences on preservice teachers' self-efficacy and readiness for disability-inclusive education are discussed in chapter six. Areas of professional practice include but are not limited to

- collaboration with other professionals,
- parent and carer relationships,
- providing inclusive instructions, and
- sharing legal and policy information related to inclusion of students with disability.

The significant influence of professional placement experiences cannot be understated and the differences between year levels of teaching are highlighted.

Many of the respondents offered suggestions for program improvements but also acknowledged that their professional learning would continue beyond completion of their university ITE program.

Conclusions from this research follow.

CHAPTER SIX DISCUSSION AND CONCLUSIONS

This research has sought to understand:

- the extent to which SA preservice teachers feel prepared for teaching students with disability in regular classes at mainstream schools,
- the variables that influence preservice teachers' self-efficacy and readiness beliefs in their preparation for disability-inclusive teaching, and
- preservice teachers' views on how their ITE program could have been improved to enhance their development for disability-inclusive education.

A mixed methods design was used to increase the breadth of data collected and depth of the inquiry. The preservice teachers who participated in this research did so voluntarily. They were invited to rate their feelings of self-efficacy and readiness for disability inclusive education and then through comments and in interviews describe their experiences of teaching students with disability and discuss how well their ITE course prepared them for this aspect of teaching. The participants contributed their information anonymously and confidentially, which encouraged authenticity and added to the trustworthiness of the data. The collection and review of topic information related to the preservice teachers' courses added another source of data that was used to cross reference.

The findings show that this sample of preservice teachers expected students with disability to be included in their regular classes when they began their teaching career at a mainstream school. Most of the research participants felt very prepared for this aspect of teaching. They reported high levels of self-efficacy and indicated they were ready or very ready to implement Professional Standards 1.5 and 1.6 at the expected graduate level (Australian Institute for Teaching and School Leadership, 2011).

High levels of self-efficacy for inclusive teaching has been a common finding among researchers in this area of study (see for example, Gigante & Gilmore, 2020; Romero-Contreras et al., 2013; Subban et al., 2021) and is partly explained by the social desirability bias of research participants wanting to report themselves as capable, which is also likely to be the case for this sample of preservice teachers. Their desire to be recognised as capable disability-inclusive teaching practitioners is important because, as Bandura (1995) discusses, overestimation of self-efficacy appraisal drives higher performance and is beneficial, whereas cautious self-efficacy appraisal results in habitual behaviours and conservative achievements based on lower expectations.

Through analyses of the comments of these research participants it was possible to detect all four influences on the development of self-efficacy identified by Bandura (1997) (i.e., mastery of tasks, vicarious

experiences, verbal persuasion and psychological and affective states). This sample of preservice teachers emphasised the importance of mastery of tasks and vicarious learning while on professional placements, in particular. Verbal persuasion featured in the context of their mentor teachers' attitudes towards disability-inclusive education, especially when there was an option for students with more challenging behaviours or higher levels of personal need to be transferred to a specialist setting rather than be included in a regular class. A small number also mentioned differing attitudes of lecturers and tutors at university. The effect of psychological and affective states featured less but was present in the comments of some research participants, for example, in their confidence to communicate with parents and carers of students with disability and in their capacity to manage challenging behaviours.

The information gained from this research has the potential to shape universities' programs to promote disability-inclusive education through initial teacher education, as well as provide guidance about the initial support requirements of early career teachers to engage successfully with disability-inclusive teaching practices. The limitations of a purposive sample, a small sample size and the local context of only two SA universities participating in this research should be considered when interpreting the findings more broadly.

The remainder of this chapter begins with a discussion of the factorial structure of the TEIP and alignment of the Australian Professional Standards for Teachers to measure graduate teachers' preparation for disability-inclusive education. This is followed by discussion of the variables that were found to have a significant influence on preservice teacher preparation for disability-inclusive teaching, and the chapter concludes with suggested ITE program improvements drawn from the preservice teachers' comments. Implications for initial teacher education are highlighted and areas for further research are proposed based on the conclusions from this research.

6.1 Factors of the TEIP scale

The TEIP scale that was used to measure the preservice teachers' self-efficacy has been used widely with different cohorts of both preservice and in-service teachers within Australia and from different countries world-wide (Tümkaya & Miller, 2020; Wray et al., 2022). It is regarded as a valid and reliable tool for measuring self-efficacy for disability-inclusive teaching but the scale had not been used with a SA cohort previously (Wray et al., 2022).

The scale was designed with a factorial structure of three subscales, i.e., Inclusive Instructions, Collaboration and Managing Behaviour (Sharma et al., 2012). However, analyses of data from this research showed that these three factors were not satisfactory for this sample. A confirmatory factor analysis (CFA) using Mplus version 8.6 resulted in unsatisfactory goodness of fit. Therefore, an exploratory factor analysis (EFA) was undertaken, which found satisfactory goodness of fit using four factors. Fifteen items of the 18

item scale aligned with the original three subscales and a fourth factor was created with the three remaining items. This factor was named *Specialised Response* and the items it contained were designing learning tasks so that the individual needs of students with disabilities are accommodated; informing others who know little about laws and policies relating to the inclusion of students with disabilities and; dealing with students who are physically aggressive (Sharma et al., 2012). The decision to group these three items together was qualitative (based on knowledge of the disability-inclusive education field of practice in SA). The alternative was to remove the items (as some researchers have done for other studies when TEIP items did not fit the original factorial structure satisfactorily, see for example Chao et al., 2016; Savolainen et al., 2012), or to analyse these items individually. It is according to this four-factor structure that the data generated by this research have been analysed and are discussed.

6.2 Professional Standards for Teachers

It became evident through grouping the three items of the Specialised Response factor together that this sample of preservice teachers may have been responding to the survey questions with a perception that more advanced knowledge and skills are required for teaching students with disability in regular classes than is expected of graduate teachers in some areas of professional practice. For example, Professional Standard 1.5 (related to differentiating the curriculum) states that *graduate* level teachers (i.e., at level 1 of 4) are expected to *demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities*. It is not until a teacher reaches the *proficient* level (i.e., level 2) that they are expected to have the *skills for developing teaching activities that incorporate differentiated strategies to meet the specific learning needs of students* (Australian Institute for Teaching and School Leadership, 2011). Further, the professional skills required to *use student assessment data to evaluate learning and teaching programs that are differentiated for specific learning needs of students* is an expectation only of *highly accomplished* teachers (i.e., level 3). This may explain why the mean score of self-efficacy for designing learning tasks so that individual needs of students with disabilities are accommodated did not align well with the Inclusive Instructions factor of the TEIP and was rated lower than other items which formed that subscale. Similarly, Professional Standard 1.6 (which relates to full participation of students with disability) states that *designing and implementing teaching activities that support the participation and learning of students with disability and address relevant policy and legislative requirements* is an expectation of *proficient* teachers (i.e., level 2). Hence, a perception that the TEIP item related to informing others who know little about laws and policies relating to the inclusion of students with disabilities may be considered too advanced for graduate level teachers. Again, this is likely to be the reason why that item of the TEIP was rated lower by this sample of research participants and therefore, did not align with other items that were included in the Collaboration factor. Similarly, *working with colleagues to access specialist knowledge to develop teaching programs that support the participation*

and learning of students with disability is a competency expected only of *highly accomplished* teachers according to the Professional Standards, and again, seeking specialised assistance to include students with disability was a readiness domain of professional practice for which this sample of preservice teachers felt less prepared. Likewise, in relation to the Professional Standard for teachers to create and maintain supportive and safe learning environments (Standard 4), the ability to *develop and share with colleagues a flexible repertoire of behaviour management strategies using expert knowledge and workplace experience* is a competency expected of *highly accomplished* teachers to manage challenging behaviours (i.e., level 3), not graduates.

These findings suggest that understanding comparatively the relationship between the TEIP items used to measure preservice teachers' self-efficacy for disability-inclusive teaching and the expectations of graduate teachers to practice disability-inclusive education according to the Australian Professional Standards for Teachers may be worth exploring further. Undertaking this activity in its fullness was beyond the scope of this research but the findings presented here suggest a possible misalignment between the two measures. This raises the question of whether a revision of the TEIP scale specifically for the Australian preservice teacher population is needed. Alternatively, or in concert with, are the Professional Standards for Teachers in need of review so that preservice teachers are assessed against proficiencies that support disability-inclusive education at a higher level of professionalism from the beginning of their careers than is expected currently.

Call et al. (2021) conducted a case study on an ITE program based in regional Queensland to understand if preservice teachers believe they used the Professional Standards for Teachers to inform their learning. These researchers reported that preservice teachers wanted the Professional Standards to be more visible in their coursework and for the Professional Standards to be an integral component of their professional placement experiences, but many of the research participants reported that the feedback they received from their mentor teachers while on placement was not linked to the Professional Standards, and the majority of them rarely or only sometimes used the Professional Standards while on placement. Yet, they know it is an expectation of their placement to show successful development according to these Standards, at the graduate level (Teacher Education Ministerial Advisory Group, 2014).

If the Professional Standards were adjusted so that more was expected of graduates in relation to disability-inclusive education, universities may also need to shape their ITE course curriculum differently, to emphasise more advanced knowledge and skills required for teaching students with disability in regular classes. This would include opportunities to master relevant professional tasks and learn through vicarious observations while on placement in schools. Ensuring that preservice teachers have access to highly accomplished mentor teachers to support successful development of disability-inclusive teaching skills is a

topic that has been identified by other researchers (see for example Hemmings & Woodcock, 2011) and is a separate topic discussed later in this chapter.

Through analyses of data, this research has also shown how helpful it may be to overlay the MTSS framework with the TEIP and Australian Professional Standards for Teachers to understand which disability-inclusive teaching skills are considered as universal, targeted or individualised (see Table 4.66, page 152), so that preservice teachers right at the beginning of their careers learn that providing a range of disability-inclusive responses is a normal aspect of disability-inclusive education rather than this being a knowledge and skills base relevant to teachers with more experience.

6.3 Confident and well prepared

Overall, the mean self-efficacy scores of this sample of preservice teachers ranged from 4.2 to 5.15 out of 6 (i.e., 75.6 to 92.7 out of 108), indicating that these preservice teachers had at least 70% and up to 86% belief in their own capacity for providing disability-inclusive teaching. The mean scores for readiness to implement Professional Standards 1.5 and 1.6 at the graduate level were relatively higher, ranging from 3.26 to 3.49 out of 4 (i.e., 19.56 to 20.94 out of 24), indicating that these preservice teachers felt they were at least 81.5% and up to 87% ready for the responsibilities of disability-inclusive education according to the Professional Standards for Teachers in Australia.

The area for which this sample of preservice teachers felt most ready was to liaise with other professionals to include students with disability in regular classes. This was interpreted as working with teaching assistants. The area for which they felt least prepared was seeking specialist assistance to assist teaching students with disability in regular classes. The one variable that significantly positively affected both of these aspects of teaching was the experience of teaching students with vision impairment while on professional placement. The experience of teaching students with physical disability while on professional placement also positively affected preservice teachers readiness to seek specialist assistance. This is likely to be associated with the clear need for specialist professionals' assistance to advise on adjustments to the physical environment and how to incorporate technologies into the classroom for these students to access learning.

Working jointly with other professionals and staff (e.g., aides, other teachers) to teach students with disabilities in the classroom rated highly on the readiness scale, which is aligned to the Collaboration subscale of the TEIP. The area of lowest self-efficacy reported by these research participants was managing the challenging behaviour of physical aggression, which was an item of the Specialised Response subscale (see Table 4.7, page 98).

The variable which had a significant positive influence on efficacy for the subscale Inclusive Instructions was undertaking professional placement in a regular primary class, suggesting that getting students to work together in pairs or in small groups may be more easily achieved with primary aged students. Early childhood placements and specialist setting placements had significant negative effects on efficacy for Inclusive Instructions. When a preservice teacher had disability themselves, this also significantly negatively affected their self-efficacy for the subscale Inclusive Instructions.

Self-efficacy for the subscale Collaboration was significantly positively affected by the professional placement experience of teaching students with vision impairment. Self-efficacy for the subscale Specialised Response was significantly positively affected by having prior personal experience of disability through a family member or close friend, as well as gaining extra knowledge through combining an education degree with disability studies and undertaking a specialist setting professional placement, and the experience of teaching students with developmental delay, vision impairment, autism and significant challenging behaviours.

Reports of other research on preservice teachers' self-efficacy for disability-inclusive education have shared variable findings. A systematic review of findings from studies that have used the TEIP scale (from 2012 and 2018) undertaken by Tümkaya and Miller (2020), found an emerging need for preservice teachers to develop collaboration skills through training programs. These reviewers also found that increasing the amount of time that preservice teachers spent with students with disability through their professional placement experience or through their previous personal experiences of communicating with people with disability was associated with higher self-efficacy for disability-inclusive education.

6.4 Influences on preparation for disability-inclusive teaching

6.4.1 Collaboration with classroom support staff

The presence of teaching assistants in classrooms is customary practice in Australian schools, as it is in many other countries around the world (Webster et. al., 2023). Some of the preservice teachers who participated in this research were working as teaching assistants themselves as their part-time job while studying at university. Opportunities for observing and experiencing the development of close working relationships between classroom teachers and teaching assistants were expected during professional placements and therefore, considered a normal experience for these research participants. Many of the research participants commented on how well the teaching assistants knew the students with disability in their classes, including behavioural triggers. Teaching assistants are commonly relied upon to assist with learning tasks and provide behavioural support for students with disability in regular classrooms (Giangreco, 2021). One of the preservice teachers interviewed spoke proudly of how she used a teaching assistant differently, to work between the middle to high readiness students so she could work directly

with students with disabilities who needed extra learning support. She was seeking to avoid *learned helplessness* for the students with disability who she could see were becoming dependent upon the teaching assistant for their learning. Her approach is cited here as an example of innovation and confidence in working with students with disability directly and using other recourses to the benefit of the whole class, an approach advocated by Giangreco (2021). This example is not an isolated one but appropriately emphasises the importance of professional placement experiences to development skills in collaboration and learn about the varied ways in which other professionals can be used as a resource to support disability-inclusive teaching.

In contrast with high levels of readiness to liaise with teaching assistants, collaboration with other specialist professionals to design education plans (e.g., specialist educators and other allied professionals such as speech pathologists, occupational therapists, psychologists etc.) were areas of professional practice for which this sample of preservice teachers felt less prepared (see Table 4.66, page 152). This suggests that preservice teachers are not as likely to experience collaboration with other professionals as they are to experience working with teaching assistants while on placement, because there are less opportunities for interaction. Collaborations with specialists are not an everyday occurrence in regular classrooms and consultation meetings are often held in separate rooms, sometimes even outside of teaching hours. Preservice teachers need to learn vicariously about the work of teachers with allied professionals and other specialists to understand the types of external services which are available to support disability-inclusive education. If they don't have these experiences, they are not as likely to be prepared for developing individualised learning programs, which include specific approaches for behavioural support. This professional placement limitation might also be linked to a perception that the preservice teachers' role while on placement is secondary, with mentor teachers continuing to take the lead in interactions with other professionals, and probably also with parents and carers of students with disability. The infrequency of this collaboration experience may explain the low self-efficacy ratings of this sample of preservice teachers. Also, the Professional Standards state that proficiency in working with specialists is expected of highly accomplished teachers, not graduates. This raises questions about how universities can create situations within the ITE program so that preservice teachers become confident in seeking specialist assistance when it is needed. Knowing with whom to collaborate and how to locate these professionals when they had not had the opportunity to see or experience this professional practice as part of their placement was a challenge raised by some of the research participants.

The importance of high levels of self-efficacy for the subscale Collaboration and its relationship to positive attitudes towards disability-inclusion has been highlighted in the literature as an important component of disability-inclusive education (Hutchinson et al., 2015; Savolainen et al., 2012; Shaukat et al., 2013). Based on their research concerning Canadian preservice teachers' perspectives on teaching students with developmental disabilities (the term used in Australia is developmental delay or intellectual disabilities),

Hutchinson et al. (2015) surmised that by teaching preservice teachers to collaborate through their ITE program (a skill which they already valued) their ability to use collaboration would be strengthened and in turn, their efficacy for including students with developmental disabilities in their regular classes while also meeting the needs of all their students would be enhanced. Interestingly, Shaukat et al. (2013) found that the subscale Collaboration was an area of lower self-efficacy for Australian preservice teachers when compared with preservice teachers from Pakistan. These researchers attributed this finding to the *collectivist approach* that prevailed in Pakistan and the community's expectation that teachers are thought of as major contributors to the development of socially and morally sound students, and that this could only be achieved through working together and learning from the vicarious experiences of others. It seems that cultural differences across countries are influencing preservice teachers' self-efficacy for Collaboration to include students with disability in regular classes.

The findings of this research indicated also that males were significantly less efficacious on the subscale Collaboration than the females, but a review of the male and female participants' comments did not reveal any satisfactory explanation for this disparity based on gender. The data showed only that many more females rated themselves much higher for Collaboration than males. The literature on gender differences in self-efficacy for disability-inclusive education presents varied findings (Wray et al., 2022). For example, Malinen et al. (2013) and Ahsan et al. (2012) found a weak correlation indicating that males had greater self-efficacy for the subscale Managing Behaviour compared to their female counterparts. Specht and Metsala (2018) reported higher self-efficacy for males but only for the subscale Inclusive Instructions, and many other studies reported no differences in perceived self-efficacy for disability-inclusive education based on gender (Wray et al., 2022). None of the literature reviewed by Tümkaya and Miller (2020) or Wray et al. (2022) commented on gender and its effect on self-efficacy for Collaboration. Gender seems to be a variable with weak association to preservice teachers' self-efficacy for disability-inclusive education, and more research would be needed than this research can offer to draw more sound conclusions related to gender differences in preservice teachers' self-efficacy for Collaboration. It may be universally beneficial for all preservice teachers to learn more about collaborating with specialist colleagues and other allied professionals through their ITE program. One suggestion posed by a research participant was to invite specialised teachers and allied professionals to discuss their roles at schools as an ITE program improvement, acknowledging that the competency level expected of Australian teachers in the Professional Standards is higher than would be expected of graduates.

6.4.2 Parent and carer relationships

Lower levels of self-efficacy to include parents and carers of students with disability in the activities of their children's school appears likely to have contributed overall to the lower mean score for Collaboration of this sample of preservice teachers. This is also linked to the lower mean score for readiness to

communicate with parents and carers of students with disability. Experience while on placement was the main variable to affect this area of professional learning. Preservice teachers who had professional placements in early childhood classes or in secondary classes were significantly less ready for communicating with parents and carers of students with disability—in contrast to those who had professional placements in primary classes.

Other researchers have found that teachers of younger children generally reported higher self-efficacy for disability-inclusive education overall but in this context the age range of 'younger' usually means primary age compared with secondary. Specht et al. (2016) surmised that higher levels of self-efficacy for primary school teachers was because they have single cohort classes over a full year, and therefore, have increased capacity to build relationships with their students' families. From a secondary teaching perspective, teachers have multiple cohorts of students across many classes. In addition, parents and carers become less involved in the day-to-day school based activities of their adolescent children.

This distancing could have negatively influenced the development of collaborative relationships between these research participants and their students' parents and carers. It is highly likely that the subsample of preservice teachers who were in secondary teaching contexts did not have opportunities or easy access for engagement with parents and carers of students with disability, but this is difficult to verify because the preservice teachers' viewpoints on this aspect of professional practice were not reported explicitly in their survey comments nor discussed in the interviews. Additional research would be required to make more strenuous claims.

In relation to early childhood preservice teachers, one would expect them to see parents and teachers of young children regularly and be involved in communications for the benefit of the students' early years development, while they are on placement. Yet, as one early childhood preservice teacher explained, the parents and carers of students with disability with whom she had any involvement sought out her mentor teacher for communication and she was not invited into these conversations. This meant that she was not able to learn the skills of involving parents and carers directly from her placement experience. She remarked about the early years of school being a difficult time for students and families when they are in the process of getting a disability diagnosis and she perceived that the sensitivities of this time meant that preservice teachers on placement in early childhood classes were not as likely to become involved with parents and carers of students with disability.

For some preservice teachers, there seemed to be a lost opportunity to develop collaborative relationships with parents and carers of students with disability because of their limited involvement while on professional placement. As a consequence, their views on parent/carer relationships seemed to have come from a theoretical orientation rather than a reflection of their practical experiences. Others, however, felt fortunate to be very involved and appreciative of what they were able to learn, commenting on how

valuable it was to share communications with parents and to attend NEP (negotiated education planning) meetings. Many shared positive views of the importance of these relationships and involving parents and carers in the school activities of their children, explaining that the students' parents or carers know them best, so they are a valuable source of information.

There may be benefit in preservice teachers hearing from parents and carers of students with disability as a vicarious learning opportunity during their ITE course work, so they can listen and ask questions about how teachers can optimize their role in partnership with families. This type of activity might be particularly important for early childhood and secondary focused preservice teachers because they appear to have less opportunities for interaction while they are on professional placement than primary focused preservice teachers. Regardless of which level of education, there are clear benefits in developing skills for these relationships. Preservice teachers should be encouraged and supported to seek out engagement with parents and carers of students with disability and to embrace their involvement in school activities, while they are under the supervision of mentor teachers, during their professional placements.

6.4.3 Preservice teachers with disability

The experience of having disability negatively affected preservice teacher self-efficacy for the subscale Inclusive Instructions. Although this was a statistically significant finding, it was not possible through integrated data analyses to explain why living with disability had this effect. It could be presumed that preservice teachers with disability may have had poor educational experiences themselves and therefore, have been left feeling less confident about the mainstream education system's capacity for disability-inclusion than that of their peers, or perhaps there were more personal reasons for their lower self-efficacy scores—but this is supposition. The subsample of preservice teachers in this group was very small from which to draw any conclusions—and there are limited reports on this topic in the research literature (Bellacicco & Demo, 2019; Neca et al., 2022; Strimel et al., 2023).

One review based out of the USA found that preservice teachers with disability sustained damage to their self-perceptions and identities as teachers with disability due to the negative perceptions of others about their ability (Strimel et al., 2023). This finding had been discussed by others also undertaking literature reviews involving studies from a number of different countries, including Australia (Bellacicco & Demo, 2019; Neca et al., 2022).

The literature discusses how compliance requirements and achievement of standards seem to be strong areas of focus for ITE program stakeholders but there does not appear to be a systematic conceptualisation of what *reasonable* adjustments mean for coursework or professional placements. Preservice teachers with disability report feeling as though they need to be 'normal' to succeed in their ambition of becoming a teacher. Some keep their disability diagnosis a secret and mask the impact of their disability to the greatest

extent possible (Bellacicco & Demo, 2019). Researchers have suggested that conscious or unconscious ableism may be present within ITE programs of study, and within school communities, which negatively impacts on academic and professional outcomes for preservice teachers with disability by favouring those without disability (Bellacicco & Demo, 2019; Strimel et al., 2023). Ableism is defined as encompassing intentional or unintentional beliefs or actions that undervalue people because they are disabled (Strimel et al., 2023). Clear policies for inclusion of preservice teachers with disability on professional placement do not seem to be readily available, according to the body of international literature (Bellacicco & Demo, 2019; Neca et al., 2022; Strimel et al., 2023) but this is a new area of research.

Western Australia researchers are addressing this knowledge gap by recording a case study based on one preservice teacher with hearing impairment who aims to become a secondary health and physical education teacher (Barwood et al., 2018). These researchers provide information on how additional supports have been utilised by the preservice teacher while on placement and how competencies against the Australian Professional Standards for Teachers have been assessed.

One of the preservice teachers with disability who was interviewed for this research requested a system of more support for preservice teachers while they were on professional placement and suggested a dedicated email from which to seek advice. He had found himself floundering in very difficult circumstances on his final placement. Perhaps it was chance that the majority of this subgroup of research participants were in challenging placement situations. Unfortunately, this is not known because the question was not asked specifically. Further in depth investigation with a specific sample of preservice teachers with disability would be required to understand clearly what negatively affects their self-efficacy for the subscale Inclusive Instructions.

The literature comments on the importance of employing teachers with disabilities in education systems to deconstruct negative representations of disability and build truly inclusive school systems, to showcase the competencies of teachers with disability and for them to be important role models for students with and without disability. At present, teachers with disabilities in school communities appear to be underrepresented (Neca et al., 2022).

6.4.4 Personal experience of people with disability

As with others' research findings, this research found that preservice teachers' self-efficacy was benefitted by the personal relationships they had developed with people with disability, through having family or close friends with disability (Tümkaya & Miller, 2020; Wray et al., 2022), particularly for providing a specialised response. In addition, those who had extra-curricular activity involving students with disability, such as working as a teaching assistant or care worker in an out-of-school hours care program, spoke about how this additional work-life experience advantaged them in the development of their knowledge and skills for

teaching. They were gaining mastery experience, learning vicariously and receiving feedback on their student support performance while in training and under supervision. This extra curricula activity complemented their ITE studies and equipped them with stronger self-efficacy and readiness for disability-inclusive teaching than those without this extra experience. One preservice teacher said that most of her knowledge and understanding had come from her work as a teaching assistant and another spoke of how beneficial it was for her peers to have teaching assistant jobs. She wished she had done the same from her first year of study because then she would have been able to apply that extra knowledge from the start of her professional learning journey.

It appears to be worthwhile for university staff to encourage preservice teachers to take advantage of working as a teaching assistant or care worker in an out-of-school hours care service from the beginning of their ITE course, so they get broader experience of working with students with disability and learning about their various requirements for inclusive in mainstream education.

6.4.5 Legal and policy context of disability-inclusive education

This research found that the preservice teachers of this sample felt less prepared for informing others of the laws and policies supporting disability-inclusive education, an area of professional practice incorporated into the Specialised Response subscale. They explained that while the laws and policies of disability-inclusive education were theoretically understood through their ITE coursework, these were not necessarily backed up by practices at schools. Some preservice teachers had witnessed negative attitudes and poor responses towards students with disability by school staff while they were on placement, and as one said, they felt incapable of challenging these situations because they were "just preservice teachers".

This finding is concerning because knowledge of local disability legislation is one of the most significant predicters of self-efficacy for disability-inclusive education (Wray et al., 2022). The importance of pre-service teachers' understanding of disability- inclusive policy and teachers' legal obligations plus believing in the positive effect that disability-inclusion can make to the lives of students with disability in practice is emphasised in the literature (Loreman et al., 2013; Romero-Contreras et al., 2013; Sharma et al., 2015) . In particular, Forlin (2012) commented on the importance of understanding and supporting legal and policy frameworks for preservice teachers to implement disability-inclusive education successfully. However, she also cautioned that this knowledge does not necessarily reduce preservice teachers' concerns related to disability-inclusive teaching. If preservice teachers are to be advocates of disability-inclusion, they require sound knowledge of inclusive legislation plus a strong belief in the benefits of practicing disability-inclusive teaching to counter the negative persuasions that exist in some mainstream schools. Recently, Australian based researchers have commented on such negative attitudes towards disability-inclusive education continuing to prevail (Cologon, 2022; Sackville et al., 2021). The alignment of the MTSS framework with this

item of the TEIP scale demonstrated that disability-inclusive education should be regarded as a universal concern for all (see Table 5.66).

It would seem from the findings of this study that information about disability related laws and policies, and the role of teachers in advocating for disability-inclusive education in practice, needs to be emphasised more strongly for preservice teachers in their ITE coursework and through their professional practice experiences at schools. In addition, preservice teachers who witness poor teaching practices towards student with disability must have a mechanism to report this, and the confidence to advocate positively for the disability-inclusive paradigm, otherwise poor teaching practices and discrimination based on disability becomes passively accepted as permissible.

6.5 Significance of professional placement

The importance of professional placements as a rich environment for learning the craft of disability-inclusive teaching was repeatedly highlighted throughout this research—backed up by statistically significant test results that showed the type of professional placement and experiences of teaching students with disability while on placement were important influential variables on preservice teachers' self-efficacy and readiness beliefs for disability-inclusive education. Other researchers have found that *field experiences* are the strongest predictor of preservice teachers' self-efficacy regarding disability-inclusive applications, and the more experience, the better (Peebles & Mendaglio, 2014; Specht et al., 2016; Tümkaya & Miller, 2020; Wray et al., 2022).

These findings concur with Bandura's theory of self-efficacy which emphasises mastery and vicarious learning as the most important factors in securing strong self-efficacy for tasks. Receiving constructive feedback and supportive self-talk are also factors identified by Bandura (1997) that assist with the development of self-efficacy. In this context, some of the interview participants felt the university could have provided more support when they were in challenging circumstances while on professional placement. A universal email through which preservice teachers' could seek advice and sound out ideas was one suggestion. This would not have been necessary for all preservice teachers because some reported being well supported by their mentor teachers, broader school community and university tutors. These preservice teachers were confident in their own disability-inclusive teaching practices but not all preservice teachers found themselves in such supportive circumstances. Some felt out of their depth, had limited support from other teachers in the school, and they felt isolated. An alternative contact resource could have assisted them at the time.

The year level foci of professional placements significantly affected this sample of preservice teachers' self-efficacy for disability-inclusive teaching. Preservice teachers who were placed in secondary classes rated

themselves significantly less ready for communicating with parents and carers of student with disability but interestingly, not for any other area of disability-inclusive teaching. Those who had professional placements in early childhood rated themselves significantly less ready for communicating with parents and carers, and also for practicing their legal obligations and providing inclusive instruction. Other researchers have discussed the effect of different year levels of teaching as an influential variable on the TEIP factors, and it has been reported previously that Canadian primary focused preservice teachers also have higher self-efficacy for disability-inclusive education (Specht et al., 2016). Researchers from Canada and England have suggested that secondary teachers are possibly less efficacious for disability-inclusion because they have more fixed views about the abilities of students with disability in the context of subject based curricula (Ekins et al., 2016; Specht & Metsala, 2018). Overall, however, findings related to the effect of this variable are inconclusive because of variations in results attributed to cultural differences between the countries in which research has been undertaken (Wray et al., 2022).

Some of the research participants reflected during their interviews that they would have liked to have had more information directly related to teaching students with disability as part of their ITE courses because they felt that the amount received was less than they needed to successfully engage in disability-inclusive teaching while on placement. The effect of teaching students with disability while on professional placement was significant in the preparation of these preservice teachers for disability-inclusive teaching and the effect of teaching students with vision impairment, in particular, was large for developing skills in collaboration and managing behaviours. Research involving American preservice teachers has verified the positive effect on inclusion self-efficacy when undertaking courses that emphasise adaptation for students with disability, followed by practical experience in implementing disability-inclusive skills with students with disability (Taliaferro et al., 2015). Australian researchers have also emphasised the benefits of applying theoretical knowledge in practice, including challenging but positive professional experiences within disability-inclusive classrooms (Gigante & Gilmore, 2020).

Analysis of the course documents verified that some degrees had less content related to teaching students with disability than others. Not including a topic on differentiating the curriculum for early childhood degrees, for example, may explain why these preservice teachers rated themselves significantly lower in self-efficacy for the subscale Inclusive Instructions. It could be surmised that limited disability related teaching content also affected lower levels of readiness to communicate with parents and carers of students with disability and readiness to practice teachers' legal obligations in relation to inclusion of students with disability of this subgroup.

Some of the research participants suggested that all preservice teachers should have a placement experience in a specialist setting, such as a specialist class, unit or special school. This is supported by other TEIP related studies which have shown that the amount of time spent with students with disability

enhances preservice teachers' self-efficacy for disability-inclusive teaching (Tümkaya & Miller, 2020). However, analyses of the data related to the preservice teachers of this research who had specialist setting placements flagged caution with this suggestion because there was a significant negative effect on this subgroup's self-efficacy for inclusive instructions. This negative effect may, in part, be attributed to the verbal persuasion of others who believe that the educational needs of students with disability can be better met when they are segregated into specialist settings rather than be in regular class environment. One mentor teacher was reported to have said that there are probably kids in the regular classes that could use the extra help of being in a special education class, demonstrating their belief in segregated tuition for students with additional learning requirements. Such beliefs rely on support for a dual track system of education provisions, which still exists in Australia (de Bruin, 2019a).

In contrast to the negative effect on self-efficacy for inclusive instructions, specialist setting placements seemed to assisted preservice teachers to understand the specific needs of students with disability and know how to provide a specialised response. This difference is likely to be because of the intensive time spent observing and working only with students with disability. The practical experience of engaging with their various learning requirements and having opportunities to observe specialist teaching professionals (including allied professionals) appears to be advantageous in this context. However, by its very existence, this placement type does not support the disability-inclusive paradigm of mainstream inclusion for all. In which case, it is more important for preservice teachers to observe and practice disability-inclusive teaching skills in regular classes, so they can become confident with and committed to mainstream disability-inclusive education for all rather than advocates of segregation for some, either at macro or micro levels (Cologon, 2022). There may be some advantages of preservice teachers undertaking professional placements at a specialist setting early in their ITE course, because of the more intense exposure to students with disability and their varied learning requirements. However, preservice teachers must also have opportunities to build their disability-inclusive teaching practices in regular classes at mainstream schools as they progress through their ITE program. The idea of experience in both setting types would need to be tested to understand its effectiveness. Through interviews with research participants who had undertaken disability studies in combination with education, it was found that specialisation creates dissonance with the objectives of inclusion for all. Most of the preservice teachers participating in this research who expressed uncertainty about disability-inclusive education had combined their education degree with disability studies, and they had completed some of their professional placements in specialist settings. Some preservice teachers believed segregated education was necessary for students with more intensive levels of need. They expressed their belief that if the effect of disability on a student was severe, for example if they also needed intensive health support while at school, then integration into mainstream schools was too difficult because regular classes just could not support them. This view goes against the all-

inclusive ambitions of the United Nations and does not reflect the idea of system supports being made available for all children's inclusion in mainstream education regardless of the level of need.

If specialist setting placements became a component of the ITE professional experience program, there would need to be careful monitoring to ensure preservice teachers also had positive experiences teaching students with disability in regular classes at mainstream schools to experience the possible. This requires the availability of enough proficient disability-inclusive practitioners as mentor teachers in regular classes—a strategy that may be difficult for universities to achieve at scale at the present time. However, this challenge may be transitional only, as new graduates with strong self-efficacy and advanced preparation for disability-inclusive education move into the education system. The question of whether there is a way to speed up this process is posed. As an interim approach, universities might consider how they could replicate the experience of disability-inclusive teaching excellence on campus and then provide additional supports for when preservice teachers find themselves being challenged for implementing disability-inclusive pedagogies while on placement at schools. One research participant suggested using role plays at university to emulate circumstances that preservice teachers might come across in classroom teaching situations.

6.6 ITE program improvements

The preservice teachers of this research were seeking more content on the types of students' disabilities they may encounter at schools and knowledge about how to respond effectively to students' varying learning requirements. In particular, some secondary focused preservice teachers would have appreciated a better understanding of the different developmental stages of childhood and methods for differentiating content in a secondary context. Many wanted more information on managing challenging behaviours, mental health support and approaches for positive behavioural support. Some suggested that courses which were available through 'special education' should be available generally, such as Relationships for Learning, Teaching Students with Literacy Difficulties and Teaching Students with Numeracy Difficulties. Studying inclusive education and differentiation topics earlier in the course was also suggested, so there was more time over the full course of the ITE program to learn about students' with disability and put into practice the skills of disability-inclusive teaching while on professional placement in different classroom situations and at different schools. In summary, this sample of preservice teachers were seeking more time to consolidate newly acquired knowledge and skills with more occasions to test these in practice as soon as they could, allowing time for reflection and refinement on subsequent professional placements.

In a study of transformations to both general and special education ITE programs based in the USA, Kim (2011) found that preservice teachers from ITE programs where general and special education programs had been infused had significantly more positive attitudes towards disability-inclusive than those from

separate programs. The importance of these integrated learnings was summed up eloquently by the following preservice teacher in her interview when she reflected on her own professional learning journey.

> The degree that I did, really sets you up for disability and the shaping of attitudes happened straight away in first year…. It really makes you think about a lot of the ethics and morals of disability and your own perception. The way that my own perception and morals of disability has formed over the last four years has been immense. Coming straight out of a high school, not knowing a lot and not even thinking about it much, [and] having a few negative connotations towards it, to now being shaped into thinking disability is nothing to be ashamed of, it's going to be all inclusion. It's the environment that affects people, it is not themselves and their condition. My own personal journey through that has been pretty intense. But quite amazing at the same time. I think that shapes you as a teacher. You need that moral understanding as well. That is something that only comes from the disability side of the degree. It doesn't come from the education side.
>
> No. 36 (Interview 5): female, 18-23 years, Bachelor of Education (Primary R-7 and Special Education/ Bachelor of Disability Studies)

In the context of ITE program improvements, it is important to note that the preservice teachers who contributed to this research expected to receive extra professional learning in the area of disability-inclusive education once they became in-service teachers. An appreciation for their initial teacher education was shown as well as an expectation that learning would continue beyond their university. Some of the preservice teachers spoke about looking forward to their ongoing professional development and the assistance they would receive from senior leaders at schools.

6.7 Varied experiences and viewpoints

It is evident from the data collected for this research that the experiences of learning about disability and disability-inclusive teaching of this sample of preservice teachers were varied. There was a range of attitudes and approaches towards disability-inclusive education at professional placement schools and the participants also reported that lecturers and tutors demonstrated different approaches and attitudes towards disability-inclusive education. Although full support for disability-inclusive education was communicated by many of these research participants, there remained an undercurrent of questioning the pros and cons of disability-inclusion, which perhaps reflects the current debate within the education system about how best to progress inclusion so that education is truly inclusive for all. Several preservice teachers recounted situations where they had observed students with disability being educated in non-inclusive

ways. Some had endeavoured to be inclusive or wanted to be inclusive but were challenged for doing so. These experiences shaped the views of these preservice teachers and while their rhetoric supported disability-inclusive education, their concerns regarding regular classroom engagement resulted in a degree of support for specialist settings, particularly for students with higher support requirements. They revealed their personal reservations about disability-inclusive education after having seen how poorly it has been put into practice at some schools. The negative effect of heightened awareness of the demands of disability-inclusive education has been discussed by researchers previously (Forlin & Chambers, 2011; Sharma & Sokal, 2015; Woodcock et al., 2012). Some of this sample of research participants' comments showed their regard for students as those who have special needs or not, and those who can engage with mainstream learning situations and those who cannot. These preservice teachers highlighted the social constructionism of disability that prevailed in SA at the time of this research. There was little discussion in the data about enhancements to the education system to enable inclusion for all.

Successful disability-inclusion appeared to be dependent on conditions for this sample of preservice teachers—the capabilities of teachers, the level of students' disabilities, their support requirements, and the availability of extra resources. These systemic issues have been discussed extensively in the literature on disability-inclusive education (Lorimer and Mitchell). This research also found that the narrative of disability-inclusive education continues to be centred around resource availability and a judgement about who is able to be included and for whom inclusion is a challenge, rather than being beneficial. In essence, a continuing case of students with disability needing to fit the schools' systems rather than schools adjusting to the additional requirements of students.

The participants of this research reported that lecturers' and tutors' approaches towards teaching about disability-inclusive education varied. In fact, one of the interviewees said that on one occasion there was an opportunity to use the circumstances of a peer preservice teacher with disability to show how the curriculum could be differentiated for inclusion but the teacher educator at the time was reluctant and did not do so. Perhaps it is also timely for universities to review their teacher educators' attitudes and approaches towards disability-inclusive education to ensure the discourse concerning disability-inclusive teaching is positively focused.

6.8 Conclusions

This research has found that most SA preservice teachers feel well prepared for the professional practice responsibilities of disability-inclusive education as a result of completing their ITE program. Of the areas examined, on average, the participants felt at least 70 per cent and up to 87 per cent prepared for employing disability-inclusive teaching practices when they graduated—acknowledging that many expected

to continue their professional learning about disability-inclusive education beyond university as they began their teaching careers.

The areas of least preparation were involving parents and carers of students with disability in activities at school, informing others who know little about laws and policies related to the inclusion of students with disabilities, seeking the specialist assistance of allied professionals to assist teaching students with disability in regular classes and dealing with students who are physically aggressive. The comments of some of the participating preservice teachers suggested that involvement in these areas of professional learning was difficult while on placement. As a result, they were unable to gain first-hand experience to develop these specific areas of disability-inclusive professional practices. The comments implied that some professional practices were perceived as the responsibilities of more experienced teachers with higher levels of proficiency than would be expected of new graduates and therefore, access to these professional experiences was not forthcoming or easily available. It should also be noted that although low self-efficacy for managing challenging behaviours was reported by some of the research participants, there was little qualitative data to explain why. In part, this was because relevant questions were not asked. If this study was to be replicated, explicit questions related to challenging behaviours should be included.

The statistical test results revealed that professional placements had the most significant influence on preservice teachers' self-efficacy and readiness to practice disability-inclusive teaching. Mentor teachers' commitment to disability-inclusive education is an important factor in the development of a preservice teachers' approach to disability-inclusive teaching. The findings of this research emphasise the powerful potential of professional placements, especially where best practices in disability-inclusive education are displayed. Therefore, the selection of professional placements should not be left to chance, as there is too much variation in disability-inclusive practices and attitudes towards students with disability still present at schools. This research has highlighted that not all teachers or school leaders strongly support the inclusion of students with disability, and this gives rise to the justification for segregation of students with disability to separate classes, units or schools. If the next generation of teachers are to progress the disability-inclusive education agenda they must have exposure to experienced teachers who are operating at an advance standard, where students with disability at all levels are welcomed and receiving an effective education. This gives rise to the question—Are there enough mentor teachers to fulfill this requirement? This is an area requiring further research. Universities are well placed to be agents of change and to help shape the future of disability-inclusive education. They have a vested interest in proactively seeking quality mentoring to ensure best practice coaching in disability-inclusive teaching is a component of the ITE program.

The experience of primary teaching appeared to be more effective in preparing preservice teachers for communicating with parents and carers of students with disability. Early childhood and secondary teaching placements were less so. This could be associated with a clearer understanding of students' additional

requirements and learning plans in the primary years, as well as more access to others for collaboration, including parents and carers.

When teachers combined their education degree with disability studies, they reported higher levels of readiness to differentiate the curriculum, find and learn new disability related information and had higher self-efficacy for the subscale Specialised Response, which was likely linked to more of these preservice teachers undertaking professional placements in specialist settings where they had the opportunity to work only with students with disability. This meant they could learn from specialist teaching staff vicariously and master their own skills for students with disability specifically. However, this placement type had a negative effect on self-efficacy for the subscale Inclusive Instructions. These findings suggest that using specialist placements as an option for preservice teachers to practice disability-inclusive teaching intensively should be considered with caution.

That said, the most frequent and largest positive effects on preservice teachers' preparation for disability-inclusive teaching was teaching students with disability—and in particular teaching students with vision impairment, as well as those with significant challenging behaviours. Medium effects were found for teaching students with ASD and developmental delay. The subscale areas strengthened by these experiences included Collaboration, Managing Behaviour and Specialised Response. Exploring the suggestion that teaching students with intellectual disability may have a negative effect on preservice teachers' preparation was beyond the scope of this research but may warrant future research.

Skills for collaboration appear to be an area of for which Australian preservice teachers need more development (Shaukat et al., 2013; Tümkaya & Miller, 2020), and according to this sample of research data, males would possibly benefit from assistance with the development of collaboration skills more than females.

Other areas for which this research has prompted the need for more inquiry include the negative effect of living with disability on preservice teachers themselves for their development of Inclusive Instruction teaching skills, plus the positive effect of involvement with people with disability in extra-curricular ways, such as through family, in friendship groups and when working at schools or in out of school hours care settings to support students with disability requiring a Specialised Response. This research has confirmed the findings of others demonstrating that personal interactions with people with disability positively influences preservice teachers' preparation for disability-inclusive education (Wray et al., 2022).

Additional support from university staff while preservice teachers are on professional placement was requested by preservice teachers when mentor teachers and the broader school culture were not

supportive of disability-inclusive education. This appeared to be more necessary when students with disability in regular classes had more intensive and individualised levels of need.

More information related to different disability types and effective methods for teaching students with different types of additional need was requested earlier in the ITE course as a suggested ITE program improvement. The preservice teachers wanted this information earlier so they could put it into practice while on placement and have more opportunities to master disability-inclusive teaching with guidance.

Drawing links between the TEIP scale, the Australian Professional Standards for Teachers and the MTSS framework has assisted this research by bringing a new perspective on the expectations of graduate teachers. This approach has shown how these frameworks could work together to inform ITE course curriculum for promotion of disability-inclusive education. It may be useful for ITE course designers to consider how the TEIP scale items align with the Australian Professional Standards for Teachers and the MTSS framework to reveal how new disability-inclusive content could be combined into the ITE curriculum.

In closing, these findings have been reported as a prompt for universities to reflect upon current ITE programs with a view to improving outcomes for upcoming preservice teachers in their adoption of disability-inclusive practices. They add to the existing body of knowledge generated by researchers on this topic. Meaningful interpretation of the data was possible through data integration and meta-inference, which is integral to a mixed methods research design. It is noted, however, that the findings are limited by the size of the sample and the local context. Also, the perspectives of university faculty staff were not garnered as part of this research. To do so would expand our understanding even further and is a suggestion for future research.

REFERENCE LIST

Ahsan, M. T., Sharma, U., & Deppeler, J. M. (2012). Exploring pre-service teachers' perceived teaching-efficacy, attitudes and concerns about inclusive education in Bangladesh [Report]. *International Journal of Whole Schooling*, *8*(2), 1-20. https://link.gale.com/apps/doc/A314254261/AONE?u=flinders&sid=bookmark-AONE&xid=11186a75

Ainscow, M. (2020). Promoting inclusion and equity in education: Lessons from international experiences. *Nordic Journal of Studies in Educational Policy*, *6*(1), 7-16. https://doi.org/10.1080/20020317.2020.1729587

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T (Organizational Behavior and Human Decision Processes)

American Institutes for Research. (2023). *Multi-level prevention system*. https://mtss4success.org/essential-components/multi-level-prevention-system

Anderson, V. R. (2016). Introduction to mixed methods approaches. In A. J. Leonard & D. S. Glenwick (Eds.), *Handbook of methodological approaches to community-based research* (pp. 233-241). Oxford University Press. https://doi.org/ https://doi.org/10.1093/med:psych/9780190243654.003.0023

Australian Curriculum Assessment and Reporting Authority. (2022). *Meeting the needs of students with a disability* Retrieved November 17, 2022, from https://www.australiancurriculum.edu.au/resources/student-diversity/meeting-the-needs-of-students-with-a-disability/

Australian Government. (2013, February 23 2023). *Australian Education Act 2013*. https://www.education.gov.au/australian-education-act-2013

Australian Human Rights Commission. *D.D.A. guide: What's it all about*. Retrieved November 4, 2021, from https://www.humanrights.gov.au/dda-guide-whats-it-all-about

Australian Institute for Teaching and Learning. (2020). *Inclusive education: Teaching students with disability*. Retrieved November 8, 2022, from https://www.aitsl.edu.au/research/spotlights/inclusive-education-teaching-students-with-disability

Australian Institute for Teaching and School Leadership. (2011). *Australian professional standards for teachers*. AITSL. https://www.aitsl.edu.au/docs/default-source/national-policy-framework/australian-professional-standards-for-teachers.pdf

Australian Institute for Teaching and School Leadership. (2015). *Accreditation of initial teacher education programs in Australia*. AITSL, Melbourne. https://www.aitsl.edu.au/docs/default-source/national-policy-framework/accreditation-of-initial-teacher-education-programs-in-australia.pdf?sfvrsn=e87cff3c_48

Australian Institute for Teaching and School Leadership. (2017). *Accreditation of initial teacher education programs in Australia: Standards and procedures*. Retrieved Novemer 17, 2022, from https://www.aitsl.edu.au/tools-resources/resource/accreditation-of-initial-teacher-education-programs-in-australia---standards-and-procedures

Australian Institute of Health and Welfare. (2022, July 5, 2022,). *People with disability in Australia*. Australian Government. https://www.aihw.gov.au/reports/disability/people-with-disability-in-australia/contents/education-and-skills/engagement-in-education

Avramidis, E., & Norwich, B. (2002). Teachers' attitudes towards integration / inclusion: a review of the literature. *European Journal of Special Needs Education*, *17*(2), 129-147. https://doi.org/10.1080/08856250210129056

Bandura, A. (Ed.). (1995). *Self-efficacy in changing societies*. Cambridge University Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman.

Banks, J. (2022). *The inclusion dialogue: Debating issues, challenges and tensions with global experts*. Taylor & Francis Group. https://doi.org/https://doi.org/10.4324/9781003263425

Barwood, D., Sanbrook, C., O'Rouke, J., Jones, A., & Thomas, J. (2018). Blowing a whistle, how hard can it be? An exploration of practicum experiences for a pre-service health and physical education teacher with a hearing impairment. *Curriculum Studies in Health and Physical Education*, *9*(3), 270-285. https://doi.org/10.1080/25742981.2018.1490627

Beacham, N., & Rouse, M. (2012). Student teachers' attitudes and beliefs about inclusion and inclusive practice. *Journal of Research in Special Educational Needs*, *12*(1), 3-11. https://doi.org/10.1111/j.1471-3802.2010.01194.x

Beauducel, A., & Herzberg, P. Y. (2006). On the performance of maximum likelihood versus means and variance adjusted weighted least squares estimation CFA. *Structural Equation Modeling*, *13*(2), 186-203. https://doi.org/10.1207/s15328007sem1302_2

Bellacicco, R., & Demo, H. (2019). Becoming a teacher with a disability: A systematic review. *Form@re*, *19*(3), 186. https://doi.org/10.13128/form-7720

Berndt, A. E. (2020). Sampling methods. *Journal of Human Lactation*, *36*(2), 224-226. https://doi.org/10.1177/0890334420906850

Best, M., Corcoran, T., & Slee, R. (2018). *Who's in? Who's Out?: What to do about inclusive education*. BRILL. http://ebookcentral.proquest.com/lib/flinders/detail.action?docID=5634156

Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health*, *6*, 149-149. https://doi.org/10.3389/fpubh.2018.00149

Bourke, R., & O'Neil, J. (2020). Fearless and informal learning: Challenging inclusion. In M. Best, T. Corcoran, & R. Slee (Eds.), *Who's in? Who's out?: What to do about inclusive education* (pp. 59-70). Brill. https://ebookcentral.proquest.com/lib/flinders/reader.action?docID=5634156

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, *9*(2), 27-40. https://doi.org/10.3316/QRJ0902027

Boyle, C., & Anderson, J. (2020). The justification for inclusive education in Australia. *Prospects (Paris)*, *49*(3-4), 203-217. https://doi.org/10.1007/s11125-020-09494-x

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77-101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. SAGE Publications Ltd.

Brinkman, S. (2018). The interview. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (5th ed.). SAGE.

Brooks, J., McCluskey, S., Turley, E., & King, N. (2015). The utility of template analysis in qualitative psychology research. *Qualitative Research in Psychology*, *12*(2), 202-222. https://doi.org/10.1080/14780887.2014.955224

Brown, R. I., Bayer, M. B., & Brown, P. M. (1992). *Empowerment and developmental handicaps: choices and quality of life*. Captus University Publications.

Browne, M. W. (2001). An overview of analytic rotation in exploratory factor analysis. *Multivariate Behavioral Research*, *36*(1), 111-150. https://doi.org/10.1207/S15327906MBR3601_05

Burns, M. K., Jimerson, S. R., VanDerHeyden, A. M., & Deno, S. L. (2015). Toward a unified response-to-intervention model: Multi-tiered systems of support. In S. R. Jimerson, M. K. Burns, & A. M. VanDerHeyden (Eds.), *Handbook of response to intervention: The science and practice of multi-tiered systems of support* (pp. 719-732). Springer US. https://doi.org/10.1007/978-1-4899-7568-3_41

Burr, V. (2015). *Social constructionism* (3 ed.). Routledge.

Call, K., Christie, M., & Simon, S. (2021). Do preservice teachers believe they use the Australian Professional Standards for Teachers to inform their professional learning? *The Australian Journal of Teacher Education*, *46*(6), 98-114. https://doi.org/10.14221/ajte.2021v46n6.6

Chao, C. N. G., Forlin, C., & Ho, F. C. (2016). Improving teaching self-efficacy for teachers in inclusive classrooms in Hong Kong. *International Journal of Inclusive Education*, *20*(11), 1142-1154. https://doi.org/10.1080/13603116.2016.1155663

Cologon, K. (2012). Confidence in their own ability: Postgraduate early childhood students examining their attitudes towards inclusive education. *International Journal of Inclusive Education*, *16*(11), 1155-1173. https://doi.org/10.1080/13603116.2010.548106

Cologon, K. (2022). Is inclusive education really for everyone? Family stories of children and young people labelled with 'severe and multiple' or 'profound' 'disabilities'. *Research Papers in Education*, *37*(3), 395-417. https://doi.org/10.1080/02671522.2020.1849372

Commonwealth of Australia. (1992). *Disability Discrimination Act*. Canberra: Australian Government Retrieved from http://www.austlii.edu.au/au/legis/cth/consol_act/dda1992264/

Commonwealth of Australia. (2005). *Disability standards for education plus guidance notes*. Canberra: Australian Government Retrieved from https://docs.education.gov.au/system/files/doc/other/disability_standards_for_education_2005_plus_guidance_notes.pdf

Commonwealth of Australia. (2021). *Royal commission into violence, abuse, neglect and exploitation of people with disability*. Retrieved November 10, 2021, from https://disability.royalcommission.gov.au/

Creswell, J. (2007). *Qualitative inquiry and research design*. SAGE.

Creswell, J. (2009). *Research design: Qualitative, quantitative and mixed methods approaches*. SAGE.

Creswell, J. W. & Creswell, J. D. (2018). *Research design: Qualitative, quantitative and mixed methods approaches* (5th ed.). SAGE.

Creswell, J., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3 ed.). SAGE.

Creswell, J. W. (2021). *Educational research: planning, conducting, and evaluating quantitative and qualitative research* (6th ed., global ed.). Pearson Education Limited.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. SAGE.

Cumming, J., Tones, M., Day, C., & Heck, E. (2018). Enhancing inclusive education through teacher education reforms. In C. Wyatt-Smith & L. Adie (Eds.), I*nnovation and accountability in teacher education: Setting directions for new cultures in teacher education* (pp. 201-221). Springer Singapore. https://doi.org/10.1007/978-981-13-2026-2_13

de Bruin, K. (2019a). Does inclusion work? In L. Graham (Ed.), *Inclusive education for the 21st century: Theory, olicy and practice* (pp. 55-76). Routledge.

de Bruin, K. (2019b). The impact of inclusive education reforms on students with disability: an international comparison. *International Journal of Inclusive Education*, *23*(7-8), 811-826. https://doi.org/10.1080/13603116.2019.1623327

de Bruin, K. (2022). Multi-tiered systems of support: A road map for achieving an inclusive education system. In J. Banks (Ed.), *The inclusion dialogue: Debating issues, challenges and tensions with global experts* (pp. 36-53). Routledge.

de Winter, J. C., Dodou, D., & Wieringa, P. A. (2009). Exploratory factor analysis with small sample sizes. *Multivariate Behav Res*, *44*(2), 147-181. https://doi.org/10.1080/00273170902794206

Dembo, M. H., & Gibson, S. (1985). Teachers' sense of efficacy: An important factor in school improvement. *The Elementary School Journal*, *86*(2), 173-184. https://doi.org/10.1086/461441

Dempsey, I. (1994). Compulsory special education courses for preservice teacher trainees: Friend or foe. *Australian Journal of Remedial Education*, *26*(3), 24-27.

Denzin, N. K. (2008). The new paradigm dialogs and qualitative inquiry. *International Journal of Qualitative Studies in Education*, *21*(4), 315-325. https://doi.org/10.1080/09518390802136995

Denzin, N. K., & Lincoln, Y. S. (2017). *The SAGE handbook of qualitative research* (5th ed.). SAGE.

Department for Education. (2020). *Children and students with disability policy*. Adelaide: South Australian Government Retrieved from https://edi.sa.edu.au/library/document-library/controlled-policies/children-and-students-withdisability

Diplomatic Academy. (2019). *Disability-inclusive education: Foundation level*. Canberra: Australian Government Retrieved from https://www.dfat.gov.au/sites/default/files/foundation-disability-inclusive-education.pdf

DiStefano, C., & Morgan, G. B. (2014). A comparison of diagonal weighted least squares robust estimation techniques for ordinal data. *Structural Equation Modeling*, *21*(3), 425-438. https://doi.org/10.1080/10705511.2014.915373

Drasgow, F. (2004). Polychoric and polyserial correlations. In R. Kotz, B. Campbell, & D. L. Banks (Eds.), *Encyclopedia of statistical sciences* (2nd ed., pp. 69-74). https://doi.org/10.1002/0471667196.ess2014

Ekins, A., Savolainen, H., & Engelbrecht, P. (2016). An analysis of English teachers' self-efficacy in relation to SEN and disability and its implications in a changing SEN policy context. *European Journal of Special Needs Education*, *31*(2), 236-249. https://doi.org/10.1080/08856257.2016.1141510

Elder-Vass, D. (2012). *The reality of social construction*. Cambridge University Press.

Engelbrecht, P., & Savolainen, H. (2018). A mixed-methods approach to developing an understanding of teachers' attitudes and their enactment of inclusive education. *European Journal of Special Needs Education*, *33*(5), 660-676. https://doi.org/10.1080/08856257.2017.1410327

Fetters, M. D. (2020). *The mixed methods research workbook: Activities for designing, implementing, and publishing projects*. SAGE.

Fielding, J. L., & Gilbert, G. N. (2006). *Understanding social statistics* (2nd ed.). SAGE.

Fink, A. (2002). *How to sample in surveys* (2nd ed.). SAGE.

Flinders University. (2021). *Bachelor of Education (Primary R-7 and Special Education), Bachelor of Disability Studies - Prior to 31 December 2019*. https://students.flinders.edu.au/my-course/course-rules-2021/undergrad/bedprsebds

Florian, L., & Beaton, M. (2018). Inclusive pedagogy in action: Getting it right for every child. *International Journal of Inclusive Education*, *22*(8), 870-884. https://doi.org/10.1080/13603116.2017.1412513

Florian, L., & Black-Hawkins, K. (2011). Exploring inclusive pedagogy. *British Educational Research Journal*, *37*(5), 813-828. https://doi.org/10.1080/01411926.2010.501096

Florian, L., Black-Hawkins, K., & Rouse, M. (2016). *Achievement and inclusion in schools*. Taylor & Francis Group.

Florian, L., & Linklater, H. (2010). Preparing teachers for inclusive education: Using inclusive pedagogy to enhance teaching and learning for all. *Cambridge Journal of Education*, *40*(4), 369-386. https://doi.org/10.1080/0305764x.2010.526588

Forlin, C. (2006). Inclusive education in Australia ten years after Salamanca. *European Journal of Psychology of Education*, *21*(3), 265-277. https://doi.org/10.1007/BF03173415

Forlin, C. (Ed.). (2010). *Teacher education for inclusion: Changing paradigms and innovative approaches*. Routledge.

Forlin, C. (2012). Future directions: What is needed now for effective inclusive teacher education? In C. Forlin (Ed.), *Future directions for inclusive teacher education: An international perspective* (pp. 173-182). Routledge.

Forlin, C., & Chambers, D. (2011). Teacher preparation for inclusive education: increasing knowledge but raising concerns. *Asia-Pacific Journal of Teacher Education*, *39*(1), 17-32. https://doi.org/10.1080/1359866x.2010.540850

Forlin, C., Chambers, D., Loreman, T., Deppeler, J., & Sharma, U. (2013). *Inclusive education for students with disability*. Australian Research Alliance for Children and Youth. https://www.aracy.org.au/publications-resources/command/download_file/id/246/filename/Inclusive_education_for_students_with_disability_-_A_review_of_the_best_evidence_in_relation_to_theory_and_practice.pdf

Forlin, C., Earle, C., Loreman, T., & Sharma, U. (2011). The Sentiments, Attitudes, and Concerns about Inclusive Education Revised (SACIE-R) scale for measuring pre-service teachers' perceptions about inclusion. *Exceptionality Education International*, *21*(3), 50-65.

Forlin, C., Loreman, T., Sharma, U., & Earle, C. (2009). Demographic differences in changing pre-service teachers' attitudes, sentiments and concerns about inclusive education. *International Journal of Inclusive Education*, *13*(2), 195-209. https://doi.org/10.1080/13603110701365356

Gergen, K. J. (2020). Constructionist theory and the blossoming of practice. In S. McNamee, M. M. Gergen, C. Camargo-Borges, & F. R. Emerson (Eds.), *The SAGEhandbook of social constructionist practice*. SAGE. https://doi.org/10.4135/9781529714326

Giangreco, M. F. (2021). Maslow's Hammer: teacher assistant research and inclusive practices at a crossroads. European Journal of Special Needs Education, 36(2), 278-293. https://doi.org/10.1080/08856257.2021.1901377

Gigante, J., & Gilmore, L. (2020). Australian preservice teachers' attitudes and perceived efficacy for teaching in inclusive classrooms. *International Journal of Inclusive Education*, *24*(14), 1568-1577. https://doi.org/10.1080/13603116.2018.1545875

Goodall, C. (2018). 'I felt closed in and like I couldn't breathe': A qualitative study exploring the mainstream educational experiences of autistic young people. *Autism & developmental language impairments*, *3*, 239694151880440. https://doi.org/10.1177/2396941518804407

Grace-Martin, K. (2021 December 7). *How big of a sample size do you need for factor analysis?* The analysis factor. https://www.theanalysisfactor.com/sample-size-needed-for-factor-analysis/

Graham, L. (2019). *Inclusive education for the 21st century: Theory, policy and practice*. Taylor & Francis Group.

Graham, L., & Scott, W. (2016). *Teacher preparation for inclusive education: Initial teacher education and in-service professional development*. Melbourne: Melbourne Graduate School of Education Retrieved from https://findanexpert.unimelb.edu.au/scholarlywork/1356667-teacher-preparation-for-inclusive-education--initial-teacher-education-and-in-service-professional-development

Graham, L. J., McCarthy, T., Killingly, C., Tancredi, H., & Poed, S. (2020). *Inquiry into suspension, exclusion and expulsion processes in South Australian government schools: Final report.* Brisbane: Centre for Inclusive Education QUT, Retrieved from https://www.education.sa.gov.au/sites/default/files/report-of-an-independent-inquiry-into-suspensions-exclusions-and-expulsions-in-south-australian-government-schools.pdf

Greene, J. C. (2007). *Mixed methods in social inquiry*. John Wiley & Sons.

Greene, J. C., & Hall, J. N. (2010). Dialectics and pragmatism: Being of consequence. In A. Tashakkori & C. Teddlie (Eds.), *Mixed methods in social and behavioral research* (pp. 119-143). Sage.

Grey Literature Network. (2014). *Pisa declaration on policy development for grey literature resources*. Grey Literature Network. http://www.greynet.org/images/Pisa_Declaration,_May_2014.pdf

Hamman, D., Lechtenberger, D., Griffin-Shirley, N., & Zhou, L. (2013). Beyond exposure to collaboration: Preparing general-education teacher candidates for inclusive practice. *The Teacher Educator*, *48*(4), 244-256. https://doi.org/10.1080/08878730.2013.796030

Hancock, G. R., Stapleton, L. M., & Mueller, R. O. (2019). *The reviewer's guide to quantitative methods in the social sciences* (2nd ed.). Florence: Routledge. https://doi.org/10.4324/9781315755649

Hanushek, E. A., Piopiunik, M., & Wiederhold, S. (2019). Do smarter teachers make smarter students?: International evidence on teacher cognitive skills and student performance. *Education Next*, *19*(2), 57-64. https://www.proquest.com/scholarly-journals/do-smarter-teachers-make-students-international/docview/2461116845/se-2?accountid=10910
Taylor & Francis Group.

Hattie, J. (2023). *Visible learning: A synthesis of over 2,100 meta-analyses relating to achievement*.

Haukoos, J. S., & Lewis, R. J. (2005). Advanced statistics: Bootstrapping confidence intervals for statistics with "difficult" distributions. *Academic Emergency Medicine*, *12*(4), 360-365. https://doi.org/10.1197/j.aem.2004.11.018

Hayes, A. F., & Coutts, J. J. (2020). Use omega rather than Cronbach's alpha for reliability. But... *Communicaiton Methods and Measures*, *14*, 1-24.

Hemmings, B., & Woodcock, S. (2011). Preservice teachers' views of inclusive education a content analysis. *Australian Journal of Special Education*, *35*(2), 103-116.

Hesse-Biber, S. N., & Leavy, P. (2011). *The practice of qualitative research* (2nd ed.). SAGE.

Hicks, T. (2018). Postpositivism. In B. B. Frey (Ed.), *The SAGE encyclopedia of educational research, measurement, and evaluation* (pp. 1276-1278). SAGE. https://doi.org/10.4135/9781506326139

Howe, K. R. (1988). Against the quantitative-qualitative incompatibility thesis or dogmas die hard. *Educational Researcher*, *17*(8), 10-16.

Hutchinson, N., Minnes, P., Burbidge, J., Dods, J., Pyle, A., & Dalton, C. (2015). Perspectives of canadian teacher candidates on inclusion of children with developmental disabilities: A mixed-methods study. *Exceptionality Education International*, *25*(s), 42-64. https://doi.org/https://doi.org/10.5206/eei.v25i2.7724

Hyde, M., Dole, S., & Tait, K. (2022). *Diversity, inclusion and engagement* (4th ed.). Oxford University Press Australia & New Zealand.

IBM Corporation. (2020). *IBM SPSS statistics for windows, version 27.0*. IBM Corp.

Idle, J., Giuntoli, G., Fisher, K., Robinson, S., Purcal, C., Newman, C., & Reedy, K. (2022). *Research Report – Changing community attitudes to improve inclusion of people with disability.* Canberra Retrieved from https://disability.royalcommission.gov.au/publications/research-report-changing-community-attitudes-improve-inclusion-people-disability

International Classification of Functioning Disability and Health. (2002). T*owards a common language for functioning, disability and health*. World Health Organisation, Retrieved from https://www.who.int/classifications/icf/training/icfbeginnersguide.pdf

Isaacs, B. J., Brown, I., Brown, R. I., Baum, N., Myerscough, T., Neikrug, S., Roth, D., Shearer, J., & Wang, M. (2007). The international family quality of life project: Goals and description of a survey tool. *Journal of Policy and Practice in Intellectual Disabilities*, *4*(3), 177-185. https://doi.org/10.1111/j.1741-1130.2007.00116.x

Johnson, R. B. (2017). Dialectical pluralism: A metaparadigm whose time has come. *Journal of Mixed Methods Research*, *11*(2), 156-173. https://doi.org/10.1177/1558689815607692

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher*, *33*(7), 14-26. https://doi.org/10.3102/0013189X033007014

Jordan, A. (2018). The supporting effect teaching project: 1: Factors influencing student success in inclusive elementary classrooms. *Exceptionality Education International*, *28*(3), 10-27. file:///C:/Users/Jo/Downloads/ojsadmin,+fulltext.pdf

Juntunen, M., & Lehenkari, M. (2021). A narrative literature review process for an academic business research thesis. *Studies in Higher Education (Dorchester-on-Thames)*, *46*(2), 330-342. https://doi.org/10.1080/03075079.2019.1630813

Keppens, K., Consuegra, E., & Vanderlinde, R. (2021). Exploring student teachers' professional vision of inclusive classrooms in primary education. *International Journal of Inclusive Education*, *25*(9), 1091-1107. https://doi.org/10.1080/13603116.2019.1597186

Killoran, I., Woronko, D., & Zaretsky, H. (2013). Exploring preservice teachers' attitudes towards inclusion. *International Journal of Inclusive Education*, *18*(4), 427-442. https://doi.org/10.1080/13603116.2013.784367

Kim, J. R. (2011). Influence of teacher preparation programmes on preservice teachers' attitudes toward inclusion. *International Journal of Inclusive Education*, *15*(3), 355-377. https://doi.org/10.1080/13603110903030097

King, N., & Brooks, J. M. (2017). *Template analysis for business and management students*. SAGE Publications Ltd.

Knauder, H., & Koschmieder, C. (2019). Individualized student support in primary school teaching: A review of influencing factors using the theory of planned behavior (TPB). *Teaching and Teacher Education*, *77*, 66-76. https://doi.org/10.1016/j.tate.2018.09.012

Kvale, S., & Brinkman, S. (2009). *Interviews: Learning the craft of qualitative research interviewing* (2nd ed.). SAGE.

Laerd Dissertation. (2012). *Self-selection sampling*. Lund Research Ltd. https://dissertation.laerd.com/self-selection-sampling.php

Lambe, J., & Bones, R. (2006). Student teachers' perceptions about inclusive classroom teaching in Northern Ireland prior to teaching practice experience. *European Journal of Special Needs Education*, *21*(2), 167-186. https://doi.org/10.1080/08856250600600828

Lambe, J., & Bones, R. (2008). The impact of a special school placement on student teacher beliefs about inclusive education in Northern Ireland. *British journal of special education*, *35*(2), 108-116. https://doi.org/10.1111/j.1467-8578.2008.00381.x

Lancaster, J., & Bain, A. (2007). The design of inclusive education courses and the self-efficacy of preservice teacher education students. *International Journal of Disability, Development, and Education*, *54*(2), 245-256. https://doi.org/10.1080/10349120701330610

Lancaster, J., & Bain, A. (2021). Do judgements about pre-service teachers' self-efficacy covary with their capacity to design and deliver evidence-based practice? *International Journal of Inclusive Education*, *25*(7), 827-842. https://doi.org/10.1080/13603116.2019.1579873

Lawrence, A. M., & Brenda, T. M. (2016). *The literature review: Six steps to success* (Vol. 3 edition) Corwin. http://ezproxy.flinders.edu.au/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=2524556&site=ehost-live

LeCornu, R. (2015). Key components of effective professional experience in initial teacher education in Australia. Australian Institute for Teaching and School Leadership, Melbourne.

Lewis, I., & Bagree, S. (2013). *Teachers for all: Inclusive teaching for children wtih disabilities.* International Disablity and Development Consortium.

Leyser, Y., Zeiger, T., & Romi, S. (2011). Changes in self-efficacy of prospective special and general education teachers: Implication for inclusive education. *International Journal of Disability, Development, and Education*, *58*(3), 241-255. https://doi.org/10.1080/1034912X.2011.598397

Lincoln, Y. S., & Guba, E. G. (2016). *The constructivist credo*. Left Coast Press. https://doi.org/10.4324/9781315418810

Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2018). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (5th ed., pp. 108-150). SAGE.

Lindner, K.-T., & Schwab, S. (2020). Differentiation and individualisation in inclusive education: a systematic review and narrative synthesis. *International Journal of Inclusive Education*, 1-21. https://doi.org/10.1080/13603116.2020.1813450

Lohr, S. L. (2019). *Sampling: Design and Analysis* (2nd ed.). Milton: CRC Press LLC.

Loreman, T. (2007). Seven pillars of support for inclusive education: Moving from "why?" to "how?". *International Journal of Whole Schooling*, *3*(2), 22.

Loreman, T., Deppeler, J., & Harvey, D. (2011). *Inclusive education: Supporting diversity in the classroom* (2nd ed.). Allen & Unwin.

Loreman, T., Sharma, U., & Forlin, C. (2013). Do pre-service teachers feel ready to teach in inclusive classrooms? A four country study of teaching self-efficacy. *Australian Journal of Teacher Education*, *38*(1), 26-44, Article 3. http://ro.ecu.edu.au/ajte/vol38/iss1/3

Ma, K., Cavanagh, M., & McMaugh, A. (2022). Sources of pre-service teacher self-efficacy: a longitudinal qualitative inquiry. *Asia Pacific Journal of Education*, 1-16. https://doi.org/10.1080/02188791.2022.2136140

Ma, K., Cavanagh, M. S., & McMaugh, A. (2021). Preservice teachers' reflections on their teaching self-efficacy changes for the first professional experience placement. *The Australian Journal of Teacher Education*, *46*(10), 62-76. https://doi.org/10.14221/ajte.2021v46n10.4

Malinen, O.-P., Savolainen, H., Engelbrecht, P., Xu, J., Nel, M., Nel, N., & Tlale, D. (2013). Exploring teacher self-efficacy for inclusive practices in three diverse countries. *Teaching and Teacher Education*, *33*, 34-44. https://doi.org/10.1016/j.tate.2013.02.004

Malinen, O.-P., Savolainen, H., & Xu, J. (2012). Beijing in-service teachers' self-efficacy and attitudes towards inclusive education. *Teaching and Teacher Education*, *28*(4), 526-534. https://doi.org/10.1016/j.tate.2011.12.004

Manfreda, K. L., Bosnjak, M., Berzelak, J., Haas, I., & Vehovar, V. (2008). Web surveys versus other survey modes: A meta-analysis comparing response rates. *International Journal of Market Research*, *50*(1), 79-104. https://doi.org/10.1177/147078530805000107

Mason, J. (2002). *Qualitative researching* (2nd ed.). SAGE.

Mertens, D. M. (2012). What comes first? The paradigm or the approach. *Journal of Mixed Methods Research*, *6*(4), 255-257. https://doi.org/10.1177155868981246157 4

Ministerial Advisory Committee: Students with Disabilities. (2018). Principles of inclusion for children and students with disability in education and care. In M. Best, T. Corcoran, & R. Slee (Eds.), *Who's in? Who's out?: What to do about inclusive education* (pp. 157-177). Brill.

Mitchell, D. (2009). *Inclusive education*. https://www.cedol.org/wp-content/uploads/2012/02/55-57-20091.pdf

Mitchell, D. (2015). *Education that fits: Review of the International trends in the education of students with special educational needs*. https://www.education.vic.gov.au/Documents/about/department/psdlitreview_Educationthatfits.pdf

Mitchell, D., & Sutherland, D. (2020). *What really works in special and inclusive education: Using evidence-based teaching strategies*. Routledge. https://doi.org/https://doi.org/10.4324/9780429401923

Mitchell, P., & Ziegler, F. (2013). *Fundamentals of developmental psychology* (2nd ed.). Psychology Press.

Monash University. (2023). *Consortium of inclusive teacher education and development (CITED)*. Retrieved March 29, 2023, from https://www.monash.edu/cited

Morse, J. (2018). Reframing rigor in qualitative inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research*. SAGE.

Mullins, S. (2018). South Australian public primary schools to receive greater resources to support students with autism. *ABC NEWS*. https://www.abc.net.au/news/2022-08-18/greater-resources-for-inclusive-learning-in-sa-schools/101342576?utm_campaign=abc_news_web&utm_content=link&utm_medium=content_shared&utm_source=abc_news_web

Mundfrom, D. J., Shaw, D. G., & Ke, T. L. (2005). Minimum sample size recommendations for conducting factor analyses. *International Journal of Testing*, *5*(2), 159-168. https://doi.org/10.1207/s15327574ijt0502_4

Munro, J. (2018). Effective inclusive teaching needs synergistic knowing and learning. In M. Best, T. Corcoran, & R. Slee (Eds.), *Who's in? Who's out?: What to do about inclusive education* (pp. 145-156). Brill.

Neca, P., Borges, M. L., & Pinto, P. C. (2022). Teachers with disabilities: A literature review. *International Journal of Inclusive Education*, *26*(12), 1192-1210. https://doi.org/10.1080/13603116.2020.1776779

Nirje, B. (1985). The basis and logic of the normalization principle. *Australia and New Zealand Journal of Developmental Disabilities*, *11*(2), 65-68. https://doi.org/10.3109/13668258509008747

O'Brien, P., Bonati, M. L., Gadow, F., & Slee, R. (2018). *People with intellectual disability experiencing university life: Theoretical underpinnings, evidence and lived experience*. Brill Sense.

Opoku, M. P., Cuskelly, M., Pedersen, S. J., & Rayner, C. S. (2021). Attitudes and self-efficacy as significant predictors of intention of secondary school teachers towards the implementation of inclusive education in Ghana. *European journal of psychology of education*, *36*(3), 673-691. https://doi.org/10.1007/s10212-020-00490-5

Pallant, J. F. (2013). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (5th ed.). Crows Nest, N.S.W. Allen & Unwin.

Paul, L. (2021). *Next Steps: Report on the quality initial teacher education review*. Department of Education Skills and Employment. https://www.education.gov.au/quality-initial-teacher-education-review/resources/next-steps-report-quality-initial-teacher-education-review

Peebles, J. L., & Mendaglio, S. (2014). The impact of direct experience on preservice teachers' self-efficacy for teaching in inclusive classrooms. *International Journal of Inclusive Education*, *18*(12), 1321-1336. https://doi.org/10.1080/13603116.2014.899635

Perera, H. N., Calkins, C., & Part, R. (2019). Teacher self-efficacy profiles: Determinants, outcomes, and generalizability across teaching level. *Contemporary Educational Psychology*, *58*, 186-203. https://doi.org/10.1016/j.cedpsych.2019.02.006

Plano Clark, V. L., & Ivankova, N. V. (2017). *Mixed methods research: A guide to the field*. SAGE. https://doi.org/https://dx-doi-org.ezproxy.flinders.edu.au/10.4135/9781483398341

Pullen, P. C., van Dijk, W., Gonsalves, V. E., Lane, H. B., & Ashworth, K. E. (2019). Response to Intervention and Multi-Tiered Systems of Support: How do they differ and how are they the same, if at all? In P. C. Pullen & M. J. Kennedy (Eds.), *Handbook of Response to Intervention and Multi-Tiered Systems of Support* (pp. 5-10). Routledge.

QSR International Pty Ltd. (2018). *NVivo (Version 12)*. https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home

Queensland University of Technology. (2023). *The Centre for Inclusive Education*. Retrieved March 29, 2023, from https://research.qut.edu.au/c4ie/

Renwick, R., Brown, I., & Nagler, M. (1996). *Quality of life in health promotion and rehabilitation: Conceptual approaches, issues, and applications*. SAGE

Romero-Contreras, S., Garcia-Cedillo, I., Forlin, C., & Lomelí-Hernández, K. A. (2013). Preparing teachers for inclusion in Mexico: how effective is this process? *Journal of Education for Teaching: JET*, *39*(5), 509-522. https://doi.org/10.1080/02607476.2013.836340

Romero-Contreras, S., García-Cedillo, I., & Fletcher, T. (2017). The advancement of inclusive education for students with disabilities. In M. T. Huges & E. Talbot (Eds.), *The Wiley handbook of diversity in special education* (pp. 45-67). Wiley Blackwell. https://doi.org/10.1002/9781118768778

Royal Commission into Violence Abuse Neglect and Exploitation of People with Disability. (2020). *Overview of responses to the education and learning issues paper*. Retrieved from https://disability.royalcommission.gov.au/system/files/2022-03/Overview%20of%20responses%20to%20the%20Education%20and%20learning%20Issues%20paper.pdf

Sackville, R., Galbally, R., & Mason, A. (2021). *Report - Public hearing 7 - Barriers experienced by students with disability in accessing and obtaining a safe, quality and inclusive school education and consequent life course impacts.* https://disability.royalcommission.gov.au/system/files/2021-11/Report%20-%20Public%20hearing%207%20-%20Barriers%20experienced%20by%20students%20with%20disability%20in%20accessing%20and%20obtaining%20a%20safe%2C%20quality%20and%20inclusive%20school%20education.pdf

Saegones, A.-M., Bieler, R. B., Baboo, N., Banham, L., Singal, N., Howgego, C., McClain-Nhlapo, C. V., Riis-Hansen, T. C., & Dansie, G. A. (2015). *Towards a disability inclusive education.* Education for Development, Oslo. https://www.researchgate.net/profile/Nidhi-Singal/publication/279717824_Towards_a_disability_inclusive_education/links/559859fd08ae99aa62ca27a3/Towards-a-disability-inclusive-education.pdf

Sahli Lozano, C., Sharma, U., & Wüthrich, S. (2021). A comparison of Australian and Swiss secondary school teachers' attitudes, concerns, self-efficacy, and intentions to teach in inclusive classrooms: Does the context matter? *International Journal of Inclusive Education*, *ahead-of-print*(ahead-of-print), 1-19. https://doi.org/10.1080/13603116.2021.1988158

Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). SAGE.

Salisbury, C. L. (1991). Mainstreaming during the early childhood years. *Exceptional Children*, *58*(2), 146-155. https://doi.org/10.1177/001440299105800206

Savolainen, H., Engelbrecht, P., Nel, M., & Malinen, O.-P. (2012). Understanding teachers' attitudes and self-efficacy in inclusive education: Implications for pre-service and in-service teacher education. *European Journal of Special Needs Education*, *27*(1), 51-68. https://doi.org/10.1080/08856257.2011.613603

Scarparolo, G., & Subban, P. (2021). A systematic review of pre-service teachers' self-efficacy beliefs for differentiated instruction. *Teachers and Teaching, Theory and Practice*, *27*(8), 753-766. https://doi.org/10.1080/13540602.2021.2007371

Sharma, U., Aiello, P., Pace, E. M., Round, P., & Subban, P. (2018). In-service teachers' attitudes, concerns, efficacy and intentions to teach in inclusive classrooms: an international comparison of Australian and Italian teachers. *European Journal of Special Needs Education*, *33*(3), 437-446. https://doi.org/10.1080/08856257.2017.1361139

Sharma, U., & George, S. (2016). Understanding teacher self-efficacy to teach in inclusive classrooms. In S. Garvin & D. Pendergast (Eds.), *Asia-Pacific perspectives on reacher self-efficacy* (pp. 37-51). SensePublishers. https://doi.org/10.1007/978-94-6300-521-0_3

Sharma, U., Loreman, T., & Forlin, C. (2012). Measuring teacher efficacy to implement inclusive practices. *Journal of Research in Special Educational Needs*, *12*(1), 12-21. https://doi.org/10.1111/j.1471-3802.2011.01200.x

Sharma, U., & Nuttal, A. (2016). The impact of training on pre-service teacher attitudes, concerns, and efficacy towards inclusion. *Asia-Pacific Journal of Teacher Education*, *44*(2), 142-155. https://doi.org/10.1080/1359866X.2015.1081672

Sharma, U., Shaukat, S., & Furlonger, B. (2015). Attitudes and self-efficacy of pre-service teachers towards inclusion in Pakistan. *Journal of Research in Special Educational Needs*, *15*(2), 97-105. https://doi.org/https://doi.org/10.1111/1471-3802.12071

Sharma, U., & Sokal, L. (2015). The impact of a teacher education course on pre-service teachers' beliefs about inclusion: an international comparison. *Journal of Research in Special Educational Needs*, *15*(4), 276-284. https://doi.org/10.1111/1471-3802.12043

Sharma, U., Sokal, L., Wang, M., & Loreman, T. (2021). Measuring the use of inclusive practices among pre-service educators: A multi-national study. *Teaching and Teacher Education*, *107*, 103506. https://doi.org/10.1016/j.tate.2021.103506

Shaukat, S., Sharma, U., & Furlonger, B. (2013). Pakistani and Australian pre-service reachers' attitudes and self- efficacy towards inclusive education. *Journal of Behavioural Sciences*, *23*(2), 1.

Shearer, J. (2010). Aspects of quality of life for children with a disability in inclusive schools. In R. Kober (Ed.), *Enhancing quality of life of people with intellectual disabilities*. Springer.

Skaalvik, E. M., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology*, *99*(3), 611-625. https://doi.org/10.1037/0022-0663.99.3.611

Slee, R. (2011). *The irregular school: exclusion, schooling and inclusive education*. Routledge.

Sokal, L., & Sharma, U. (2017). Do I really need a course to learn to teach students with disabilities? I've been doing it for years. *Canadian Journal of Education*, *40*(4), 739-760.

South Australia Department of Education and Children's Services. (2007). *On the same basis: implementing the Disability Discrimination Act standards for education / Australia. Dept. of Education and Children's Services*. Department of Education and Children's Services.

South Australian Government. (1984). *Equal Opportunity Act*. Adelaide: South Australian Government Retrieved from https://www.legislation.sa.gov.au/__legislation/lz/c/a/equal%20opportunity%20act%201984/current/1984.95.auth.pdf

South Autralian Senate Select Committee. (2017). *Access to the South Australian education system for students with a disablity*. Parliament of. South Australia.

Specht, J., McGhie-Richmond, D., Loreman, T., Mirenda, P., Bennett, S., Gallagher, T., Young, G., Metsala, J., Aylward, L., Katz, J., Lyons, W., Thompson, S., & Cloutier, S. (2016). Teaching in inclusive classrooms: efficacy and beliefs of Canadian preservice teachers. *International Journal of Inclusive Education*, *20*(1), 1-15. https://doi.org/10.1080/13603116.2015.1059501

Specht, J., & Metsala, J. (2018). Predictors of teacher efficacy for inclusive practice in pre-service teachers. *Exceptionality Education International*, *28*(s), 67-82. https://doi.org/10.5206/eei.v28i3.7772

Stefurak, T., Johnson, B. R., & Shatto, E. (2015). Mixed methods and dialectical pluralism. In L. A. Jason & D. S. Glenwick (Eds.), *Handbook of methodological approaches to community-based research* (pp. 345-354). Oxford University Press. https://doi.org/10.1093/med:psych/9780190243654.003.0034

Stephenson, J., O'Neill, S., & Carter, M. (2012). Teaching students with disabilities: A web-based examination of preparation of preservice primary school teachers. *Australian Journal of Teacher Education*, *37*(5). https://doi.org/10.14221/ajte.2012v37n5.5

Stockemer, D. (2019). *Quantitative methods for the social sciences*. Springer. https://doi.org/10.1007/978-3-319-99118-4

Strimel, M. M., Nagro, S. A., Baker, P. H., & Thoma, C. A. (2023). The experiences of teacher candidates with disabilities: A systematic literature review. *Teacher Education and Special Education*. https://doi.org/10.1177/08884064231170573

Subban, P., Round, P., & Sharma, U. (2021). 'I can because I think I can': an investigation into Victorian secondary school teacher's self-efficacy beliefs regarding the inclusion of students with disabilities. *International Journal of Inclusive Education*, *25*(3), 348-361. https://doi.org/10.1080/13603116.2018.1550816

Taliaferro, A. R., Hammond, L., & Wyant, K. (2015). Preservice physical educators' self- efficacy beliefs toward inclusion: The impact of coursework and practicum. *Adapted Physical Activity Quarterly*, *32*(1), 49-67. https://doi.org/10.1123/apaq.2013-0112

Tashakkori, A., & Creswell, D. J. (2007). The new era of mixed methods. *Journal of Mixed Methods Research*, *1*(1), 3-7.

Tashakkori, A., & Teddlie, C. (Eds.). (2010). *Mixed methods in social & behavioral research* (2nd ed.). SAGE.

Teacher Education Ministerial Advisory Group. (2014). *Action now: Classroom ready teachers*. Canberra: Department of Education Retrieved from http://www.studentsfirst.gov.au/teacher-education-ministerial-advisory-group

Teachers Registration Board of South Australia. (2021). *Professional responsibilities*. https://www.trb.sa.edu.au/nationally-consistent-reg

Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. SAGE.

Teddlie, C., & Tashakkori, A. (2012). Common “core” characteristics of mixed methods research: A review of critical issues and call for greater convergence. *The American Behavioral Scientist*, *56*(6), 774-788. https://doi.org/10.1177/0002764211433795

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. American Psychological Association. https://doi.org/10.1037/10694-000

Thurlow, M. L., Ghere, G., Lazarus, S. S., & Liu, K. K. (2020). MTSS for all: Including students with the most signif-icant cognitive disabilities. University of Minnesota, National Center on Educational Outcomes/TIES Center.

Tranter, B. (2019). Sampling. In M. Walter (Ed.), *Social research methods* (4 ed., pp. 119-145). Oxford University Press. https://ebookcentral-proquest-com.ezproxy.flinders.edu.au/lib/flinders/reader.action?docID=5979410&ppg=147

Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: capturing an elusive construct. *Teaching and Teacher Education*, *17*(7), 783-805. https://doi.org/10.1016/S0742-051X(01)00036-1

Tschannen-Moran, M., Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, *68*(2), 202-248. https://doi.org/10.3102/00346543068002202

Tümkaya, G. S., & Miller, S. (2020). The perceptions of pre and in-service teachers’ self-efficacy regarding inclusive practices: A systematised review. *Ilköğretim online*, *19*(2), 1061-1077. https://doi.org/10.17051/ilkonline.2020.696690

UNESCO. (2000). *The Dakar framework for action: Education for all*. Retrieved July 20, 2022, from https://unesdoc.unesco.org/ark:/48223/pf0000121147?posInSet=1&queryId=0594bcda-ddd6-41ec-87f1-7fa615301999

UNESCO. (2020). *Global education monitoring report summary 2020: Inclusion and education: All means all*. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000373721

UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. https://unesdoc.unesco.org/ark:/48223/pf0000379707

UNICEF. (2017). *Inclusive education*. United Nations International Children's Emergency Fund. https://www.unicef.org/eca/sites/unicef.org.eca/files/IE_summary_accessible_220917_brief.pdf

UNICEF. (2022). *Inclusive education*. UNICEF. https://www.unicef.org/education/inclusive-education

United Nations. (2016). *General comment No. 4 (2016) on the right to inclusive education*. Retrieved from https://digitallibrary.un.org/record/1313836?ln=en

United Nations. (2018). *General comment No. 6 (2018) on equality and non-discrimination*. Retrieved from https://digitallibrary.un.org/record/1626976

United Nations Education Scientific and Cultural Organisation. (1994). *Salamanca Statement and Framework for Action.* Paris: The United Nations.

United Nations General Assembly. (1989). *Convention on the Rights of the Child, Treaty Series, 1577, 3*. Geneva: The United Nations

United Nations General Assembly. (2006). *Convention on the Rights of Persons with Disabilities, Treaty Series, 2515, 3*. Geneva: The United Nations

University of Adelaide. (2021). *Create a basic logic grid*. University of Adelaide. https://libguides.adelaide.edu.au/ld.php?content_id=48142929

Van Mol, C. (2017). Improving web survey efficiency: the impact of an extra reminder and reminder content on web survey response. *International Journal of Social Research Methodology*, *20*(4), 317-327. https://doi.org/10.1080/13645579.2016.1185255

Voght, W. P. (1999). *Dictionary of statistics and methodology: A nontechnical guide for the social sciences.* (2nd ed.). SAGE.

Walter, M. (2019). Surveys. In M. Walter (Ed.), *Social research methods* (4 ed., pp. 146-176). Oxford University Press. https://ebookcentral-proquest-com.ezproxy.flinders.edu.au/lib/flinders/reader.action?docID=5979410&ppg=147

Webster, R., & de Boet, A. A. (2023). Teaching assistants, inclusion and special educational needs: international perspectives on the role of paraprofessionals in schools. Routledge. https://doi.org/10.4324/9781003265580

Weinberg, D. (2014). *Contemporary social contructionism: Key themes*. Temple University Press.

Weisel, A., & Dror, O. (2006). School climate, sense of efficacy and Israeli teachers' attitudes toward inclusion of students with special needs. *Education, Citizenship and Social Justice*, *1*(2), 157-174. https://doi.org/10.1177/1746197906064677

Westwood, P. (2018). *Inclusive and adaptive teaching: Meeting the challenge of diversity in the classroom* (2nd ed., Vol. 1). Routledge. https://doi.org/10.4324/9781351061261

Whyalla Secondary College. (n.d.). *Multi-tiered system of support (MTSS) framework*. Government of South Australia.

Winter, E., & O'Raw, P. (2010). Literature review of the principles and practices relating to inclusive education for children with special educational needs. Trim, Ireland: National Council for Special Education.

Winzer, M., & Mazurek, K. (2017). The Convention on the Rights of Persons with Disabilities: Reconstructing disability to reimagine education. In Marie Tejero & Elizabeth Talbott (Eds.), *The Wiley handbook of diversity in special education* (pp. 3-22). Wiley Blackwell. https://doi.org/10.1002/9781118768778

Wolfensberger, W. (1972). *The principles of normalization in human services*. National Institute on Mental Retardation.

Wolfensberger, W. (1983). Social role valorization: a proposed new term for the principle of normalization. *Mental Retardation*, *21*(6), 234-239. https://www.ncbi.nlm.nih.gov/pubmed/6672533

Wolfensberger, W. (2011). Social role valorization: A proposed new term for the principle of normalization. *Intellectual and Developmental Disabilities*, *49*(6), 435-440. https://doi.org/10.1352/1934-9556-49.6.435

Woodcock, S., Dixon, R. M., & Tanner, K. (2013). *Teaching in inclusive school environments*. David Barlow Pub.

Woodcock, S., Hemmings, B., & Kay, R. (2012). Does study of an inclusive education subject influence pre-service teachers' concerns and self-efficacy about inclusion? *The Australian Journal of Teacher Education*, *37*(6), 1-11.

Woodcock, S., Sharma, U., Subban, P., & Hitches, E. (2022). Teacher self-efficacy and inclusive education practices: Rethinking teachers' engagement with inclusive practices. *Teaching and Teacher Education*, *117*, 103802. https://doi.org/10.1016/j.tate.2022.103802

Woodcock, S., & Woolfson, L. M. (2019). Are leaders leading the way with inclusion? Teachers' perceptions of systemic support and barriers towards inclusion. *International Journal of Educational Research*, *93*, 232-242. https://doi.org/10.1016/j.ijer.2018.11.004

Wray, E., Sharma, U., & Subban, P. (2022). Factors influencing teacher self-efficacy for inclusive education: A systematic literature review. *Teaching and Teacher Education*, *117*, 103800. https://doi.org/10.1016/j.tate.2022.103800

Yada, A., Björn, P. M., Savolainen, P., Kyttälä, M., Aro, M., & Savolainen, H. (2021). Pre-service teachers' self-efficacy in implementing inclusive practices and resilience in Finland. *Teaching and Teacher Education*, *105*, 103398. https://doi.org/10.1016/j.tate.2021.103398

Yada, A., Leskinen, M., Savolainen, H., & Schwab, S. (2022). Meta-analysis of the relationship between teachers' self-efficacy and attitudes toward inclusive education. *Teaching and Teacher Education*, *109*, 103521. https://doi.org/10.1016/j.tate.2021.103521

Yada, A., Tolvanen, A., & Savolainen, H. (2018). Teachers' attitudes and self-efficacy on implementing inclusive education in Japan and Finland: A comparative study using multi-group structural equation modelling. *Teaching and Teacher Education*, *75*, 343-355. https://doi.org/10.1016/j.tate.2018.07.011

Young, R. A., & Collin, A. (2004). Introduction: Constructivism and social constructionism in the career field. *Journal of Vocational Behavior*, *64*, 373-388.

Zee, M., & Koomen, H. M. Y. (2016). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. *Review of Educational Research*, *86*(4), 981-1015. https://doi.org/10.3102/0034654315626801

APPENDICES

Appendix One: Questionnaire for on-line survey

0n-line survey of SA pre-service teachers' self-efficacy and readiness for disability-inclusive education

Earlier this year, you would have received information about this research via email

Pre-service teachers' efficacy for teaching students with disability included in regular classrooms

All students who have completed their final year professional learning placement are invited to complete the survey

PARTICIPATION IS VOLUNTARY

Please complete this survey only if you experienced teaching in a regular classroom at a mainstream school for all or part of your placement

The survey has three parts:

Part 1 Demographic Information

Part 2 Teacher Efficacy for Inclusive Practices (TEIP) scale

Part 3 Additional Professional Readiness Questions and Short Answer Comments

The survey should take no longer than 30 to 40 minutes to complete. You can save your responses and return to the survey at any time.
Once completed please click the SUBMIT SURVEY button.
Your response will be delivered to me only, via my university email address. All survey responses will be held on the secure server of Flinders University.
If you would like to be involved in follow up interviews for this research, please complete the section at the end of the survey.
If you have any questions, please contact me –
Jo Shearer (PhD candidate) shea0023@flinders.edu.au
OR my principal supervisor –
Associate Professor Kerry Bissaker kerry.bissaker@flinders.edu.au
Thank you for your participation

START SURVEY

Part 1 Screening question

Have you completed your final professional learning placement to qualify you as a teacher?	Yes No
If No, you are not able to continue. Thank you for interest in this research.	

Demographic Questions

1. Was your final professional placement in a mainstream classroom?	Yes No
2. What is your gender?	Male Female Indeterminate/Intersex/Unspecified
3. What is your age range?	Drop down with five groups: 18 to 23 years; 24 to 30 years; 31 to 40 years 41 to 50 years; 51 years or older
4. Which Initial Teacher Education course are you enrolled in?	Drop down one selection only: 25 possible degrees.
5. Which year level did you teach during your recent professional placement? Please select the main year level that you taught.	Drop down one selection only: 14 year levels from Pre-school, Reception, Year 1 etc. up to Yr12/13.
6. Did you have any students with disability in your mainstream class?	Yes No
7. What was the primary disability diagnosis of the student(s) in your class? More than one category can be selected to reflect multiple children with disability in the same class.	Drop down with more than one selection possible: 8 disability types according to SA Education system criteria plus *Other*
Please name the *Other* disability)	Text box
8. Do you live with disability yourself?	Yes No
If yes, what type of disability`	Text box

9. Have you experienced living with disability through a family member or close friend? Yes No

The following questions use a rating scale of 1 to 6 for responses.

Please answer these questions in relation to your most recent professional learning experience

Part 2 Teacher Efficacy to implement Inclusive Practices (TEIP) scale

This survey is designed to help understand the nature of the factors influencing the success of routine classroom activities in creating an inclusive classroom environment. In inclusive classroom students from a wide range of diverse background and abilities learn together with necessary supports available to teachers and students.
Please circle the number that best represents your opinion about each of the statements.
Please attempt to answer each question.

	Statement	Strongly Agree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree
1	I can make my expectations clear about student behaviour.	1	2	3	4	5	6
2	I am able to calm a student who is disruptive or noisy.	1	2	3	4	5	6
3	I can make parents feel comfortable coming to school.	1	2	3	4	5	6
4	I can assist families in helping their children do well in school.	1	2	3	4	5	6
5	I can accurately gauge student comprehension of what I have taught.	1	2	3	4	5	6

	Statement	Strongly Agree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree
6	I can provide appropriate challenges for very capable students.	1	2	3	4	5	6
7	I am confident in my ability to prevent disruptive behaviour in the classroom before it occurs.	1	2	3	4	5	6
8	I can control disruptive behaviour in the classroom.	1	2	3	4	5	6
9	I am confident in my ability to get parents involved in school activities of their children with disabilities.	1	2	3	4	5	6
10	I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated.	1	2	3	4	5	6
11	I am able to get children to follow classroom rules.	1	2	3	4	5	6
12	I can collaborate with other professionals (e.g., itinerant teachers of speech pathologists) in designing educational plans for students with disabilities	1	2	3	4	5	6
13	I am able to work jointly with other professionals and staff (e.g., aides, other teachers) to teach students with disabilities in the classroom	1	2	3	4	5	6

	Statement	Strongly Agree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree
14	I am confident in my ability to get students to work together *in pairs or in small groups*	1	2	3	4	5	6
15	I can use a variety of assessment strategies (e.g., portfolio assessment, modified tests, performance-based assessment, etc.)	1	2	3	4	5	6
16	I am confident in informing others who know little about laws and policies in relation to the inclusion of students with disabilities.	1	2	3	4	5	6
17	I am confident when dealing with students who are physically aggressive	1	2	3	4	5	6
18	I am able to provide an alternate explanation or example when students are confused.	1	2	3	4	5	6

Part 3 Professional Readiness Questions with Comments and Additional Information

Please provide additional information and comments related to the AITSL expectations of graduate teachers.
Are you ready to……?

	AITSL Graduate Standard	Not at all	Not really	Yes Somewhat	Yes Very
1	Differentiate the curriculum for students with disability in your mainstream class?	1	2	3	4

Comments on differentiating the curriculum (Max. 100 word limit)

	AITSL Graduate Standard	Not at all	Not really	Yes Somewhat	Yes Very
2	Practice your legal obligations about teaching students with disability?	1	2	3	4

Comments on understanding legal obligations for teaching students with disability (Max. 100 word limit)

	AITSL Graduate Standard	Not at all	Not really	Yes Somewhat	Yes Very
3	Find and learn new disability specific information if required?	1	2	3	4

Comments on finding and learning about disability specific information (Max. 100 word limit)

	AITSL Graduate Standard	Not at all	Not really	Yes Somewhat	Yes Very
4	Seek specialist assistance to assist you to teach students with disability in your mainstream class?	1	2	3	4

Comments on seeking specialist assisting – from where? (Max. 100 word limit)

	AITSL Graduate Standard	Not at all	Not really	Yes Somewhat	Yes Very
5	Liaise with other professionals to include students with disability in your mainstream classroom?	1	2	3	4

Comments on liaising with other professionals – who and how? (Max. 100 word limit)

	AITSL Graduate Standard	Not at all	Not really	Yes Somewhat	Yes Very
6	Communicate with parents and carers of students with disability?	1	2	3	4

Comments on communicating with parents and carers of students with disability. (Max. 100 word limit)

Any Other Comments (Max. 100 word limit)

Follow up Interviews

The designers of the efficacy scale recommended that future users collect qualitative data in the form of open-ended questions also.
If you would like to participate in this research further via an interview (either telephone or face to face) please provide your contact details.

Please Know:

- Your ongoing participation is voluntary.
- You will not directly benefit from taking part in this research.
- You will be free to withdraw from the interview at any time or to decline to answer particular questions.
- You will not be identified and individual information will remain confidential.
- Your participation will have no effect on your progress in your course of study, or results gained.

I agree to be contacted to participate in a follow up interview regarding my efficacy for teaching students with disability.

Name:
Phone number:
Email address:

Would you like to go into the draw to win a $50 voucher? There is a 1:10 chance of winning.

Just leave your contact number or email address and you will receive a message if you are a winner.
(Your private information will only be used for this purpose and will not be shared)

SUBMIT SURVEY

Appendix Two: Semi-structured Interview Guide

Pre-service teachers' efficacy and readiness for teaching students with disability in regular classes

Name: Date of Interview

1. Please describe the context of your most recent teaching experience while on your final professional learning placement, in relation to teaching students with disability.

[Prompts: How many children in the classroom were living with disability? What was the nature of the child (ren)'s disabilities? Were there any modifications in place? Were the students included in the classroom on a fulltime basis? How experienced was your supervisory teacher?]

2. What had been your prior experience of working with children with disability?

3. What is your opinion of including students with disability in mainstream classrooms at local schools?

4. What skills and knowledge did you call upon to assist when teaching these students with disability?

5. What additional skills and knowledge were you seeking that you felt you did not have?

6. How did you get extra help to teach these students with disability if and when you needed it?

7. How did your university course assist you to be knowledgeable and skilled to teach students with disability in the mainstream classroom?

8. What elements of your course were most applicable to teaching students with disability?

9. How could the university course be improved so that it meets the needs of pre-service teachers better, when they are on professional learning placement, in relation to teaching students with disability specifically?

10. As a teaching graduate, how and with whom will you seek support to effectively teach students with disability in mainstream classrooms?

11. Please make any further comments on your knowledge, skills, enjoyment or concerns regarding teaching students with disability in mainstream classrooms.

Thank you for your time to elaborate on your professional learning experience and your efficacy for teaching students with disability in mainstream classrooms.

Appendix Three: Letter of Introduction for Students

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Date

This letter is to introduce Jo Shearer who is a doctoral student in the Discipline of Education at Flinders University. She will produce her student card, which carries a photograph, as proof of identity when required.

Jo is undertaking research leading to the production of a thesis or other publications on the subject "Pre-service teachers' efficacy for teaching students living with disability included in mainstream classrooms."

She would like to invite you to assist with this project by agreeing to be involved in an on-line survey regarding your self-reported efficacy for teaching students with disability based on your experience teaching in mainstream classrooms. No more than 40 minutes is required to complete the survey.

After the survey has been submitted, there will be opportunity to participate in a follow up interview either by telephone or face to face, to gain a deeper understanding of your experience. No more than one hour is required to participate in the interview.

You can also complete just the survey without any further involvement in the research via interview.

Be assured that any information provided will be treated in the strictest confidence and no participant will be individually identifiable in the resulting thesis, report or other publications. Participation is voluntary and you are, of course, entirely free not to complete the survey or to discontinue your participation at any time after volunteering to be interviewed. You may also decline to answer particular questions.

Your consent to participate is implied if you complete the on-line survey. If you continue to be involved in the interviews, Jo intends to make a voice recording of the conversation, so she will seek your consent on the attached form to record the conversation. Jo will transcribe your interview responses from this

conversation and following your review and endorsement of the transcription, this information will be used preparing her thesis and other publications. Your name or identity will not be revealed in publications, and the recording will not be made available to any other person. Storage of data will be in a secure location on the Flinders University server and any identifiable information will be destroyed upon completion of her thesis.

The information sheet accompanying this letter provides further important details regarding this study. Please read this sheet carefully.

If you are willing to participate in this important and valuable research please complete the on-line survey that will be emailed to you after your final professional learning placement. Jo will contact you and request that you complete the attached consent form if you volunteer to be involved in the interviews. You will be asked to include your telephone number in your survey response so that Jo may contact you to discuss the next phase of the research and arrange a mutually convenient date, time and location for the interview, if you continue.

Any enquiries you may have concerning this project should be directed to the address given above, or by telephone on 8201 5376 or email kerry.bissaker@flinders.edu.au

Thank you for your attention and assistance.

Yours sincerely

Associate Professor Kerry Bissaker Discipline of Education
College of Education, Psychology and Social Work

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (7942). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au

Appendix Four: Information Sheet

Assoc. Professor Kerry Bissaker
Discipline of Education
College of Education, Psychology and Social Work
GPO Box 2100
Adelaide SA 5001
Tel: +61 8 8201 5376
kerry.bissaker@flinders.edu.au
www.flinder.edu.au
CRICOS Provider No. 00114A

INFORMATION SHEET FOR STUDENTS AND STAFF

Title: 'Pre-service teachers' efficacy for teaching students living with disability included in mainstream classrooms.'

Researcher(s)
Ms Jo Shearer
Discipline of Education
Flinders University
Email: shea0023@flinders.edu.au

Supervisor(s)
Associate Professor Kerry Bissaker
Discipline of Education
Flinders University
Ph: 8201 5376

Dr Jane Jarvis
Discipline of Education
Flinders University
Ph: 8201 3798

Description of the study
This study is part of the project entitled "Pre-service teachers' efficacy for teaching students living with disability included in mainstream classrooms." This project is supported by Flinders University Discipline of Education.

This project explores the efficacy of soon to graduate teachers for teaching children living with disability who are included in mainstream classrooms, from the perspective of final year undergraduate initial teacher education (ITE) students themselves. The project is designed using mixed methods to survey as many pre-service teachers as possible and then follow up with a small sample to understand the topic in greater depth. Their course documents will also be analysed to place the responses in a context regarding the content of their learning and their experiences of teaching. The survey and interview responses will be triangulated with analysis of the course material to understand the influences on pre-service teachers for teaching students with disability in mainstream classrooms.

Purpose of the study
The purpose of the study is:
- to report generally on South Australian pre-service teachers' efficacy for inclusive education of students living with disability

- to offer the opportunity for pre-service teachers in their final year of study to discuss their efficacy for inclusive education and their areas of concern when they begin work as graduate teachers
- to inform universities of the strengths and opportunities for development in ITE programs related to inclusive education of students living with disability in mainstream classrooms.

What will I be asked to do?
If you are a pre-service teacher, you will be invited to complete an on-line suvery and possibly participate in a follow up telephone or face to face interview if you volunteer to do so and are selected. The on-line survey will take approximately 40 minutes to complete and interviews are anticipated to take between 45 to 60 minutes at a place that is of your choosing (either face to face or via telephone).

If you are a university lecturer or tutor, you will be asked to make available the teaching materials that you use with your ITE students.

For those students who participate in interviews, Jo will contact you and ask that you read the transcript of the interview to confirm your view. She will also ask you to allow her to work with this information in an interpretive way to understand how your experiences have influence your sense of efficacy for teaching students with disability in mainstream classrooms. You will have the opportunity to edit the transcript and you will be asked to sign item 6 on the consent form, attached. Your involvement in this study is entirely voluntary and if you have any concerns you are welcome to change your response or withdraw at any time.

What benefit will I gain from being involved in this study?
The sharing of your experiences will contribute to an understanding of how pre-service teachers feel about their ability to teach students with disability in mainstream classrooms when they graduate and how their university course has influence their skills and viewpoint. This information will be shared within the higher education and teaching sector. It is my hope that people reading the outcomes of this research will consider the specific needs of pre-service teachers to be able to graduate and confidently teach students living with disability. The findings may influence the way Initial Teacher Education programs are structured in the future.

Will I be identifiable by being involved in this study?
The administration officers of participant universities will be asked to assist with the distribution of the survey because they hold the distribution lists of current students. Student privacy will be preserved. All identifying information will be removed from the survey responses and interviews when they are typed-up. Document files will be stored on a password protected computer and any voice recordings of interviews will be destroyed once the interview transcripts have been authenticated. Only Jo will have the password to this computer file. Any information collected will not be linked directly to the participants in any publication or presentation of research findings. The universities will not be identified. The information will be aggregated from a state-wide perspective.

Are there any risks or discomforts if I am involved?
You may find that sharing information from your professional experiences causes you to re-experience some positive and negative emotions. If you have any concerns regarding anticipated or actual risks or discomforts or the nature of this research, please raise them with the researcher or one of the researcher's supervisors. You may also wish to seek advice and assistance from one of the services listed below.

Flinders University Counselling Service
T: 8201 2118
Appointments – Monday to Friday, 8:45am to 5pm

Phonelink Counselling Service – Monday to Friday, 3:30pm to 5pm

Beyondblue
T: 1300 22 4636
24 hours / 7 days a week
Chat online 3pm to 12am and online forums
www.beyondblue.org.au

How do I agree to participate?
Participation is voluntary. Students may chose not to respond to the on-line survey in the first instance, nor agree to be part of the interviews. It is fine to complete the on-line survey and not continue with the interviews. Lecturers and tutors can elect not to share their course documents after discussion with one of the supervisors. There are not consequences from declining to participate.
If you complete the on-line survey your consent is implied. If you want to continue and be interviewed you will be ask to provide your contact details and Jo will follow up by contacting you a little later. At that time, you will be asked to complete the attached consent form and send it back to me at shea0023@flinders.edu.au or bring it with you to the interview.

How will I receive feedback?
If you wish, Jo will discuss the findings from this research with you or the findings can be emailed to you directly with a web link to the published thesis. A public session to report on the findings will be scheduled after the thesis is published. If you wish, you may like to attend this session. Please bear in mind that some years will have passed because this research is not due for completion until 2024.

Thank you for taking the time to read this information sheet, and we hope that you will accept our invitation to be involved.

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project number: INSERT following approval).
For more information regarding ethical approval of the project only, the Executive Officer of the Committee can be contacted by telephone on (08) 8201 3116, by fax on (08) 8201 2035, or by email to human.researchethics@flinders.edu.au

Last updated 25 August 2017

Appendix Five: Ethics Committee - Approval Notice

Project No.:	**7942**
Project Title:	'Pre-service teachers' efficacy for teaching students living with disability included in mainstream classrooms'
Principal Researcher:	Ms Jo Shearer
Email:	shea0023@flinders.edu.au
Approval Date:	3 April 2018
Ethics Approval Expiry Date:	**31 July 2023**

The above proposed project has been **approved** on the basis of the information contained in the application, its attachments and the information subsequently provided.

RESPONSIBILITIES OF RESEARCHERS AND SUPERVISORS

1. Participant Documentation

Please note that it is the responsibility of researchers and supervisors, in the case of student projects, to ensure that:

- all participant documents are checked for spelling, grammatical, numbering and formatting errors. The Committee does not accept any responsibility for the above mentioned errors.
- the Flinders University logo is included on all participant documentation (e.g., letters of Introduction, information Sheets, consent forms, debriefing information and questionnaires – with the exception of purchased research tools) and the current Flinders University letterhead is included in the header of all letters of introduction. The Flinders University international logo/letterhead should be used and documentation should contain international dialling codes for all telephone and fax numbers listed for all research to be conducted overseas.
- the SBREC contact details, listed below, are included in the footer of all letters of introduction and information sheets.

  This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project Number 'INSERT PROJECT No. here following approval'). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au.

2. Annual Progress / Final Reports

In order to comply with the monitoring requirements of the *National Statement on Ethical Conduct in Human Research (March 2007)* an annual progress report must be submitted each year on the **3 April** (approval anniversary date) for the duration of the ethics approval using the report template available from the Managing Your Ethics Approval SBREC web page. *Please retain this notice for reference when completing annual progress or final reports.*

If the project is completed *before* ethics approval has expired please ensure a final report is submitted immediately. If ethics approval for your project expires please submit either (1) a final report; or (2) an extension of time request and an annual report.
Student Projects

The SBREC recommends that current ethics approval is maintained until a student's thesis has been submitted, reviewed and approved. This is to protect the student in the event that reviewers recommend some changes that may include the collection of additional participant data.

Your first report is due on **3 April 2019** or on completion of the project, whichever is the earliest.

3. Modifications to Project

Modifications to the project must not proceed until approval has been obtained from the Ethics Committee. Such proposed changes / modifications include:

- change of project title;
- change to research team (e.g., additions, removals, principal researcher or supervisor change);
- changes to research objectives;
- changes to research protocol;
- changes to participant recruitment methods;
- changes / additions to source(s) of participants;
- changes of procedures used to seek informed consent;
- changes to reimbursements provided to participants;
- changes / additions to information and/or documentation to be provided to potential participants;
- changes to research tools (e.g., questionnaire, interview questions, focus group questions);
- extensions of time.

To notify the Committee of any proposed modifications to the project please complete and submit the *Modification Request Form* which is available from the Managing Your Ethics Approval SBREC web page. Download the form from the website every time a new modification request is submitted to ensure that the most recent form is used. Please note that extension of time requests should be submitted prior to the Ethics Approval Expiry Date listed on this notice.

Change of Contact Details

Please ensure that you notify the Committee if either your mailing or email address changes to ensure that correspondence relating to this project can be sent to you. A modification request is not required to change your contact details.

4. Adverse Events and/or Complaints

Researchers should advise the Executive Officer of the Ethics Committee on 08 8201-3116 or human.researchethics@flinders.edu.au immediately if:

- any complaints regarding the research are received;
- a serious or unexpected adverse event occurs that effects participants;
- an unforeseen event occurs that may affect the ethical acceptability of the project.

Kind regards

Ethics Committee - MODIFICATION (No.1) APPROVAL NOTICE

Project No.:	**7942**
Project Title:	'Pre-service teachers' efficacy for teaching students living with disability included in mainstream classrooms'
Principal Researcher:	Ms Jo Shearer
Email:	shea0023@flinders.edu.au
Modification Approval Date:	14 May 2019
Ethics Approval Expiry Date:	**31 July 2023**

I am pleased to inform you that the modification request submitted for project 7942 on the 23 April 2019 has been reviewed and approved by the SBREC Chairperson. A summary of the approved modifications are listed below. Any additional information that may be required from you will be listed in the second table shown below called 'Additional Information Required'.

Approved Modifications	
Extension of ethics approval expiry date	
Project title change	
Personnel change	
Research objectives change	
Research method change	
Participants – addition +/- change	
Consent process change	
Recruitment process change	X
Research tools change	X
Document / Information Changes	X
Other (if yes, please specify)	

Additional Information Required

Recruitment Flyer

1. Unless unavoidable please replace the personal mobile number with a mobile number used for research purposes only.
2. Please remove reference to the reimbursement amount to be given to participants. While it is appropriate for advice on reimbursement specifics to be included in the Information Sheet, inclusion on the recruitment advertisement could be perceived as incentive to participate.

Please submit a copy of the revised recruitment flyer for review so that it can be saved onto your electronic project file.

RESPONSIBILITIES OF RESEARCHERS AND SUPERVISORS

5. Participant Documentation

Please note that it is the responsibility of researchers and supervisors, in the case of student projects, to ensure that:

- all participant documents are checked for spelling, grammatical, numbering and formatting errors. The Committee does not accept any responsibility for the above mentioned errors.

- the Flinders University logo is included on all participant documentation (e.g., letters of Introduction, information Sheets, consent forms, debriefing information and questionnaires – with the exception of purchased research tools) and the current Flinders University letterhead is included in the header of all letters of introduction. The Flinders University international logo/letterhead should be used and documentation should contain international dialling codes for all telephone and fax numbers listed for all research to be conducted overseas.

- the SBREC contact details, listed below, are included in the footer of all letters of introduction and information sheets.

  This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project Number 'INSERT PROJECT No. here following approval'). For more information regarding ethics approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au.

6. Annual Progress / Final Reports

Please be reminded that in order to comply with the monitoring requirements of the *National Statement on Ethical Conduct in Human Research (2007-Updated 2018)* an annual progress report must be submitted each year on **3 April** (approval anniversary date) for the duration of the ethics approval.

If the project is completed *before* ethics approval has expired please ensure a final report is submitted immediately. If ethics approval for your project expires please submit either (1) a final report; or (2) an extension of time request and an annual report.

Student Projects

The SBREC recommends that current ethics approval is maintained until a student's thesis has been submitted, reviewed and approved. This is to protect the student in the event that reviewers recommend some changes that may include the collection of additional participant data.

Your next report is due on **3 April 2020** or on completion of the project, whichever is the earliest. The report template is available from the Managing Your Ethics Approval SBREC web page. *Please retain this notice for reference when completing annual progress or final reports.*

7. Modifications to Project

Modifications to the project must not proceed until approval has been obtained from the Ethics Committee. Such proposed changes / modifications include:

- change of project title;
- change to research team (e.g., additions, removals, principal researcher or supervisor change);
- changes to research objectives;
- changes to research protocol;
- changes to participant recruitment methods;
- changes / additions to source(s) of participants;
- changes of procedures used to seek informed consent;
- changes to reimbursements provided to participants;
- changes / additions to information and/or documentation to be provided to potential participants;
- changes to research tools (e.g., questionnaire, interview questions, focus group questions);
- Extensions of time.

To notify the Committee of any proposed modifications to the project please complete and submit the *Modification Request Form* which is available from the Managing Your Ethics Approval SBREC web page.

Download the form from the website every time a new modification request is submitted to ensure that the most recent form is used. Please note that extension of time requests should be submitted prior to the Ethics Approval Expiry Date listed on this notice.

Change of Contact Details

8. Please ensure that you notify the Executive Officer if either your mailing or email address changes to ensure that correspondence relating to this project can be sent to you. A modification request is not required to change your contact details.

9. Adverse Events and/or Complaints

Researchers should advise the Executive Officer immediately on 08 8201-3116 or human.researchethics@flinders.edu.au if:

- any complaints regarding the research are received;
- a serious or unexpected adverse event occurs that effects participants;
- an unforeseen event occurs that may affect the ethical acceptability of the project.

Kind regards

Appendix Six: Distribution of survey details

UniSA preservice teachers received their email inviting them to participate in the research a little later than those at Flinders University (August/September compared to June/July) because their final placement was scheduled towards the end of term 3 of the school year (August), after which their program of study was fully completed. From that time onwards, these preservice teachers could become provisionally registered as graduate teachers and could begin relief teaching at schools in term 4 (September to December). This was a program differentiation between the two universities. Flinders University preservice teachers did not finish their program of study until December and could not begin teaching until the following year (January).

Due to the tight timeframes between the end of professional placement and the completion of the semester, timing for distribution of the survey link and prompts for its completion were important, particularly for the UniSA cohort because they returned to university for one day only after their professional placement had finished. During that day they engaged in activities designed to debrief their professional experiences and the university staff had an opportunity to prompt them again (on a face to face basis) to participate in the research.

Below is the 2018 distribution pattern.

28 July	Email to all second semester final year preservice teachers at Flinders University (N=279)
25 July & 2 August	Follow up promotion of research and offer to complete survey during tutorial time.
27 August	Research promoted by backfill course coordinator at UniSA. Email to all final year secondary preservice teachers at UniSA (N=51)
2 October	Email to all final year early childhood and primary preservice teachers at UniSA (N=400)

This first 2018 data collection period came to be regarded as a pilot phase because the response rate was so low, and this is when it was decided that participation in the research would be enhanced by offering a 1:10 chance to win a $50 voucher as an incentive. A promotional PowerPoint slide was also developed at the request of UniSA staff. The use of these incentives was approved by the university's ethics committee.

There were a smaller number of Flinders University preservice teachers who undertook their final professional placement in Semester 1 of 2019 and finished their program of study in June. These preservice

teachers had either completed their ITE program part-time, or their program of study had been interrupted at some stage and they had recommenced on a different schedule. This variation provided the opportunity for a smaller cohort of preservice teachers to be surveyed in the first half of the year.

Below is the 2019 distribution pattern.

3 June	Email to all final year teaching preservice teachers at UniSA (N=400)
21 June	Email to all first semester final year preservice teachers at Flinders University (N=110)
26 & 28 June	Follow up promotion of research by university staff and visit by researcher to promote the research with three tutorial groups
22 July	Email to all second semester final year preservice teachers at Flinders University (N=234)
1 August	Prompt to all final year teaching students at UniSA

The fourth period of survey distribution was completed in July 2020, to boost the response rate. This time the survey was distributed to preservice teachers at Flinders University only, and only in second semester due to disruption by the Coronavirus pandemic.

Below is the 2020 distribution pattern.

25 July	Email to all second semester final year preservice teachers at Flinders University (N=230)

Appendix Seven: Consent form for interview

CONSENT FORM FOR PARTICIPATION IN RESEARCH

by interview

Pre-service teachers' efficacy for teaching students living with disability included in mainstream classrooms

I ….....

being over the age of 18 years hereby consent to participate as requested in the Information Sheet for the research project on pre-service teachers' efficacy for teaching students living with disability included in mainstream classrooms.

1. I have read the information provided.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on my progress in my course of study, or results gained.
   - I may ask that the recording be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.

Participant's signature……Date……..
I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name…….....

Researcher's signature……..Date…….

NB: Two signed copies should be obtained. The copy retained by the researcher may then be used for authorisation of Items 8 and 9, as appropriate.

6. I, the participant whose signature appears below, have read a transcript of my participation and agree to its use by the researcher as explained.

Participant's signature……Date……..

Appendix Eight: Interview participation details

Date	Method	Location	Time (min:sec)
21 Sept 2018	face to face in person	cafe	59:30
16 Sept 2019	face to face in person	university meeting room	57:33
28 Aug 2019	face to face in person	cafe	41:15
20 Sept 2019	face to face in person	cafe	30:30
25 Sept 2019	face to face in person	university meeting room	27:46
25 Sept 2019	face to face in person	university meeting room	44:09
2 Oct 2019	telephone		37:25
2 Oct 2019	telephone		25:18
9 Sept 2020	face to face on-line		29:33
10 Sept 2020	face to face in person	university meeting room	27:34
15 Sept 2020	telephone		19:44
18 Sept 2020	face to face in person	university meeting room	35:06
24 Sept 2020	telephone		28:19

Appendix Nine: Frequencies and percentages of readiness scale responses

Questions of the readiness scale	Not at all		Not really		Yes somewhat		Yes very		Total	
	n	%	n	%	n	%	n	%	n	%
1. Are you ready to **differentiate the curriculum**	0	0.0	4	5.2	35	45.5	38	**49.4**	77	100
2. Are you ready to **practice your legal obligations** about teaching students with disability?	0	0.0	6	8.0	37	**49.3**	32	42.7	75	100
3. Are you ready to find and **learn new disability specific information** if required?	0	0.0	5	6.8	35	47.3	34	45.9	74	100
4. Are you ready to **seek specialist assistance** to assist you to teach students with disability in your mainstream class?	1	1.4	6	8.1	40	**54.1**	27	36.5	74	100
5. Are you ready to **liaise with other professionals** to include students with disability in your mainstream classroom?	0	0.0	2	2.8	33	45.8	37	**51.4**	72	100
6. Are you ready to **communicate with parents and carers** of students with disability?	0	0.0	3	4.2	42	**59.2**	26	36.6	71	100

Appendix Ten: Interview and survey data final template for analysis

1. Demographic influences
1.1 Personal
1.1.1 age
1.1.1.1 school leaver
1.1.1.2 mature entry
1.1.2 Gender
1.1.1.1 female
1.1.1.2 male
1.1.3 living with disability
1.1.4 experience of disability in family
1.2 ITE course
1.2.1 year levels
1.2.1.1 early childhood degree
1.2.1.2 primary degree
1.2.1.3 secondary degree
1.2.1.4 early childhood experience
1.2.1.5 primary experience
1.2.1.6 secondary experience
1.2.2 type of degree
1.2.2.1 disability studies/special ed.
1.2.2.2 arts
1.2.2.3 science
1.2.2.4 languages

2. Self-efficacy for disability-inclusive teaching
2.1 Strong self-efficacy
2.1.1 confident inclusive instruction
2.1.2 confident Collaboration
2.1.3 confident class management
2.1.4 confident Specialised Response
2.2 Low self-efficacy
2.2.1 inclusive instruction is hard
2.2.2 no experience Collaboration
2.2.3 challenging class management
2.2.4 no specialised experience

3. Preparation for graduate professional standards
3.1 Differentiation
3.1.1 examples of differentiation
3.1.2 understands laws and policies
3.2 Including students with disability
3.2.1 examples of inclusion in practice
3.2.2 negotiated planning
3.2.3 working with parents/carers
3.3 Undertake more learning when teaching
3.3.1 capable not ready yet
3.3.2 additional skills required
3.3.3 ask colleagues

4. Concerns about disability-inclusion
4.1 Attitudes and beliefs
4.1.1 good experiences
4.1.2.1 students' disability success
4.1.2.2 disability-effective teaching
4.1.2.3 witnessed great examples
4.1.2 poor experiences
4.1.2.1 students' disability challenging
4.1.2.2 disability-teaching is poor
4.1.2.3 witnessed poor attitudes
4.1.3 no experience students' disability
4.2 Resources
4.2.1 specialist assistance
4.2.1.1 allied professionals
4.2.1.2 teaching assistants
4.2.2 leadership
4.2.2.1 school culture
4.2.2.2 Collaboration with peers
4.2.2.3 work with parents/carers

5. ITE program structure
5.1 Course content
5.1.1 helpful topics for inclusion
5.1.1.1 differentiation
5.1.1.2 behaviours
5.1.1.3 relationships
5.1.1.4 disabilities
5.1.2 university staff attitude
5.1.3 order of topics
5.2 Knowledge about disability
5.2.1 prior work with disability
5.2.2 current work with disability
5.2.3 learning about disability at uni.
5.2.3.1 more required
5.2.3.2 learnt more elsewhere
5.3 Suggestions for improvement
5.3.1 more content knowledge
5.3.2 more differentiation experience
5.4 Concerns addressed
5.4.1 inclusion advice on placement
5.4.1.1 school culture barriers
5.4.2 legal obligations

6. Professional experience
6.1 Timing
6.1.1 course work preparation
6.2 Supervision
6.2.1 school mentoring
6.2.2 university support
6.3 Mainstream experiences
6.3.1 mentor teachers
6.3.1.1 good aspects
6.3.2.1.1 inclusive practices shown
6.3.2.1.2 involvement in everything
6.3.1.2 poor aspects
6.3.2.2.1 limited information
6.3.2.2.2 criticism for inclusion
6.3.2 Collaboration
6.3.2.1 teaching assistants
6.3.2.1.1 type of help
6.3.2.2 allied professionals
6.3.2.2.1 involvement in planning
6.3.2.2.2 limited experience
6.3.2.3 parents/carers/others
6.3.2.3.1 involvement in planning
6.3.2.3.2 limited experience
6.3.4 students
6.3.4.1 disability type
6.3.4.1.1 knowledge
6.3.4.1.2 experience
6.3.4.2 learning adjustments
6.3.4.2.1 differentiation
6.3.4.2.2 environment
6.3.4.2.3 equipment
6.3.4.3 challenging behaviours
6.3.4.3.1 support for behaviour
6.3.4.3.2 exclusion
6.4 Specialist setting experiences
6.4.1 mentors
6.4.1.1 good aspects
6.4.1.1.1 knowledgeable
6.4.1.1.2 student wellbeing
6.4.1.2 poor aspects
6.4.1.2.1 not inclusive
6.4.2 Collaboration experience
6.4.2.1 many teaching assistants
6.4.2.2 allied professionals
6.4.2.2.1 too many adults in class
6.4.2.3 parents/carers/others
6.4.3 students
6.4.3.1 disability types
6.4.3.1.1 knowledge
6.4.3.1.2 experience
6.4.3.2 learning adjustments
6.4.3.3 challenging behaviours

Appendix Eleven: Frequencies and Percentages for each Item of TEIP Scale

	Strongly Disagree		Disagree		Somewhat Disagree		Somewhat Agree		Agree		Strongly Agree		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
I can make my expectations clear about student behaviour	1	0.9%	0	0.0%	1	0.9%	11	10.0%	68	61.8%	29	26.4%	110	100.0%
I am able to calm a student who is disruptive or noisy.	0	0.0%	0	0.0%	2	1.8%	33	30.0%	61	55.5%	14	12.7%	110	100.0%
I can make parents feel comfortable coming to school.	1	0.9%	0	0.0%	2	1.8%	25	22.7%	55	50.0%	27	24.5%	110	100.0%
I can assist families in helping their children do well in school.	0	0.0%	0	0.0%	6	5.5%	23	20.9%	66	60.0%	15	13.6%	110	100.0%
I can accurately gauge student comprehension of what I have taught.	0	0.0%	0	0.0%	1	0.9%	25	22.7%	65	59.1%	19	17.3%	110	100.0%
I can provide appropriate challenges for very capable students.	0	0.0%	0	0.0%	4	3.6%	28	25.5%	56	50.9%	22	20.0%	110	100.0%
I am confident in my ability to prevent disruptive behaviour in the classroom before it occurs.	0	0.0%	1	0.9%	7	6.4%	39	35.5%	51	46.4%	12	10.9%	110	100.0%
I can control disruptive behaviour in the classroom.	0	0.0%	2	1.8%	4	3.6%	39	35.5%	53	48.2%	12	10.9%	110	100.0%
I am confident in my ability to get parents involved in school activities of their children with disabilities.	1	0.9%	3	2.7%	13	11.8%	48	43.6%	38	34.5%	7	6.4%	110	100.0%
I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated.	0	0.0%	1	0.9%	4	3.6%	25	22.7%	52	47.3%	28	25.5%	110	100.0%
I am able to get children to follow classroom rules.	0	0.0%	0	0.0%	2	1.8%	15	13.8%	78	71.6%	14	12.8%	109	100.0%
I can collaborate with other professionals (e.g. itinerant teachers or speech pathologists) in designing educational plans for students with disabilities.	1	0.9%	2	1.8%	6	5.5%	21	19.3%	50	45.9%	29	26.6%	109	100.0%
I am able to work jointly with other professionals and staff (e.g. aides, other teachers) to teach students with disabilities in the classroom.	0	0.0%	0	0.0%	4	3.7%	20	18.3%	43	39.4%	42	38.5%	109	100.0%
I am confident in my ability to get students to work together in pairs or in small groups.	0	0.0%	0	0.0%	2	1.8%	14	12.8%	59	54.1%	34	31.2%	109	100.0%
I can use a variety of assessment strategies (e.g. portfolio assessment, modified tests, performance-based assessment, etc.)	0	0.0%	1	0.9%	2	1.8%	19	17.4%	54	49.5%	33	30.3%	109	100.0%
I am confident in informing others who know little about laws and policies relation to the inclusion of students with disabilities.	2	1.8%	4	3.7%	16	14.7%	36	33.0%	38	34.9%	13	11.9%	109	100.0%
I am confident when dealing with students who are physically aggressive.	5	4.6%	7	6.4%	19	17.4%	33	30.3%	40	36.7%	5	4.6%	109	100.0%
I am able to provide an alternate explanation or example when students are confused.	0	0.0%	0	0.0%	1	0.9%	20	18.3%	58	53.2%	30	27.5%	109	100.0%

Appendix Twelve: Polychoric Correlations among the Raw Items of the TEIP scale

Pearson, Polyserial, and Polychoric Correlations

		Variables																	
Variables	Statistics	B_EBFSI_ClrExpStBeh	B_CalmDisrSt	C_ParentComf	C_HelpFam	I_GgeStudComp	I_ChallCapSt	B_PreventDisrBeh	B_ControlDisrBeh	C_ParentInv	S_DesignLearn	B_ChnFollowRuls	C_CollabOthers	C_TeachWorkOthers	I_StudWorkOthers	I_VariedAssess	S_KnowInclLaw	S_ConfStudAggr	I_AltExplStud
B_EBFSI_ClrExpStBeh	Correlation	1.000	.270	.260	.336	.464	.297	.428	.660	.159	.177	.646	.336	.280	.423	.468	.197	.290	.263
	Std. Error	.000	.112	.109	.105	.094	.104	.095	.070	.112	.113	.085	.100	.109	.097	.091	.109	.103	.110
	N	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
B_CalmDisrSt	Correlation	.270	1.000	.365	.450	.434	.323	.365	.366	.368	.256	.369	.235	.207	.268	.241	.199	.290	.163
	Std. Error	.112	.000	.100	.093	.096	.103	.097	.099	.095	.107	.104	.107	.112	.109	.109	.107	.100	.115
	N	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
C_ParentComf	Correlation	.260	.365	1.000	.695	.285	.237	.177	.262	.437	.173	.269	.422	.423	.247	.363	-.003	.030	.096
	Std. Error	.109	.100	.000	.060	.106	.106	.108	.103	.088	.108	.111	.089	.093	.108	.099	.108	.110	.114
	N	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
C_HelpFam	Correlation	.336	.450	.695	1.000	.448	.297	.306	.297	.623	.399	.152	.438	.480	.222	.358	.166	.290	.164
	Std. Error	.105	.093	.060	.000	.097	.104	.103	.103	.068	.096	.118	.091	.090	.111	.101	.107	.101	.114
	N	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
I_GgeStudComp	Correlation	.464	.434	.285	.448	1.000	.564	.321	.472	.273	.186	.483	.191	.337	.567	.626	.066	.118	.416
	Std. Error	.094	.096	.106	.097	.000	.080	.101	.088	.104	.111	.098	.110	.104	.078	.071	.111	.110	.099
	N	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
I_ChallCapSt	Correlation	.297	.323	.237	.297	.564	1.000	.201	.271	.318	.369	.344	.319	.309	.463	.480	.144	.451	.433
	Std. Error	.104	.103	.106	.104	.080	.000	.106	.104	.097	.096	.107	.098	.103	.091	.087	.106	.085	.092
	N	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
B_PreventDisrBeh	Correlation	.428	.365	.177	.306	.321	.201	1.000	.740	.298	.369	.522	.246	.124	.238	.395	.351	.433	.355
	Std. Error	.095	.097	.108	.103	.101	.106	.000	.052	.098	.095	.088	.104	.112	.108	.094	.093	.086	.100
	N	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
B_ControlDisrBeh	Correlation	.660	.366	.262	.297	.472	.271	.740	1.000	.345	.337	.679	.310	.238	.320	.456	.295	.340	.212
	Std. Error	.070	.099	.103	.103	.088	.104	.052	.000	.094	.098	.068	.099	.107	.104	.091	.098	.094	.109
	N	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
C_ParentInv	Correlation	.159	.368	.437	.623	.273	.318	.298	.345	1.000	.482	.171	.381	.512	.332	.343	.413	.286	.330
	Std. Error	.112	.095	.088	.068	.104	.097	.098	.094	.000	.083	.113	.092	.083	.100	.098	.086	.096	.100
	N	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
S_DesignLearn	Correlation	.177	.256	.173	.399	.186	.369	.369	.337	.482	1.000	.292	.504	.568	.244	.355	.427	.517	.358
	Std. Error	.113	.107	.108	.096	.111	.096	.095	.098	.083	.000	.110	.081	.075	.108	.098	.087	.078	.100
	N	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	110.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
B_ChnFollowRuls	Correlation	.646	.369	.269	.152	.483	.344	.522	.679	.171	.292	1.000	.367	.315	.618	.524	.249	.188	.347
	Std. Error	.085	.104	.111	.118	.098	.107	.088	.068	.113	.110	.000	.102	.111	.084	.090	.107	.111	.111
	N	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
C_CollabOthers	Correlation	.336	.235	.422	.438	.191	.319	.246	.310	.381	.504	.367	1.000	.701	.342	.224	.331	.399	.261
	Std. Error	.100	.107	.089	.091	.110	.098	.104	.099	.092	.081	.102	.000	.056	.098	.107	.094	.089	.105
	N	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
C_TeachWorkOthers	Correlation	.280	.207	.423	.480	.337	.309	.124	.238	.512	.568	.315	.701	1.000	.357	.386	.349	.361	.378
	Std. Error	.109	.112	.093	.090	.104	.103	.112	.107	.083	.075	.111	.056	.000	.101	.097	.096	.095	.100
	N	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
I_StudWorkOthers	Correlation	.423	.268	.247	.222	.567	.463	.238	.320	.332	.244	.618	.342	.357	1.000	.669	.131	-.015	.534
	Std. Error	.097	.109	.108	.111	.078	.091	.108	.104	.100	.108	.084	.098	.101	.000	.064	.110	.112	.085
	N	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
I_VariedAssess	Correlation	.468	.241	.363	.358	.626	.480	.395	.456	.343	.355	.524	.224	.386	.669	1.000	.120	.013	.510
	Std. Error	.091	.109	.099	.101	.071	.087	.094	.091	.098	.098	.090	.107	.097	.064	.000	.108	.110	.083
	N	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
S_KnowInclLaw	Correlation	.197	.199	-.003	.166	.066	.144	.351	.295	.413	.427	.249	.331	.349	.131	.120	1.000	.472	.309
	Std. Error	.109	.107	.108	.107	.111	.106	.093	.098	.086	.087	.107	.094	.096	.110	.108	.000	.079	.100
	N	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
S_ConfStudAggr	Correlation	.290	.290	.030	.290	.118	.451	.433	.340	.286	.517	.188	.399	.361	-.015	.013	.472	1.000	.209
	Std. Error	.103	.100	.110	.101	.110	.085	.086	.094	.096	.078	.111	.089	.095	.112	.110	.079	.000	.106
	N	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000
I_AltExplStud	Correlation	.263	.163	.096	.164	.416	.433	.355	.212	.330	.358	.347	.261	.378	.534	.510	.309	.209	1.000
	Std. Error	.110	.115	.114	.114	.099	.092	.100	.109	.100	.100	.111	.105	.100	.085	.083	.100	.106	.000
	N	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000	109.000

Correlations computed by R Hetcor package

Appendix Thirteen: Correlation Matrix for the six-item Graduate Standards readiness Scale

Inter-Item Correlation Matrix

	Are you ready to differentiate the curriculum	Are you ready to practice you legal obligations about teaching studets with disability?	Are you ready to find and learn new disability specific information if required?	Are you ready to seek specialist assistance to assist you to teach students with disability in your mainstream class?	Are you ready to liaise with other professionals to include students with disability in your mainstream classroom?	Are you ready to communicate with parents and carers of students with disability?
Are you ready to differentiate the curriculum	1.000	.368	.462	.348	.473	.394
Are you ready to practice you legal obligations about teaching studets with disability?	.368	1.000	.381	.252	.164	.414
Are you ready to find and learn new disability specific information if required?	.462	.381	1.000	.322	.542	.492
Are you ready to seek specialist assistance to assist you to teach students with disability in your mainstream class?	.348	.252	.322	1.000	.440	.335
Are you ready to liaise with other professionals to include students with disability in your mainstream classroom?	.473	.164	.542	.440	1.000	.349
Are you ready to communicate with parents and carers of students with disability?	.394	.414	.492	.335	.349	1.000

Appendix Fourteen: TEIP CFA Model Fit Information for SA Sample

Number of Free Parameters	89

Chi-Square Test of Model Fit

Value	325.744*
Degrees of Freedom	132
p-vALUE	0.0000

* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing in the regular way.
MLM, MLR and WLSM chi-square difference testing is described on the Mplus website.
MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.116
90% CI	0.100 – 0.131
Probability RMSEA <= .05	0.0000

CFI/TLI

CFI	0.863
TLI	0.841

Chi-Square Test of Model Fit for the Baseline Model

Value	1567.354
Degrees of Freedom	153
p-vALUE	0.0000

SRMR (Standardized Root Mean Square Residual) Value 0.092

Optimum Function Value for Weighted Least-Squares Estimator Value 0.14252472D+01

Appendix Fifteen: TEIP EFA Four Factor Model Fit Information for SA Sample

Number of Free Parameters	66

Chi-Square Test of Model Fit

Value	145.289*
Degrees of Freedom	87
p-vALUE	0.0001

* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing in the regular way.
MLM, MLR and WLSM chi-square difference testing is described on the Mplus website.
MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.078
90% CI	0.055 - 0.100
Probability RMSEA <= .05	0.025

CFI/TLI

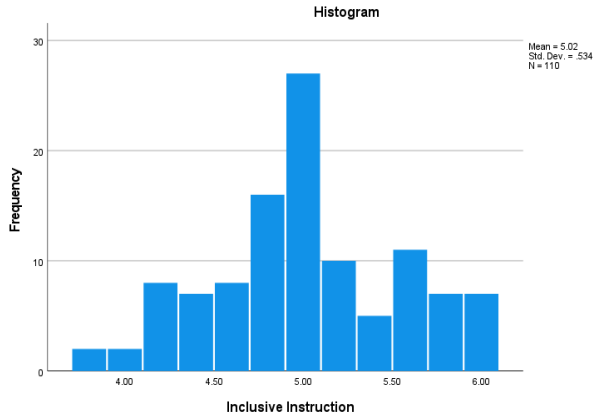
CFI	0.959
TLI	0.928

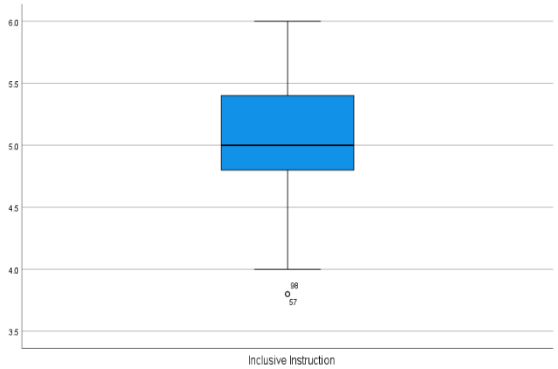
Chi-Square Test of Model Fit for the Baseline Model

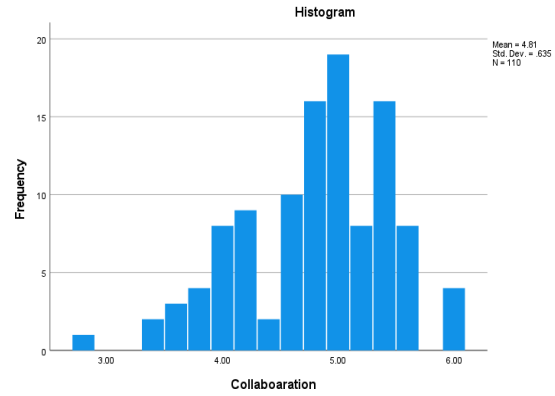
Value	1567.354
Degrees of Freedom	153
p-vALUE	0.0000

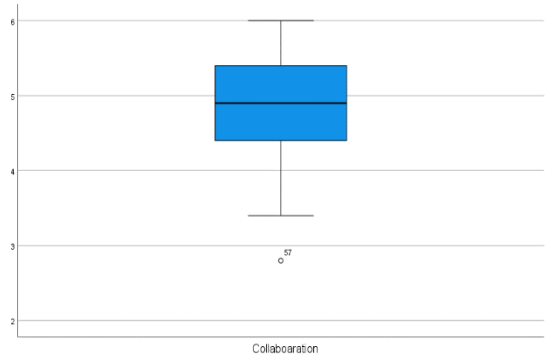
SRMR (Standardized Root Mean Square Residual) Value 0.056

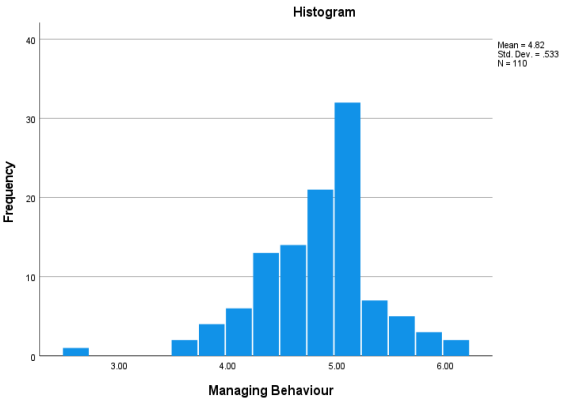
Appendix Sixteen: Histograms and Box Plots for the Four Factors of the SA TEIP data

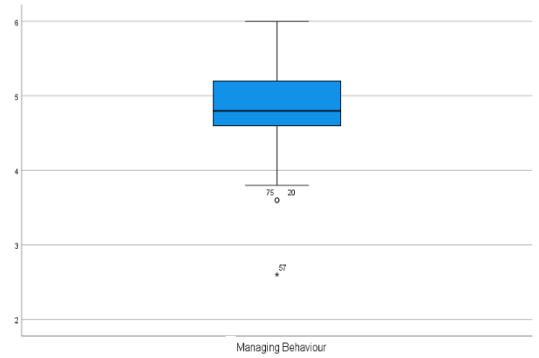


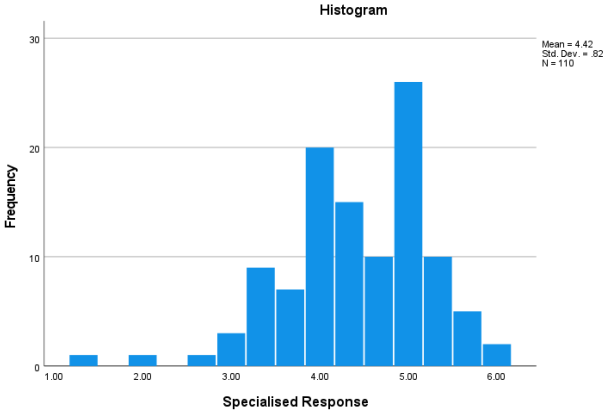


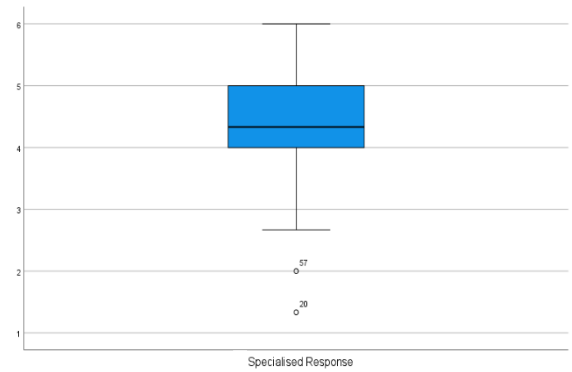












Appendix Seventeen: Disability Related Course Topics

TOPICS	**Early Childhood**			**Primary**						**Secondary**								
	B. Ed. Early Child. Honors	B. Ed. Early Child. B. Arts	B. Ed. Early Child. Special Education /B. Dis. Studies	B. Pr. Ed. Honors	B. Arts Educ. (Pr. R-7)	B. Ed. (Pr. R-7) B. Arts	B. Ed. (Pr. R-7) Special Education /B. Dis. Studies	B. Arts M. T. (Pr. R-7)	B. Gen. Science, M. T. (Pr. R-7)	B. Ed. (Sec) B. Arts	B. Ed. (Sec) B. Health Sciences (Health Education)	B. Ed. (Sec) B. Health Sciences (Physical Education)	B. Ed. (Sec) B. Lang.	B. Ed. (Sec) B. Science	B. Ed. (Sec) B. Special Education	B. Arts, M. T (Sec)	B. Science M. T (Sec)	B. Lang. M. T (Sec)
TOTAL TOPICS	2	4	11	3	5	5	11	4 +	4+	5	7	7	5	5	11	4 +	4 +	4 +
1ST YEAR																		
Teaching and Educational Contexts EDUC1120 (4.5) Semester 1 or 2		X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
Foundations of Special Education EDUC1224 (4.5) Semester 1			X				X								X			
Students with Learning and Behavioural Difficulties EDUC1228 (4.5) Semester 2			X				X								X			
Play, Learning and Development EDUC1221 (4.5) Semester 2		X	X															
Inclusive and Adaptive Practices in Sport and Physical Education HLPE1531 (4.5) Semester 2												X						

TOPICS	Early Childhood			Primary						Secondary								
	B. Ed. Early Child. Honors	B. Ed. Early Child. B. Arts	B. Ed. Early Child. Special Education /B. Dis. Studies	B. Pr. Ed. Honors	B. Arts Educ. (Pr. R-7)	B. Ed. (Pr. R-7) B. Arts	B. Ed. (Pr. R-7) Special Education /B. Dis. Studies	B. Arts M. T. (Pr. R-7)	B. Gen. Science, M. T. (Pr. R-7)	B. Ed. (Sec) B. Arts	B. Ed. (Sec) B. Health Sciences (Health Education)	B. Ed. (Sec) B. Health Sciences (Physical Education)	B. Ed. (Sec) B. Lang.	B. Ed. (Sec) B. Science	B. Ed. (Sec) B. Special Education	B. Arts, M. T (Sec)	B. Science M. T (Sec)	B. Lang. M. T (Sec)
2ND YEAR																		
Health and Physical Education - EDUC2006 (4.5) Semester 1	X			X														
Students with Numeracy Difficulties EDUC2323 (4.5) Semester 1			X				X								X			
Learners and their Development (Primary) EDUC2322 (4.5) Semester 1					X	X	X	X	X									
Learners and their Development (Middle and Secondary Schooling) EDUC2320 (4.5) Semester 1										X	X	X	X	X	X	X	X	X
Students with Literacy Difficulties EDUC2423 (4.5) Semester 2			X				X								X			
Sexualities and Sexual Health - HLPE2541 (4.5) Semester 2											X							
3RD YEAR																		
Differentiation for Diverse Learners (Primary) EDUC4721 (4.5) Semester 1			X				X											

TOPICS	Early Childhood			Primary						Secondary								
	B. Ed. Early Child. Honors	B. Ed. Early Child. B. Arts	B. Ed. Early Child. Special Education /B. Dis. Studies	B. Pr. Ed. Honors	B. Arts Educ. (Pr. R-7)	B. Ed. (Pr. R-7) B. Arts	B. Ed. (Pr. R-7) Special Education /B. Dis. Studies	B. Arts M. T. (Pr. R-7)	B. Gen. Science, M. T. (Pr. R-7)	B. Ed. (Sec) B. Arts	B. Ed. (Sec) B. Health Sciences (Health Education)	B. Ed. (Sec) B. Health Sciences (Physical Education)	B. Ed. (Sec) B. Lang.	B. Ed. (Sec) B. Science	B. Ed. (Sec) B. Special Education	B. Arts, M. T (Sec)	B. Science M. T (Sec)	B. Lang. M. T (Sec)
3RD YEAR continued																		
Critical Pedagogies for a Changing World EDUC4722 (4.5) Semester 1			X															
Inclusive Education EDUC 3055 (4.5) Semester 1				X														
Mental Health and Wellbeing HLPE3541 (4.5) Semester 1											X							
Sport in Society HLPE3530 (4.5) Semester 1												X						
Differentiation for Diverse Learners (Middle and Secondary Schooling) EDUC4720 (4.5) Semester 1															X			
Foundations in Learning and Teaching 3: Educating for Diversity and Inclusion EDUC3079 (4.5) Semester 2	X			X														
Relationships for Learning EDUC3620 (4.5) Semester 2					X	X	X			X	X	X	X	X	X			

TOPICS	Early Childhood			Primary						Secondary								
	B. Ed. Early Child. Honors	B. Ed. Early Child. B. Arts	B. Ed. Early Child. Special Education /B. Dis. Studies	B. Pr. Ed. Honors	B. Arts Educ. (Pr. R-7)	B. Ed. (Pr. R-7) B. Arts	B. Ed. (Pr. R-7) Special Education /B. Dis. Studies	B. Arts M. T. (Pr. R-7)	B. Gen. Science, M. T. (Pr. R-7)	B. Ed. (Sec) B. Arts	B. Ed. (Sec) B. Health Sciences (Health Education)	B. Ed. (Sec) B. Health Sciences (Physical Education)	B. Ed. (Sec) B. Lang.	B. Ed. (Sec) B. Science	B. Ed. (Sec) B. Special Education	B. Arts, M. T (Sec)	B. Science M. T (Sec)	B. Lang. M. T (Sec)
3RD YEAR continued																		
Understanding Child and Adolescent Behaviour EDUC7360 (4.5) Semester 2								X	X							X	X	X
4TH YEAR																		
Critical Pedagogies for a Changing World EDUC4722 (4.5) Semester 1		X																
The Professional Educator EDUC4820 (4.5) Semester 1 or 2		X	X		X	X	X			X	X	X	X	X	X			
Functional Curriculum Design for Students with Disabilities EDUC4732 (4.5) Semester 1			X				X								X			
Differentiation for Diverse Learners (Primary) EDUC4721 (4.5) Semester 1					X	X												
Assessment and Programming in Special Education EDUC4731(4.5) Semester 1			X				X								X			

TOPICS	Early Childhood			Primary						Secondary								
	B. Ed. Early Child. Honors	B. Ed. Early Child. B. Arts	B. Ed. Early Child. Special Education /B. Dis. Studies	B. Pr. Ed. Honors	B. Arts Educ. (Pr. R-7)	B. Ed. (Pr. R-7) B. Arts	B. Ed. (Pr. R-7) Special Education /B. Dis. Studies	B. Arts M. T. (Pr. R-7)	B. Gen. Science, M. T. (Pr. R-7)	B. Ed. (Sec) B. Arts	B. Ed. (Sec) B. Health Sciences (Health Education)	B. Ed. (Sec) B. Health Sciences (Physical Education)	B. Ed. (Sec) B. Lang.	B. Ed. (Sec) B. Science	B. Ed. (Sec) B. Special Education	B. Arts, M. T (Sec)	B. Science M. T (Sec)	B. Lang. M. T (Sec)
4TH YEAR continued																		
Differentiation and Inclusive Educational Practices EDUC9406 (4.5) Semester 1								X	X							X	X	X
Differentiation for Diverse Learners (Middle and Secondary Schooling) EDUC4720 (4.5) Semester 1										X	X	X	X	X				
5TH YEAR																		
Choice of topics including Special Ed.								X	X							X	X	X