

Enhancing Behaviour Support: A Practical Staff Training Approach in an Irish Special Education Context.

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Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor of Education, is entirely my own work and that I have exercised reasonable care to ensure that the work is original and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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Dedication

In memory of Ellen Gormley (1995-2022).

A graduate of this University, a talented young teacher, my much-loved cousin and friend.

“Wherever life plants you, bloom with grace.”

Acknowledgements

I would like to express my sincere gratitude to my supervisors, Dr. Laura Gormley and Dr. Sinéad Smyth, for their invaluable guidance, support, and encouragement throughout my doctoral journey. Your insightful feedback, thoughtful advice, and generous availability have been instrumental in enabling me to get this project over the line. I am sincerely grateful for your patience and dedication, but above all, for fostering such a kind and welcoming environment where no question ever felt too 'silly.' I would also like to thank my Independent Panel Member, Dr. Maura Coulter, for regularly checking in with me throughout this process.

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List of Abbreviations

AAC	Augmentative and Alternative Communication
ABA	Applied Behaviour Analysis
BCBA	Board Certified Behaviour Analyst
BSC	Behaviour Support Curriculum
BST	Behavioural Skills Training
DCU	Dublin City University
DE	Department of Education (formerly Department of Education and Skills)
DES	Department of Education and Skills (Changed to Department of Education in 2020)
DSM-V	Diagnostic and Statistical Manual of Mental Disorders 5th Edition
EBP	Evidence-Based Practice
EIP	Evidence-Informed Practice
FCT	Functional Communication Training
ID	Intellectual Disability
IEP	Individual Education Plan
IOA	Interobserver Agreement
IU	Intolerance of Uncertainty
MA	Mastery Assessment
MMR	Mixed Methods Research
MSWR	Multiple Stimulus Without Replacement
NCSE	National Council for Special Education
PBS	Positive Behaviour Support
PD	Professional Development
PL	Professional Learning
RTA	Reflexive Thematic Analysis
SEN	Special Education Needs
SET	Special Education Teacher
SNA	Special Needs Assistant
SNAWDU	Special Needs Assistant Workforce Development Unit
UNCRPD	United Nations Convention on the Rights of Persons with Disabilities

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Abstract

A growing body of evidence supports the need for enhanced professional development (PD) in behaviour support in Irish schools. This study investigated the impact of a bespoke behaviour support package on the positive behaviour support (PBS) skills of teachers and Special Needs Assistants (SNAs) (N=17) in a special school for Autistic students with cooccurring intellectual disability (ID) and other complex needs. It also examined the impact of the PD on classroom practice.

This complex mixed-methods case study consisted of two phases: Intervention and Implementation. The Intervention phase involved six 90-minute workshops incorporating behavioural skills training (BST) as a PD mechanism. BST, a competency-based training model, has been successfully applied in the PD of a broad range of front-line staff, but its evaluation in a study involving Irish educational professionals is a unique aspect of this research. During the workshops, participants rehearsed skills related to a customised behaviour support curriculum (BSC) with strands in choice-making, functional communication, and tolerance of uncertainty. Each unit of the BSC was an amalgamation of multiple socially valid evidence-based practices (EBP) recommended for the education and support of Autistic students with co-occurring ID. Skill development was measured through trials-to-criterion, alongside a baseline performance assessment for each BSC unit. The acceptability of BST-based PD was assessed in a post-intervention survey. The implementation phase of the study involved reviewing teacher planning documents and conducting semi-structured interviews. These methods were employed to assess the influence of the PD on classroom practices, explore participants' experiences of this form of PD, and determine what factors influenced implementation.

Skill mastery was achieved in each of the nine BSC units. Participants also evaluated the PD positively. BSC units were incorporated into support plans for 14 of 16 students, though implementation varied across classrooms. The semi-structured interviews corroborated the positive survey feedback, highlighting the practicality of the training, the applicability of the content for the student cohort and the advantages of whole school teams attending joint PD. Key factors that impacted implementation were classroom leadership and the availability of follow-up support. The findings evidence how a bespoke evidence-based behaviour support curriculum and the corresponding skills can be imparted to whole school teams supporting students with complex learning and behaviour support needs.

Keywords: Professional Development, Special Needs Assistant, Special Education, Teachers, Evidence-Based Practice, Positive Behaviour Support, Behavioural Skills Training

Chapter 1 Introduction

1.1 Introduction

This research aimed to evaluate whether a behaviour support package specifically designed for this study could effectively impart skills in Positive Behaviour Support (PBS) and socially valid Evidence-Based Practices (EBP) to school staff. The participants were staff members working in an Irish special school that serves an Autistic student population with co-occurring Intellectual Disability (ID) and other complex needs. Additionally, the study explored whether these newly acquired skills were subsequently translated into classroom practice. A central focus of this research was to understand the factors that influenced the application of skills gained during the behaviour support workshops. The study adopts a unique approach by using a qualitative method to explore the use of Behavioural Skills Training (BST) as a professional development¹ (PD) mechanism for imparting role-specific skills.

This chapter sets out the study's background and rationale. It begins with clarifications around terminology and working definitions of key concepts used throughout the thesis. Subsequently, the chapter explores the national policy related to PD for school staff supporting students who are experiencing behaviours of concern. Following this, the rationale for this research and the research aims underpinning the study are presented, with the researcher's personal positionality also described. Finally, the chapter concludes with an overview of the thesis structure.

1.2 Autism and Co-occurring Intellectual Disability²

Autism is a neurodevelopmental condition characterised by differences in communication, social interaction, and sensory processing (American Psychiatric Association, 2013).

¹ In education, professional learning (PL) refers to the ongoing process of acquiring knowledge, skills, and expertise to improve teaching practices (King, 2014). In contrast, professional development (PD) typically involves structured workshops, courses, or conferences designed to enhance specific teaching skills activities (King, Brennan and O’Gorman, 2023). Since this research employed a structured training package for both teachers and SNAs, the term PD is used throughout to describe the adopted approach.

² While the term ‘general learning disability’ is more commonly used in educational research, this thesis adopts the synonymous term ‘intellectual disability’ (ID), as it aligns with the terminology used in the setting where the research took place. The school enrolment criteria required that students have a diagnosis of ‘moderate or severe intellectual disability’.

Autistic individuals often have intense and focused interests, which can also be restrictive (Arunachalam *et al.*, 2024). Researchers are clear that there is no one presentation of autism; autism exists on a spectrum and is part of a broader neurodiversity family of difference and disability (Happé and Frith, 2020; Kauffman, 2022). The prevalence rates for autism have risen sharply in recent decades (Sweeney and Fitzgerald, 2023). The current worldwide rates are agreed to be between 1% and 1.5% of the population, with some more recent prevalence studies placing prevalence rates as high as 3% in Ireland (AsIAM, 2024a). Five times more males than females are Autistic, and co-occurring intellectual disability (ID) is present in between 20% and 30% of Autistic individuals (Maenner *et al.*, 2020).

There has been some debate about whether to use identity-first language ('Autistic person' rather than 'person with autism') or not (Dawson and Mottron, 2011). While some Autistic people view autism as a core element of their identity and advocate for the term 'Autistic,' others do not see autism as central to their identity and prefer 'with autism' (Guldborg, 2020). However, more recent research spanning English-speaking countries worldwide indicates a preference for identity-first, strengths-based language when referring to autism and Autistic individuals (Keating *et al.*, 2022). In recognition of these findings, this thesis will adopt these language preferences. This work also capitalises "Autistic" to highlight that the word is a proper noun that refers to a particular community and identity that is shared by many Autistic individuals (Johnson, 2021). The conceptualisation of autism as a disability versus a unique set of characteristics and skills is widely discussed and debated (Anderson-Chavarria, 2022). Guldborg (2020) suggests that there is truth in both positions, stating that autism can be experienced and viewed as both an example of neurodiversity and a disability. Other researchers have stated that Autistic individuals and their families experience many challenges and struggles throughout their lives and warn against oversimplifying the needed response as one of just societal acceptance (Shattuck *et al.*, 2018).

The students attending the setting where this research took place are both Autistic and diagnosed with ID in the moderate or severe to profound ranges. This distinction is important to note as a co-occurring LD requires different educational and support needs when compared to a student who is Autistic without the presence of an ID (Lord *et al.*, 2021). ID is characterised by limitations in adaptive and intellectual functioning and significant delays in reaching developmental milestones (Gacek and Kryzywoski, 2022). Approximately 10% of individuals with an ID will have a diagnosis of moderate ID, which is defined by a

developmental or intelligence quotient (IQ) ranging from 35-49 (Patel *et al.*, 2020). Individuals with moderate ID typically require support with daily living tasks, communication, social interactions, and safety skills. Their language abilities and capacity for acquiring academic skills vary but are generally limited to basic levels (WHO, 2024). Around 4% of those with ID will receive the diagnosis of ‘severe’ ID. They will require extensive support with daily activities and have an IQ ranging from 20-34. In addition to significant differences in intellectual functioning, individuals with severe ID may also experience motor impairments and other associated conditions, which further restrict their intellectual and adaptive functioning (American Psychiatric Association, 2013). Profound ID is the diagnosis given to individuals with the highest support, supervision and care needs and an IQ score below 20 (Patel *et al.*, 2020). Only 1% of those with an ID have a profound ID diagnosis. An individual with profound ID requires continuous supervision and is entirely dependent on others for all aspects of daily living (WHO, 2024). IQ assessments do not solely determine the classification of ID; adaptive functioning is also considered. This refers to how well an individual can function in their day-to-day life. The level of support a person requires to navigate daily tasks is a key indicator of the level of ID (Jonker *et al.*, 2021).

More recently, in the ever-changing space of autism policy, there is a growing argument for recognising ‘profound autism’ as a distinct category of Autistic people. The Lancet Commission on the Future of Care and Clinical Research in Autism (Lord *et al.* 2021) has advocated for this category, suggesting it should include individuals who are at least eight years old, non-speaking or have very significantly limited language, co-occurring intellectual disabilities, and require long-term 24/7 care and supervision (Waizbard-Bartov *et al.*, 2023). This proposed description aims to recognise a subgroup within the autism spectrum that necessitates specialised support and services due to their clearly higher support needs. Advocacy groups, particularly in the United States, are pushing for more research on profound autism and emphasising the need to include Autistic individuals with higher support needs in more research initiatives (McKinney *et al.*, 2021). Research indicates that this population has unique support requirements, necessitating tailored policy and support options (Hughes *et al.*, 2023). The Lancet Commission points out that Autistic people who meet their criteria for profound autism also have higher co-occurring physical conditions such as epilepsy and gastrointestinal disorders, mental health conditions such as anxiety, depression and ADHD and more distressed, destructive and unsafe behaviour of concern, such as self-injury, aggression and severely disturbed sleep (Lord, *et al.*, 2021). All of these factors, taken together, reinforce the significant diversity in individual autism presentations,

which can greatly affect daily functioning and result in varying needs for support and services. The Commission is advising that the term ‘profound autism’ be adopted for inclusion in diagnostic and other health and education systems.

To inform and help individualise intervention, support and care for some of the most vulnerable Autistic individuals, who, nevertheless, still have the potential for better lives. (Lord *et al.*, 2021, p. 34).

While there are calls for recognising the distinct needs of individuals with profound autism and providing improved support, there are also cautionary voices that emphasise the importance of avoiding overly deterministic labels that may overshadow individual strengths and potential. Some argue that labelling individuals in this manner may not effectively account for their strengths or help in planning appropriate support (Kripke-Ludwig, 2023). Concerns exist that sub-categories and labels could potentially limit expectations about the diverse capabilities and potentials of individuals within this subgroup. It is apparent from recent research that the inclusion of ‘profound autism’ in autism policy is a topic of ongoing debate and requires careful consideration. Considering these ongoing discussions, this thesis will use the language ‘autism’ and ‘Autistic’. However, it is noted here that the school where this research took place was established to serve a student population who would be classified as ‘profoundly Autistic’ using the criteria outlined by The Lancet Commission (Lord *et al.*, 2021). Having discussed this cohort of Autistic individuals and their overall support needs, the following section will examine where students with this profile of needs are most often educated in the Irish education system.

1.3 Educational Provision for Autistic Students in Ireland

The education of students with special educational needs³ (SEN) in Ireland has changed considerably in recent decades (Rose *et al.*, 2017; Shevlin and Banks, 2021). Following the publication of the Special Education Review Committee (SERC) report (DES, 1993), Irish Government policy aimed to provide for the inclusion of all children in mainstream schools, regardless of their SEN (Horan and Merrigan, 2019). A landmark court case in the 1990s reinforced the recommendations of the SERC report. In *O'Donoghue v. Minister for Health* (1993), the court rejected the state's argument that children with severe learning disabilities

³ In this thesis, the term Special Educational Needs (SEN) is used to align with Irish educational policy. The researcher recognises that this terminology is sometimes associated with a deficit-oriented view of disability and that terms such as 'Additional Needs' or 'Additional Educational Needs' are often considered more inclusive. However, since key stakeholders involved in policy-making related to this research continue to use SEN in their publications (NCSE, 2024a), this terminology was chosen for consistency purposes.

were 'ineducable' and instead affirmed their right to an appropriate education. This ruling led to significant changes in policy and practice, with the responsibility for education for these students ultimately moving from the Department of Health to the Department of Education (DE) (Griffin and Shevlin, 2011). In response, the Education Act (1998) introduced a new definition of SEN, recognising it as "the educational needs of students who have a disability and the educational needs of exceptionally able students" (Government of Ireland, 1998, p.8). The subsequent passing into law of the Education for Persons with Special Educational Needs (EPSEN) Act (2004) was key to fulfilling the recommendations outlined in the SERC report. EPSEN aimed to improve outcomes for children with SEN, moving from a time of segregation to an era of more inclusive schools and classrooms (McCoy *et al.*, 2016).

In Ireland, inclusive education has been interpreted as providing a continuum of educational provision that includes mainstream classrooms, special classes in mainstream schools and special schools (Banks and McCoy, 2017). Special schools are designated to serve students with significant and complex educational and care needs (Ryan-Sheehan, 2023). Research examining the future role of special schools in Ireland has found a significant shift in the profile of student enrolments, with an increasing number of students presenting with complex behavioural and mental health needs (Merrigan and Senior, 2021). Compared to international figures, Ireland has a lower percentage of students attending separate educational provision, at just over 2% (Travers, 2023; NCSE, 2024). Approximately 63% of all Autistic students in Ireland are educated in mainstream classrooms (NCSE, 2016). Special classes are offered as a third option for students with SEN. In these settings, Autistic students can attend special classes within a mainstream school in small groups of six, with one teacher and the support of two Special Needs Assistants (SNA) (Lynam *et al.*, 2024). SNAs are employed in Irish schools as support staff to primarily attend to the care needs of students with SEN (DES, 2014). Notably, 89% of Ireland's special classes are designated for Autistic students (Travers, 2023). Recent research has highlighted both the benefits and limitations of autism classes in mainstream schools (Sweeney and Fitzgerald, 2023). Many view these classes as safe havens where Autistic students can receive an education in a quieter and safer environment with less chance of sensory overload (Horgan, Kenny and Flynn, 2023; NCSE, 2024a). However, the rapid expansion of special classes has faced criticism from those who argue that offering a third option may undermine the mainstream system's responsibility to advance towards a more inclusive education system (Banks and McCoy, 2017; Travers, 2023).

In 2007, the United Nations adopted the Convention on the Rights of Persons with Disabilities (UNCRPD), contending that a central goal of inclusion is for mainstream schools to educate all children together in their local communities. The UNCRPD called on member states to:

Ensure that persons with disabilities shall have access to inclusive education on an equal basis with others in the communities in which they live and receive the support required within the general education system to facilitate their effective education. (UN 2007, Article 24 (2)).

The Irish government ratified the UNCRPD (UN, 2007) in 2018. Subsequently, in 2019, the NCSE stated that in light of their obligations under the convention, it was necessary to “review whether special schools and classes should continue to be offered as part of the continuum of educational provision” (National Council for Special Education [NCSE], 2019, p.4). Their 2024 policy advice, “An Inclusive Education for an Inclusive Society”, recommends a phased transition towards a more inclusive education system. The policy suggests that incremental changes over many years, including an increase in therapeutic support in schools, will help realise these aims. However, it states that special schools and classes will remain an option for students and parents (NCSE, 2024a).

While the policy emphasis is clearly on creating more inclusive schools, there has been a dramatic growth in the number of special classes in the last decade (Sweeney and Fitzgerald, 2023; Travers, 2023). Furthermore, Ireland has increased the number of special schools in recent years, and the capacity within existing special schools has also grown (Banks, Forlin, and Chambers, 2023). This growth in special education appears incongruous with the stated policy advice of the NCSE (NCSE, 2024a). However, it is largely driven by the demand of parents who are advocating for increased provision to meet the needs of children with SEN (Ombudsman for Children’s Office, 2022). Autism advocacy groups have also repeatedly called for an increase in special class placements (Shevlin and Banks, 2021). The NCSE’s latest policy advice is significant when considering the topic under discussion. If realised, a full inclusion model will see Autistic students with the most complex learning profiles included in mainstream schools. To facilitate this, Irish teachers and SNAs will undoubtedly require additional PD and support in evidence-based practice for autism and frameworks which can improve outcomes for students experiencing behaviours of concern.

1.4 Neuro-Affirming Practice and Education

The concept of neurodivergence is central to the neurodiversity paradigm, which advocates for the recognition and acceptance of diverse neurological conditions as part of the natural spectrum of human diversity (Jaarsma and Welin 2011). A neurodivergent person is an individual whose neurological development and functioning differ from what is considered typical or neurotypical (Hoare *et al.*, 2023). Neurodivergence encompasses a variety of conditions, including but not limited to Autism, Attention Deficit Hyperactivity Disorder (ADHD), dyslexia, dyspraxia, Tourette's syndrome, and mental health conditions. Estimates suggest that neurodivergent people make up around 15%-20% of the population (Goldberg, 2023). The term "neurodivergent" was coined to promote a more inclusive and non-pathologising view of these differences, emphasising that they are natural variations in human neurology rather than deficits or disorders (Chapman, 2020). The neurodiversity movement originated from the Autistic advocacy movement, which began in the 1990s (Singer, 2017). This movement advocated for the rights of Autistic individuals and sought societal acceptance of autism as a response to the marginalisation of Autistic people by professionals and organisations (Kapp *et al.*, 2019). Neurodivergent individuals often experience and engage with the world in ways that may differ significantly from neurotypical patterns. These differences can manifest as both strengths and challenges, depending on the context and the availability of sufficient support systems (Sewell, 2022). Proponents of the neurodiversity paradigm view it as essential to a thriving society, akin to the role of biodiversity in sustaining ecosystems (Heasman and Gillespie, 2018). This perspective celebrates the unique contributions of diverse neurotypes and recognises their inherent value.

The community asks those working in services supporting neurodivergent individuals to engage in Neuro-affirmative practices (Schuck *et al.*, 2022). Neuro-affirmative practice represents a paradigm shift in understanding and supporting neurodivergent individuals. This approach emphasises respect, empowerment, and systemic change, moving away from traditional deficit-based models towards recognising and valuing diverse neurotypes (Kapp *et al.*, 2019). Neuro-affirmative support for Autistic individuals should focus on addressing specific needs and challenges rather than attempting to alter their neurology. This includes promoting self-advocacy, adapting environments to fit individual neurotypes, and fostering a positive Autistic identity (Kroll *et al.*, 2024). Support strategies emphasise validation of Autistic experiences and self-determination. In their reflection on the neurodiversity movement and its implications for research and practice in autism, Leadbitter *et al.* (2021) state:

There is a pressing need for increased reflection and articulation around how intervention practices align with a neurodiversity framework and greater emphasis within intervention programmes on natural developmental processes, coping strategies, autonomy and well-being. (ibid, 2021, p.1)

1.5 Aligning this Research with a Neuro-affirmative Approach

There remains considerable criticism from the neurodiversity movement regarding the application of behaviour support strategies by some practitioners, with concerns raised about potential harm experienced by individuals receiving such support (Leaf *et al.*, 2022). The content of the bespoke behaviour support curriculum (BSC) designed for this research focused exclusively on positive and proactive measures to enhance choice and communication, alongside reducing anxiety through adaptive skill development. Goals aimed at enforcing neurotypical norms for Autistic students were intentionally excluded. Instead, the curriculum prioritised increasing choice and autonomy, enhancing assertiveness via communication skills, and adapting the environment to lessen anxiety, with each of the nine skills focusing solely on improving quality of life, thereby aligning with the UNCRPD (UNCRPD, 2007) and the stated goals of neuro-affirmative practice (Schuck *et al.*, 2022). Both the UNCRPD and a neuro-affirmative approach to education emphasise the empowerment of individuals with disabilities, advocating for the celebration and accommodation of differences rather than seeking to correct or cure them (Davis and Crompton, 2021; Schuck *et al.*, 2022; UNCRPD, 2007). The curriculum designed for this research aims to align with a neuro-affirmative framework by focusing solely on strategies and skills that promote autonomy and well-being, areas in which Autistic individuals actively seek support (Leadbitter *et al.*, 2021; Schuck *et al.*, 2022). To ensure the curriculum was aligned with the neuro-affirmative approach, feedback was sought from an Autistic adult who is both a primary school teacher and a neurodiversity-focused researcher, validating that the goals were appropriate from the perspective of someone within the autism community and also knowledgeable in education and research.

Addressing the unique needs of Autistic individuals with co-occurring ID was a central focus of this research. The BSC was designed in alignment with the findings of Van Loon *et al.* (2012), who developed a quality-of-life framework for supporting individuals with ID. This framework, based on self-reports and direct observations, provides recommendations on how EBP should be applied to ensure social validity for this population. It emphasises the use of EBP that enhances several key quality-of-life indicators, including self-determination,

social inclusion, human rights, and emotional well-being. These quality-of-life indicators were carefully considered in the development of the curriculum goals incorporated in this research.

1.6 Language of Behaviour Support

In Ireland, ‘challenging behaviour’ is still widely used in guidance and policy regarding behaviour support. However, this is beginning to change with the Autism Good Practice Guidance for Schools (2022) cautioning that this language may serve to stigmatise those who experience such behaviours. Describing a person as having ‘challenging behaviour’ could be interpreted as focusing on their deficits, an approach rooted in the medical model of disability (Guldborg, 2020). Language shapes people's thoughts and emotions and can influence how people view society at large (Owen and Griffiths, 2009). The term ‘challenging behaviour’ places the challenge within the person.

If the causes of challenging behaviour are seen to reside within the people who exhibit them, professionals may view such people as challenging rather than their behaviour as challenging” (Chan *et al.*, 2012, p.37).

As a Board-Certified Behaviour Analyst (BCBA), I have been trained to know that the ‘challenge’ rests with us professionals to understand and meet whatever need the behaviour before us is communicating. A behaviour analyst is a professional who uses the science of behaviour to understand, analyse, and support behaviour change to improve the quality of life of the people they serve (BACB, 2024). This approach is closely aligned with the social model of disability, which focuses on the environmental barriers to participation and inclusion (Oliver, 2023). The British Institute of Learning Disabilities (BILD) prefers the language ‘behaviour of concern’. BILD takes the position that hearing behaviour described as ‘challenging’ may have the effect of making carers feel it is a challenge they have to overcome (BILD, 2021). Behaviours of concern can be defined as “behaviours that indicate a risk to the safety or wellbeing of the people who exhibit them or to others” (Chan *et al.*, 2012, p. 37). Describing behaviour as 'concerning' places the responsibility on the professional to respond with appropriate care and consideration for the individual involved. This is the terminology I adopt in my professional practice, as I believe it encourages the necessary and appropriate response from professionals tasked with educating and supporting children and young people who are experiencing distress and exhibiting behaviours of concern as a result. Therefore, this terminology will be

consistently applied throughout this thesis. However, it is important to acknowledge that this language deliberately excludes behaviours that reflect cultural differences, neurodiversity, or unique expressions or functioning, provided that these behaviours do not negatively impact health or quality of life.

1.7 Provision of Behaviour Support in Irish Schools

The NCSE was established in 2005 under the EPSEN Act of 2004. Its primary role is allocating resources and coordinating education provision for students with SEN (Griffin and Shevlin, 2011). In addition to its core responsibilities, the NCSE provides a range of support services to schools, employing specialists such as speech and language therapists, occupational therapists, and behaviour support practitioners who work in regional teams to deliver therapeutic support. Schools seeking access to therapy and behaviour support services must apply through the NCSE's online support portal. In addition to these services, schools can request in-school support for PD, which may involve PD for whole staff groups or targeted support for individual teachers (NCSE, 2024b). Teachers are also eligible to apply for PD courses approved by the NCSE. Currently, the NCSE offers a series of seminars through its 'behaviour programme,' with sessions lasting between one and three days. These seminars are designed to enhance understanding of and strategies for preventing behaviours of concern, while also promoting positive behaviour for learning (NCSE, 2024c).

The Irish Department of Education (DE⁴) has recently announced the establishment of the Educational Therapy Support Service (ETSS), which will see the appointment of additional therapists in the NCSE on a more permanent basis and has the ambition to provide more sustained support than what is currently offered to schools (DE, 2024a). The DE announced in June 2024 that the ETSS will build on the achievements and impacts of the School Inclusion Model (SIM) pilot programme, which has been providing a wrap-around support service in 75 schools in Kildare and Dublin since 2019 (NCSE, 2023). One of the stated aims of the ETSS is to offer in-school coaching and co-facilitation of interventions and strategies. This will involve NCSE therapists collaborating with teachers and SNAs in classrooms to adapt learning activities and school environments (DE, 2024a). At the time

⁴ Formerly known as the Department of Education and Skills (DES), the term "DE" will be used throughout this thesis, except when referencing DE policy or publications prior to 2020, in which case "DES" will be used.

of writing, the recruitment process to attract additional therapists to the NCSE has not commenced.

Several special schools in Ireland employ full-time BCBAs on their staff. Behaviour Analysts must have graduate qualifications in Psychology programmes where behaviour analysis is the core focus of study (BACB, 2022). BCBAs in these schools work in collaboration with the school principal, the teaching and the SNA staff to support the successful inclusion of students. These positions originated from a historic pilot project where 13 special schools were allocated BCBAs. These behaviour analysts are employed on a fixed-term basis by their school's Board of Management (BOM) and not directly by the DE. The DE funds these positions through specialist grants allocated to the schools but has declined to make these posts permanent. Instead, they have indicated a preference for behaviour support services to be delivered through the consultative model offered by the NCSE. The setting where this research took place was not one of the original 13 pilot schools where a BCBA was employed. At the time of this research, this school did not have full-time behaviour support onsite. However, the school did campaign for on-site behaviour support and was successful in acquiring a grant to hire a BCBA in recent times.

1.8 Documented Need for Improved Behaviour Support in Irish Schools

The necessity for improved behaviour support in Irish schools is evident from various policy advice and research review papers. This section will delve into the specific needs and recommendations outlined in these documents, establishing an understanding of the current gaps in behaviour support in Irish schools. It is important to acknowledge that not all students attending special education settings will exhibit behaviours of concern that require specialist behavioural knowledge. However, 89% of special classes in Irish mainstream schools are designated autism-specific classrooms (Travers, 2023). Autism is a condition with a wide variety of presentations, and some Autistic individuals can experience emotional distress that presents as behaviours of concern (Totsika *et al.*, 2011). The degree of behaviour support needs varies widely and, depending on topography, can impact learning and the wider classroom in many ways (Leonard and Smyth, 2020). A NCSE policy advice paper in 2015 identified the need to develop in-school capacity to prevent and support those with behaviours of concern. It specifically mentions the need to develop schools' understanding and application of behavioural principles to adequately support students who are engaging in behaviour of concern (NCSE, 2016). In 2018, the NCSE conducted a review of how SNAs were being deployed in Irish schools. One finding highlighted the impact of behaviours of

concern on SNAs during their work. The NCSE found that while students exhibiting such behaviours were being 'contained', their behaviour support needs were not being addressed. This review went on to warn that “unless the management of seriously challenging behaviour is adequately addressed, there could be very serious consequences for students and staff” (NCSE, 2018, p.52). A 2018 report from Inclusion Ireland highlighted 14 cases where restraint and seclusion were used in Irish schools. In each case, there was a reported lack of positive behavioural support in place (Inclusion Ireland, 2018). An increased incidence of “seriously challenging behaviour” and a lack of “teacher training” to manage these behaviours was reported in the ‘main themes’ of the NCSE’s policy advice on special classes (NCSE, 2019, p.49).

In 2021, the Children’s Rights Alliance (CRA) published its annual ‘Report Card’, which highlighted the problem of reduced timetables for students with SEN (CRA, 2021). This practice involves schools shortening a student's school day by requiring them to either start later or leave before the regular school day ends. The suggestion in the CRA report is that reduced school days act as a type of escape valve for schools that are struggling to support students who exhibit behaviours of concern. An Oireachtas Committee in 2019 also examined this issue and noted a reduced timetable may have some role in exceptional circumstances, such as for students with serious medical issues or a student who is reintegrating back into school after a long period of absence. However, it was their finding that “reduced timetables are being used outside of their original purpose, mainly as a behavioural management tool” (Oireachtas, 2019, p.10). A lack of monitoring and reporting of this practice is a barrier to understanding how widespread it is. The Oireachtas committee investigating reduced timetables suggest that Ireland follows the example of the Department of Education in New Brunswick, Canada. Officials there have created a centralised online tool that tracks the reason for the “modified day” and the goals and supports in place to enable the student to attend for full days in the future (Oireachtas, 2019, p.12). Since 2022, the DE has implemented regulations requiring schools to report the use of reduced timetables to Tusla Education Support Service (TESS), part of the Child and Family Agency (DE, 2021).

While child welfare and the misuse and overuse of restrictive practices are core concerns for parents and advocacy groups, teachers' unions are highlighting another critical issue: the levels of physical aggression experienced by staff in Irish schools. The European Agency for Safety and Health at Work (EU-OSHA) defines work-related violence as "violence which

occurs when workers are assaulted in circumstances related to work" (EU-OSHA, 2017). A recently published survey by the Irish National Teachers' Organisation (INTO), Ireland's largest teachers' trade union, reports that 58% of primary school teachers have experienced physical aggression in school, with 41% requiring medical attention and 10% missing more than three days of work due to injury (INTO, 2024). This figure rose sharply to 96% among teachers in special classes or schools who reported experiencing physical aggression at work. INTO spokesperson Máirín Ní Chéilleachair said that these figures represent a crisis in Irish schools, especially in special education. She urged the DE to enhance the support available to schools, in order to enable them to more effectively assist students with additional needs (Newstalk, 2024). The report's conclusions highlight structural and systemic deficiencies in supporting children with additional needs and ensuring staff safety. According to the INTO, their survey results indicate a troubling trend in the primary education system. They attribute this issue to significant shortcomings in Ireland's therapeutic and mental health services.

The frightening reality is that our schools have become the de facto mental health and therapeutic service providers for children, a role for which they are neither designed, equipped, nor funded. (INTO, 2024, p.21).

The INTO report presents 13 recommendations aimed at reducing aggression towards teachers in Irish classrooms. Six of these recommendations focus on enhancing behavioural support in schools. They urge the DE to offer improved PD related to behaviour support for both teachers and school leadership teams. Additionally, the report advocates for the integration of on-the-ground expertise within schools through multi-disciplinary teams, including behavioural therapists. It also calls for revisions to initial teacher education programmes to incorporate content on social, emotional, and behaviour 'management' (INTO, 2024, p.22).

Reports and policy advice documents addressing the use of restrictive practices in Irish schools consistently point to a lack of adequate 'teacher training' and 'teacher knowledge' in behaviour support (Inclusion Ireland, 2018; 2019; CRA, 2021; INTO, 2024). The prevalence of behaviours of concern, particularly in special schools and autism-specific special classes, alongside the reported inadequacies in current support systems, underscores significant gaps that must be urgently addressed. Most concerning is the evidence from these reports that, in the absence of quality behaviour support, some schools have resorted to more restrictive and punitive measures when working with our most

vulnerable students (Inclusion Ireland, 2018; 2019; CRA, 2021; AsIAm, 2024b). Tackling these issues through systemic reforms, enhanced support structures, and improved PD is essential for creating a safer and more supportive educational environment for both students and school staff.

1.9 Documented need for improved PD opportunities for Special Needs Assistants

The literature is clear about the necessity of PD for paraprofessionals such as SNAs, emphasising that these staff require ongoing PD and supervision to support the goals of inclusion (Chopra, Sandoval-Lucero, and French, 2011). In contrast, other jurisdictions that employ paraprofessionals in schools provide structured programmes for the ongoing development of their support staff (Rose and O'Neill, 2009). However, despite SNAs being employed in the Irish education system since 1979, there are still no formal policies or access routes to support their continued professional development (DES, 2011). The DE has published numerous guidelines recommending whole-school approaches to reduce behaviours of concern (DES, 2006; NEWB, 2008; DE, 2022). Yet, SNAs are currently not permitted to attend the PD seminars offered by the NCSE that focus on promoting behavioural well-being in schools, as these seminars are only open to teaching staff (NCSE, 2024c).

The recently established Special Needs Assistant Workforce Development Unit (SNAWDU) has been tasked with providing guidance and direction for the future of the SNA workforce (DE, 2024c). In their recent findings from focus groups and surveys with educational stakeholders, both school leaders and SNA respondents emphasised the need for improved PD opportunities, particularly in behaviour support (ibid, 2024c). When asked how schools can support SNAs to reach their full potential, the highest-rated response from school leaders (89%) was "CPD support," followed by "Training and Mentoring" (47%). A critical finding from the SNA survey was that 49% of the 8,691 respondents reported receiving no feedback from any colleague, whether teacher or management, on their performance in the workplace. The majority also reported that they received no induction training when first recruited to their roles. The conclusions of the national survey of SNAs state that the DE “ will consider opportunities for all SNAs to access training for their professional development” (ibid, 2024c, p.84).

In addition to advocating for general access to PD to support SNAs in their roles, Irish policy (NCSE, 2018) and research (Kerins et al., 2018; Ryan-Sheehan, 2023) have recommended joint training opportunities for SNAs and teachers. Attending PD together has been suggested as beneficial for improving working relationships and enhancing the inclusivity of schools (NCSE, 2018). To our knowledge, this is the first study to assess the impact of joint teacher/SNA PD and to foreground the voices of SNAs regarding their experiences of attending PD alongside their teacher colleagues.

1.10 Positionality Statement

I am a BCBA with twenty years of experience working in the special school system in Ireland. My career has provided me with the great privilege of working alongside incredibly knowledgeable and dedicated SNAs and teachers. My work involves supporting teachers and SNAs in adapting environments and teaching new adaptive skills to reduce behaviours of concern to help Autistic and intellectually disabled students with complex learning needs access the National School Curriculum (NSC). For five years, I worked as an advisor with the NCSE, providing professional development in behaviour-support-related topics to teachers at both primary and post-primary levels. The work entailed the delivery of instruction-only-based seminars in education centres all over Ireland. I also visited dozens of schools and autism classes, providing support for Autistic students exhibiting behaviours of concern. My experiences during this time led me to believe that we must do more to support school staff in implementing the various behaviour support strategies recommended in the NCSE seminars. In addition to serving as a behaviour analyst, I also hold a school leadership position titled "Director of Education" in my current workplace, Ireland's largest autism-specific school, serving a student population with complex learning and behavioural support needs. This role involves overseeing various day-to-day management aspects within the school, including leading the behaviour support team. I am directly engaged in supporting teaching staff in the assessment and goal selection process, ensuring these goals are effectively implemented in classrooms. As part of my responsibilities, I also frequently facilitate whole-school, classroom, and individual PD in behaviour support and related topics.

These professional experiences have provided me with valuable insight into what students with more complex needs require from their teachers and support staff to reduce distress in school, which can lead to behaviours of concern. In my experience over the past 20 years, many educational professionals have shared a common concern. They feel that their initial

teacher education has not equipped them for working in special schools or classes, where they may be educating students with complex learning and behavioural needs. Instead, they embark on a steep learning curve where observing, modelling, and collaborating at every turn is paramount to acquiring the skills and knowledge necessary to support and educate the wonderfully diverse and energetic students we have the great privilege to teach, grow, and learn alongside. These cumulative experiences have led me to deeply value active learning, skill modelling, and strategy demonstration, which I consistently incorporate into the PD I facilitate. Whether in small group workshops, individual supervision sessions, or informal in-situ classroom observations, I prioritise these methods to ensure practical and effective skill development for educators. Rather than simply explaining recommended strategies, I demonstrate them, which consistently enables clear communication with my colleagues and supervisees. This approach fosters a collaborative dynamic, allowing us to problem-solve in real-time and maintain a level of consistency in our methods that is paramount to the well-being of the students we serve. These experiences in my professional context have significantly informed this research, which is acknowledged both here and in the subsequent reflexivity statement in Section 3.4.

As a researcher, I must also acknowledge that my personal background, experiences, and perspectives may introduce potential biases in my research (Creswell and Poth, 2018). While my familiarity with the research area offered advantages, such as access to and understanding of special schools, it also presented challenges. These challenges included having experience limited to specific educational settings where interdisciplinary collaboration between behaviourally trained staff and educators is the norm, as well as holding pre-existing notions about factors influencing implementation in practice. To mitigate the impact of these biases, I adopted several strategies. Firstly, I committed to reflexivity throughout the research process, regularly engaging in self-reflection to recognise and critically assess how my positionality may influence my work. Additionally, I sought out diverse perspectives, including those of my peers, mentors, and participants, to challenge my assumptions and ensure a more balanced interpretation of data (Lincoln and Guba, 1985). By triangulating data sources and using multiple methodologies, I aimed to minimise the influence of my biases and enhance the credibility of my findings. Furthermore, I have been transparent about the limitations of this research.

1.11 Research Focus and Questions

The aim of this research is to determine whether a whole-school PD package that includes a bespoke behaviour support curriculum (BSC) and the use of Behavioural Skills Training (BST) is an efficient, acceptable and effective PD approach for school staff employed in a special school. The study focuses on a special school catering to students with diverse diagnoses, including moderate-severe ID, autism, and mental health conditions. The research aims to support Autistic children with co-occurring complex needs by equipping their teachers and SNAs with evidence-based practices for autism (Hume *et al.*, 2021; Steinbrenner *et al.*, 2021). It also focuses on related skills in PBS that are socially valid for the school population (Van Loon *et al.*, 2012). The PBS framework for understanding behaviour suggests that behaviours of concern arise from interactions between an individual and their environment, including the people within that environment, as well as the individual's current and past experiences (Hastings *et al.*, 2013). PBS is known to eliminate restrictive practices, reduce behaviours of concern, and remove barriers to education and social participation (Gore *et al.*, 2013; 2022).

As will be examined further in Chapter 2, there is a growing body of evidence supporting the need for enhanced PD in behaviour support for teachers and SNAs in Irish schools. There has been a worrying increase in the reported overuse and misuse of restrictive practices such as restraint and seclusion in Irish schools (Inclusion Ireland, 2018; AsIAM, 2024b), as well as the inappropriate use of reduced timetables (CRA, 2021). Additionally, teacher unions are calling for action on the levels of physical aggression and related injuries experienced by their members in Irish schools, especially within special education settings (INTO, 2024). Considering these challenges, it is imperative to equip teachers and SNAs with skills which have a known protective factor against the use of restrictive practices. Skills related to PBS are not only suitable for improving educational environments for students (Sugai and Horner, 2009), they also have the potential to significantly reduce behaviours of concern and enhance curriculum access for students with complex learning profiles (Paris *et al.*, 2019). Inclusion Ireland is the national advocacy association for people with an ID in Ireland. Their 2018 report, 'Shining a Light on Seclusion and Restraint in Schools in Ireland' recommends that:

Staff must have training in the reduction of and alternatives to restraint and seclusion, one such example being implementing positive behaviour supports. (Inclusion Ireland, 2018, p. 20).

While multiple reports have highlighted the overuse of restrictive practices and the presence of aggression towards school staff, there is a noticeable lack of research within the Irish

education context that examines the optimal form of PD for improving school staff skills in behaviour support. This study addresses this gap by evaluating the effectiveness of BST, an evidence-based competency based PD model, in enhancing staff skills and assessing the acceptability of this type of PD among Irish special education staff. Additionally, it explores the impact that a bespoke BSC, designed specifically for this research, had on classroom practices. The study also delves into the experiences of staff both during the workshops and in the subsequent implementation of their newly acquired skills in practice.

Thus, this study aims to address the following questions:

Phase 1: Intervention

RQ 1: Will a behaviour support package, which includes behavioural skills training (BST), increase skills in targeted areas of positive behaviour support (PBS) amongst staff in a special school?

RQ 2: Did the participating staff consider the package an acceptable form of professional development?

Phase 2: Implementation

RQ 3: Was the behaviour support curriculum (BSC) introduced in the workshops included in the student's education plans post-intervention?

RQ 4: What factors influenced the implementation of the curriculum units in classroom practice?

1.12 Setting for the Research

This study took place in a special school which provides an education exclusively for Autistic students with 'complex needs'. Students with 'complex needs' are those who are 'unable to access the curriculum in a mainstream class, even with support, for most or all of their school day' (NCSE, 2016, p.2). To be enrolled in this school, students must have a dual diagnosis of autism and a co-occurring ID in the moderate to severe range. To be enrolled in a special school in Ireland, a child must have a recent Psychological Report stating that he/she has a special educational need and that this need is of such complexity that a special school placement could be considered (NCSE, 2024d). Over 30% of the students in this setting are also under the care of a Children and Adolescent Mental Health Services-Intellectual Disability (CAMHS-ID) team and have a diagnosed mental health condition. The school had been established for six months and was enrolling students for four months when the research commenced. Most of the students were still in a transitional phase of

enrolment, attending the school for shorter days or weeks as they acclimatised to their new school environment. Many of the staff had been hired recently and were initially trained in another similar setting under the same school patronage. They then transferred to the new school site as students were enrolled on a phased basis across several months. When the PD commenced, 17 students were enrolled, and 18 staff members were employed. Of the 17 students enrolled, eight (44%) had been out of school for more than one year, with many experiencing school placement breakdowns in their previous educational placements. The staffing ratio assigned to the designation of 'Autism Class' is typically a student-teacher ratio of 6:1, supported by two SNAs (NCSE, 2016). However, due to the complexity of learning and support needs in the school where this research took place, there was one teacher and between four and five SNAs assigned to each class of six students. At the time this study commenced, the staff consisted of five special education teachers and 13 SNAs. These roles will now be described.

1.12.1 Special Education Teachers

Special Education Teachers (SET) in Ireland have the same qualifications as all registered teachers. Their role in mainstream education is to offer additional instruction to children with special educational needs through various methods. This can involve either teaching students within their mainstream class or for short periods in smaller groups in a different room. The SET and class teacher collaborate to differentiate the curriculum to meet the needs of children with SEN (DES, 2017). As all the students enrolled will have SEN, SET is the title all teachers in special schools are assigned. The SET in a special school is responsible for the day-to-day management of the class, including the assessment and documentation of students' needs and progress. Additionally, SETs in special schools consult with various professionals, such as psychologists, speech and language therapists, and visiting teachers, regarding the SEN of their students. They also work closely with SNAs, overseeing their tasks and responsibilities while ensuring the care and support of the students. The SET in a special school is often tasked with supervising SNAs and assigning their daily duties within the classroom.

1.12.2 Special Needs Assistants

The role of the SNA has been pivotal in fostering more inclusive learning environments in Irish schools (Zhao, Rose and Shevlin., 2021). Within the Irish educational context, the SNA role is non-teaching and specifically designed to support students with disabilities and

significant care needs (DES, 2014). According to the DE, the duties of SNAs include attending to the care needs of students with SEN and promoting their independence within the school setting (DES, 2014; NCSE, 2018). However, tensions regarding the role of the SNA have been documented in both research and policy reviews, with differing interpretations of their responsibilities arising in various contexts (Logan, 2006; NCSE, 2018; Ryan-Sheehan, 2023). Notably, Irish educational policy does not distinguish between the duties of an SNA supporting a student in a mainstream classroom and those of an SNA working within a special school, where the students' needs may be more extensive (DES, 2014).

1.13 Structure of the Thesis

The first chapter has provided the context for the current study introduces the research topic, providing a rationale for the need for improved PD in behaviour support within special education in Ireland. It outlines the research problem and presents the aims of the study. Chapter 2 offers a literature review, examining and critiquing the pertinent research relating to behaviour support, evidence-based practice and PD in these areas. This chapter culminates in an overarching conceptual framework for the thesis which informed the research design. Chapter 3 describes the methodology used, explaining the research design, participant selection, procedures followed during the two phases of the study, ethical considerations, data collection and analysis. Chapter 4 presents the results from each phase of the study. In Chapter 5, the findings are discussed in relation to the conceptual framework, research questions, and relevant literature. Chapter 6 summarises the findings and draws final conclusions, including recommendations for future research, policy and practice. This chapter will also describe the study's limitations.

Chapter 2 Literature Review

2.1 Introduction

Chapter 1 outlined the basis for exploring the impact of a bespoke PD in behaviour support within an Irish special education setting. Chapter 2 will examine the literature that informed the conceptual framework for this study. This framework includes the rationale for and

content of the PD package used in the research. The review will include an examination of the context behind the need for improved PD in behaviour support in Irish schools (Inclusion Ireland, 2018; CRA, 2021; INTO, 2024). Additionally, it will examine PBS and EBP for autism that informed the BSC designed for this research (NCSE, 2016; Wong *et al.*, 2021; DE, 2022) and describe how the curriculum incorporated practices that are socially valid for the population in the participating school. Educational models of professional learning and development are also explored in the review. Finally, this chapter will discuss the evidence supporting the use of BST as a PD mechanism for disseminating role-specific skills to educators and paraprofessionals (the widely used title for assistants working in the education system) (Kirkpatrick, Akers, and Rivera, 2019; Slane and Lieberman-Betz, 2021; Smith *et al.*, 2022). This comprehensive examination will reveal how these elements are interlinked and critical to the study's framework.

2.2 Questions Guiding the Review

The following questions guided the review process.

- What are the gaps in the literature in relation to professional development in PBS in special education in Ireland, and how can this study address those gaps?
- What are the gaps in the literature in relation to the use of EBP in special education in Ireland, and how can this study address those gaps?
- Drawing on the literature, how should professional development in PBS be designed and modelled for the purposes of this research?

2.3 Review Strategy

This literature review employed a narrative review strategy to provide a comprehensive overview of the existing research on PD in skill development in PBS and EBP. A narrative literature review is a methodical approach used to examine the existing literature on a specific topic, offering a thorough understanding and interpretation of the phenomena being researched (Baumeister and Leary, 2007). By organising the review thematically, the narrative literature review aims to highlight the current state of knowledge, identify research gaps, and provide a foundation for understanding the broader context of the topic. Additionally, this method allows researchers to develop new conceptual frameworks based on existing literature (Leamy *et al.*, 2011). To ensure a comprehensive understanding of

the area, a search was conducted on a range of electronic index databases, including Connected Papers, Education Resources Information Centre (ERIC), Research Gate and the Dublin City University (DCU) search engine, which can search across multiple academic databases, peer-reviewed journals, and the DCU library catalogue. The search strategy involved using keywords such as "positive behaviour support," "professional development," "evidence-based/evidence-informed practice," "skills/competency training in education," and "behavioural skills training." No specific time frame was imposed, ensuring a comprehensive collection of historical and contemporary studies. A full list of search terms and their derivatives can be viewed in Appendix A.

The review aimed to minimise bias by ensuring a broad and inclusive selection of sources (Tranfield, Denyer, and Smart, 2003). Inclusion criteria focused on peer-reviewed journal articles, books, and conference papers addressing positive behaviour support, EBP in education and autism, PD in education, and BST. The review process involved an initial screening of abstracts, followed by a full-text read-through of the relevant papers to identify recurring themes and significant findings. In addition to database searches, the review included a search of educational policy. Due to my professional role and studies throughout the education doctorate, I was already familiar with much of the relevant policy. However, to ensure comprehensive access to all pertinent policies, additional searches were conducted on the NCSE and DE websites, as well as Google Scholar. These searches were carried out during the initial literature review and again between January 2024 and July 2024 to capture more recent relevant policy. Finally, literature was sourced via the 'snowball' technique (Wohlin, 2014) through the reference sections of relevant papers and policy documents. The synthesised information is organised and presented thematically, offering a comprehensive understanding of the topic and highlighting areas where further investigation is needed. This method allows for a broad and integrative perspective, setting the stage for the subsequent research and analysis presented in this thesis.

2.4 Positive Behaviour Support

Building on the identified need for improved behaviour support in Chapter 1, this section will explore the theoretical underpinnings and practical applications of PBS as an evidence-based framework for assisting individuals engaging in behaviours of concern due to distress (Carr *et al.*, 2002; Guldberg, 2020; Gore *et al.*, 2022). Other approaches, such as restorative

practice and trauma-informed frameworks, have an evidence base for supporting the reduction of behaviours of concern in typically developing and neurodivergent children with lower support needs (Norris, 2018; Mas-Expósito *et al.*, 2022; Prutzman *et al.*, 2022, Ford, 2023). These frameworks emphasise building strong relationships and creating a safe, supportive environment within the school community, fostering a sense of belonging, and promoting emotional regulation (Brown *et al.*, 2022). These approaches emphasise addressing and repairing harm that may arise from behaviours of concern, primarily through verbally based strategies (Potter and Ryan, 2023). Researchers in the area of restorative practice and special education have suggested adaptations to the framework for its use with students with SEN; however, they recognise that “for some individuals with a significant intellectual disability, an expectation to take part in the restorative practice process may not be realistic” (Burnett, Thorsborne and Riestenberg, 2015, p.79). PBS, however, has been recognised for decades as an effective framework for supporting individuals with intellectual and developmental disabilities in both reducing behaviours of concern and improving quality of life (Carr *et al.*, 2002; LaVigna and Willis, 2012; Mahon *et al.*, 2021; McDonald, McGill and Murphy, 2018).

The PBS approach to understanding behaviour proposes that behaviours of concern occur as part of an interaction between an individual and their environment, other people in that environment and the individual's current and past experiences (Hastings *et al.*, 2013). In this way, PBS is closely aligned with the social model of disability, which emphasises the impact of social barriers and discrimination on individuals with disabilities rather than viewing disability as a personal deficit (Oliver, 1990; 2023). The social model of disability suggests that environmental, social, and cultural factors influence reduced function in people with disabilities. PBS aligns with this model by focusing on environmental adaptations, skill development, and support strategies to enhance the quality of life for individuals with disabilities (Gaskin, 2015). Gore *et al.*, (2022) agree that PBS is consistent with a social model of disability and state:

The work of PBS seeks to transform systems that do not adequately address rights, support and learning needs and that disempower or exclude people with learning disabilities (Gore *et al.*, 2022, p.15)

Despite this, considerable criticism remains from the neurodiversity movement regarding the application of the PBS framework by some practitioners, with concerns raised about potential harm experienced by individuals who receive these interventions (Leaf *et al.*,

2022). PBS is underpinned by the biopsychosocial model, which draws together learning from multiple fields of research. It recognises the interaction of biological, psychological, and social factors in why people with developmental or intellectual disabilities may display behaviours of concern (Bowring, *et al.*, 2017). Those working within a PBS framework do not adopt a deficit or medical model of disability. Instead, they focus on understanding individuals' holistic needs and experiences. Grounded in the biopsychosocial model, practitioners of PBS view all behaviours as purposeful and functional, arising from complex and cumulative interactions among various biological, psychological, and social contexts and systems (Gore *et al.*, 2022). The soon-to-be-published 'Understanding Behaviours of Concern and Responding to Crisis Situations: Guidelines for Schools' advocates that schools adopt the biopsychosocial approach to supporting students who are experiencing behaviours of concern (DE, 2024b⁵)

The guidelines advocate that school staff adopt a biopsychosocial approach. This approach recognises that humans are complex beings whose functioning is determined by interrelated and interdependent biological, psychological, and socio-cultural factors (DE, 2024b, p.13).

Under the Health Act (2007), Irish legislation mandates the use of PBS in residential centres where both children and adults with a disability are displaying behaviours of concern (Grey, Lydon and Healy, 2016). One of PBS's key features is its emphasis on prevention and early intervention. By identifying triggers that lead to behaviours of concern, PBS aims to address these factors proactively to prevent distress (Green *et al.*, 2017). It is rooted in the philosophy of applied behaviour analysis (ABA), the science of behaviour that uses the principles of behaviour to address changes in behaviour that are of social significance (Cooper, Heron and Heward, 2020). PBS emphasises individualised support tailored to the unique needs of each person (Klaver *et al.*, 2020). In their recent paper tracking the evolution of ABA in the UK and Ireland, McTiernan and Bowring (2024) argue that the PBS framework addresses the major shortcomings in how ABA has been applied in human services. These shortcomings include an over-emphasis by some ABA practitioners on behaviour change interventions, which prioritise the suppression of autistic traits or behaviours (Huang, Lee and Zhang; 2023). This focus on normalisation and conformity to neurotypical behaviour within some sectors of ABA has put it at odds with the neurodiversity movement, which advocates for accepting and celebrating neurological differences (Mathur, Renz and Tarbox;

⁵ These guidelines are due for publication imminently. The researcher has access to a copy, as they were piloted in their workplace. A copy can be made available to the examiners upon request.

2024). Additionally, the power dynamics in some behaviour change systems, where practitioners control the individual's behaviour, have been criticised for undermining autonomy and agency and potentially harming the well-being and quality of life of those receiving ABA (Kupferstein, 2018). McTiernan and Bowring (2024) highlighted PBS's central focus on preventing behaviours of concern through environmental adaptations and incorporating human values such as collaboration, empowerment, humility, and respect into behaviour support practices as key improvements. PBS is designed to create supportive environments that foster positive behaviour change through teaching new skills and modifying the individual's surroundings (Rotholz *et al.*, 2013). Additionally, PBS promotes the close collaboration of various stakeholders, including caregivers, educators, and support staff, to implement consistent and effective strategies across different settings (Frey, 2009). This collaborative approach ensures that supports are coordinated and implemented systematically to promote positive outcomes (Vaughn *et al.*, 1997). In their State of the Nation Report, Gore *et al.* (2022) presented a refined definition of PBS, which is shown below in Table 1. The authors suggested that these components be understood as an integrated framework, each necessary for a support system or strategy to be considered PBS. In the context of this study, this framework is important because many of these components were considered in the design of the BSC used in the study. The curriculum aimed to promote the rights and values of the students in the school by promoting greater choice, prioritising communication skills that enhance autonomy and self-advocacy, and embedding support strategies for common everyday stressors that can inhibit participation and inclusion.

Table 1: Key components of Positive Behaviour Support (Gore, et al., 2022, p.13)

Key Components of Positive Behaviour Support	
Rights and Values: A focus on rights and good lives	1. Person-centered foundation
	2. Constructional approaches and self-determination
	3. Partnership working and support for key people
	4. Elimination of aversive, restrictive and abusive practices
Theory and evidence base: Ways to understand behaviour, needs, and experience	5. A biopsychosocial model of behaviours that challenge
	6. Behavioural approaches to learning, experience and interaction
	7. Multi-professional and cross-disciplinary approaches
Process and strategy: A systematic approach to high-quality support	8. Evidence-informed decisions
	9. High-quality care and support environments
	10. Bespoke assessment
	11. Multi-component, personalised support plans
	12. Implementation, monitoring and evaluation

2.4.1 Positive Behaviour Support and Restrictive Practice Reduction

Having discussed the framework and proposed benefits of PBS, it is essential to consider its implications for reducing restrictive practices. This section will explore the evidence supporting PBS and examine its practical impact on reducing restrictive practices in educational settings. Additionally, it will highlight instances where PBS has been advocated for within policy frameworks. Restrictive practices encompass a range of actions that limit individuals' autonomy, freedom, or movements. They are usually justified by education and care staff as health and safety measures or as reactive strategies to 'manage' behaviours of concern (Muir-Cochrane, O'Kane and Oster, 2018; Gore *et al.*, 2022). Within educational

settings, these practices can include physical restraints, seclusion, enforced reduced timetables and other forms of coercion that impinge on individual autonomy (Inclusion Ireland, 2018; CRA, 2021; Hodgkiss and Harding, 2023). A UK-based report on ‘Reducing Restrictive Practices’ found that 88% of reported incidents of restraint were conducted on young children with a disability (Challenging Behaviour Foundation (CBF), 2019). These findings and the reports prepared by Irish-based advocacy organisations like AsIAM (2024b) and Inclusion Ireland (2018) suggest that the population receiving the greatest amounts of restrictive practices in Irish schools are highly vulnerable children. AsIAM (2024b) published the results of a survey asking parents whether their children had experienced restrictive practices at school. Of the respondents, 35% reported their child had experienced seclusion, while 27% reported their child had been subjected to restraint. The survey was conducted through AsIAM's social media platforms, with respondents being self-selected. This method carries the risk of sampling bias, potentially leading to overrepresenting certain views and underrepresenting others (Bethlehem, 2010). The application of restrictive practices can have enduring negative emotional and physical effects on students (CBF, 2019). Practices such as seclusion and restraint are known to be traumatic for individuals with intellectual disabilities (Keesler and Isham, 2017) and for their families (Baker *et al.*, 2021). Bowring *et al.* (2017) found that these practices can both increase emotional distress and exacerbate the aggressive behaviours of concern they are intended to address. Staff who implement restrictive practices, such as restraint, often report feelings of stress and dissatisfaction with their workplaces (Laymon, 2018). Tollie *et al.* (2021) noted that staff anxiety during incidents involving behaviours of concern may lead them to resort to restrictive practices instead of alternative responses.

PBS has been identified as an effective approach for reducing restrictive practices such as restraint and seclusion, particularly in populations with ID who display behaviours of concern (Hassiotis *et al.*, 2018; Richardson, Webber and Lambrick, 2019; Javaid *et al.*, 2020). In a large-scale systematic review of restrictive practices on students with special education needs, Hodgkiss and Harding (2023) established that schools prioritising staff PD in proactive and preventative supports based on PBS successfully reduced the frequency of restrictive practices like restraint. In adult disability services, Singh *et al.* (2009) found that preparing front-line staff in behaviour support and low-arousal communication decreased the use of restraints and seclusion in services for individuals with intellectual disabilities. Low-arousal communication is a strategy that involves using calm, clear, and non-confrontational language and behaviour to prevent escalation and support individuals who

may be sensitive to emotional or sensory arousal (McDonnell, 2010). In mental health inpatient care settings, individualised behaviour support plans grounded in PBS have been found to assist staff in preventing behaviours of concern that previously led to restrictive practices (Clark *et al.*, 2019).

Furthermore, PBS has been highlighted as an evidence-based approach recommended in Irish government guidance (DE, 2022; HIQA, 2023) and professional recommendations for supporting individuals displaying behaviours of concern (Denne, 2023). The Children's Law Centre (CLC) in Northern Ireland (NI) is an independent children's rights organisation. Their recent statutory guidance on the 'Reduction and Management of Restrictive Practices in Educational Settings in NI' (2023) calls on the education department of NI to take steps to explicitly prohibit the use of restraint and seclusion in educational settings. They suggest that the NI Department of Education follow the example of the Department of Health and embed the use of a framework known as the 'Three Steps to Positive Practice' in Northern Irish schools. 'Three Steps to Positive Practice' is a framework that all health and social care staff working in the NI are required to follow when restrictive practices are in use. The framework recommends PBS as a person-centred, therapeutic and evidence-based model of care. According to the Royal College of Nursing (2023), PBS aims "to improve a person's quality of life and that of the people around them, combining the principles of behavioural science with the values of participation and personalisation". (ibid, 2023, p.29). The Scottish parliament has recently drafted a Member's Bill proposal, 'Restraint and Seclusion (Prevention in Schools) Bill' (2023). The bill lists 'understanding behaviours of concern' and the 'development of behaviour support plans' as principles of statutory guidance within it. These documents show that the Scottish and Northern Irish Executives are very serious about reducing the levels of restrictive practices in their education systems and that they have recognised PBS as key to realising their aims.

Closer to home, the DE in Ireland has published the 'Autism Good Practice Guidance for Schools' (2022), which provides comprehensive recommendations on 'behavioural development'. The guidance recommends that schools adopt a PBS approach, stating that the PBS framework prevents and reduces behaviours of concern by emphasising early intervention (DE, 2022). The guidance notes that behaviours of concern may arise when the demands of the school environment exceed a student's ability to respond adaptively. A PBS approach suggests starting with an assessment to determine what the behaviours of concern are communicating. This assessment will help educators identify how to adapt to the

environment and promote new skills, enabling the student to participate better in both the academic and social aspects of school life (DE, 2022).

The publication of the DE long-awaited policy, 'Understanding Behaviours of Concern and Responding to Crisis Situations: Guidelines for Schools in Supporting Students' is imminent (DE, 2024b). The guidelines were developed in response to requests from various stakeholders, including parents, teachers, and advocacy groups, due to concerns about the use of restrictive practices and increased aggression in Irish schools. The guidelines were designed to ensure a safe and inclusive environment for all students while providing staff with clear strategies and protocols to manage crisis situations safely and effectively. They support a biopsychosocial approach to understanding student behaviour, which is a key component of PBS (Gore *et al.*, 2022). This approach considers biological, psychological, and social factors, offering a more holistic understanding of student behaviour and the adjustments needed to support them (Bowring, *et al.*, 2017). The DE guidelines recommend a multi-tiered support framework ranging from whole-school strategies to individual support, as seen in the PBS literature (Gore *et al.*, 2022). This policy advice provides a comprehensive framework for schools to manage and support students exhibiting behaviours of concern and outlines proactive strategies to prevent crisis situations, such as creating enabling environments and using de-escalation techniques. They also stress the need for systematic data gathering to understand student needs and develop individualised multi-element behaviour support plans. These extremely important guidelines are another reminder of the importance of upskilling school staff on the evidence-based preventative strategies recommended within a PBS framework for supporting behaviours of concern.

2.4.2 Positive Behaviour Support in Schools

Following the examination of PBS and its role in reducing restrictive practices, it is crucial to investigate its implementation at the school-wide level. This section will focus on the School-wide Positive Behaviour Support (SWPBS) framework, highlighting how systemic approaches can further reinforce the principles discussed. PBS is not solely focused on individual behaviour support but also on creating a supportive system within organisations and schools. SWPBS is a comprehensive, systems-change and evidence-based framework aimed at improving school cultures, student behaviour and academic outcomes through the use of a multi-tiered system of support (Flannery *et al.*, 2014). SWPBS programmes establish clear behaviour support guidelines and expectations, provide training for all

stakeholders, and use data-driven decision-making to improve overall outcomes within the school environment (Öğülmüş and Vuran, 2016). The first tier, known as ‘primary prevention’, aims to establish classroom or school-wide systems for all students and staff, preventing the occurrence of behaviours of concern through practices that promote well-being and consistency. Research has demonstrated that if applied with fidelity, Tier 1 practices will support 80% to 90% of students' behavioural support needs in a mainstream school (SWPBS Europe, 2024). Tier 2, or ‘secondary prevention’, is for the approximately 10% of students who do not respond to Tier 1 support and require more specialised, often group-based, support. Finally, Tier 3 or the ‘tertiary prevention’ tier at the top level of the framework incorporates individualised assessments and multi-element behaviour support plans. This tier is recommended for around 5% of students experiencing more chronic behaviour support and emotional well-being needs. This support should be individually customised to students' abilities and needs. The BSC designed for this current research presents a suite of supports that were designed to help staff acquire Tier 3 skills and strategies. The SWPBS framework is closely aligned to the National Educational Psychology (NEPS) continuum of support, which also recommends a three-tiered support model with preventative, group and individualised support recommended to support ‘behavioural competence’ (DES, 2007). The SWPBS framework is visually represented in Figure 1.

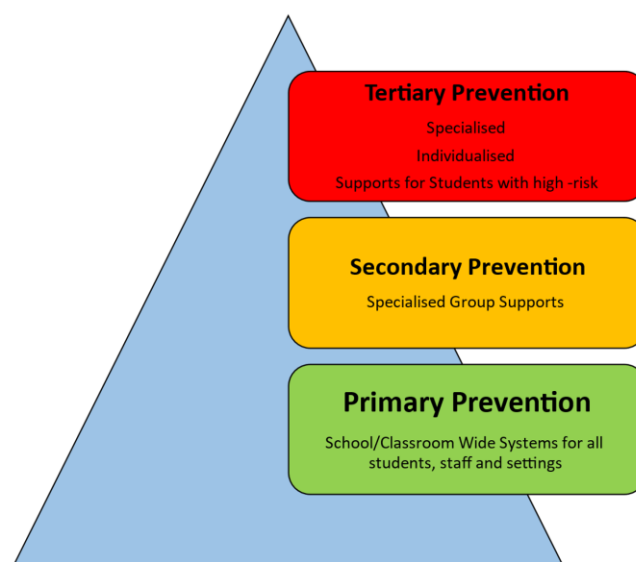


Figure 1: Levels of Prevention in School-wide Positive Behaviour Support Framework (PBIS Europe, 2024)

A large-scale randomised control trial of the SWPBS model was conducted over four years in the United States. It encompassed over 12,000 students, 12% of whom had special education needs, across 37 elementary schools. The study revealed that the SWPBS framework significantly improved pro-social behaviour, enhanced emotional regulation, and reduced behaviours of concern (Bradshaw, Waasdorp, and Leaf, 2012). This study and other research demonstrate that implementing SWPBS on a systemic level enables organisations to cultivate a culture that promotes positive behaviour and diminishes the reliance on restrictive practices for students with and without SEN (Paananen *et al.*, 2023). Other research has claimed that SWPBS can significantly enhance school culture, decrease bullying incidents, and promote healthier relationships between peers and between students and teachers, particularly in schools with high needs (Cheng, 2022; Deltour *et al.*, 2022). The framework has been found to provide advantages not just for students; it also contributes to improved teacher well-being in both mainstream and special education settings by fostering a supportive and positive environment within the school (Kelm and McIntosh, 2012). A smaller body of research does exist, which suggests that SWPBS may not always be effective. Horner *et al.* (2009) reported limitations in their randomised control trial assessing the effectiveness of SWPBS in 63 elementary schools in the US, which included 12% of students with SEN. The study found that some schools struggled to apply the framework with fidelity due to resource issues. Furthermore, McIntosh, Ty and Miller (2013) argued that although SWPBS is well-supported by evidence for addressing externalised behaviours of concern, there is a lack of research on its impact on internal issues such as anxiety and depression. These findings highlight the necessity of considering contextual factors, the fidelity of staff implementation, and the specific needs of students when implementing SWPBS to maximise its effectiveness. They also show that where students have higher support needs, as is the case for all students attending the participating school, tertiary prevention, which includes an individualised approach to behaviour support, is required.

The PBS literature strongly suggests that it is an effective evidence-based approach to reducing the use of restrictive practices such as restraint and seclusion in special schools (Denne *et al.*, 2023), disability services (Davies *et al.*, 2020) and in-patient youth mental health services (Reynolds *et al.*, 2016). Practitioners or educators who adopt this framework are committing to developing and using non-aversive reactive strategies that mitigate the escalation, distress, and impact of concerning behaviours within a broader preventative approach (Gore *et al.*, 2022; McTiernan and Bowring, 2024). PBS approaches are favoured

and endorsed within health and social care settings where organisations have had to address the use of restrictive practices (HIQA, 2023). Implementing organisational and individualised practices based on PBS, along with providing staff PD in PBS strategies, are strongly recommended for achieving positive outcomes and enhancing the quality of life for individuals experiencing distressed behaviours of concern (Mahon *et al.*, 2021). Many of the strategies recommended within a PBS framework are also established EBP for autism (NCSE, 2016; Steinbrenner, 2021). The following paragraphs will examine EBP in relation to autism and education.

2.5 Evidence-Based and Evidence Informed Practice and Education

This section will provide an overview of EBP in education, linking its principles with the successful strategies identified previously. Since the 1970s, the field of medicine and other allied health professions have embraced the concept of EBP (Guldborg, 2020). In healthcare, EBP requires treatments to have emerged from peer-reviewed theory and evidence and through replicable research (Shah and Chung, 2009). This approach in clinical practice has consistently proven that patient outcomes are better when care is based on evidence (Oliver, Lorenc and Innvaer, 2014; Cleary-Holdforth, 2017). Mesibov and Shea (2011) described an EBP in the education field as an “instructional strategy, intervention or teaching programme that has resulted in consistent positive results when experimentally tested” (NCSE, 2016, p.65). The concept of EBP in education is the source of much discussion and debate (Guldborg, 2020). Proponents of evidence-based education promote an educational culture in which teachers consistently draw on evidence to inform their teaching practices (Goldacre, 2013). This position is reflected in some international legislation. In the United States, the No Child Left Behind Act (NCLB, 2001) requires teachers to use scientifically proven practices in their classrooms, as does the Individuals with Disabilities Education Act (IDEA, 2004). However, some researchers have questioned the application of evidence-based approaches in education, citing the lack of homology between medicine and education and criticising the inflexibility often associated with EBP (Atkinson, 2000). Biesta (2007) expanded on this, arguing that the context-specific nature of education makes it impossible to control variables and replicate EBP in the classroom. However, Ainscow (2020) contends that collecting and relying on evidence in education is "the lifeblood of inclusive development" (Ainscow, 2020, p.11). He incorporated evidence into his framework designed to promote inclusion and equity within education systems (*ibid*, 2020). The more pragmatic approach of evidence-informed practice (EIP) is relevant in this current study

because, while the curriculum content is the amalgamation of multiple EBP for autism, the participants used their own professional judgement when implementing the bespoke BSC in practice. EIP involves making teaching and support decisions based on the best available evidence from well-designed studies, in conjunction with the educator's expertise, the school context and the student's profile and preferences (Brown, 2017; Kumah *et al.*, 2019). EIP allows for greater flexibility in decision-making when compared to the application of EBP. Practitioners are encouraged to adapt evidence to the specific context in which they are working, acknowledging that what works in one setting may not be directly transferable to another (Cook and Cook, 2011). This approach emphasises the importance of context and individual circumstances and influenced the design of the current research by ensuring that various behaviour support strategies were selected as part of the teacher's planning process. This thesis will use the term EBP when referring to practices included in the BSC, but it acknowledges that these practices should be applied with the flexibility advocated by the EIP framework.

2.5.1 Evidence-Based Practice and Autism

Having reviewed the broader discourse related to EBP in education, it is important to examine its application in autism-specific education. This section will build on the general principles of EBP, delving into how these practices are particularly beneficial for Autistic students. Globally, there is significant concern about how health, care and education systems can cope with the increasing demands arising from the increase in Autism diagnoses and related demand for services and supports (Sharpe and Baker, 2011). Autism has been described as a 'fad magnet' that attracts various trends and interventions that may not be evidence-based or scientifically supported (Fleury and Kemper, 2022). This issue has been highlighted in academic literature and research, emphasising the challenges faced by the autism community in combating misinformation and non-evidence-based practices (Paynter *et al.*, 2019). There are over 1300 therapies, interventions and practices in existence, and many of these are often emotively and insultingly marketed with claims of 'recovery' and 'cure' (Opar, 2016). In search of guidance, parents and professionals have reported looking to the internet, which is a mine of misinformation (Offit, 2010). At best, non-evidence-based strategies are costly and can divert time and resources away from supports with proven effectiveness. At worst, they can be unethical and even harmful (Dillenburger, 2011). Apart from the harm that can be done through using non-evidence-based practices, the time loss of not utilising practices with proven efficacy can impact an Autistic child's overall development and progress in school (McDonald *et al.*, 2012).

Although there is some debate on what role EBP plays in the field of education at large, the need for EBP in autism education has been repeatedly highlighted (Mesibov and Shea, 2011). The DE Autism Good Practice Guidance for Schools (2022) published a companion resource, ‘Indicators of Effective Practice’, which they recommend schools use to enhance educational provision for Autistic students in Ireland. One of the key principles they outline is the use of EBP in the education of Autistic students. The guidance recommends a whole-school focus on evidence-based, proactive supports, such as creating well-structured environments and teaching students adaptive methods to meet their needs. At the individual level, schools are advised to first identify strengths and needs and then to utilise EBP to support the development of academic, social, emotional, behavioural, communication, and life skills. Researchers examining the strategies typically employed with Autistic students have separated them into evidence-based and unsupported practices (Paynter *et al.*, 2017). To be considered an EBP, the practice must have resulted in improved outcomes for Autistic students across either the academic, communication or social functioning domains (Bond *et al.*, 2016). The practices considered evidence-based are identified through rigorous reviews of the literature and are regularly updated (Wong *et al.*, 2015; Hume *et al.*, 2021; Steinbrenner *et al.*, 2021). In the largest-ever systematic review of intervention data related to autism, which reviewed 1013 studies, 65% of the practices considered evidence-based for teaching and supporting Autistic students are strategies or packages grounded in the principles of ABA (Hume *et al.*, 2021; Steinbrenner *et al.*, 2021) from which PBS has evolved (Gore *et al.*, 2022; McTiernan and Bowring, 2024). In this review, 21% of the included studies involved participants who were Autistic with co-occurring ID, making their findings highly relevant to the student population in this study. These findings correlate with the outcomes of previous reviews of EBP for autism conducted both internationally (Wong *et al.*, 2015) and here in Ireland (NCSE, 2016).

Some researchers have raised concerns about the interpretation of “successful outcomes” (Vivanti, 2022, p. 1790), which influence whether a practice is classified as evidence-based or not. Sandbank (2020) conducted a meta-analysis of autism studies, finding that many early interventions were considered evidence-based due to improved cognition and verbal abilities. Sandbank cautioned against these conclusions, citing the quality of many studies and the borderline significance of some results. Additionally, they warned against general determinations of one package's effectiveness over another due to co-occurring conditions in autism, which necessitate highly individualised goals and support plans. Most

importantly, Autistic researchers in this area have begun to question practices that target core Autistic traits as behaviours for reduction (Schuck *et al.*, 2022). These researchers point out that a key criticism of behaviourally grounded supports is that “treatment goals often reflect a neurotypical interpretation of ideal or normative human behaviour, as opposed to personal Autistic-centred ways of thinking and acting (ibid, p. 4631). As outlined in Chapter 1, a neuro-affirmative approach to education emphasises the empowerment of individuals with disabilities, advocating for the adjustment to and acceptance of differences rather than seeking to correct or cure them (Davis and Crompton, 2021; Schuck *et al.*, 2022). The curriculum designed for this research aims to align with the neurodiversity framework by only including goals that focus on autonomy, advocacy communication and support strategies to improve quality of life, areas in which Autistic people (Leadbitter *et al.*, 2021 and those with ID have sought support (Van Loon *et al.*, 2012). However, it also commits to providing an evidence-based approach to ensure that the very vulnerable students in the research setting receive support grounded in empirical evidence. This approach helps avoid the many unsubstantiated practices that have persistently plagued autism support and education (Foxx and Mulick, 2015).

2.5.2 Research to Practice Gap in Autism Education

Researchers have concluded that a research-to-practice gap exists in Autism education (Paynter and Keen, 2015; Sulek *et al.*, 2018). Teachers have been found to regularly employ unsupported practices in their classrooms (Carter, Stephenson and Strnadová, 2011) or to implement supported ones with low fidelity (Oliver, Wehby and Nelson, 2015). Other studies have shown that it is unusual for educators to adapt their teaching practices by drawing on evidence from research (Cook and Odom, 2013), and some teachers have reported that they view researchers as not being aware or in touch with the day-to-day realities of what is happening in classrooms (Woolfson, 2018). Guldberg (2020) noted that numerous researchers have highlighted the importance of integrating EBP into the daily educational routines of Autistic students, identifying it as a key research priority (ibid, p. 97). The NCSE’s 2015 policy advice on the ‘Effective Educational Provision for Autistic Students’ recommends a national programme of professional learning “to ensure that teachers are trained and upskilled in choosing evidence-informed educational interventions” (NCSE, 2016, p.65). Irish research examining teacher satisfaction with initial teacher education (ITE) programmes in preparing them for teaching Autistic students has revealed low levels of satisfaction (Leonard and Smyth, 2020; Finlay, Kinsella and Prendeville, 2022). This is unsurprising as inclusion education during ITE has been described as

‘inconsistent’ across initial teacher education programmes in Ireland (Hick *et al.*, 2018). Despite the DE policy advising that teachers should “be mindful of using evidence-informed interventions” (DES, 2017, p.19), there remains a scarcity of literature investigating the utilisation of EBP for autism in Irish schools. However, researchers at the University of Limerick have recently published in the area (Barry, Holloway and McMahon, 2020; Barry *et al.*, 2021). The research involved 369 Irish primary school teachers who were currently teaching Autistic students. It focused on assessing their knowledge of and utilisation of EBP for autism. Results revealed that Irish teachers required PL/D in autism and EBP, had low levels of knowledge and infrequently used EBP. A qualitative review of the barriers teachers experienced in implementing EBP revealed both individual and schoolwide factors. These included a lack of pre-service and ongoing PD, inadequate access to information and time constraints caused by an overloaded curriculum (Barry *et al.*, 2021). Some of these are shown in Figure 2 below.

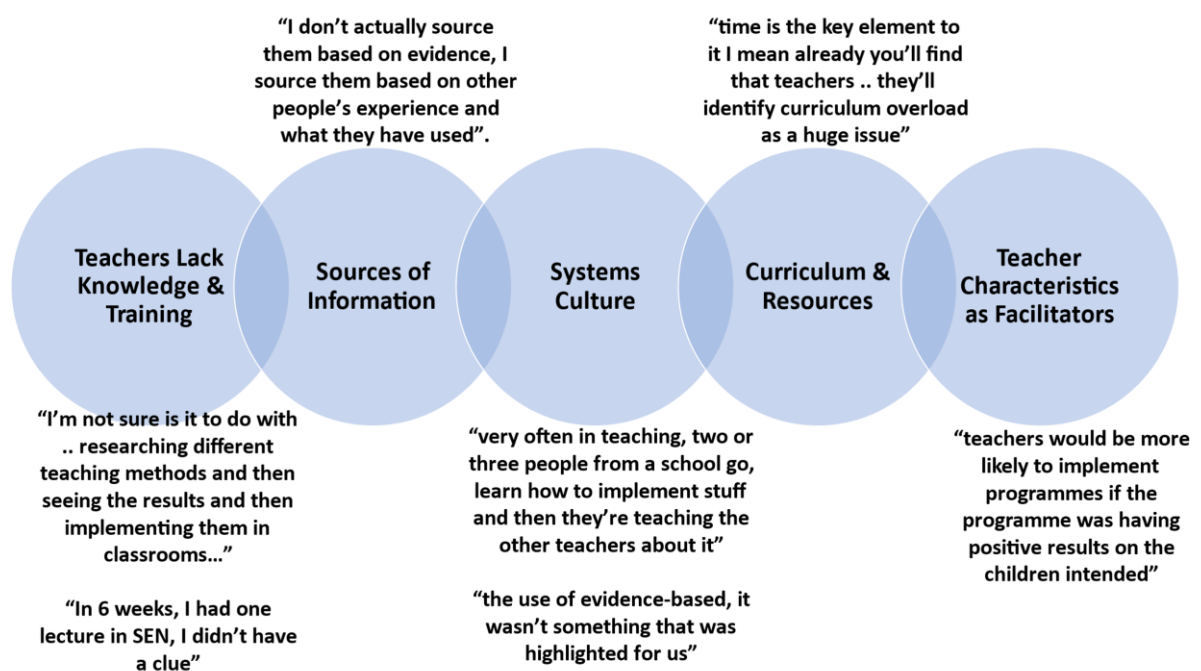


Figure 2: Barriers teachers experienced implementing EBP in schools (Barry *et al.*, 2022)

These studies provide evidence that Irish school staff working with Autistic students require PD in EBP. The findings of Barry, Holloway and McMahon (2020) and Barry *et al.* (2021) are contradictory to an earlier evaluation of the provision of education for Autistic students commissioned by the NCSE (Daly *et al.*, 2016). This evaluation stated that knowledge of ‘autism specific’ teaching methodologies varied, but “where there was a special class for children with ASD in the school, very good to excellent levels of relevant knowledge,

understanding and skills were evident” (ibid, p.78). However, other researchers have critiqued this study, noting that only two of the five schools evaluated had a special class attached, which limits the generalisability of the findings (Finlay, Kinsella and Prendeville, 2022). Barry, Holloway and McMahon (2020) also critiqued the findings, pointing to the fact that the NCSE evaluation did not include any measure of what types of practices were being used or at what frequency.

Guldborg (2017) argues that studies conducted in a controlled research context can focus more on what matters to research than what matters to Autistic students or their teachers. Social validity is defined as consumer satisfaction with the procedures and outcomes of specific practices or supports (Callahan *et al.*, 2016). Special educators are pivotal in bridging the research-to-practice gap by implementing evidence-based frameworks such as PBS (Lukins, Able and Hume, 2023). However, researchers have found that many professionals are unaffected by developments in EBP and are more likely to implement practices that they perceive as socially valid (Cook and Odom, 2013; Callahan *et al.*, 2016). These findings underscore the necessity of ongoing PD and support to effectively translate research evidence into classroom practice for Autistic students. Researchers must consider that educators may be more aligned with the principles of evidence-informed practice and guided by their perceptions of social validity. Educators are likely to adapt and tailor practices to suit the specific school context as well as each student's individual preferences and needs.

2.6 Evidence-Based Practices Included in Behaviour Support Curriculum

This section will outline the EBP included in the BSC designed for this study. By focusing on socially valid goals, this research aimed to provide practical solutions aligned with the needs of the research setting. The school, as described in Chapter 1, caters to the educational and care needs of students who are Autistic with co-occurring complex needs, including ID in the moderate to severe range. Over 30% of the students in this setting are also under the care of a Children and Adolescent Mental Health Services-Intellectual Disability (CAMHS-ID) team and have a diagnosed mental health condition. Given concerns that some behaviourally based interventions aim for 'normalising' goals (Leadbitter *et al.*, 2021; Schuck *et al.*, 2022), this research exclusively included practices that are both evidence-based and socially valid for the students attending the research setting (Van Loon *et al.*, 2012). Social validity refers to the acceptability, feasibility, and personal satisfaction with a procedure's outcomes (Wolf, 1978). Carter (2010) suggests that the appropriate approach to

evaluating social validity entails researchers and practitioners directly soliciting feedback from individuals who receive, implement, or consent to a particular type of support. When discussing social validity in relation to behaviour support, McTiernan and Bowring (2024) suggest that understanding the acceptance of a behavioural approach in relation to its objectives, methods, and results is vital and represents a core element of modern behaviour support practice.

Ensuring that the EBP included in the curriculum were socially valid for the school population was a crucial concern. Van Loon *et al.*, (2012) investigated how social validity can be addressed for individuals with ID by developing a quality-of-life conceptual model based on self-reports and direct observation. The researchers identified eight indicators deemed important by the ID population for ensuring an EBP is socially valid. The goals included in this research's curriculum are directly tied to four of these indicators: self-determination (choices, decisions, and control), social inclusion (community integration and participation), rights (human and legal), and emotional well-being (safety and security). Autistic self-advocates in the neurodiversity movement have called on researchers to reflect upon how their intervention practices align with the neurodiversity framework (Leadbitter *et al.*, 2021). They endorse supports and practices that are aligned with Autistic developmental processes and promote autonomy, coping strategies and well-being (Leadbitter *et al.*, 2021; Schuck *et al.*, 2022). Ensuring that the EBP selected were utilised for these ends was an ongoing consideration throughout this research.

Studies have also shown that special educators' perceptions of social validity influence their implementation decisions (Robinson, 2018). McNeill (2019) established that special educators were most likely to use practices they deemed appropriate and practical, with a high endorsement for EBP, such as modelling, prompting, reinforcement and visual supports. In addition to the evidence base for the strategies included in the BSC, the principal researcher was influenced by social validity, drawing on 20 years of experience as a clinical practitioner and school leader in a similar setting to the research. This personal experience, along with research indicating the support preferences of Autistic stakeholders (Schuck *et al.*, 2022), guided the selection of EBP and how they were included in the BSC. Both the common descriptions from the research literature and non-technical descriptions of the selected EBP will now be outlined. Mahon *et al.* (2021) suggest that non-technical descriptions should be used when preparing PD resources for frontline staff, as they have

been shown to enhance implementation when compared to PD where technical descriptions were included.

2.6.1 Augmentative and Alternative Communication (AAC)

Augmentative and alternative communication (AAC) encompasses methods that augment or replace traditional speech to facilitate communication (Wallis *et al.*, 2017). AAC aims to allow individuals to express themselves effectively, often utilising non-verbal communication systems alongside various language development strategies (Ascari, Pereira and Silva, 2018). AAC is a system that assists individuals in communicating through multiple means, such as high-tech voice output devices, pictures, symbols, signs, or gestures (Xu, 2016). Access to developmentally appropriate AAC is crucial for individuals with minimal or no speech, providing them with a pathway to convey their thoughts, needs, and emotions (El-Soussi *et al.*, 2015). By incorporating AAC into education supports, non-speakers can benefit from improved communication, reduced anxiety, and enhanced autonomy (Happ *et al.*, 2014).

2.6.2 Functional Communication Training

Functional communication training (FCT) is an EBP that can be utilised to substitute behaviours of concern with replacement communication skills (Tiger, Hanley and Bruzek, 2008; Andzik, Cannella-Malone and Sigafoos, 2016). An adaptive functionally equivalent replacement behaviour or skill should be identified once a hypothesis of behaviour function is identified. FCT is a procedure that outlines how to identify, prompt, and reinforce communication skills that are replacements for the behaviour of concern. FCT involves teaching students communication skills to replace a behaviour of concern arising from frustration in communicating their needs and wants (DE, 2022). It can involve modelling certain phrases such as 'Help' or 'I need a break' and providing students with visual support. For example, if the function of the behaviour is to avoid teaching demands, teaching the student to request a break from or help with their work is warranted (alongside considering why the student is avoidant of the tasks and remedying this also). The process involves identifying the communication targets and arranging the environment to maximise the opportunities for the student to practice communication skills. The educator should contrive multiple, repeated opportunities daily, prompt and reinforce the student for their efforts until the new communication skill is mastered. In this research, FCT was used to promote goals that solely advanced the autonomy of the students in the setting. The function of the FCT goals was not to remedy 'deficits' but to provide the students with communication strategies

that could enable them to assert their will and preference. This was done to ensure that this EBP was applied in a manner that aligns with a neuro-affirmative approach to behaviour support (Leadbitter *et al.*, 2021; Arthur *et al.*, 2023). The FCT strand in the BSC was a combination of FCT and AAC with the sole aim of empowering the students in the school with advocacy skills.

2.6.3 Antecedent-based Supports

Non-technically, antecedent-based supports are proactive strategies designed to eliminate triggers or modify the environment to prevent the behaviour of concern (Billingsley, 2016). By altering antecedent conditions, they aim to reduce the likelihood of behaviours of concern occurring (Dunlap and Fox, 2011). These include countless context-specific strategies, such as providing sufficient choices, reducing light brightness or signalling changing schedules in a supported and accessible way (Cihak *et al.*, 2007). In educational settings, antecedent-based supports have proven effective by modifying the learning environment and preventing behaviours of concern through promoting and reinforcing alternative behaviour (Pariska, 2022). Jorgensen, Nankervis and Chan (2023) urge behaviour support professionals to reframe how they view and discuss 'challenging behaviour,' suggesting it be seen as an adaptive and legitimate response to difficult environments. They advocate for developing responses that focus on environmental adaptations to improve the well-being of individuals with disabilities with behaviour support needs. They state that this approach will align behaviour support strategies with the human rights model advocated for in the CRPD, shifting the focus away from individual behaviours and instead “putting environments front and centre” (ibid, 2021, p. 95). Antecedent-based strategies are crucial in this paradigm shift, as they address the factors that precede behaviours and shape the environment to promote more positive outcomes.

2.6.4 Behavioural Momentum

Behavioural momentum involves organising tasks or expectations in a sequence in which more difficult demands or requests are embedded in a series of less effortful responses (Belfiore *et al.*, 2002). More simply, and within an education framework, behavioural momentum involves setting up the school day so that students are engaged in more preferred tasks/low-effort tasks and activities before tasks that they find more demanding. This is done so students receive reinforcement earlier and will be more likely to remain motivated and persist with more challenging tasks or requests. Behavioural momentum has been

successfully used to support academic, social, and communication learning. It is often used with other EBP, such as antecedent-based supports and prompting (Steinbrenner *et al.*, 2021). This practice was embedded in the BSC as part of a goal that promoted well-being by encouraging participants to use visual schedules to support their students with environmental transitions that can be stress-inducing for the population (Sterling-Turner and Jordan, 2007; Sevin, Rieske and Matson; 2015). Supporting Autistic people with an intolerance of uncertainty and teaching alternative coping strategies has been highlighted as an area of need by Autistic self-advocates and researchers (Leadbitter *et al.*, 2021; Schuck *et al.*, 2022).

2.6.5 Prompting

Prompting is a behaviourally-based antecedent strategy (Paynter *et al.*, 2017). It involves providing a cue to a student to help them acquire or engage in a new skill. The purpose of prompts is to facilitate correct responses and thereby enhance learning (Steinbrenner *et al.*, 2021). Prompts can be environmental, tactile, visual, verbal, physical, or a model of the correct response. They should be effective yet easy to fade to prevent prompt dependency. Fading occurs when the intensity and strength of the prompts are gradually reduced. The Autism Good Practice Guidance for Schools (2022) recommends prompting to teach academic skills to Autistic students, stating that it can be complementary to other teaching practices. An example of prompting when teaching a receptive language skill such as “Put on your coat” is for the teacher to stand in close proximity after issuing the request and demonstrably put on their own coat. This model can subsequently be faded as the student becomes more proficient with understanding the verbal instruction. Using effective prompts in a systematic and structured manner can significantly increase the rate of learning for Autistic students (Hume *et al.*, 2014).

2.6.6 Visual Supports

Visual supports encompass a range of tools and strategies that utilise visual aids to enhance learning and independence for Autistic students. These supports are widely recommended in various guidelines for autism (MacDonald *et al.*, 2017; Guldberg, 2020; DE, 2022). Research has shown that visual supports, such as communication pictures, visual Schedules and visual task organisers, are effective in improving communication skills, lessening the distress that transitions can cause and improving independent living skills (Rutherford *et al.*, 2019). Visual supports can be understood as visual tools or aids that assist Autistic individuals in understanding and navigating their environment. The Autism Good Practice

Guidance for Schools (2022) recommends using visual supports to “clarify transitions, routines, expectations and rules” (DE, 2022, p. 188). These supports can include visual schedules, picture cards, and other visual cues. Visual information, being less fleeting than spoken words or sentences, can help Autistic students process receptive communication, follow routines, and engage in activities more effectively.

2.6.7 Reinforcement

The Autism Good Practice Guidance for Schools states that it is “important that learning is reinforced in a planned way across contexts” (DE, 2002, p.179). Reinforcement is a primary principle of behaviour. It involves either adding or removing a stimulus following a response that increases the likelihood that the person will use the same response or skills in the future (Steinbrenner *et al.*, 2021). An example of positive reinforcement is a teacher placing a gold star on a child's copy to acknowledge improved handwriting. The addition of the star encourages the child to continue to take care with their handwriting. An example of negative reinforcement is when a car stops making a beeping noise when the driver fastens their seatbelt. The removal of the beeping sound reinforces the safety behaviour of fastening the seatbelt. In the context of EBP for autism, reinforcement primarily involves the considered use of preferred activities or items to encourage existing strengths and further develop skills that enhance life quality. In PBS, reinforcement is a fundamental component of behaviour support plans that aim to strengthen new adaptive skills that are the functional opposite of the behaviour of concern (Grey, Lydon and Healy, 2016).

After reviewing the literature on the specific EBP included in the BSC designed for this study, the next paragraphs will examine the research on the best ways to prepare school staff for using these practices in the classroom.

2.7 Professional Learning and Development in Education

Effective implementation of the proposed behaviour support package will require an understanding of the broader context of professional learning and development in education research and policy. In education, the terms professional learning (PL) and professional development (PD) are often used interchangeably (King, French and Halligan, 2022). Other terms used to describe teachers' learning include in-service training and continuous professional development. Desimone (2009) notes that the literature on teachers' professional learning and development (PL/D) encompasses a broad range of activities.

These activities are defined as any efforts aimed, in whole or in part, at preparing paid staff members for improved performance in their current or future roles within schools (Guskey, 2000). In the literature and policy where SNA PD is discussed, terms such as courses, training programmes and upskilling are used (Kerins *et al.*, 2015; NCSE, 2018). PL and PD are interconnected yet distinct concepts in education. PL is an ongoing process of acquiring knowledge, skills, and expertise to enhance teaching practices (Webster-Wright, 2009, King, 2014). It encompasses both formal (professional development courses and workshops) and informal learning opportunities (on-the-job learning from observations and social interactions) that deepen teachers' competencies (Spillane *et al.*, 2011; Kairat and Nurmukhanova, 2019). In 2016, the Teaching Council of Ireland described teachers' PL as comprising “the full range of educational experiences designed to enrich teachers' professional knowledge, understanding and capabilities throughout their careers” (Teaching Council, 2016, p.19). This learning is often embedded in teachers' daily experiences, including classroom interactions, participation in school communities, and workshops (Tonna and Shanks, 2017). It highlights the importance of continuous, career-long learning within the context of teachers' professional lives (Admiraal, Schenke and Jong, 2019).

In contrast, PD focuses on structured activities and programmes aimed at improving a specific teaching practice or student outcome (King, Brennan and O’Gorman, 2023). PD involves organised workshops, courses, or conferences designed to enhance specific teaching skills (Netolicky, 2016). Darling-Hammond, Hyler, and Gardner (2017) characterised effective PD as organised PL that leads to alterations in teacher knowledge and practices, as well as enhancements in student learning outcomes. Some researchers have cautioned that PD initiated by administrative departments may not always align with teachers' autonomy and their student's true needs (Qin, 2023). A core aim of this research was to design a BSC specifically tailored to the needs of the student population attending the research setting. It was anticipated that this bespoke package, based on EBP and incorporating an evidence-informed framework, would avoid the pitfalls of some PD. In particular, it sought to address the issue where national or centralised administrators prescribe generic content that lacks relevance to the participants' current classroom context (Kennedy, 2014a). Both PL and PD are essential for teachers' growth and effectiveness in the classroom, with PL providing a broader foundation and PD offering targeted strategies to improve teaching practices (Opfer and Pedder, 2011). However, it is recognised that broader PL does occur because of engagement in PD activities (King, French and Halligan, 2022). This thesis will intentionally use the term 'professional development' to describe the

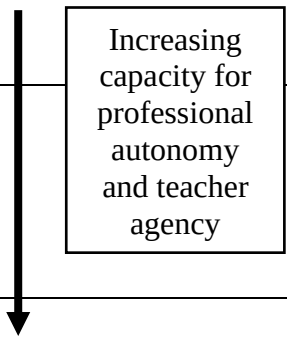
behaviour support package applied in this study, as the format (structured workshops) and objectives (skill development in EBP) of the behaviour support workshops align with the definition of PD (Kennedy, 2005; 2014).

2.7.1 Models of Professional Learning and Professional Development in Education

As previously discussed, PD in education encompasses a range of activities, experiences, or programmes that teachers engage with, potentially leading to professional learning (King, 2014; King, French and Halligan, 2022). Kennedy (2005; 2014a) organised various common PD models in education into a framework they titled ‘Spectrum of CPD Models’. In this framework, the different modes of PD are categorised into transmissive, malleable, and transformative models, each with distinct approaches and outcomes. This categorisation and organisation of PD, as seen in Table 2, suggests increasing capacity for teacher autonomy as you move from transmissive through malleable and finally into the transformative category (Kennedy, 2014b). The researcher warns that while there might be increased capacity for professional autonomy as you migrate down the framework categories, PD can only be considered transformative if it translates into agency, meaning it is enacted in some way and leads to positive changes in practice (ibid, 2014b).

Table 2: Models of CPD: A Framework for Analysis (Kennedy, 2014b, p.693)

Examples of CPD which may fit within this category	Purpose of Model
Training models Deficit models Cascade models	Transmissive
Award-bearing models Standards-bearing models Coaching/mentoring models Community of practice models	Malleable
Collaborative professional inquiry models	Transformative



Transmissive models typically involve disseminating knowledge and skills from an expert to educators, often in the form of workshops, training sessions, seminars, or lectures (Kennedy, 2014b). These sessions focus on imparting specific, predefined content with the aim of equipping teachers with new techniques and information to apply directly in their

classrooms. The teacher's role in these models is largely passive, and some researchers suggest that teachers are solely receiving information without significant opportunities for critical reflection or adaptation (King, Ní Bhroin, and Prunty, 2018). Garet *et al.* (2001) suggest that transmissive PD can be effective if it includes opportunities for active learning. Active learning is a PD approach that emphasises the engagement of participants using methods such as peer feedback, group discussions and hands-on activities (Yang and Chen, 2022). Malleable models represent a middle ground, combining direct instruction with collaborative and reflective practices (Kennedy, 2014b). Methods such as coaching, mentoring, and professional learning communities fall into this category. In malleable models, teachers engage more actively in their learning process through dialogue and shared problem-solving, fostering a sense of ownership and gradual development of autonomy as they begin to adapt and integrate new ideas into their practice (Kennedy, 2014b). At the highest level of the model, transformative PD should focus on deep, reflective professional growth that fundamentally changes educators' beliefs and practices (Desimone, 2009). Collaborative Inquiry-based models are a prime example of transformative PL. These approaches encourage teachers to examine their own practices critically, challenge existing assumptions, and engage in continuous learning and adaptation (King, Brennan and O’Gorman, 2023). Transformative PD promotes a high degree of teacher autonomy, as educators are empowered to take charge of their professional growth and contribute to the evolving landscape of education (Kennedy, 2005, 2014a, 2014b). This progression from transmissive to transformative models illustrates an increasing emphasis on teacher autonomy and professional agency, highlighting the importance of fostering environments that support continuous, self-directed learning and innovation in teaching practices.

2.7.2 Teachers' Professional Learning and Professional Development in Ireland

Building on the general principles of PL, this section will contextualise the discussion within the Irish education system and how it typically functions for teachers. Huberman (1989) suggests that PL for teachers should be considered as a continuum, changing and adapting through several different stages of their career. In Ireland, the implementation of ‘An Cosán’ (meaning ‘pathway’) by the Teaching Council in 2016 marked a significant milestone, establishing a national framework to support and guide PL for teachers (King and Nihill 2019). This framework acknowledges how each school context will determine the learning needs of individual teachers and emphasises diverse formal and informal learning opportunities (Teaching Council, 2016). Although Irish teachers are not mandated to partake in PL, there are high levels of teacher engagement (Broderick, 2019). The prevalent model

of DE-provided PL is one-off seminars usually promoting the latest national curriculum policy and closely aligned with the transmissive model of PD (King and Nihill, 2019). These seminars are standardised, and the ‘script’ is centrally controlled by the DE support service delivering the PD, for example, Oide (who provides PL to school leaders and teachers) and the NCSE (who is responsible for the PL related to SEN). Some argue that these one-off seminars are too reductionist to lead to significant changes in classroom practice (O’Sullivan and West-Burnham, 2011). According to King, Ní Bhroin, and Prunty (2018, p. 616), these seminars often adopt a ‘technical rational approach to teaching and learning,’ which fails to capture the true complexity of the educational process. Joyce and Showers (2002) argue that one-off, off-site PD is ineffective and that teachers are unlikely to adopt new practices without context-based learning that includes coaching with feedback. In their review of the literature concerning PL and PD from an Irish perspective (King, French and Halligan, 2022) recommend that the DE invest in opportunities that support “PL in a bottom-up manner to meet contextual needs and allow for ‘local, innovative and creative’ approaches” (ibid, p.4). Researchers in the field of PL and inclusion have called for a greater emphasis on PL, which results in teacher change and impacts classroom practices (King, 2016). To better understand what types of PL lead to the most substantial teacher change, it is acknowledged that we need to improve the evaluation and assessment of the PD that educators engage with (Banks and Smith, 2011). Researchers examining the impact of PL have stated that it is rarely evaluated in a “systematic and focused manner” (Muijs and Lindsay, 2008, p.198). PD provided by the DE via Oide and the NCSE receives low levels of scrutiny and is generally evaluated through satisfaction surveys completed by attending teachers (Fennell and Dillenberger, 2016). Guskey (2005) calls on teacher educators to evaluate PL at various levels, including practices and behaviours, beliefs and attitudes, skills and knowledge, and the impact on student learning.

2.7.3 Professional Development for Special Needs Assistants in Ireland

The approach taken in the current study is novel, as it brings SNAs and teachers together in an interprofessional group format for PD. While the NCSE recommended joint PD initiatives in their review of the role of SNAs in Irish schools (NCSE, 2018), no prior research has examined the impact or effectiveness of such initiatives. Researchers, school leaders, and SNAs themselves have repeatedly highlighted the need for greater access to PD for SNAs (Kerins *et al.*, 2018; Carolan, 2023; Forsa, 2022). More recently, the DE has commissioned

a working group to examine the role of SNAs in the Irish education system. Their initial investigations have been published, and contributing stakeholders have highlighted the PD of SNAs as a critical area of need (DE, 2024c). The literature concerning the role of paraprofessionals such as SNAs is unequivocal in its position, insisting that these school staff require training and supervision to advance the goals of inclusion (Logan, 2001; Chopra, Sandoval-Lucero and French, 2011; Giangreco, 2021). Despite this, there is a continuing absence of PD opportunities for SNAs in the Irish education system, and SNAs do not have access to DE-funded PL. This is one of many critical issues affecting SNAs working in Ireland today (Carolan, 2023). In their review of education provision for Autistic students in Ireland, Daly et al. (2016) found that across all the school sites they surveyed, there was a strong demand from both SNAs and school principals for additional training tailored to the SNA roles. Scheeler *et al.* (2016) highlighted the critical role paraprofessionals play in inclusive education, emphasising that providing them with appropriate training is essential to furthering the objectives of inclusion. Rose and O'Neill (2009) investigated the differences in working conditions between teaching assistants in the English education system and Special Needs Assistants (SNAs) in Ireland. One focus was on training opportunities: only 21% of SNA respondents felt they had good training opportunities, compared to 74% of teaching assistants. The researchers attributed this disparity to English-based assistants having additional pedagogically oriented responsibilities (Rose and O'Neill, 2009). Kerins *et al.* (2018) examined the PD needs of SNAs in Irish post-primary schools. Both SNA and principal respondents confirmed the need for greater access to PD, with PD in behaviour support identified as a critical area of need. The PD needs of SNAs will now be discussed with reference to the previously discussed models of professional development for teachers (Kennedy, 2005; 2014, 2014b)

2.7.4 Models of Professional Development for Special Needs Assistants

Whilst no known research for SNA PD exists in Ireland, work has been done internationally in this area (Brock and Carter, 2013; Brock and Anderson, 2021; Scheef *et al.*, 2023). When discussing effective PD for paraprofessionals, Douglas *et al.* (2019) suggest that this should include relevant content, active engagement, and individualised coaching. Researchers in this field insist that skill development should be a primary concern when designing PD for paraprofessionals (Carter *et al.*, 2010). This skill development should be promoted through a combination of modelling, observation, and performance feedback. Douglas *et al.* (2019)

recommend systematic and competency-based training to maximise paraprofessional effectiveness. Brock and Anderson (2021) reviewed the available research on PD of paraprofessionals supporting students with intellectual and complex developmental disabilities. They found that the effectiveness of paraprofessional support largely depends on the extent to which paraprofessionals are trained in implementing evidence-based practices. Some of the key recommendations from their review were that training for paraprofessionals should be concentrated on the implementation of EBP and include modelling and performance feedback (Brock and Carter, 2013; Brock and Anderson, 2021). The type of PD identified by Brock and Anderson (2021) as most beneficial for paraprofessionals is aligned with a transmissive model of PD (Kennedy, 2014b), which, as previously discussed, has faced criticism from researchers in the field of teachers' PL/D (King, Ní Bhroin, and Prunty, 2018). In response to these concerns, this research sought to mitigate the limitations of transmissive PD by tailoring the content specifically to the research setting. Moreover, active learning strategies were embedded throughout the training, and teacher participants were given the final say in selecting which elements of the BSC were implemented. To further counteract the typical criticisms of transmissive PD, the workshops featured assistants who were professional equals of the participants, including two SNAs and two SETs.

2.7.5 Professional Development Needs in Special Schools

Special schools present unique challenges and opportunities for PD. This section will build on the discussion of PD in education, examining the specific needs of special school staff and proposing comprehensive training solutions. In their most recent policy advice 'An Inclusive Education for an Inclusive Society' (NCSE, 2024a), one of the main challenges reported by principals and teachers in all school types was an increased frequency in significant behaviours of concern and a lack of professional opportunities to address this need. Principals and teachers surveyed in special schools for this policy advice stated that there were:

Very high levels of challenging and significant behaviours of concern are experienced in special school settings, resulting in serious injuries to staff members and, less frequently, to other students (NCSE, 2024a, p.61).

Regarding special schools, the INTO report 'Primary Teachers Exposure to Aggression' (2024) states that "special schools emerge as environments where physical aggression is not the exception but part of the daily experience" (Ibid, p.16). The survey found that teachers

in special schools are the most vulnerable to aggression, closely followed by those working in special classrooms within mainstream schools. The report underscores the urgent need for improved PD in behaviour support, given the frequency and intensity of aggression encountered, to better ensure the safety of teachers in special school settings.

It is clear from recent reports that PD in behaviour support is a pressing need in special education settings in Ireland. A time- and resource-efficient way to provide PD to special school staff is through on-site, whole-school training. The 2018 review of the SNA scheme by the NCSE recommends school-specific training for entire school teams, noting that "joint training opportunities will enhance the development of an inclusive school culture" (NCSE, 2018, p. 56). This is particularly important in special school settings where the vast majority of staff are SNAs. Lerman *et al.* (2020) found that providing joint training opportunities between teachers and paraprofessionals can lead to improved efficiency and effectiveness in meeting the needs of students with disabilities. Another advantage of joint training sessions between whole school teams is that both parties receive consistent information, leading to more cohesion in classroom teams (Bertuccio *et al.*, 2019). Da Fonte and Capizzi (2015) found that whole-school training allowed special education teachers to delegate more responsibilities, and the paraprofessionals felt more empowered and included. Sugrue (2011) argues that there is a need for more school-based PD in Irish education and that by increasing its prevalence, we can overcome the limitations of short out-of-school courses.

One tension which may hinder joint training in the Irish education system is the firm stipulation in multiple DE circulars that SNA duties are limited to care needs (DES, 2011; 2014). Despite these clear guidelines, researchers and the SNA review conducted by the NCSE have found considerable variability in schools regarding the role (Logan, 2006; Rose and O'Neill, 2009; NCSE, 2018). Much of the content of the behaviour support seminars offered by the NCSE concentrates on EBP for autism, which by their nature have a pedagogical focus. This may explain why SNAs are not currently facilitated to attend these behaviour support workshops. Internationally, studies have shown that, given adequate training and support, paraprofessionals like SNAs can effectively implement EBP to improve outcomes for students with intellectual and developmental disabilities (Brock and Carter, 2013; Brock and Anderson, 2021). The NCSE (2024) indicated that they are reviewing the SNA 'scheme', and the DE has established a task force to examine the role (DE, 2024c).

2.8 Behavioural Skills Training

This research involved a participant group comprising both teachers (30%) and SNAs (70%), with an aim to impart skills related to EBP in Autism. Therefore, it was essential to adopt a PD approach that was effective for building these skills and suitable for both participant groups. Whilst collaborative inquiry-led models of PD are known to be more transformative for teachers (King, 2014; Kennedy; 2005, 2014), researchers in PD for paraprofessionals like SNAs recommend transmissive models, which include modelling, coaching and feedback (Brock and Anderson, 2021). BST emerges as an obvious PD choice for this research, as it includes all the recommended components (modelling, rehearsal and feedback) for imparting skills-based EBP to educators and paraprofessionals (Brock and Anderson, 2021; Douglas et al., 2019). In their systematic review and meta-analysis of the characteristics of effective teacher PD, Sims *et al.* (2021) recommend that those who design PD should focus on mechanisms. They describe mechanisms as the core building blocks of PD, the apparatus of the training that is observable, can be replicated and cannot be removed without making the PD less effective. Illari and Williamson (2012) describe mechanisms as ‘entities and activities that are organised in such a way that they are responsible for the phenomenon’ (ibid, p.14). Within Phase 1 of the current research, BST was the mechanism that was responsible for imparting new skills to the study participants. This section will detail the steps and benefits of BST, highlighting its relevance to the overall package being investigated in this research.

Research into the acquisition and generalisation of new skills suggests that large-group instructional seminars effectively disseminate information but are insufficient for teaching skills that can be applied in the classroom (Rose and Church, 1998; Joyce and Showers, 2002; Fennell and Dillenberger, 2018). Currently, the NCSE provides special class teachers with both online and face-to-face lecture-based seminars aimed at reducing behaviours of concern in our schools (NCSE, 2024c). These seminars often lack essential components such as demonstration and practice opportunities, which are crucial for accurate skill application and retention (Kirkpatrick, Akers, and Rivera, 2019). Alexander *et al.* (2015) investigated the preparation of teachers to use EBP for autism and found that much of this training consisted of stand-alone workshops on specific practices or topics. These workshops typically employ verbal teaching strategies that rely on vocal and written instructions, which researchers have deemed ineffective for training paraprofessionals in role-specific skills (Brock and Carter, 2013). The literature establishes that such PD is less effective than PD

that includes coaching and mentoring (Petscher and Bailey, 2006; Parsons, Rollyson, and Reid, 2012).

BST is defined as “a procedure consisting of instruction, modelling, behavioural rehearsal, and feedback that is used to teach new behaviours or skills” (Miltenberger, 2012, p. 558). It is a four-step competency-based model that has been repeatedly and successfully used to educate a variety of professionals in a range of skills (Gormley *et al.*, 2019). The four-step model of BST can be seen below in Figure 3.



Figure 3: Four-Step Components in Behavioural Skills Training (Sarakoff and Sturmey, 2004).

BST was first applied in its complete and current format by Sarakoff and Sturmey (2004), who used it to support three special education teachers in correctly implementing a structured instructional method known as discrete-trial teaching. It is a performance and competency-based procedure that incorporates opportunities for participants to observe and rehearse the content in which they are receiving instruction. The performance component involves the facilitator demonstrating the skills of interest. The competency-based component requires that the participant repeatedly practices or rehearses the skill until a certain level of proficiency is met (Parsons, Rollyson and Reid, 2012). It is best suited to teaching new skills to students, skills that require a sequence of chained behaviours to demonstrate competency (Parsons, Rollyson and Reid, 2012). Kirkpatrick *et al.* (2019) described BST as a multi-component strategy that provides opportunities for the student to practice the skill (rehearsal) and understand areas that need improvement (feedback). These practice opportunities distinguish BST from other professional learning workshops typically provided to school staff, which often only offer instruction without hands-on practice. Despite BST's known effectiveness, a significant practical concern is the extensive amount of facilitator time required (Parsons, Rollyson, and Reid, 2012). Unlike traditional PD methods that primarily involve verbal and written instructions, BST includes performance and competency-based components, demanding more time from both facilitators and participants. This increased time commitment may explain the greater prevalence of instruction-based strategies in human service training (Reid, 2004; Parsons, Rollyson, and Reid, 2013).

2.8.1 Steps in Behavioural Skills Training

Understanding the steps involved in BST is essential for its successful application. This section will provide a detailed breakdown of the process. The first step in BST is to provide explicit instruction on the skill being taught, including a description and rationale for its importance or necessity (Parsons, Rollyson and Reid, 2012; Parsons, Rollyson and Reid, 2013). This instruction typically occurs through didactic training or lecture-based teaching, with clear, observable, and measurable descriptions of the skill. A reading assignment may be included for further explanation, sometimes featuring step-by-step instructions or checklists (Pence, Peter and Tetreult, 2012). The second step involves demonstrating the skill to show participants how to perform each step. The facilitator models the skill with another facilitator or a participant, following the written directions provided (Parsons, Rollyson and Reid, 2012; Parsons, Rollyson and Reid, 2013). This modelling can be done live (in vivo) or via pre-recorded videos (Sarokoff and Sturmey, 2008; Walker et al., 2020). The facilitator's ability to role-play and effectively demonstrate the target skill is critical. In the third step, participants rehearse the skill in a role-play scenario, either with the facilitator or a fellow participant (Parsons et al., 2012; Reid et al., 2012). This rehearsal is a key component of BST, distinguishing it from traditional talk-based PD. Participants rehearse the skill until they reach predetermined mastery criteria. Mastery criteria refer to the predetermined performance requirements for participants to demonstrate competency before advancing to subsequent skill rehearsal (Fienup and Carr, 2021). The majority of BST research accepts less than 100% performance accuracy, except where 100% accuracy is critical to safety, such as in medical procedures (Lydon *et al.*, 2019). Typically, the most commonly required criterion is 90% performance accuracy across two consecutive rehearsals (Briggs, Zohr, and Harvey, 2023). Rehearsal can also be done on the job (in situ), which helps participants generalise skills and may increase implementation rates (Parsons, Rollyson and Reid, 2012; Parsons, Rollyson and Reid, 2013; Reid et al., 2012). The final step is providing feedback to participants on their performance. This should occur simultaneously with the rehearsal step (Reid, Parsons and Green, 2021), offering immediate, individualised feedback on what was performed correctly and incorrectly. Feedback should be specific, detailing correct performance and necessary corrections (Parsons and Reid, 1995). While verbal feedback is immediate and essential, written feedback can also be beneficial, especially for review and in situ practice (Suhrheinrich, 2015). Steps three and four are typically repeated until a predetermined mastery aim is reached (Nigro-Brizzi and Sturmey, 2010). Facilitators may also need to provide additional live demonstrations of the skill (Reid, Parsons and Green, 2021).

2.8.2 Behavioural Skills Training for Teachers and SNAs

Having outlined the BST process, this section will focus on its specific application in educational settings. Most encouraging when considering this research is the evidence that BST is effective when teaching new skills to educators and paraprofessionals (Brock *et al.*, 2017; Sawyer *et al.*, 2017; Andzik and Schaefer, 2020; Slane, Lieberman-Betz, 2021). It has been successfully applied to teach augmentative and alternative communication (AAC) strategies (Carnett *et al.*, 2021), functional behaviour assessment (FBA) (Iwata *et al.*, 2000; Shayne and Miltenberger, 2013), Picture Exchange Communication System (PECS) (Homiltas, Rosales and Candel, 2014), functional communication training (FCT) (Nigro-Buzzi and Sturmey, 2010), preference assessments (Pence, Peter and Tetreult, 2012), effective prompting and prompt fading (Sawyer *et al.*, 2017), and the correct implementation of behaviour support plans (Hogan, Knez, and Kahng, 2015). Behavioural literature often contains a lot of scientific terminology, which is not easily transferred from page to practice. Through modelling and rehearsal, BST brings the EBP under discussion to life for attendees and enables them to get hands-on experience in practising the skills in a supportive environment.

Although BST has been employed in staff PD in the social care sector in Ireland (Gormley *et al.*, 2019), it has not been studied in the PD of Irish teachers or SNAs. Parsons, Rollyson and Reid (2012) and Reid *et al.* (2019) evaluated the acceptance of BST as a form of PD in quantitative post-intervention surveys and found that it was well received. The most frequent positive feedback related to the opportunities provided for rehearsal. However, within the broader BST research, there is a lack of studies that qualitatively examine the acceptability of BST as a form of PD or the factors that impact future implementation. Considering the importance of social validity in bridging the research-to-practice gap (Carter, 2010; Lukins, Able, and Hume, 2023), the use of a qualitative methodology in this study represents both a novel and necessary contribution to the BST-oriented research field.

2.9 Conceptual Framework for Study

The investigation of the research problem outlined in Chapter 1 and the subsequent literature review led to the development of a conceptual framework for this study. The function of the conceptual framework was to encompass the main factors and variables under study to serve as a road map for the research process (Leshem and Trafford, 2007). It also aimed to justify

the research by providing a model of what was being investigated and why (Kivunja, 2018). The conceptual framework guiding this study is derived from several key sources examined in this chapter, with specific emphasis on:

1. **Rationale:** Argument and evidence for improved behaviour support in Irish schools (Inclusion Ireland, 2018; AsIAm 2024; INTO 2024).
2. **Content:** Evidence-based and socially valid practices included in the proposed behaviour support curriculum (Van Loon *et al.*, 2012; NCSE, 2016; Hume *et al.*, 2021; Steinbrenner *et al.*, 2021; DE, 2022; Gore *et al.*, 2022; DE, 2024b).
3. **Mechanism:** The mode of professional development through which the curriculum will be imparted, namely behavioural skills training (BST) (Sturmey, 2004; Gormley *et al.*, 2019; Slane and Lieberman-Betz, 2021).
4. **Impact:** Assessing the efficiency, acceptability and effectiveness of the behaviour support package used in this research (Parsons, Rollyson and Reid, 2012).

The framework displayed in Figure 4 visually represents the conceptual framework and its components. Parsons, Rollyson, and Reid's (2012) guide for practitioners, 'Evidence-Based Staff Training,' provided the basis for the framework. Both quantitative and qualitative methods were employed to address the research questions, focusing on the impact of the PD package. The efficiency of BST for imparting new skills was assessed. Subsequently, the acceptability of the PD was determined via post-intervention surveys and follow-up qualitative interviews, capturing participants' experiences during the workshops. Additionally, the effectiveness and impact of the PD package on classroom practices were evaluated through a quantitative review of teacher plans and qualitative interviews to determine the factors that influenced implementation.

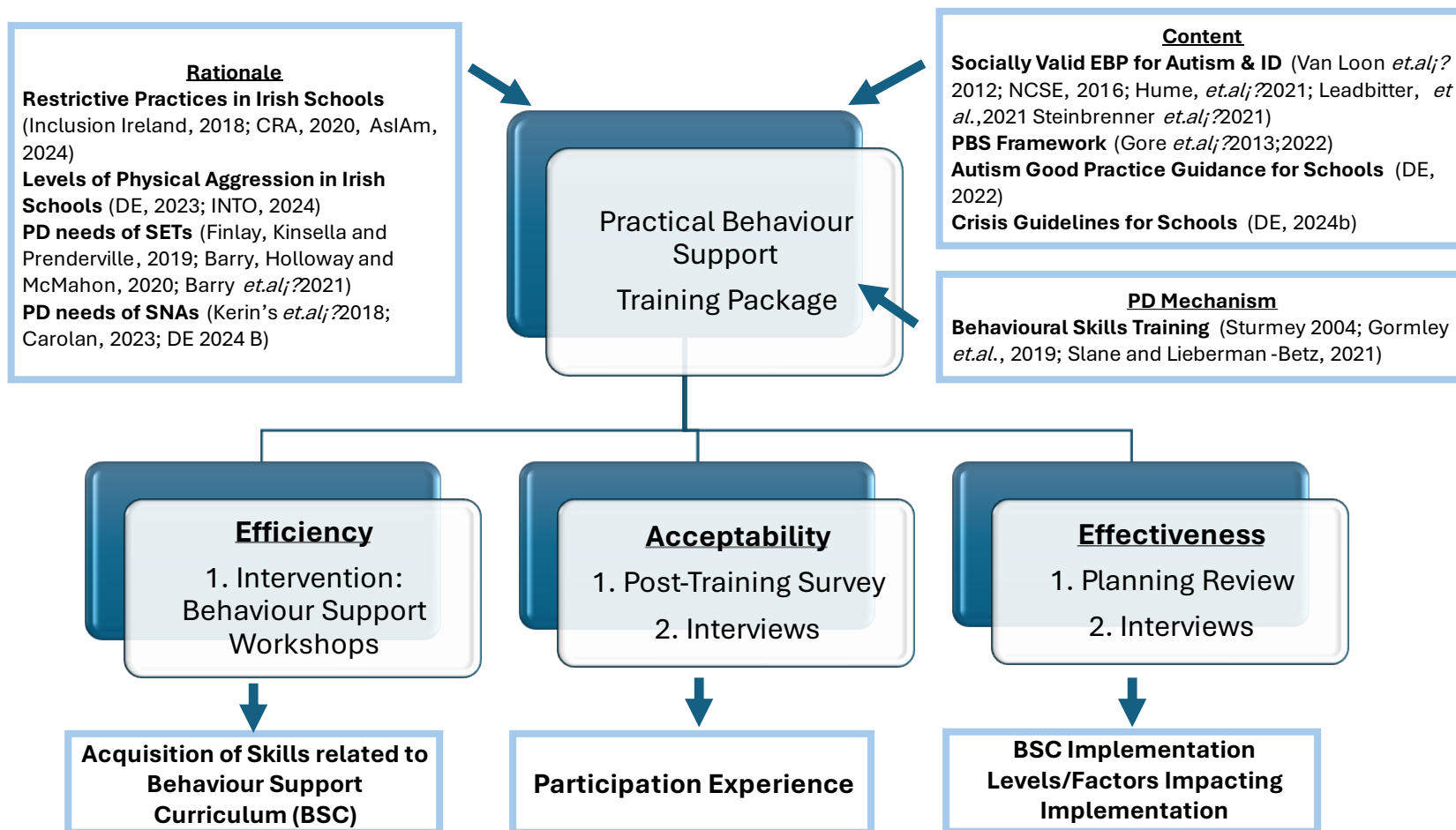


Figure 4: Conceptual Framework used in this study. (Adapted from Parsons, Rollyson and Reid, 2012)

2.10 Chapter Summary

In this literature review, the critical need for improved behaviour support in Irish special education settings is highlighted, with significant emphasis placed on PD and the implementation of EBP. The synthesis of the reviewed literature highlights key gaps in the current practices and proposes a structured, evidence-based approach to address these deficiencies, notably through the use of PBS and EBP. The necessity for enhanced PD in behaviour support within Irish schools is well documented. Reports and policy advice from the INTO, NCSE, Inclusion Ireland, and other advocacy groups consistently highlighted systemic issues, such as inadequate PD for teachers and support staff, which led to ineffective support for students experiencing behaviours of concern. The literature indicated that this gap not only affects the quality of education and the well-being of students but also contributes to high levels of aggression towards staff, especially in special education settings. The reviewed studies suggest that without appropriate PD and resources, restrictive practices such as restraint and seclusion are often employed, leading to adverse outcomes for both students and school staff.

The adoption of PBS is advocated as a comprehensive and proactive approach to behaviour support. PBS focuses on understanding the underlying causes of behaviours of concern and implementing preventative strategies that are tailored to individual needs. A review of the PBS framework revealed that tertiary-level support is most suitable for students in a special education setting who require individualised and specialised support to enhance their well-being and mitigate concerning behaviours. The framework emphasises the importance of creating supportive environments, enhancing communication, and teaching new skills to replace behaviours of concern. The evidence presented in the literature firmly supports the efficacy of PBS in reducing restrictive practices and improving the overall school climate. The review of the literature concerning EBP in autism education outlines its importance in improving student outcomes. The review also identified the strategies that should be included in the staff PD package to align with the rights and values of the student population at the participating school and ensure social validity. Goals must be acceptable, feasible, and satisfactory to those involved, including students, educators, and parents. Ensuring social validity increases the likelihood of successful adoption and long-term sustainability of the practices. An examination of the current PD landscape for teachers and SNAs was

conducted, and best practices in skills-based PD were assessed. The reviewed studies advocate for a shift from one-off workshops to more sustained and embedded PD opportunities that include coaching and mentoring. Effective PD should also be context-specific, addressing the unique needs of each school and its student population. A review of the PL literature more generally suggests that teacher autonomy to select strategies based on their professional knowledge of students should also feature in the overall design of this study. A critical component for integrating skills in PBS is the application of BST. This approach has been shown to be highly effective in teaching new skills and ensuring their correct implementation in real-world settings. The literature reviewed demonstrates that BST not only improves the competency of staff in supporting students experiencing behaviours of concern but also enhances the fidelity of EBP implementation, which is crucial for achieving desired outcomes. Finally, a conceptual framework was developed, synthesising the arguments from the review and outlining the content and mode of delivery for the proposed PD package.

In conclusion, the literature provides a compelling case for the adoption of a bespoke BSC that incorporates PBS and a range of EBP for autism. Such a curriculum, tailored to the specific needs of Irish autism-specific special education settings, where attending students have co-occurring ID and other complex needs, has the potential to improve outcomes for students experiencing behaviours of concern. It addresses the critical gaps identified in current practices by providing structured, evidence-based strategies that empower educators and support staff, ensuring a safer and more supportive educational experience for all. Given the findings of this literature review, this current research will focus on the implementation and evaluation of the proposed BSC. Particular attention will be paid to its impact on classroom practices and the social validity of both the curriculum content and the methods employed during the PD, which will include BST as a mechanism for imparting new skills. The insights gained from this review have informed the research design, which will be discussed in Chapter 3.

Chapter 3 Methodology

3.1 Chapter Introduction

This chapter provides an overview of the philosophical assumptions and methodological frameworks that guide the research. It outlines the study's aims, research design, and the rationale behind the chosen approach. The chapter is structured around two key phases: the Intervention Phase, which describes a PD intervention based on a bespoke BSC, and the Implementation Phase, which assesses the practical impact of the PD. The procedures for each phase, including data collection and analysis methods, are thoroughly explained to offer a clear understanding of the research process. Ethical guidelines observed throughout the research are also discussed. The chapter concludes with a description of the analytical processes used for interpreting the data.

3.2 Philosophical Assumptions

Philosophical assumptions are the theoretical ideas and values that underlie all research (Braun and Clarke, 2022). They are described as ‘ways of looking at the world’ (Cohen, Mannion and Morrison, 2018, p.8), and they have a pervasive influence on every aspect of the research process (Mertens, 2007). These worldviews, or paradigms, inform the researcher's ontological, epistemological, and methodological choices (Creswell and Plano Clark, 2018). Ontologically, they dictate what is considered 'reality', ranging from objective, observable phenomena to subjective experiences. Epistemologically, they influence how knowledge is perceived and what is deemed valid, shaping whether a researcher prioritises empirical evidence or subjective explanation. Methodologically, philosophical assumptions guide the selection of research methods, determining whether a quantitative, qualitative, or mixed-methods approach is appropriate (Crotty, 1998). These philosophical underpinnings determine the path of inquiry and the interpretation and relevance of research findings, ultimately influencing the contribution of the research to existing knowledge.

3.3 Ontological and Epistemological Perspective

There is no consensus on a definition of a paradigm, but it is generally recognised as the “basic belief system or worldview that guides the investigator” (Guba and Lincoln, 1994, p. 105). By making their worldview known at the outset of this chapter, the researcher aims to improve the integrity of the study (Creswell, 2015). This is achieved by acknowledging the personal perspectives and biases that inevitably shape the research questions, methodology,

and, later, the interpretation of the results (Kuhn, 1962). It is hoped that the credibility and reproducibility of the research will be enhanced by making foundational beliefs clear and allowing the reader to contextualise the findings within the researcher's philosophical framework. To this end, the following paragraph will outline the researcher's professional background, thereby illustrating the philosophical perspectives underpinning the study's conceptual framework.

I am a school-based behaviour specialist with a Master of Science (MSc) in ABA and 20 years of experience working in data-driven settings that emphasise the importance of empirical evidence and measurable data. In my present position, I collaborate with the school principal in leading Ireland's largest autism-specific special school. This school is designated for a student population who have a diagnosis of Autism and co-occurring complex needs. Each student enrolled in this school has an additional diagnosis of ID in the moderate to severe range, and 25% have been diagnosed with a mental health condition. My role involves supporting the teaching and learning processes and leading a team of up to 20 behaviour analysts and participant behaviour analysts. Working alongside the educational staff, this team provides PBS, which aims to enhance our students' quality of life and facilitate their access to education. Amongst the philosophical underpinnings of ABA is a requirement for those who practice in the area to rely on empirical methods in the study of behaviour and tightly controlled experiments to prove causal relations between dependent and independent variables (Cooper, 2020). My experience in and regard for this field have established an ontological stance rooted in the positivist paradigm. Positivism is a philosophical assumption that asserts that the reality of the world is independent of those who observe and research it (Braun and Clarke, 2022). It emphasises that researchers should establish their claims for knowledge on the application of the scientific method and support their findings with quantifiable data (Creswell and Plano-Clark, 2018).

Epistemology focuses on the relationship between ontology, or the concept of 'reality', and the researcher (Guba and Lincoln, 1994). It is generally concerned with the ways in which knowledge is acquired, shared, and constructed (Cohen, Mannion, and Morrisson, 2018). The next paragraphs will outline my epistemological stance and describe how this informed the methodological approach adopted in this research. During a five-year part-time secondment (2015-2020) to the NCSE, I delivered seminars in behaviour support to teachers all over Ireland. I grew curious about what I perceived as a disconnect between what seminar attendees were being taught and what I observed during follow-up school visits. Despite seminar attendees signalling that they wanted to embed their new knowledge in their

classrooms, it was apparent to me that the instruction-only seminars did not sufficiently impact classroom practice. I recognised the necessity to enhance behaviour support-based PD for school staff and investigate their perceptions of this PD and any other factors that may influence implementation. Exploring participants' perceptions of the PD offered in this study and its effect on their classroom practices necessitated the integration of a qualitative component. This approach would incorporate the constructionist paradigm, which recognises that social interactions and personal histories influence individuals' interpretations of phenomena (Denzin *et al.*, 2024).

My career has instilled in me an appreciation for objective data and replicable outcomes of quantitative methods. However, my efforts in promoting quality behaviour support in Irish schools have convinced me of the necessity for a richer, more context-specific understanding of the barriers and facilitators that impact the application of behaviour support strategies in Irish classrooms. Adopting a mixed-methods approach enabled me to embrace a pluralistic or pragmatic worldview. A pragmatic perspective recognises that reality is multifaceted and may be understood in different ways depending on the context (Creswell, 2018). Pragmatism is driven by the research objectives and the nature of the phenomena under study rather than adherence to a single methodological tradition (*ibid*, 2018). This approach allowed me to blend my positivist foundations with a constructionist outlook, taking the best from both paradigms to address the various research questions.

3.4 Aims of the Research

This study had three main aims:

1. The first was to equip staff in the participating school with new skills in PBS. The rate at which staff acquired these new skills was measured during Phase 1 of the research. This phase introduced new skills to participants during an intervention which adopted behavioural skills training (BST) as a mechanism of staff professional development (PD). BST is a four-step procedure consisting of instruction, modelling, rehearsal, and feedback.
2. Secondly, this research sought to expand the PD literature by determining the opinions of the participating school staff on this form of PD through a post-intervention acceptability survey with all participants and qualitative interviews with a sample of participants.

3. Finally, during Phase 2, the research aimed to investigate the experiences of staff implementing newly acquired skills in classroom practice through reviews of classroom planning documents and qualitative interviews. This process sought to determine if the BSC was implemented and what barriers and facilitators influenced implementation. Consequently, the study asks the following questions:

Phase 1: Intervention

RQ 1: Will a behaviour support package, which includes behavioural skills training (BST), increase skills in targeted areas of positive behaviour support (PBS) amongst staff in a Special school?

RQ 2: Did the participating staff consider the package an acceptable form of professional development?

Phase 2: Implementation

RQ 3: Was the behaviour support curriculum (BSC) introduced in the workshops included in the student's education plans post-intervention?

RQ 4: What factors influenced the implementation of the curriculum units in classroom practice?

3.5 Research Design

This study employed a complex mixed-methods design within the framework of a single case study. A case study design was selected to enable an in-depth examination of a PD intervention in a single school setting, focusing on the staff as participants. Yin (2018) emphasises that case studies are particularly useful for exploring complex phenomena within their real-life context, allowing the researcher to gather rich, context-specific insights. Creswell and Creswell (2023) state that a complex mixed-methods design involves embedding a core design into a broader framework or process. In this study, an explanatory sequential mixed methods approach was employed alongside an embedded experiment. An explanatory sequential mixed methods design is a core mixed methods approach where the researcher begins with quantitative research, analyses the results, and then follows up with qualitative research to further explain and provide deeper insight into the initial findings (Creswell and Plano Clark, 2018). The intervention was embedded within the mixed-methods framework, meaning that the PD workshops and the associated

outcomes were central to the study, with both quantitative and qualitative methods used to examine its effects (ibid, 2018).

Phase 1 began with an intervention employing a quasi-experimental, within-subject pretest-post-test design. A quasi-experimental design is a research approach that seeks to assess causal relationships between variables but differs from true experimental designs as it does not involve the random assignment of participants to experimental and control groups (Katz-Buonincontro, 2024). In a within-subject pretest-post-test design, the same participants are tested at multiple points in time, typically before and after the intervention (Creswell and Creswell, 2023). In this design, participants serve as their own control, allowing for comparisons between each individual's performance or response before the intervention (the pre-test) and after the intervention (the post-test) (Edmonds and Kennedy; 2017).

For each of the nine BSC units, participants' performance accuracy was measured at baseline, which occurred directly after the instructional component of the workshops and again after they observed a video model and completed rehearsals with feedback. Rehearsals continued until participants reached pre-determined mastery criteria. In this study, the final rehearsal, where participants accurately performed the skill sequence, served as the post-test measure. Following the intervention, participants completed a Likert-scale survey to assess their acceptance of the mechanism used in the PD workshops. Six weeks after the intervention, in Phase 2, additional quantitative data were collected by reviewing teachers' planning documents to assess the extent to which the skills mastered during the intervention were implemented in practice. In the final data collection stage of Phase 2, qualitative data was gathered through semi-structured interviews. This interview format was selected because it balances guided questions with flexibility, allowing for in-depth exploration of participants' experiences (Cohen, Mannion, and Morrison, 2018). The teacher planning review data was used to identify which participants to interview, focusing on teachers and SNAs from the classrooms that had implemented the BSC and the associated skills the most and least. This approach ensured the study captured a broad range of experiences and helped identify the barriers and facilitators that influenced curriculum implementation.

The design is considered complex due to its multiple layers of data collection across different time points, the integration of diverse methods (Quasi-experiment, post-intervention survey, planning document review, and interviews), and the combination and integration of both quantitative and qualitative data (Creswell and Plano Clark, 2023). Integration is a crucial aspect of all mixed methods research, as it involves the process of combining quantitative and qualitative data within a study. This integration enables the researcher to generate a more comprehensive understanding of the research findings (Creswell, 2022). Furthermore, combining findings from multiple data sources allowed for a deeper "mining" of the data, leading to the generation of meta-inferences obtained from the results (Tashakkori and Teddlie, 2010). By integrating methods in this way, this design facilitated a thorough and multifaceted exploration of the PD developed for this research. The study employed two successive phases, each of which encompassed two different data collection methods. These are listed below and displayed in Figure 5.

Phase 1:

1. Baseline and trials-to-criterion measures demonstrate skill change per participant for the nine skills introduced during the behaviour support workshops.
2. A post-intervention survey was conducted to determine the PD's acceptability as a form of PD.

Phase 2:

3. Review of teacher planning to determine the rate of curriculum implementation in each of the four classrooms.
4. Follow-up qualitative interviews with staff in the highest and lowest implementing classrooms.

PHASE

DATA COLLECTION METHODS

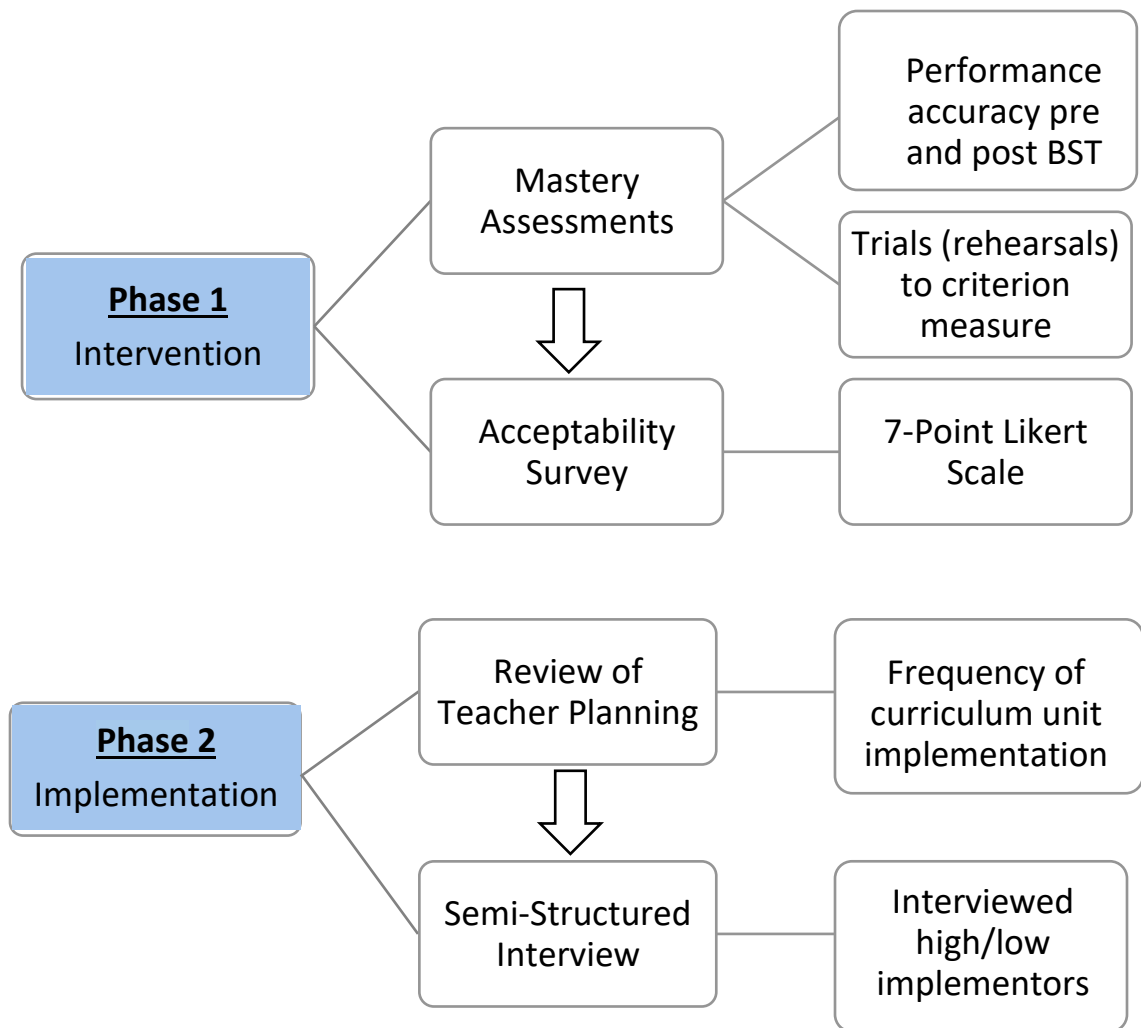


Figure 5: Diagram demonstrating the method and data collection procedures adopted during the research.

3.5.1 Rationale for Chosen Design

The decision to use mixed methods research (MMR) was influenced by several key factors, most notably the literature suggesting that this approach has strengths that offset the weaknesses inherent in quantitative and qualitative research (Creswell, 2018). MMR blends various data forms and integrates different paradigms, ontologies, epistemologies and axiologies. This integration is suggested to result in a more equitable and comprehensive understanding of the phenomenon under review (Cohen, Manion and Morrison, 2017). Employing a mixed-methods design was essential to address the study's research questions adequately. Quantitative methods were ideal for assessing skill development and the impact of the PD on practice. However, a qualitative investigation was necessary to understand participants' perceptions of this form of PD and what factors influenced implementation. With the intention of contributing to the body of PD literature, this study endeavoured to explore staff experiences concerning participation in PD, which incorporated BST. The primary objectives were to ascertain whether the PD impacted participants' classroom practices and to discern the barriers and facilitators that influenced the implementation process. The application of BST as a PD mechanism is unexplored within an Irish education research context. Where it has been employed to increase front-line staff skills in the Irish disability sector, a quantitative-only methodology was utilised (Gormley *et al.*, 2019). A mixed methods approach facilitated a preliminary quantitative assessment of skill acquisition and implementation, followed by an in-depth exploration of participants' lived experiences through qualitative interviews.

3.6 Triangulation

The theory that the credibility of an inquiry can be enhanced through the triangulation of methods and sources is strongly supported in the research (Cohen, Manion and Morrison, 2017; Lincoln and Guba, 1985). Denzin (2012) describes the convergence of independent assessments of the same objective through method triangulation as having a particular value when the topic is complex and requires further clarification. Whilst BST was a proven method in upskilling front-line staff working in adult disability services (Gormley *et al.*, 2019), it had yet to be evaluated in a study involving professionals from an Irish education context. Including a qualitative element was seen as crucial in determining the opinions and experiences of these professionals on this form of PD. Guided by the research questions, a complex mixed methods design was chosen, with quantitative and qualitative data collected independently, which produced triangulation of complementary data on the same subject. In

this study, research question 1 (RQ1), concerned with participants' skill attainment, was answered by collecting quantitative data on performance accuracy during the PD intervention, which used a quasi-experimental design. Research question 2 (RQ2) related to the acceptability of the behaviour support workshops as a form of PD; this was addressed through mixed methods using an acceptability survey post-intervention and later qualitatively during semi-structured interviews. A quantitative-based review of teacher planning was conducted to address research question 3 (RQ3), which focused on implementation levels across the school. Data from the PD workshops was integrated with the planning review data during the analysis to assess whether skill acquisition rates influenced the future implementation of the BSC. The final research question (RQ4) aimed to identify the factors influencing the implementation of the curriculum in classroom practice. To address this, data obtained in the review of teacher planning informed the selection of the participants who provided qualitative insights gathered during semi-structured interviews. Figure 6 shows the Complex Mixed Methods Design utilised in this research.

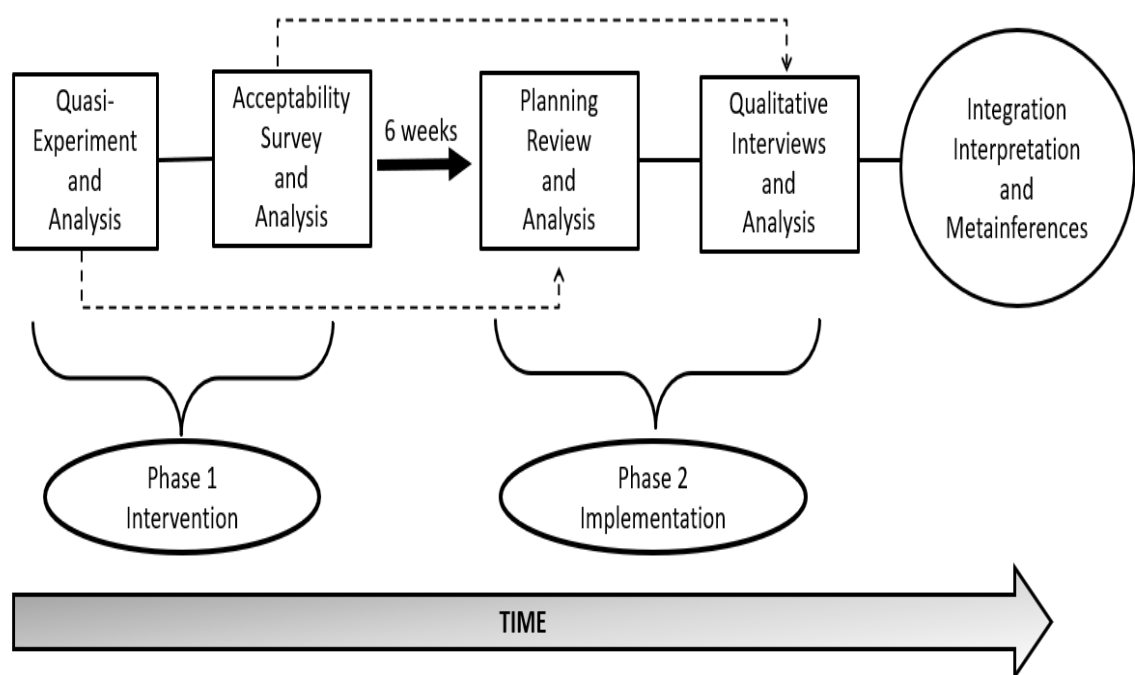


Figure 6: Complex Mixed Methods Research Design

3.7 Setting

This research was conducted at a single site. To recruit participants, the principal researcher approached the management of a newly established special school. At the time the research began, the school had been established six months and enrolling students for four months. The participating school provides an education exclusively to students with a dual diagnosis of ID in the moderate to severe range and autism. At the time of this study, the school had 17 students enrolled. Six of the students were aged between 8-11 years. The remaining eleven students were aged 12-15 years. Three of the 17 students enrolled were minimally speaking, and the remainder were non-speaking. Significantly, eight students (44%) had a gap of over a year or more in their schooling prior to joining this school. Their age, along with their complex profiles and inconsistent educational histories, meant that transitioning into the school was an ongoing process for many during the study. Written consent was obtained from the school management to recruit staff participants, a detail provided to DCU's Research Ethics Committee but excluded from this thesis to preserve confidentiality.

3.8 Recruitment

After the school agreed in principle to participate, they informed the researcher that they wished to incorporate the research into the school's PD programme. This required staff to attend one hour of PD each Monday after school. It was agreed that staff would participate in the six workshops (totalling nine hours), with the understanding that, in exchange for the additional time spent on this study, there would be a number of weeks following the research where they would not be required to attend PD sessions. Before the commencement of the intervention, the researcher sent a recruitment advertisement to school staff via email (forwarded from the school Principal) explaining that the research would be taking place during the PD (Appendix C). Staff were informed that, while everybody would receive PD as part of the school-mandated PD, no data would be collected from any individual who chose not to consent and that there would be no impact on any individual who did not participate in the research project. An overview of the BSC, which sought to further inform participants, was also included in the email. This can be viewed in Appendix D.

3.9 Participants

The study participants were the special education teachers (SET) (N=5) and SNAs (N=12) employed in the participating school who chose to participate in the research. Throughout this thesis, these are referred to as participants or staff. Table 3 lists the information gathered from the participants via a short biographical survey. Participant gender was collected during the study; however, it is not reported to safeguard participant identities. This precaution is taken due to the limited number of male participants, as disclosing this information could potentially reveal their identities. The biographical survey used to collect this information can be viewed in Appendix B.

Table 3: Participant biographical information

Participant Code	Age Range	Post	Duration employed in current school	Length of service in other special Class/school	Previous PBS training	Previous training using BST	Assigned Class
1	40-45	SNA	1 month	0	no	no	Green
2	30-35	SNA	6 months	0	no	no	Yellow
3	20-25	SNA	2 months	0	no	no	Blue
4	40-45	SNA	5 months	13 years	no	no	Red
5	30-35	Teacher	4 months	10 years	yes	no	Yellow
6	40-45	SNA	4 months	14 years	yes	no	Yellow
7	25-30	Teacher	2 months	6 months	no	no	Red
8	-	Teacher	2 months	1 year	no	no	Blue
9	60-65	SNA	4 months	30 years	yes	no	Red
10	35-40	SNA	6 months	0	no	no	Green
11	50-55	Teacher	4 months	25 years	yes	no	Green
12	45-50	Teacher	2 months	18 years	yes	yes	Individual
13	50-55	SNA	1 month	5 years	no	no	Yellow
14	35-40	SNA	1 month	0	no	no	Red
15	30-35	SNA	6 months	0	no	no	Green
16	30-35	SNA	2 months	8 years	yes	no	Blue
17	20-25	SNA	6 months	1 year	yes	no	Red

Table 4 lists the classroom name, age range, number of students enrolled, and the number of staff working in each class at the time of the research. Four classrooms were established to enrol six students per class, and a fifth classroom was opened to accommodate one student who required an individual education.

Table 4: Classroom Configurations

Class Name	Red Class	Yellow Class	Green Class	Blue Class	Individual Class
Designation	Junior (Ages 8-9)	Junior (Ages 9-12)	Senior (Ages 12-13)	Senior (Ages 14-16)	Senior (Age 15)
Number of students enrolled	4	4	5	3	1
Number of staff working in Class	5	4	4	3	2
Participating staff	5	4	4	3	1

3.10 Sampling

The study required access to participants who were working with a student population that could benefit from the skills and strategies outlined in the BSC developed for this research. The curriculum was designed for students with complex learning and behaviour profiles to alleviate behaviours of concern by teaching alternative skills. Recruiting participants in this manner is an example of a non-probability purposive sample “handpicked for the research” (Denscombe, 2003, p.15). It is acknowledged that a purposive sample does not give as much breadth to the study as probability sampling could (Cohen, Mannion and Morrison, 2018). However, it was of greater importance to access participants supporting students who could benefit from the strategies described in the BSC.

In studies investigating skill change through BST, single-case research designs have commonly been utilised, typically with sample sizes ranging from 3 to 7 participants (Kirkpatrick, Akers, and Rivera, 2019; Slane and Lieberman-Betz, 2021). This research was novel in that it intended to use a mixed-method approach to explore participants' perspectives on a PD package that integrated BST as a PD mechanism and their experience implementing newly acquired skills post-intervention. At the onset of the research, the school had been established for six months and was in a period of expansion and active staff recruitment. Although the school was authorised to eventually hire 45 staff members, only 18 were

employed at the time the research began. Of these, 17 staff members consented to participate in the study. The final sample size of N=17 is an example of convenience sampling as it was directly related to the staffing levels in the school (Cohen, 2018). Convenience sampling is a non-probability sampling technique where participants are selected based on their availability and proximity to the researcher (Robson, 2016).

3.11 Timeline of the Research

The research was conducted across two distinct phases. Once recruitment was finalised and consent obtained, Phase 1 began. This phase, which incorporated the behaviour support workshops, lasted six weeks and began directly after the February mid-term break. There were two months and six school weeks between the end of Phase 1 and the commencement of Phase 2. This was necessary to afford the school the necessary time to work on implementation. The first stage of Phase 2 involved a review of teacher plans. This facilitated the identification of the participants who used the BSC the most and least. Four weeks later, the researcher returned to the school to interview staff from the highest and lowest implementing classrooms. This timeline is displayed below in Figure 7.

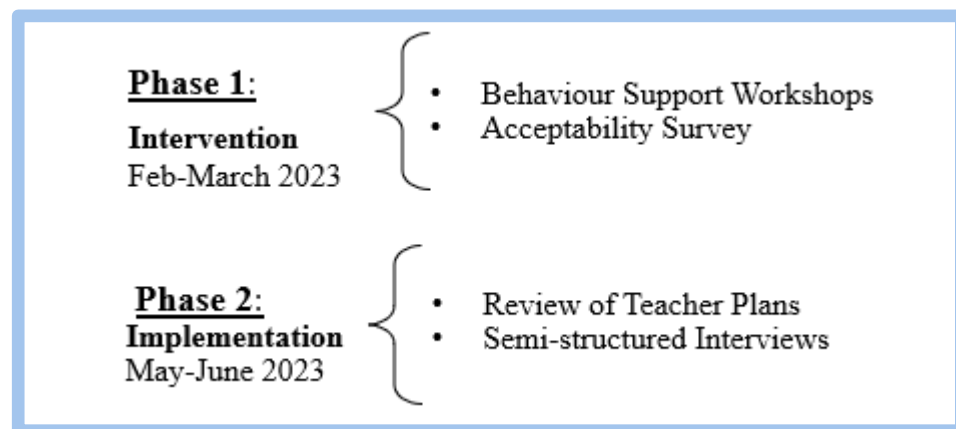


Figure 7: Diagram outlining the study timeline across two phases (Phase 1, Intervention and Phase 2, Implementation).

3.12 Phase 1: Materials

The following paragraphs detail the materials and resources developed for the intervention phase of the study. It begins with a comprehensive description of the nine BSC units. Following this, information is provided about the video models created to accompany the curriculum. Finally, the section outlines the physical resources used during the rehearsal component of the behaviour support workshops.

3.12.1 Behaviour Support Curriculum

The principal researcher designed the BSC specifically for use in this research. Each curriculum unit is an example of a PBS strategy with an evidence base for the student population enrolled in the participating school (NCSE, 2016; Hume *et al.*, 2021; Steinbrenner *et al.*, 2021). As previously discussed, PBS is a rights and values-led approach to behaviour support that aims to improve life quality by adapting environments and developing new skills (Gore *et al.*, 2022). The curriculum was designed to teach participants how to make environmental and antecedent adaptations or to teach and reinforce alternative skills to alleviate common behaviours of concern. It consists of nine units across three key skill areas: making choices, functional communication, and tolerance of uncertainty, which can be viewed in Figure 8. During the behaviour support workshops, the BSC was presented as a flexible suite of options from which participants could select units to support their students with specific behaviours of concern. The instruction component of the BST-based workshops (See Appendix G) introduced each BSC unit by describing what area of support it was most suited to and guided participants to use their own professional judgment when using the BSC with their students. It was not expected that every student would need every BSC unit. Instead, participants were encouraged to implement the goals that addressed the most pressing needs of their students.

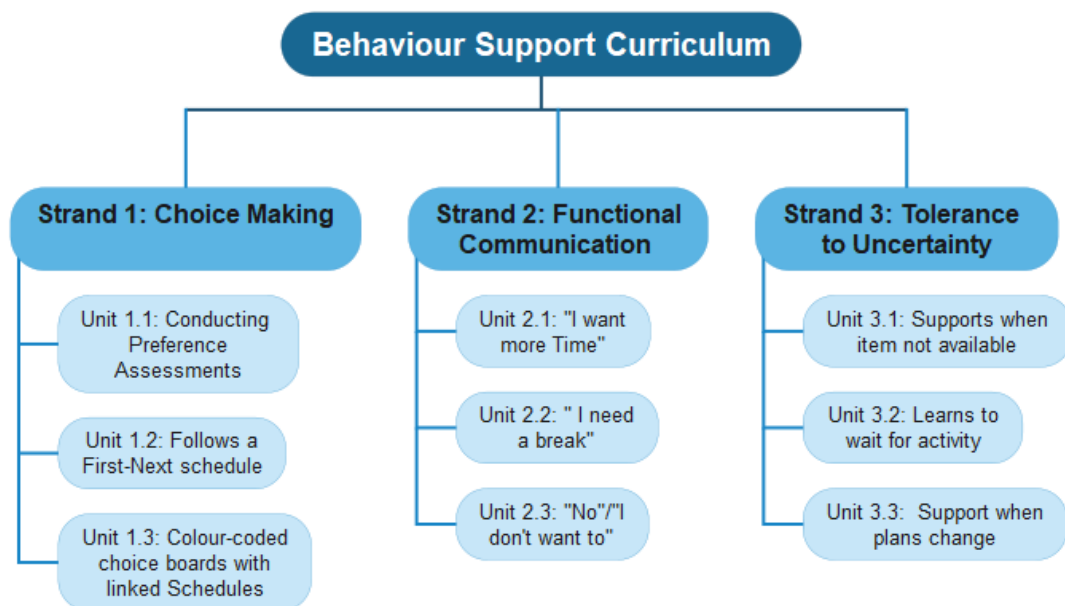


Figure 8: Strands and Units contained in the behaviour support curriculum (BSC) (Carolan, 2023).

The content of the curriculum combines multiple EBP that feature on both the NCSE and the National Clearinghouse on Autism Evidence and Practice (NCAEP) lists of evidence-based practices (EBP) recommended for Autistic students (NCSE, 2016; Hume *et al.*, 2021; Steinbrenner *et al.*, 2021). Each strand's focus area is also featured in the Autism Good Practice Guidance for Schools (DE, 2022). Table 5 will present a comprehensive list of the EBP for autism included in each BSC unit. These EBP were either incorporated explicitly through the composition of the materials, such as visual supports, or through the teaching instructions provided to participants within the PowerPoint presentations, Mastery Assessments (MAs) and video model instructions, such as prompting and reinforcement. A full index with definitions of these EBP for autism can be found in Appendix E.

Table 5: Evidence-based practice for autism incorporated into each BSC unit (NCSE, 2016; Steinbrenner *et al.*, 2021)

Strand/Unit	Evidence-Based Practice Incorporated into each Curriculum Unit (NCSE, 2016; Steinbrenner <i>et al.</i> , 2021).
Strand One: Choice	
Unit 1.1- Preference Assessment	Antecedent-based Intervention (ABI), Augmentative and Alternative Communication (AAC), Behaviour Momentum, Reinforcement, Visual Supports.
Unit 1.2- First-Next Schedule	Antecedent-based Intervention (ABI), Augmentative and Alternative Communication (AAC), Behaviour Momentum, Reinforcement, Visual Supports.
Unit 1.3- Colour-coded choice boards and rolling schedule	Antecedent-based Intervention (ABI), Augmentative and Alternative Communication (AAC), Behaviour Momentum, Reinforcement, Visual Supports.
Strand Two: Functional Communication Training	
Unit 2.1- ‘More Time’	Augmentative and Alternative Communication (AAC), Functional Communication Training (FCT), Prompting, Reinforcement, Visual Supports.
Unit 2.2- ‘Break’	Augmentative and Alternative Communication (AAC), Functional Communication Training (FCT), Prompting, Reinforcement, Visual Supports.
Unit 2.3- ‘No’/‘I don’t want to’	Augmentative and Alternative Communication (AAC), Functional Communication Training (FCT), Prompting, Reinforcement, Visual Supports.
Strand Three: Tolerance of Uncertainty	
Unit 3.1- Support when items not available	Antecedent-based Intervention (ABI), Augmentative and Alternative Communication (AAC), Prompting, Visual Supports.
Unit 3.2- Learning to wait	Antecedent-based Intervention (ABI), Augmentative and Alternative Communication (AAC), Prompting, Visual Supports.
Unit 3.3- Support when plans change	Antecedent-based Intervention (ABI), Augmentative and Alternative Communication (AAC), Prompting, Visual Supports.

3.12.1.1 Strand 1: Choice and Visual Supports

Students with developmental disabilities often experience a reduced level of independence in their daily lives, and those with the most complex needs are often given very limited opportunities to make even the most basic choices (Canella, O'Reilly and Lancioni, 2005). Embedding choice into every part of an Autistic student's day is a powerful antecedent strategy to alleviate common behaviours of concern (Middletown, 2014). To ensure a young person has increased autonomy and choice over their day-to-day life, the activities and resources available to them in their educational environment must be meaningful and preferred. Pairing choice opportunities with visuals supports Autistic students in visualising the choice-making process (DE, 2022). The three units featured in strand 1 are detailed in the following paragraphs.

Unit 1.1: Preference Assessment

This unit introduced participants to a strategy known as a *multiple stimulus without replacement* (MSWR) preference assessment. A preference assessment is a procedure where items of interest are presented to the student, and a hierarchy of preference is determined by recording the order in which the student chooses the items or the duration of time a student interacts with the items (DeLeon and Iwata, 1996). In this assessment, the supportive adult assembles an array of four items suspected to be motivating for the student and invites them to choose one (Prudente and Demchak, 2022). After the student has interacted with the item for a time, they are asked to return it to the supportive adult. In the video model created for this research, the supportive adult presented an empty box with the visual symbol 'finished' attached, and the student returned the item to this box. They then presented the remaining three items and repeated the sequence until the student had chosen each item and demonstrated a preference hierarchy. The supportive adult records the order in which the student chooses items on the corresponding data sheet. This can be viewed in Appendix F.

Unit 1.2: First-Next Visual Schedule

Providing students with communication and receptive processing delays with visual information about upcoming routine transitions is a powerful environmental adaptation that can be easily implemented (NCSE, 2016). Many Autistic individuals are visual learners, making visual support an effective support strategy from early childhood through to

adulthood (Hume, 2013). Visual supports can be utilised to convey information, facilitate decision-making, and explicitly teach activities, routines and expectations (DE, 2022). These supports may include photographs, icons, drawings, written words or objects. In this unit, participants learned how to pair a first-next schedule with a choice board that visually displays known student preferences (identified during preference assessments). Participants also learned how to incorporate a whole-day drop-down schedule into this routine with their students.

Unit 1.3: Colour-Coded Choice Boards

In this unit, participants learned how to combine several evidence-based practices for autism into one choice-based strategy (NCSE, 2016; Steinbrenner *et al.*, 2021). The strategy involves visually organising the students' choices on three distinct choice boards. The choice board background colour coordinates with the columns on the corresponding First-Next-Then schedule. Choice board one displays pictures of the student's 'work,' visual representations of tasks from their individual education plan (IEP). Choice board two includes pictures of classroom-based activities, e.g., toys, sensory items, books, etc. Choice board three visually displays the various locations and gross motor activities the student visits as part of their required movement breaks from their classroom. Participants learned how to use this First-Next-Then schedule in a rolling fashion throughout the student's day, ensuring maximum choice, predictability, reinforcement and movement are consistently provided to the student.

3.12.2.1 Strand 2: Functional Communication Training

Functional communication training (FCT) is an evidence-based procedure to substitute behaviours of concern with replacement communication skills (Tiger, Hanley and Bruzek, 2008; Andzik, Cannella-Malone and Sigafos, 2016). Guldberg *et al.* (2019) state that the development of functional communication is fundamental to meeting the educational needs of Autistic students. FCT is a procedure that outlines how to identify, prompt, and reinforce communication targets that are replacements for behaviours of concern. For example, if the function of a student's behaviour of concern is to 'escape' or avoid teaching demands, teaching the student to request a 'break' from or 'help' with their work is essential. The process involves identifying communication targets and arranging the environment to maximise the opportunities for the student to practice the skill. The educator should contrive multiple, repeated opportunities daily, prompt and reinforce the student for their efforts until

the new communication skill is mastered (Davis *et al.*, 2023). The units in this strand introduced participants to the key thinking around FCT. Participants learned how to plan for and arrange the environment to enable multiple learning opportunities, where the student's functional communication efforts should initially be reinforced every time. Participants learned that they should ensure that communication skill is mastered and a reduction in the behaviour of concern observed before telling a student 'no' or 'later'. Strand 3, Tolerance of Uncertainty, advises participants on strategies that can support students in understanding when their functional communication requests cannot be immediately reinforced.

Unit 2.1: Negotiating for 'More Time'

In this unit, participants learned how providing students with the opportunity to negotiate was a powerful strategy to reduce behaviours of concern that can occur when preferred activities finish. A visual communication strip displaying three 'more time' tokens is presented to a student when their preferred activity has ended. The supportive adult will honour any request from the student for 'more time,' start a timer for an additional minute or two (flexible and dependent on the student and the context) and repeat this sequence twice more. Before accepting the request for the last 'more time' token, the supportive adult supports the student in understanding that this is their last opportunity to ask for more time. On the sounding of the timer, which indicates that the time has ended, supportive adults were shown how to support the student with the next transition by displaying the empty 'more time' strip and the student's First-Next Schedule, which visually displays the location they will be transitioning to.

Unit 2.2: Requesting a 'Break'

In this unit, participants learned how to decrease behaviours of concern that occur when a student is trying to communicate that they need a break from a demanding task, noisy environment, etc. Participants were shown how to initially contrive 'low stakes' scenarios where they could prompt the student to exchange a visual symbol for 'break.' In doing so, they provide their student with an opportunity to learn a new skill during a situation unlikely to cause stress. These prompts are then systematically faded until the supportive adult can be sure that the student is competent in recognising and exchanging the symbol. To provide a total communication approach to this learning, participants were taught the Lámh sign for 'break' and encouraged to use this receptively with their students when accepting and honouring their requests for a break. Lámh is a manual sign system used by children and

adults with ID and communication differences in Ireland. It is designed to support communication by using hand signs along with speech (Byrne, Pyne and Sheehan, 2019). Lámh signs are derived from Irish Sign Language (ISL) but are modified to make them easier to learn and use (Frizelle and Lyons, 2022).

Unit 2.3: Asserting ‘No’/ ‘I do not want to’

Teaching students how to effectively communicate refusal, particularly in opting out of activities, is a vital self-advocacy skill (Schmidt, Faieta and Tanner, 2019). Learning to say 'no' is crucial for young people to develop self-determination and express their preferences. In this unit, participants learned that saying 'no' is an essential functional communication skill that can reduce behaviours of concern in the classroom. They were taught to offer choices or create situations where students were presented with a neutral item that was not interesting or motivating for their students. The student is then prompted to use a visual 'no' symbol to communicate their refusal, which the educator accepts, acknowledging the refusal and promptly removing the item. Participants learned that once students reliably communicated 'no' in these scenarios, the symbol could then be introduced during more challenging tasks. Educators learned to introduce difficult tasks, prompting students to use the 'no' symbol, accept it, and withdraw the task. While the supportive adult's prompt is gradually reduced, the 'no' symbol remains accessible in the instruction area or within the student's communication system, enabling them to assert their will and preference as needed.

3.12.3.1 Strand 3: Tolerance of Uncertainty

It is estimated that around 50% of Autistic children experience significant co-occurring anxiety (Simonoff *et al.*, 2008). Research indicates that intolerance of uncertainty (IU) is an important aspect of the anxiety experienced by this population (Rodgers *et al.*, 2017). IU involves a tendency to react negatively on an emotional and behavioural level to uncertain situations and events (DE, 2022). The Autistic community has identified IU as a significant source of difficulty and distress, marking it as a priority area for intervention (Leadbitter *et al.*, 2021). The three units in this strand are all teaching strategies that can alleviate behaviours of concern linked to anxiety caused by IU.

Unit 3.1: Support when Items or Activities are ‘Not Available’

This unit of the BSC teaches participants how to systematically prepare students to tolerate when requested items or activities are not currently available. Participants were shown how to initially contrive ‘low stakes’ scenarios where less preferred activities were unavailable. In each teaching scenario, participants would combine the ‘not available’ visual support with a choice board of visuals depicting other preferred activities. They learned how to support the student in choosing an alternative location or activity to the one currently unavailable. Participants were then shown how to introduce the visual symbol into real-life scenarios where more preferred activities, items or locations were unavailable, once again combining this visual with the opportunity to make an alternative choice.

Unit 3.2: Learns to Wait

In this unit, as in others within the strand, participants were taught to introduce the strategy to students in contrived scenarios unlikely to cause stress or anxiety. The process involved planning a transition to a familiar place and informing the student at the last moment that they must wait briefly. A visual ‘wait’ symbol is placed in the ‘First’ column of the visual schedule, and a timer is set for a brief period. This instruction is accompanied by the Lámh sign for ‘wait’ to enhance students’ understanding. Participants learned to provide a fidget kit to the waiting students, allowing them to engage in a preferred activity during their wait. After the wait, students are informed that the waiting period is over, and they proceed to the previously planned location. This unit emphasised the importance of transitioning students from these contrived scenarios to real-life situations only after repeated exposure to the teaching scenarios and accompanying visual resources.

Unit 3.3: Support when Plans Change

Participants learned how to systematically prepare their students for ‘surprise’ situations with new and novel activities or unexpected changes to daily routines. Building this kind of flexibility into student routines is recognised as a way to teach flexibility and tolerance of uncertainty (DE, 2022). Participants learned to introduce the ‘surprise change’ symbol in three distinct teaching phases:

1. A preferred schedule change. Swap a work session for a nature walk.
2. An indifferent change. Swap a 1:1 teaching session for an independent work task.
3. A non-preferred change. Swap a free-play session for a classroom chore.

As with the other units in this strand, participants learned the importance of gradual exposure to the teaching materials that aim to support intolerance of uncertainty. They learned that these strategies should be used in real-life scenarios only when their students have had this exposure in a sustained and systematic way.

3.12.2 Video Models Used in Behaviour Support Workshops

Each unit of the curriculum had a corresponding video that featured a competent performer of the skill working with a student in a real-life teaching scenario. These videos were captured in the principal researcher's place of work. Each student featured in the videos was known to the researcher and was chosen because they had previously mastered the skill and would not be challenged by the teaching scenario played out for the recording camera. Informed consent was sought from the parents of each student. A copy of this consent form can be seen in Appendix J. Once the videos had been captured, they were edited to include textual instructions that tallied with the teaching sequence outlined in the corresponding mastery assessments.

3.12.3 Behaviour Support Workshop Resources

A resource pack of materials was created to accompany the rehearsal component of the workshops. The principal researcher created one pack for every two participants. These packs included data sheets for recording raw data, small manipulative items to use as sample toy items during the preference assessment unit and various colour-printed and laminated visual supports with Velcro attached to the rear. Table 6 lists the materials required for each curriculum unit. Photographs of the materials can be found in Appendix L.

Table 6: Physical materials provided to participants during behaviour support workshops

Strand/Unit	Materials Needed
Strand One: Choice	
Unit 1.1- Preference Assessment	Four 3d items to act as reinforcers, raw data sheet, finished basket.
Unit 1.2- First-Next Schedule	Drop-down schedule, choice board, First-Next schedule.
Unit 1.3- Colour-coded choice boards	3 X Choice boards (Work, Preferred Activities, Movement). Colour-coordinated First-Next-Then choice board.
Strand Two: Functional Communication Training	
Unit 2.1- ‘More Time’	Auditory timer, More time x3 on Velcro strip, First-Next schedule
Unit 2.2- ‘Break’	FCT visual choice board with ‘break’ visual displayed. (Lámh explainer sheet)
Unit 2.3- ‘No’/‘I don’t want to’	FCT visual choice board with ‘No’ visual displayed. (Lámh explainer sheet)
Strand Three: Tolerance of Uncertainty	
Unit 3.1- Support when items not available	Choice Board, First-Next visual schedule, not available symbol (clear background).
Unit 3.2- Learning to wait	First-next schedule, ‘Wait’ symbol, timer, choice of waiting items, e.g., fidget toy. (Lámh explainer sheet)
Unit 3.3- Support when plans change	‘Surprise change’ symbol, Whole Day schedule.

3.13 Phase 1: Intervention Procedures

In the first phase of this study, a bespoke BSC was delivered during an intervention that adopted BST as a PD mechanism. The following passages describe the procedures leading up to and during the six BST-based workshops. The post-intervention acceptability survey will also be described.

3.13.1 Workshop Setting

The PD took place in a vacant classroom in the participating school during six 90-minute workshops. The workshops were scheduled after school hours from 2:30 p.m. to 4:00 p.m.

on six consecutive Mondays. School management required all staff to attend the workshops as part of their mandatory PD. Only those who consented to participate in the research had data collected on their performance during the PD.

3.13.2 Schedule of Behaviour Support Workshops

Two curriculum units were usually covered during each workshop, separated by a brief 5-minute movement break. Week one included an introductory PowerPoint detailing the workshop plan, while the sixth week focused on reviewing past content and discussing the recommended next steps for successful implementation. The order in which the curriculum units were introduced is detailed below in Table 7. This table also includes a record of participants who were absent from work on the date a workshop took place. In Week 1, participants 15 and 17 were absent from work, and participants 13, 14, and 16 were completing their induction training at another special school and had not yet transferred to the research site. This accounts for the high rate of absenteeism on that date.

Table 7: Order curriculum units introduced during training workshops

Week 1 Feb 20th	Week 2 Feb 27th	Week 3 Mar 6th	Week 4 Mar 13th	Week 5 Mar 20th	Week 6 Mar 27th
Introduction	Unit 2.1 'More Time'	Unit 1.2 First Next schedule	Unit 3.2 Wait	Unit 2.3 'No'/I do not want to.'	Round up and Recap
Unit 1.1 Preference Assessment	Unit 3.1 Not Available	Unit 2.2 'break'	Unit 1.3 Colour-coded choice	Unit 3.3 Support when Plans change	Implementation advice and discussion
Absent Participants					
13-17	3,7	1	4	9,11	All Present

3.13.3 Co-Facilitators and Independent Observer

Three co-facilitators and one independent observer were present in each of the six workshops. Their responsibilities included providing individual feedback during the rehearsal and feedback phases and collecting data on each participant's performance accuracy. The three co-facilitators were two teachers and one SNA who also held a Master of Science (MSc) in ABA and were Board-Certified Behaviour Analysts (BCBAs). All three worked full-time in a special school with a student profile similar to that of the participating school. The independent observer was a participant Behaviour Analyst with an MSc in

Applied Behaviour Analysis who worked full-time as an SNA in the same school. Their responsibilities were to shadow the facilitators during the data collection phases of the workshops and co-score what they were observing for analysis later. The observer collected Interobserver Agreement (IOA) data for 28% of all rehearsals.

3.13.4 Co-Facilitator Practice Sessions

The behaviour support workshops took place every Monday over a six-week period. On each preceding Thursday, the principal researcher, three co-facilitators and the independent observer met for practice sessions, which lasted about 30 minutes. These sessions were hosted at the principal researcher's workplace, where the co-facilitators and the observer were also based. In these meetings, the principal researcher introduced the content for the upcoming workshop, demonstrated the video models, and handed out the Mastery Assessment (MA) sheets for tracking skill acquisition. Additionally, the facilitators practised the skills among themselves, utilising the resources provided for each BSC unit.

They were also briefed on how to provide individualised supportive and corrective feedback. Supportive feedback clearly communicates what the participant executed correctly, whereas corrective feedback identifies errors in skill performance (Parsons and Reid, 1995). Facilitators were instructed to provide detailed instructions and additional modelling for any inaccurately performed aspects of the target skill. They were also advised to provide feedback only after a rehearsal was complete, avoiding interruptions during the skill rehearsal (Parsons, Rollyson and Reid, 2012). Additionally, the co-facilitators had viewer access to a Google Drive containing all workshop resources and were encouraged to reference these resources for the duration of the intervention.

3.13.5 Format of Behaviour Support Workshops (Week 1-5)

1. Each workshop began with a PowerPoint presentation delivered by the principal researcher. This presentation introduced and described the skill, the behaviour of concern it could help support, when and how to implement it, the materials needed and advice on how to include it in teacher planning. At the introduction to each BSC unit, the participants were reminded that the BSC was a flexible suite of support options and to use their professional judgement when implementing in practice, choosing the goals that addressed the most pressing needs of their students. Appendix G contains slides for unit 2.1 (FCT- Requesting 'more time'). The PowerPoint presentations used for all nine BSC Units are available by request.

2. After the instruction component ended, participants moved into small groups of four. Where possible, they sat with colleagues from their classroom teams. There were some weeks when absenteeism led to minor changes in these arrangements.
3. Participant skills were assessed using a mastery assessment (MA) created to accompany each unit of the BSC. Each MA lists the steps participants must perform to be competent skill performers. A more detailed description of the MA will follow in section 3.14.1 (data collection procedures). Appendix H features each of the nine MAs used during the six workshops.
4. Directly after the PowerPoint instruction, participants were given materials which were relevant to the current BSC unit and asked to demonstrate the skill to the best of their abilities. A baseline recording of each participant's performance accuracy of skill execution, as outlined in the MA, was collected. The principal researcher and three assistants collected the data during baseline and all subsequent rehearsals of the skill. There was one facilitator for every four participants present.
5. Participants then watched a short video model with embedded text instructions. These videos corresponded with each curriculum unit and featured a competent performer demonstrating the skill in real-life teaching scenarios. The video model related to unit 2.1 can be viewed by scanning the QR code found in Appendix I. For ethical reasons, this video link will be removed before this thesis is publicly available on DCU's access research repository, DORAS.
6. Participants then worked in pairs, with one participant acting as the supportive adult and one as the student.
7. The results were verified by an independent observer who was present for the entire PD. The observer collected Interobserver Agreement (IOA) by co-observing participants during rehearsals. This was gathered for 28% of all rehearsals.
8. Participants received corrective and supportive feedback After completing the first run-through of the skill (baseline performance). This could include additional in-situ modelling provided by the facilitators where necessary.
9. Rehearsals with feedback continued until a mastery criteria of 90% correct independent responses was reached across two consecutive rehearsals of the skill or 100% once. These criteria for mastery were chosen as they reflect the scoring criteria most often used in the BST-based PD (Briggs, Zohr and Harvey, 2023).
10. After a participant in the supportive adult role met the mastery criteria specified in the MA, they switched roles with their partner to become students. This arrangement was counterbalanced to ensure that participants who initially assumed the student role for a particular curriculum unit adopted the supportive adult role first for the subsequent unit. Table 8 details the format of the behaviour support workshops.

Table 8: Summary of workshop format

Instruction	Baseline	Modelling	Rehearsal with Feedback
The skill and rationale for use were introduced via PowerPoint presentation.	Materials relevant to the skill were handed out. Participants were asked to perform the skill as described during the instruction.	Participants watched a video model of the correct implementation of the skill (real-life teaching scenarios).	Participants worked in pairs and rehearsed skills using accompanying teaching resources until mastery criteria were reached. Facilitators collected data and gave supportive and corrective feedback and additional in-vivo modelling where necessary.

3.13.6 Format of Final Workshop (Week 6)

In the sixth and final week of the intervention, no new content was introduced. The principal researcher dedicated this workshop to reviewing previously covered material and allocated one session exclusively to discussing implementation. The slides from this session are available in Appendix J. Additionally, handouts providing detailed guidance on implementing the different curriculum strands and units were distributed to each participant. They included planning references, which were taken from the Primary Language Curriculum (DES, 2019). These handouts can be viewed below in Figures 9, 10 and 11. The emphasis on implementation in week six was incorporated to encourage participants to execute their own professional judgement when choosing which BSC units to incorporate into their student's individual education plans.

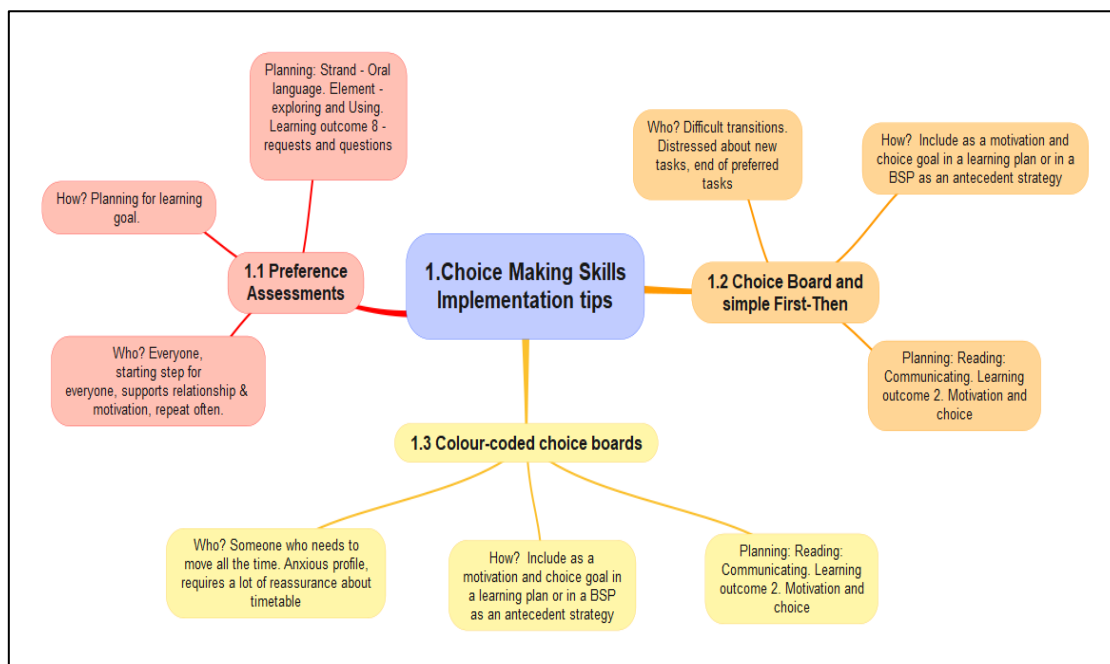


Figure 9: Handout given to participants with implementation tips for Strand 1: Choice

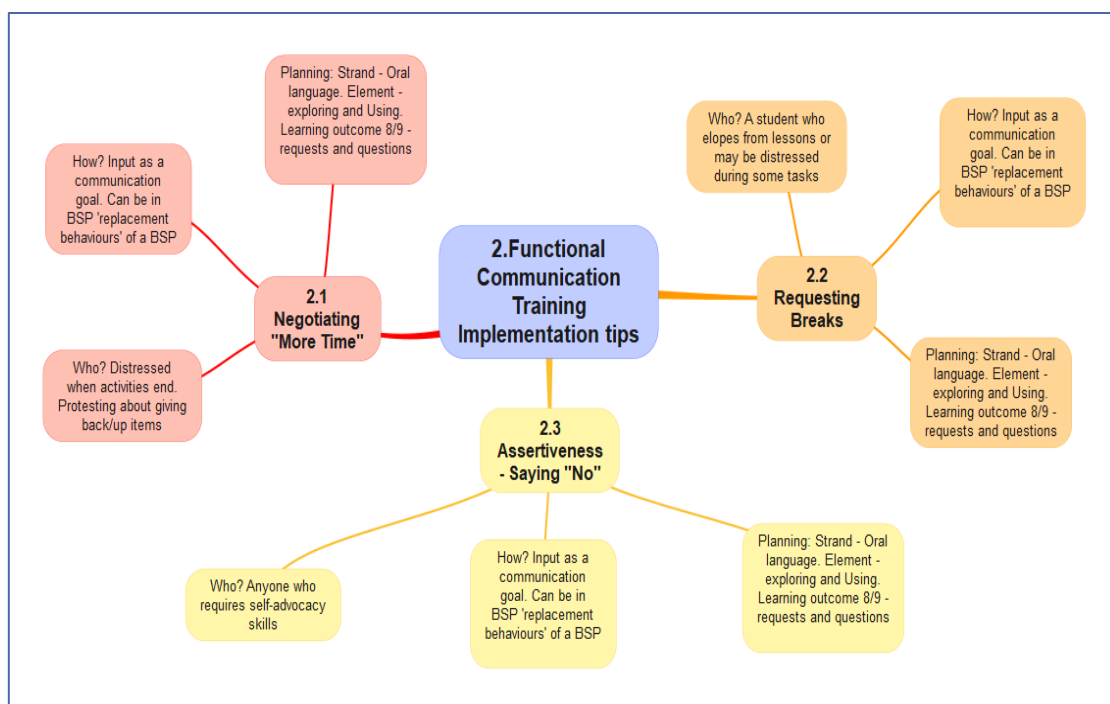


Figure 10: Handout given to participants with implementation tips for Strand 2: FCT

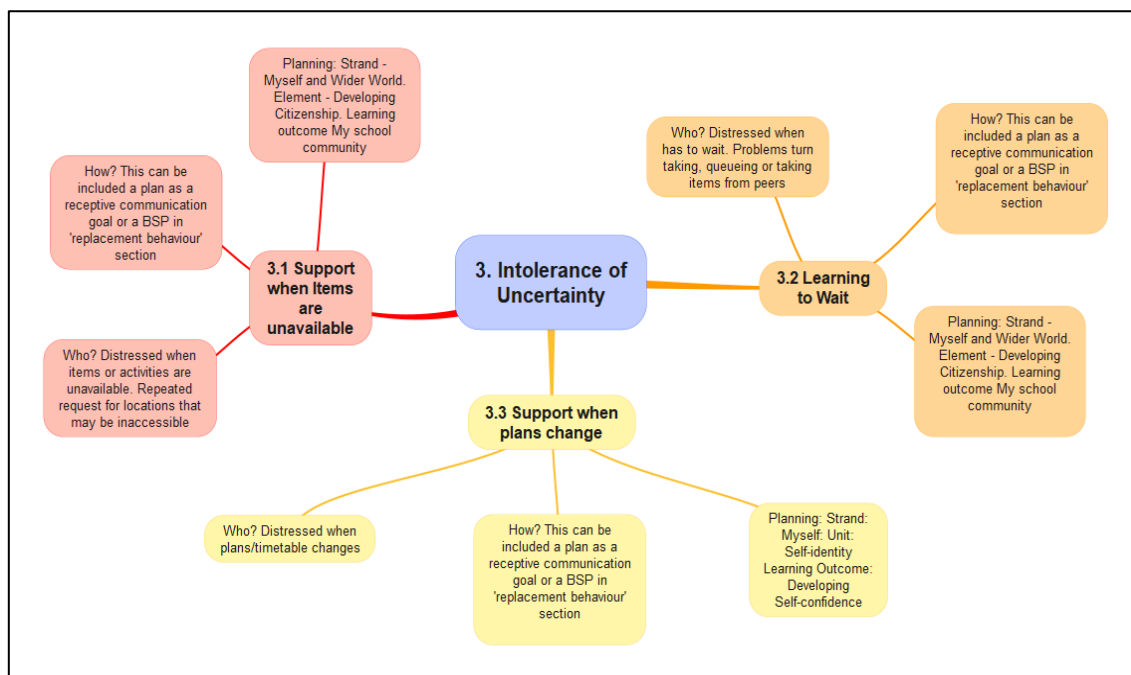


Figure 11: Handout given to participants with implementation tips for Strand 3: Tolerance

3.14 Phase 1: Data Collection Tools

Two data collection instruments were employed during the intervention phase (Phase 1) of this study. Performance accuracy during the behaviour support workshops was recorded using Mastery Assessment (MA) data sheets. Immediately after the final workshop, participants completed a post-intervention acceptability survey. Figure 12 illustrates the data collection sequence employed during phase 1.

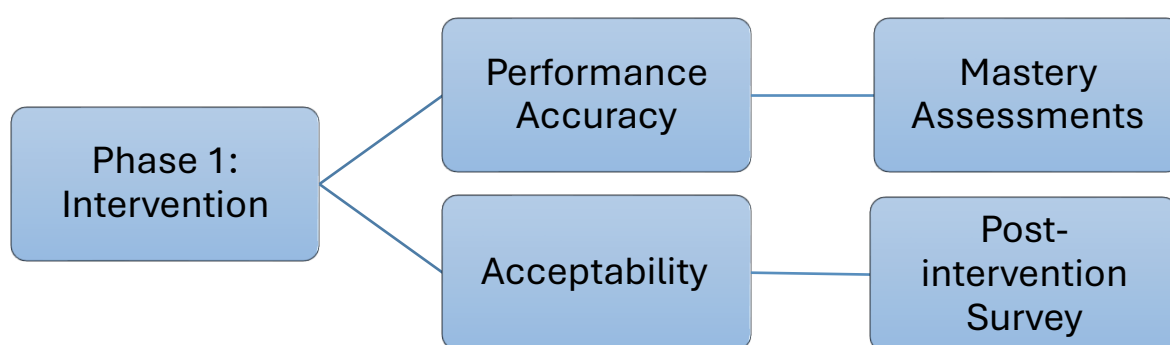


Figure 12: Data collection tools in Phase 1

3.14.1 Mastery Assessments

During the intervention, participant performance accuracy was assessed at baseline, directly after the PowerPoint instruction component and before viewing the video model. Subsequent accuracy assessments occurred during the rehearsal and feedback stages of the workshops,

overseen by assistants. Mastery assessments (MA) tailored to accompany each BSC unit were utilised for these evaluations. The MA succinctly and systematically describes the skills related to each BSC unit. These types of data collection systems have been used in previous research where front-line staff skills were measured during a BST-based intervention (Gormley *et al.*, 2019). Each MA listed the steps that attendees must perform to be competent in performing each skill. The total number of steps contained in each BSC unit can be viewed below in Table 9

Table 9: Total number of steps in each BSC unit

Strand One: Choice				Strand Two: FCT			Strand Three: Tolerance		
BSC Unit	Pref Ass.	First-Next	Rolling Sch.	More Time	Break	"No"	Not Available	Wait	Change
Steps in Unit	16	7	8	9	9	12	5	11	12

Some of the MAs listed a complete run-through of the skill, whilst others were broken into two or three phases, indicating a BSC, which included a teaching plan that directed participants in exactly how to teach the unit in a phased manner in the classroom. The MA for Unit 2.1 (FCT: ‘More Time’), which is a full-skill run-through example, can be viewed in Figure 13. Figure 14 displays the MA for Unit 3.1 (Tolerance of Uncertainty: Items Not Available), which included a teaching plan. The complete collection of MAs designed for this research can be viewed in Appendix H.

Participant Code: _____

Mastery Assessment for Unit 2.1 (Functional Communication) 'More Time'

Replacement 'negotiation' communication for students where termination of preferred activities is causing behaviours of concern.

Each participant will perform one rehearsal of the skill before watching a video & rehearsing with feedback.

Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
1. Provides visual information on upcoming transition using 'First-Next' visual board. "Time for classroom, or would you like more time?" *						
2. Presents strip with 3 x more time visual cards displayed - <i>student exchanges 'more time card'</i>						
3. Accepts more time card and sets auditory timer for agreed period (1 minute) and verbalises this agreement. "ok sure, you can have more time"						
4. At sound of timer, Presents strip with 2 x more time cards displayed and offer more time - <i>student exchanges 'more time card'</i>						
5. Accepts more time card and sets auditory timer for agreed period (1 minute) and verbalises this agreement. "more time, no problem"						
6. At sound of timer, Presents strip with 1 x more time card displayed and offer more time - <i>student exchanges 'more time card'</i>						
7. Accepts more time card and reminds student that this is the last 'more time' available. "Ok, this is our last one" Restarts timer for 1 minute						
8. At sound of timer. Supports student to know that there is no more time and the activity is finished. Present them with the empty more time strip to aid this understanding.						
9. Presents 'First-Next' visual schedule to support student in knowing what is the next activity or transition in timetable. "Time to go to the classroom"						
Total number of Yes	/9	/9	/9	/9	/9	/9
% Score						

Mastery Criteria: 90% + implementation across 2 consecutive observations or 100% once

* verbal interactions do not need to be verbatim to score correctly - an approximation of the verbal interactions that have similar meaning can be marked correct.

Fraction	Percentage	Fraction	Percentage	Fraction	Percentage
1/9	11%	4/9	44%	7/9	77%
2/9	22%	5/9	55%	8/9	88%
3/9	33%	6/9	66%	9/9	100%

Figure 13: Sample full skill run through mastery assessment form, adapted from Gormley et al. (2019).

Participant Code: _____

Mastery Assessment for Unit 3.1. Tolerance skills: Not available

Each participant will perform one rehearsal of the skill before watching a video & rehearsing with feedback

Tolerance and receptive communication skills to support students to cope when items or activities are not available.

Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
<i>Phase one (Teaching stage)</i>						
1. Assemble a First-Then schedule which communicates a transition to complete a task (neutral location) with your student e.g. 'First Kitchen (collect cutlery)- Then classroom' (lunchtime).						
2. Transition to location, on arrival say, 'Oh it's busy there, we'll have to come back*' and place the <i>not available</i> symbol over the kitchen picture and return to the classroom This <i>should be practised multiple times, and you should return to the location as planned when it is available.</i>						
<i>Phase two (Using in practice)</i>						
3. Present your student with their choice board. And ask them 'What do you want to do?' <i>prompting your student to make a choice</i>						
4. If it isn't currently available "Sorry, that isn't available right now, we can do that later" and place the 'not available' symbol over it.						
5. Offer them their choice board again and invite them to choose their second choice. "we can choose something different this time?"						
Total number of Yes	/5	/5	/5	/5	/5	/5
% Score						

Mastery Criteria: 90% + implementation across two consecutive observations or 100% once. Spoken instructions do not need to be verbatim for the step to be marked correct.

* verbal interactions do not need to be verbatim to score correctly - an approximation of the verbal interactions that mean the same thing are acceptable and should be marked correct

Fraction	Percentage	Fraction	Percentage
1/5	20%	4/5	80%
2/5	40%	5/5	100%
3/5	60%		

Figure 14: Sample mastery assessment form, which includes teaching phases. Adapted from Gormley et al. (2019)

3.14.1.1 IOA during Intervention

An independent observer was present for each workshop and was responsible for collecting Independent Observer Agreement (IOA) data. IOA measures the extent to which two or more independent observers concur in their reported observations when measuring the same events (Cooper, 2020). IOA data was collected during 28% of all rehearsals. During the behaviour support workshops, the independent observer shadowed each of the four facilitators at different points throughout the rehearsal with feedback stages of the PD. They co-recorded the participants' performance, rehearsing the skills, and recorded their findings on the MA. These results were then compared during the data analysis and can be viewed in Section 4.2.4.

3.14.2 Post-Intervention Acceptability Survey

After the intervention, all participants were asked to anonymously evaluate the PD using a post-intervention acceptability survey (Appendix M). This survey has been used in similar research where BST was used to disseminate evidence-based practices to front-line education staff (Parsons, Rollyson and Reid, 2012). The acceptability of the behaviour support workshops as a form of PD was the focus of this short survey, which used a 7-point Likert scale response option, with “4” representing the neutral point on the scale. The questions sought the opinions of participants on how enjoyable the PD was (1 = extremely unenjoyable, 7 = extremely enjoyable), how suitable it was for learning skills relevant to their workplace (1 = extremely unsuitable, 7 = extremely suitable) and how practical it was in terms of the amount of work and time it took to participate (1 = extremely unpractical, 7 = extremely practical). A fourth question used a 'yes' or 'no' response option to ask participants if they would recommend the PD to others working in similar contexts. The fifth and sixth questions, integrated into the survey by the principal researcher, comprised 'yes/no' response inquiries. These questions aimed to elicit information regarding participants' previous PD experiences and whether they perceived the behaviour support workshops' content better aligned with their student's needs.

At the end of the sixth workshop, surveys were distributed to all participating staff. The surveys were completely anonymous and did not include participant codes. A sealed box with only a small slot for posting completed surveys was left in the room with participants. The researcher left the room for a period of time to allow the participants time to complete the surveys and post them anonymously.

3.15 Phase 1: Data Analysis

The subsequent paragraphs will detail the data analysis procedures utilised in the intervention phase of (Phase 1) of this study.

3.15.1 Skill Acquisition

Trials-to-criterion is a measure of the number of response opportunities needed to achieve a predefined performance standard (Cooper, 2020). Trials-to-criterion measurement was adopted throughout the behaviour support workshops to measure the number of rehearsals participants required to reach a predetermined level of proficiency in the execution of each skill in the BSC. A rehearsal was defined as an instance where a participant assumed the supportive adult role for one complete performance of the skill. The criteria for mastery was 90% performance accuracy or greater across two consecutive rehearsals of the skill. Once a participant reached these pre-determined mastery criteria, they were recorded as having mastered the skill.

Trials to criterion data were gathered using the MA data collection tools outlined in section 3.13.1. The researcher manually transferred the data from the MA data sheets into a digital Excel file. Table 10 shows an example of the Excel page used; this table shows the participant's performance in Unit 2.1 (FCT: 'More Time') of the BSC. The following results were recorded and calculated for each of the nine curriculum units.

1. Per participant performance accuracy at baseline and subsequent rehearsals. Once a participant scored over 90% twice or 100% once they reached the mastery criteria and ceased rehearsing that skill (marked with an asterisk in Table 10).
2. The number of participants who reached mastery criteria each rehearsal.
3. The total number of rehearsals required by the group to reach mastery.
4. Mean number of rehearsals needed by the group to reach criteria on this skill. This was calculated by dividing the group's total rehearsals by the number of participants present. This was ($44 \div 15 = 2.9$) in the example below.
5. Mean group baseline performance. This was calculated by summing the baseline performance scores of each participant and then dividing this total by the number of participants who completed each BSC unit. This was ($473\% \div 15 = 31.5\%$) in the example below.

Table 10: Excel page used to record participant results for Unit 2.1.* rehearsal where participant reached the master aim of 90% twice consecutively or 100% once.

Participant	Baseline Rehearsal	Rehearsal 1	Rehearsal 2	Rehearsal 3	Totals
1	0%	33%	100%*		
2	0%	88%	100%*		
3	ABSENT				
4	55%	77%	100%*		
5	22%	100%*			
6	0%	77%	100%*		
7	ABSENT				
8	33%	88%	100%*		
9	77%	88%	88%	100%*	
10	55%	66%	100%*		
11	55%	88%	100%*		
12	66%	100%			
13	44%	77%	88%	100%*	
14	11%	66%	100%*		
15	55%	100%			
16	0%	88%	100%*		
17	0%	22%	100%*		
Participants who reached mastery at each rehearsal	-	3	10	2	15
Number of rehearsals	-	15	12	2	29
Mean Number of rehearsals to reach mastery	1.9				
Mean Group Baseline	31.5%				

3.15.2 Acceptability Survey

The survey included three questions using a 7-point Likert scale and three questions with two response options, 'yes' or 'no'. At the end of Workshop six, participants completed the surveys anonymously using pen and paper, depositing them into a secure post box. After all surveys were collected, the researcher tallied the responses across the six survey questions and manually transferred the data from the paper surveys into a digital Excel file. The Excel page used can be viewed in Table 11.

Table 11: Recording system used to record participant responses to the acceptability survey (Parsons, Rollyson and Reid, 2012)

1. How enjoyable or unenjoyable was training?	1. Extremely unenjoyable	2. Very unenjoyable	3. Mostly unenjoyable	4. Neither enjoyable nor unenjoyable	5. Mostly enjoyable	6. Very enjoyable	7. Extremely enjoyable
2. How suitable or unsuitable was the training for learning information and skills relevant to your current workplace?	1. Extremely unsuitable	2. Very unsuitable	3. Mostly unsuitable	4. Neither suitable nor unsuitable	5. Mostly suitable	6. Very suitable	7. Extremely suitable
3. How practical or impractical was the training in terms of the amount of your time and effort to participate?	1. Extremely impractical	2. Very impractical	3. Mostly impractical	4. Neither practical nor impractical	5. Mostly practical	6. Very practical	7. Extremely practical
4. Would you recommend the training to others working in a similar school/class?	Yes	No					
5. Have you recently attended training with the NCSE?	Yes	No					
6. If Yes - was this training more aligned with the needs of your students?	Yes	No					

3.16 Phase 2: Implementation Procedures

The following passages describe the procedures utilised in Phase 2, which assessed the levels of BSC implementation post-intervention and what factors impacted implementation.

3.16.1 Review of Teacher Planning Procedure

Six weeks after the behaviour support workshops ended, the principal researcher returned to the participating school to review teacher planning documents in the participating school. This review was conducted to determine whether the intervention resulted in changes to classroom practice. After gaining parental consent (See Appendix N), the researcher spent a day on-site reviewing the educational planning documents of the 16 students for whom consent had been obtained. These documents were redacted; copies of the teachers 'fortnightly plans and a sample of one student's fortnightly plan can be viewed in Appendix O. The DE in Ireland requires teachers to produce short-term plans that record their preparation for teaching and learning (DE, 2023). In the participating school, class teachers are responsible for preparing an individualised fortnightly plan for each student in their class. This plan outlines all the goals currently in place to support student learning, and staff use it to record daily when a goal is targeted and how many times it was addressed. A sample fortnightly plan can be viewed in Figure 15. While these documents serve as planning tools and are not definitive evidence of implementation in practice, they are working documents where teachers record each instance a BSC unit was run with a student. However, these records do not provide information on whether the curriculum goals were implemented with fidelity or accuracy.

Individual Fortnightly Plan

Key: X - IEP TT - Teacher Table G - Group AD - Run all day C - Run in Community WS - Workstation JC - LILPs

Student:

Teacher:

Date:

Class:

Code for CM

N. Not Mastered

G. Gaining Mastery

M. Mastered

Language and Communication					Assessment												CM
Key	Strand	Learning Outcome	Objectives and Methodologies	Resources	M	T	W	T	F	M	T	W	T	F	Code		
AD	Reading	Motivation and choice	To support 'Joe' with transitions and encourage choice whilst incorporating movement needs	Colour-coded choice boards & linked schedules													
AD	Oral Language	Requests and Questions	To help Joe negotiate for more time at the end of activities	More time tokens, timer													
AD	Oral Language	Requests and Questions	To help Joe advocate his will and preferences	'No' Visual Support													

Figure 15: Sample 'Fortnightly Plan' used in research setting

3.16.2 Interview Procedures

The perceptions and experiences of the participants were captured in semi-structured interviews conducted by the principal researcher. It was hoped that these personal accounts would provide an authentic perspective on the subjective experience of participating in PD delivered using a BST mechanism and the subsequent application of mastered skills in practice (Lincoln and Guba, 1985). Aligned with the objectives of triangulation, it was hoped that the interviews would reveal any change in practice due to the PD and build upon and provide an overall interpretation of the study (Patton, 2015). As determined through the analysis of planning documents, participants in the highest and lowest implementing classrooms were invited to interviews. The decision to interview participants from classrooms who used the curriculum the most and least was taken to ensure the study could capture a broad range of experiences and to determine what barriers and facilitators influenced implementation. The original consent obtained at the outset of the study included this statement and response option: *“I agree to partake in an interview with the researcher in the second phase of the research. Yes / No”*. The researcher sought renewed agreement for interviews at the last behaviour support workshop to ensure ongoing consent. A brief biographical survey (seen in Appendix B) posed the question: "Would you be willing to be interviewed by the researcher to discuss your experiences of this training and the content covered (this would take place at your workplace at a time convenient to you)? Yes / No."

3.16.3 Interview Participants

Four participants were employed in the high-implementing Yellow Class, three of whom consented to interviews. All three participants working in the low-implementing Blue Class agreed to be interviewed. Consequently, the principal researcher individually interviewed the teacher and two SNAs from each classroom, resulting in a total of six participant (N=6) interviews. Information on the characteristics of participants who attended the interviews is provided in Table 12.

Table 12: Participant characteristics of interviewees

Code	Age Range	Post	Time in current setting	Length of service in other special Class/school	Previous PBS training	Previous training using BST
High Implementing – Yellow Class						
5	30-35	Teacher	4 months	10 years	Yes	No
2	30-35	SNA 1	6 months	0	No	No
13	50-55	SNA 2	1 month	5 years	No	No
Low Implementing – Blue Class						
8	-	Teacher	2 months	0	Yes	No
3	20-25	SNA 1	2 months	0	No	No
16	30-35	SNA 2	2 months	8 years	Yes	No

3.17 Phase 2: Data Collection Tools

Two data collection instruments were employed during the implementation phase (Phase 2) of this study. The frequency of BSC unit implementation was recorded during a review of teacher planning. Following this, semi-structured interviews were held with participants who implemented the most and least of the curriculum. Figure 16 illustrates the data collection sequence employed during phase 2.

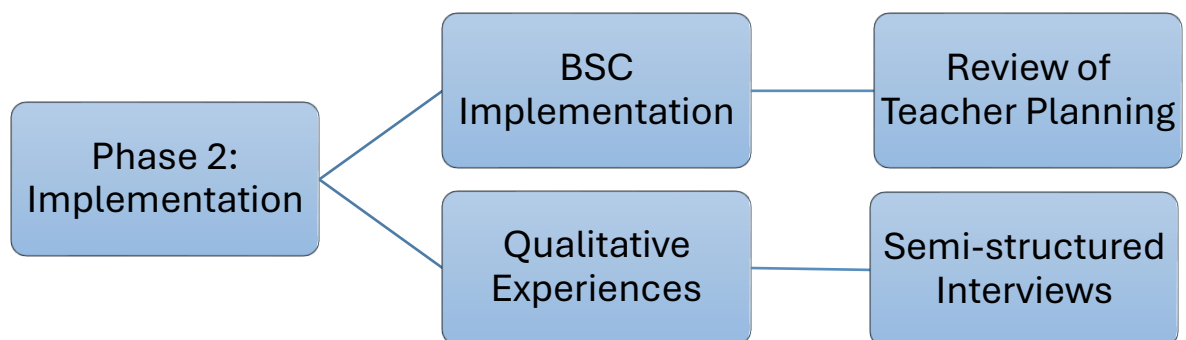


Figure 16: Data Collection tools in Phase 2

3.17.1 Teacher Planning Review Data Collection

Where they had written parental consent, the researcher reviewed student fortnightly plans from their initial enrolment. Where they were available, fortnightly plans drafted before the PD were compared with those written post-intervention. This comparison was crucial to confirm that any BSC units in student plans were not incorporated prior to the behaviour support workshops. The six workshops were conducted between February 20th and March 27th. This planning review aided the researcher in identifying the classroom teams that had implemented the highest and lowest number of curriculum units. This was necessary to determine which participants would be invited to partake in the qualitative interviews. Table 13 displays the dates that fortnightly plans were available for each participating class in the school.

Table 13: Available Fortnightly Plans at Time of Teacher Planning Review.

Red Class	Yellow Class	Green Class	Blue Class
17/04	23/01	17/04	17/04
01/05	06/02	01/05	01/05
15/05	20/02	15/05	15/05
	06/03		
	20/03		
	17/04		
	01/05		
	15/05		

3.17.2 Interview Data Collection

A week prior to the interviews, participants received an email with the time and date of the planned interview and a general overview of the interview schedule, detailed in Appendix P. The interviews, lasting from 28 to 51 minutes, were conducted in a private room at the participating school during school hours. Each session was recorded using a digital voice recorder, and the recordings were subsequently uploaded to a secure Google Drive. Participants were reminded of their right to withdraw at any time at the beginning of each interview. The researcher also emphasised issues of confidentiality and anonymity, adhering to Dublin City University's (DCU) ethical guidelines. The interview followed a semi-structured format, and the questions were the same for both SNAs and teachers, comprising open-ended questions in three distinct areas:

1. Career to date
2. Behaviour support workshops as a professional experience
3. Implementation of curriculum units in classroom practice

The questions were open-ended to encourage participants to share their personal views on the PD and not to suppress any ideas they might have shared by using more direct closed-answer questions (Seidman, 2019). A complete copy of the interview schedule can be viewed in Appendix Q.

3.18 Phase 2: Data Analysis

During Phase 2, data analysis occurred for the teacher planning review, which measured implementation levels and for the semi-structured interviews, which were recorded and analysed using reflexive thematic analysis (RTA). These processes will now be outlined.

3.18.1 Review of Teacher Planning Data Analysis

To determine the implementation rates of the BSC units, the principal researcher analysed anonymised planning documents from sixteen students. An Excel sheet was created to record and tally instances where teachers integrated BSC units into their students' fortnightly plans following the PD workshops. A BSC unit was considered implemented only if it first appeared in a student's plan after the relevant date. The behaviour support workshops were conducted from February 20th to March 27th. Table 14 provides a replica of the Excel sheet used in this analysis, showing the dates (e.g., '17-Apr' for April 17th) when a BSC unit first appeared in a student's planning document.

Table 14: Data collection system employed during the review of teacher planning

Student code	Strand One: Choice			Strand Two: FCT			Strand Three: Tolerance			Total	Mean
	Pref Ass. 02-Feb	First-Next 06-Mar	Rolling Sch. 13-MAR	More Time 27-Feb	Break 06-Mar	"No" 20-Mar	Not Available 27-Feb	Wait 13-Mar	Change 20-Mar		
1					17-Apr			15-May	15-May	3	
2			17-Apr			17-Apr				2	
3	08-May	17-Apr	04-May	15-May	17-Apr			08-May		6	
4			17-Apr							1	
Red Class										12	3
5							20-Mar	17-Apr		2	
6				01-May			20-Mar	17-Apr		3	
7							20-Mar	17-Apr		2	
8	15-May	15-May		17-Apr	15-May		20-Mar	17-Apr	01-May	7	
Yellow Class										14	3.5
9										0	
10		08-May		04-May	22-May					3	
11		08-May			04-May		08-May	22-May		4	
12		17-Apr					08-May			2	
13										0	
Green Class										9	1.8
14		15-May								1	
15		04-May								1	
16		15-May								1	
Blue Class										3	1
Implementation per unit	2	8	3	4	5	1	6	7	2	Group Total 38	Group Mean 2.4

3.18.1.1 IOA on Review of Teacher Planning Documents

IOA data was collected on the anonymised fortnightly plans. The independent observer was one of the assistants who worked with the researcher during the behaviour support workshops. Along with the planning documents, they were provided with the implementation data recorded by the principal researcher (presented in Table 14). IOA data was gathered for 100% of all teacher planning documents. These results were then compared during the data analysis and can be viewed in Section 4.3.3.

3.18.2 Semi-structured Interviews Data Analysis

The researcher employed Braun and Clarke's (2006, 2022) six-phase approach to reflexive thematic analysis (RTA) to analyse the data collected during the semi-structured interviews. RTA is a flexible yet systematic approach which facilitates a deep exploration of themes within qualitative data, enabling a nuanced understanding of the study's subject matter (Braun and Clarke, 2006). It is proposed that thematic analysis can be applied to a broad range of research questions, “from those about people’s experiences or understandings to those about the representation and construction of particular phenomena in a particular context” (Braun and Clarke, 2013, p. 122). The analysis was conducted in a structured manner, adhering to Braun and Clarke's six-phase framework (2006, 2022). This framework includes familiarisation with the data, coding, generating initial themes, developing and reviewing themes, refining, defining, and naming themes, and finally producing the report. These phases are displayed below in Figure 17.

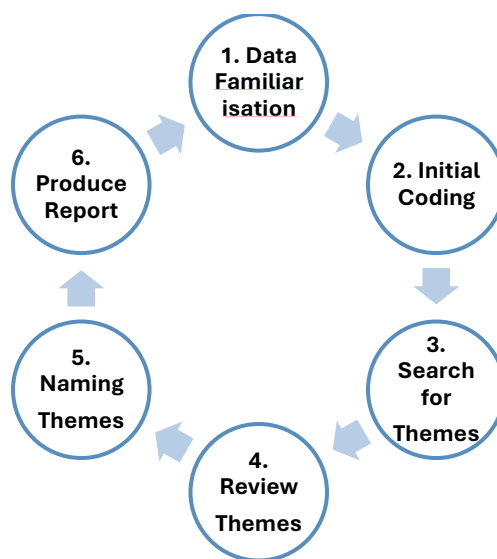


Figure 17: Six-phase cycle of a reflexive thematic analysis, adapted from Braun and Clarke (2022)

This method ensured a comprehensive and reflective engagement with the data, capturing the complexities and subtleties inherent in the participants' experiences and perspectives. The analysis was mainly inductive, with codes derived directly from the data content without influence from pre-existing theories (Byrne, 2021). A constructionist epistemology guided the data analysis, focusing on recurring data patterns and the significance of language used in less frequently occurring patterns (Braun and Clarke, 2012). An audit trail outlining the analysis process in full can be viewed in Appendix V.

3.18.3 Reflexivity during the Analysis

The application of Braun and Clarke's six-phase process in RTA aids researchers in both conducting and learning how to perform RTA effectively (Braun and Clarke, 2022). While the six phases are structured logically and sequentially, the analysis process is not strictly linear. Instead, it is recursive and iterative, necessitating that researchers move back and forth through the phases as needed (Braun and Clarke, 2022; Byrne, 2021). This approach allows for a more flexible and thorough exploration of the data. During the RTA, it was imperative to recognise my own background and experiences and the influence these experiences have on data interpretation. With 20 years of experience as a behaviour analyst in special education settings, I inevitably held preconceived perceptions regarding school operations and the factors impacting the effectiveness of staff PD. While Braun and Clarke (2023) advocate for researchers to be mindful of their inherent subjectivity, they refute the idea that this equates to bias. Instead, they view subjectivity as a valuable resource in the RTA process. Navigating through the phases of this study, I realised the importance of acknowledging my positionality. While my familiarity with the research area provided advantages such as access and understanding of special schools, it also presented challenges. These challenges included having one type of career experience in a specific setting where interdisciplinary collaboration between behaviourally trained staff and educators is customary, along with pre-existing notions about factors affecting implementation in practice. Crucially, I recognised that my background as a special school leader and teacher educator significantly influenced both the generation and interpretation of data during the interview and thematic analysis processes. The process followed by the principal researcher during the RTA for this research is outlined below.

3.18.4 Six-Phase Cycle

The following paragraphs will describe the six phases followed throughout the RTA process. The process, including its visual aspects, is documented with supporting photographs in Appendix V

3.18.1.4 Familiarisation with the Data

The first phase of the analysis involved transcribing, meticulously reading, and re-reading the data, enabling the researcher to familiarise themselves with its content. Once transcribed, the researcher printed the transcriptions as hard copies, underlining and highlighting significant text and making short handwritten notes in the margins of the transcriptions. This process established initial points of interest, laying a solid foundation for further exploration in subsequent phases. Additionally, the researcher began documenting the RTA process through journaling and photography, this practice was continued across all phases. These photographs are included in the audit trail, available to view in Appendix V.

3.18.2.4 Initial Coding

During the second phase, the researcher carefully read through the digital copies of the transcriptions line by line while simultaneously listening to the audio recordings. This approach was taken to enhance the researcher's comprehension of the meaning and intonation conveyed in the participants' responses. The initial set of codes was generated by selecting data extracts of interest and connecting researcher comments that functioned as preliminary, non-hierarchical codes.

3.18.3.4 Generating Initial Themes

In the third phase, the first set of codes was grouped, renamed, and organised into broader categories. The researcher reprinted the transcriptions, now inclusive of the first iteration codes noted in the comments. These codes were grouped together, with each group receiving a category label and a designated colour. Data extracts and their corresponding codes were then digitised into an electronic format. This digital database comprised an Excel workbook featuring an individual sheet for each participant. These sheets contained data extracts along with multiple iterations of codes related to theme revisions. Additionally, an early draft thematic map was developed during this phase.

3.18.4.4 Developing and Review Themes

In the fourth phase, in order to develop and review themes, the researcher returned to the coding phase with further questions about how the code clusters inform themes and weave together a pattern (Braun and Clarke, 2022). This part of the analytic process was crucial in eliminating category themes that did not align with the research questions. This process was repeated multiple times, demonstrating the iterative nature of RTA. The original thematic map was refined into a more cohesive representation of the analysis, featuring suitably connected themes and sub-themes. This enhanced map helped to compose the report emerging from the analysis of the entire sample set.

3.18.5.4 Refining, Defining and Naming the Themes

The fifth phase involved consolidating the various categories into a broader thematic framework. This process was followed by again cross-referencing the transcribed interviews with the existing code iterations and initial category themes recorded in the electronic database. Each individual theme and sub-theme was constructed with careful reference to both the dataset and the research questions. Once again, the thematic map was restructured, and the final three key themes and related subthemes were identified. This laid the groundwork for the final phase of the analysis.

3.18.6.4 Writing the Report

In the sixth and final phase, the researcher concentrated on finalising the write-up of the findings from the data analysis, following the approach described by Byrne (2021). Draft versions of this report had been developed in earlier phases. As the codes and themes evolved throughout the analysis, the write-up was similarly updated. To facilitate the writing of the final report, the researcher revisited the digital database, systematically organising and colour-coding the data by theme, related subtheme, and data extracts. This colour coding corresponded to the finalised thematic map.

3.19 Ethical Considerations

Sieber (1998) advises researchers to assess potential risks that could arise from participants engaging in a study and to take steps to minimise the potential for any harm. The proposed study was approved in accordance with the DCU Code of Good Research Practice (DCU, 2021). The approval letter received from DCU's Research Ethics Committee can be viewed in Appendix R.

3.19.1 Ethical Considerations during Recruitment

Participants, the principal, and the school Board of Management (BOM) received an information letter and plain language statements detailing the research aims, process, assurances of anonymity and confidentiality, potential risks and the right to opt out or withdraw. The plain language statement is accessible in Appendix S. Participants were obliged to submit informed consent forms, a sample of which is available in Appendix T. These forms reiterated the researcher's legal obligation to safeguard personal information and reminded participants that their involvement was voluntary and the right to decline participation or withdraw at any time.

Although the PD provided in the study's initial phase was part of the school staff's mandatory PL, it was explicitly communicated to all staff that participation in the research was optional and there would be no repercussions for non-participation. The researcher emailed each participant a PowerPoint presentation outlining the methods that would be used in the behaviour support workshops and reiterated the voluntary nature of their involvement in the research. This email and PowerPoint can be viewed in full in Appendix U. The researcher was cognisant of the potential power imbalance in conducting research that took place during the participants' working hours. Efforts to repeatedly assure staff of voluntary participation aimed to reduce any sense of obligation to participate. Notably, one staff member who attended the PD opted not to participate in the research. Figure 18 includes a slide from the researcher's explanatory presentation, which was sent to staff alongside the plain language statement and informed consent form.



Figure 18: PowerPoint slide explaining the research process

3.19.2 Ethical Considerations in the Creation of Video Models

Video models used during the modelling component of the workshops were recorded with the informed, written consent of the parents or guardians of the children involved. All children featured in the videos have an ID in the moderate-severe range, characterised by very significant verbal and nonverbal communication challenges. Due to these differences, obtaining genuine assent using pictures or social stories was not feasible. Instead, the researcher, who also works as the featured children's school-based behaviour support specialist, selected students who were already proficient in the skills being demonstrated, ensuring no extra effort was required from them. Although the children filmed for the video models are unable to express their feelings verbally, they engage in the same mood indicators (e.g., laughing, smiling, frowning) as individuals without disabilities (Ramey *et al.*, 2019). The researcher, familiar with each child featured in the videos, gauged their assent by carefully observing their behaviour during filming. At no point did any child exhibit distress or a desire to stop; such indications would have led to the immediate cessation of filming.

3.19.3 Ethical Considerations in the Design of Behaviour Support Curriculum Content

The curriculum content focused exclusively on positive and proactive measures to enhance choice and communication, alongside reducing anxiety through skill development. Goals aimed at enforcing neurotypical norms for Autistic students were intentionally excluded.

Instead, the curriculum prioritised increasing choice and autonomy, enhancing assertiveness via communication skills, and adapting the environment to lessen anxiety, with each of the nine skills focusing solely on improving quality of life for the student population (Van Loon *et al.*, 2012). To ensure the curriculum was aligned with the neuro-affirmative approach, it was shared with an Autistic adult who is both a primary school teacher and a neurodiversity researcher, validating that the goals were appropriate from the perspective of someone within the autism community and also knowledgeable in education and research. Both the UNCRPD and a neuro-affirmative approach to education emphasises the empowerment of individuals with disabilities, advocating for the celebration and accommodation of differences rather than seeking to correct or cure them (Davis and Crompton, 2021; Schuck *et al.*, 2022; UNCRPD, 2007). The curriculum designed for this research aims to align with a neurodiversity framework by focusing solely on support strategies and skills that promote autonomy and well-being, which are areas in which Autistic people actively ask for support (Leadbitter *et al.*, 2021). Furthermore, the curriculum units incorporated several evidence-based strategies for this population, Autistic individuals with co-occurring ID (Van Loon, *et al.*, 2012; Hume *et al.*, 2021; Steinbrenner *et al.*, 2021), comprising recommendations from the NCSE (NCSE, 2016) and the Government of Ireland's Autism Good Practice Guidelines for Schools (DE, 2022).

3.19.4 Ethical Considerations for Data Collection and Storage

Data collection commenced only after Dublin City University (DCU) gave its ethics approval. All digital data, including transcriptions and analyses, were stored in the researcher's DCU Google Drive within password-protected files, accessible solely to the researcher and their supervisory team, requiring DCU login credentials and two-step authentication. Original paper-based data was initially kept in a locked filing cabinet, accessible only by the researcher. It was later converted to digital files (and stored within the password-protected files), and the original paper files were then shredded and safely disposed of. Quantitative data gathered during the workshops were anonymised, with participants identifiable only by a numerical code. Once data collection was complete, the key linking individuals to their codes and all email communications with participants and the participating school were deleted.

Audio files from interviews conducted in the second phase were transferred to the password-protected DCU Google Drive and then deleted from the recording device. Upon completion

of the qualitative data analysis, these audio recordings were deleted from the Google Drive, with only the transcribed interviews being retained in a password-protected folder on the DCU Google Drive. Any personal information shared by participants during interviews has been redacted; names or any details identifying the school, staff or students were not transcribed from the audio recordings. These transcriptions will be retained for a period of 5 years after the research is published. All identifying information has been omitted from the final written report.

To safeguard participant anonymity, all email communications between the researcher, participants, and the management of the participating school were deleted after the research project concluded. Meticulous efforts were made to maintain anonymity and confidentiality, including the use of participant codes and the omission of identifiable information in the report. Despite these measures, due to the small number of participants, absolute anonymity could not be guaranteed.

3.20 Chapter Summary

Chapter 3 outlined the research design, detailing the participant selection process, data collection methods, and analytical strategies employed. It provided a thorough explanation of the behaviour support workshop procedures, followed by a description of how post-intervention implementation rates and participants' experiences were assessed. The chapter also specified the data analysis strategies applied to determine the results of the study's intervention and implementation phases. The chapter ended with a description of the ethical considerations and the steps taken to address them. Chapter 4 will present the study's results, showcasing the findings derived from the data analysis, including skill acquisition metrics, the impact of the behaviour support workshops on classroom practices and insights gathered from participants during semi-structured interviews.

Chapter 4 Results

4.1 Introduction

Chapter 4 presents a comprehensive report of the research data and findings from Phase 1 and Phase 2. It focuses on the influence of the behaviour support package on the skills and practices of teachers and SNAs within the participating school. As detailed in the methodology chapter (Chapter 3), the study employed a convergent mixed-methods design, with each phase utilising different data collection techniques. Phase 1, for instance, used quantitative assessments to evaluate skill acquisition across the nine curriculum units and their associated performance skills taught through BST in the behaviour support workshops. A post-intervention survey was also conducted to gauge the acceptability of this PD approach as a form of professional learning. Phase 2 marked a pivotal shift in focus, transitioning towards an in-depth examination of the PD's impact on classroom practices and the corresponding experiences of the participating staff. This phase began with a thorough review of teacher planning documents to assess the implementation rates of the BSC. This analysis identified staff groups with the highest and lowest implementation of new skills, guiding interviewees' selection. Semi-structured interviews were then conducted to understand participants' perspectives on the PD and their experiences applying the acquired skills in practical classroom settings. It sought to uncover the facilitators and barriers encountered during the implementation process, shedding light on the complexities inherent in translating PD outcomes into tangible classroom practice.

This mixed-methods approach provided a comprehensive exploration of the impact of the behaviour support package and qualitative insights into participants' experiences with skill implementation. This chapter will detail the results from each phase and data collection method, highlighting the practical implications of the findings.

4.2 Phase 1: Behaviour Support Workshops Results

The following paragraphs will present the results from the behaviour support workshops, where participants' performance accuracy was measured. Data will be presented in a clear graph format, showing the mean group score for each of the nine curriculum units and the

corresponding standard deviation. Individual participant results for each of the nine curriculum units can be found in tabular format in Appendix W. The metric used to assess skill acquisition was trials-to-criterion, which measures the number of response opportunities required to reach a specified performance level. This method measured the rehearsals needed by participants to achieve a pre-determined mastery level (90% performance accuracy on two consecutive rehearsals or 100% performance accuracy on one rehearsal) as outlined in the corresponding MA. A reminder of the strands and units contained in the BSC can be viewed in Figure 19.

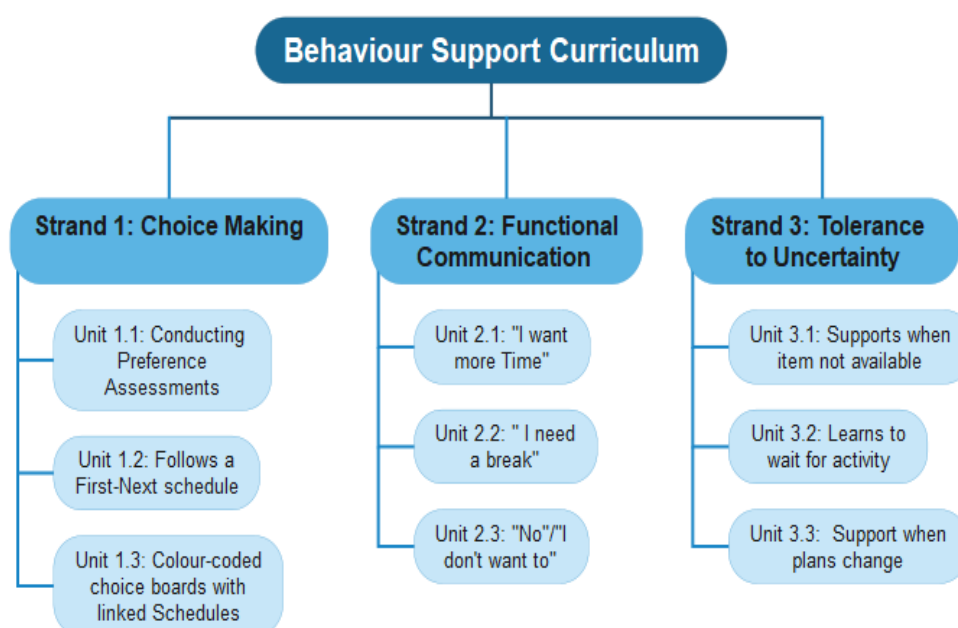


Figure 19: Strands and units contained in the Behaviour Support Curriculum

4.2.1 Results per Curriculum Unit

The analysis of data collected during the behaviour support workshops revealed insights into skill acquisition; this section will examine how the group performed in each of the nine BSC units. The mean number of rehearsals required to achieve mastery criteria for each curriculum unit was calculated by summing the total rehearsals required (post-baseline rehearsal) by the entire group and dividing by the number of participants present. The group found Unit 1.3 (Choice: Colour-coded choice with linked schedules) to be the easiest skill to master, requiring an average of only 1 rehearsal. In contrast, Unit 3.3 (Tolerance: Support when plans change) required the most rehearsals, with an average of 2.3 required per participant. Results for all nine BSC units are displayed in Figure 20.

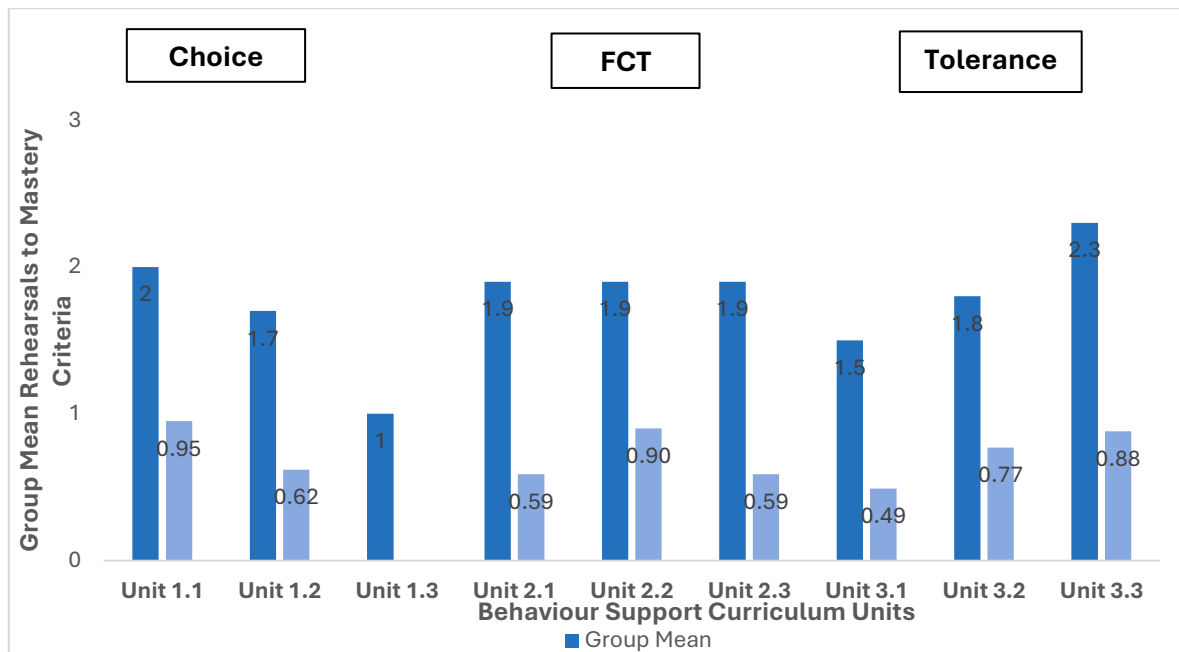


Figure 20: Mean rehearsals required to reach mastery criteria across all participants. The standard deviation per unit is also displayed.

The overall mean rehearsals needed across the entire BSC was 1.8 (SD= 0.36), with a range of between 1 (Unit 1.3) and 2.3 (Unit 3.3). This figure was obtained by adding the mean rehearsals per unit for the group and dividing by the total number of units ($2 + 1.7 + 1 + 1.9 + 1.9 + 1.9 + 1.5 + 1.8 + 2.3 = 15.8 \div 9 = 1.8$).

4.2.2 Baseline Results per Curriculum Unit

Directly after the instruction component of the workshops and prior to observing the video model, participants performed one rehearsal of the skill. These scores were recorded as their baseline performance. These figures were calculated by adding the baseline score for each participant and dividing by the total number of participants. The mean baseline recorded for the entire group during each BSC unit is displayed in Figure 21.

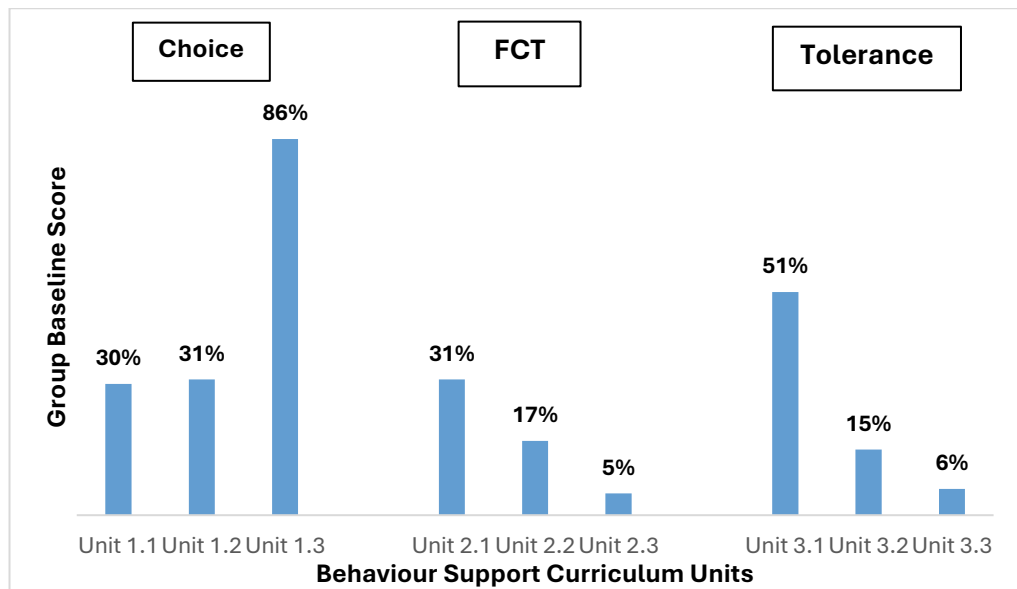


Figure 21: Group Performance Accuracy at Baseline across all nine BSC Units.

4.2.3 Results By Participant

A further analysis of the workshop data was conducted to report how individual participants performed during the PD. Figure 20 displays the mean number of rehearsals necessary for each participant to achieve mastery criteria across the nine BSC units. This calculation involved summing each participant's rehearsals and dividing by the number of BSC units they engaged in. The average rehearsals per participant ranged from 1.1 (Participant 15) to 2.6 (Participant 8). Figure 22 specifically highlights the scores of classroom teachers in each of the four classrooms, identified by their classroom colour. Their data is particularly noteworthy because teachers were responsible for choosing which BSC units were placed into individual student plans. Teachers in the Red, Yellow, and Green classes required an average of 1.5 rehearsals to master the skills (ranging from 1.3 to 1.8). However, the teacher from the Blue Class required an average of 2.6 rehearsals, considerably higher than the group average and the highest among all participants. The results of SNA participants are presented in grey and are not differentiated by classroom.

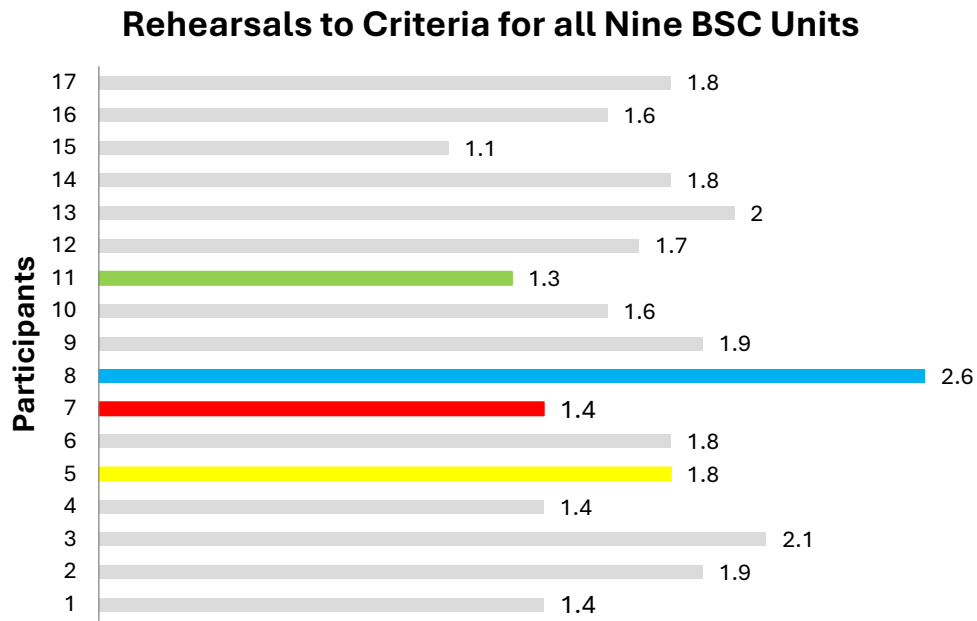


Figure 22: Per-participants' rehearsal to criteria results.

4.2.4 Interobserver Agreement (IOA) Results

IOA agreement data was collected for 28% of all rehearsals during the behaviour support workshops. The agreement percentage ranged from 83% to 100%, with an average agreement rate of 93% across the nine curriculum units. Below, Figure 23 displays the percentage of rehearsals where IOA was collected and the percentage of agreement between the facilitator and the independent observer for each curriculum unit.

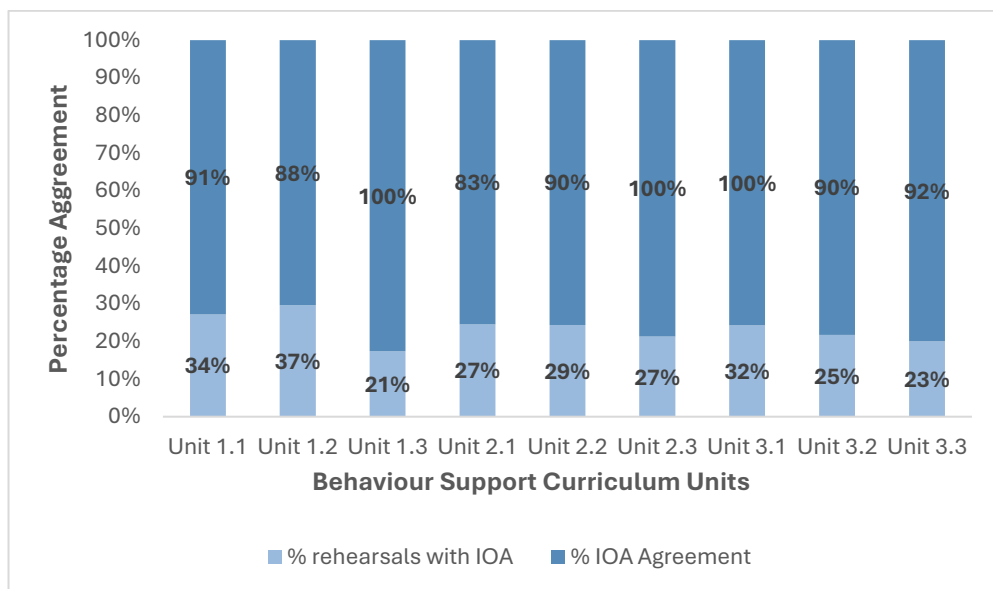


Figure 23: Percentage of rehearsals where IOA was collected and percentage of agreement per unit.

4.2.5 Summary of Behaviour Support Workshop Results

In summary, each participant reached the mastery criteria in each curriculum unit. The average number of rehearsals needed to master the skills varied across units, with the lowest being 1 rehearsal needed for Unit 1.3 (Choice: Rolling Schedule) and the highest 2.7 for Unit 3.3 (Tolerance: Support when Plans Change). The average number of rehearsals to reach mastery over the entire BSC ranged from a low of 1.1 (participant 15) to a high of 2.6 (participant 8). The group average was 1.8 (SD=0.36).

4.2.6 Acceptability Survey Results

The survey, conducted after the final workshop, was designed to evaluate the acceptability of BST-based behaviour support workshops as a form of PD (Parsons, Rollyson and Reid, 2012). All 17 participants submitted an anonymous survey. Participants stated that the PD provided was an acceptable form of PD. On the Likert-scale questions, the average ratings were between "6" (very) and "7" (extremely) in terms of enjoyability, suitability to professional needs, and practicality. Notably, no participant rated any question below "5" (mostly) on any of the survey questions. In total, 94% (N=16) of participants deemed the content as very or extremely relevant to their current workplace. All 17 participants indicated they would recommend the PD to colleagues in similar positions. The responses to three of the six survey questions are visually represented in Figures 24, 25 and 26.

The first question asked participants about their enjoyment of behavioural skills training, *'How enjoyable or unenjoyable was the behavioural skills training?'*. Responses indicated that 35% (N=6) of participants found the PD 'mostly enjoyable', 47% (N=8) considered it 'very enjoyable', and the remaining 18% (N=3) described it as 'extremely enjoyable'.

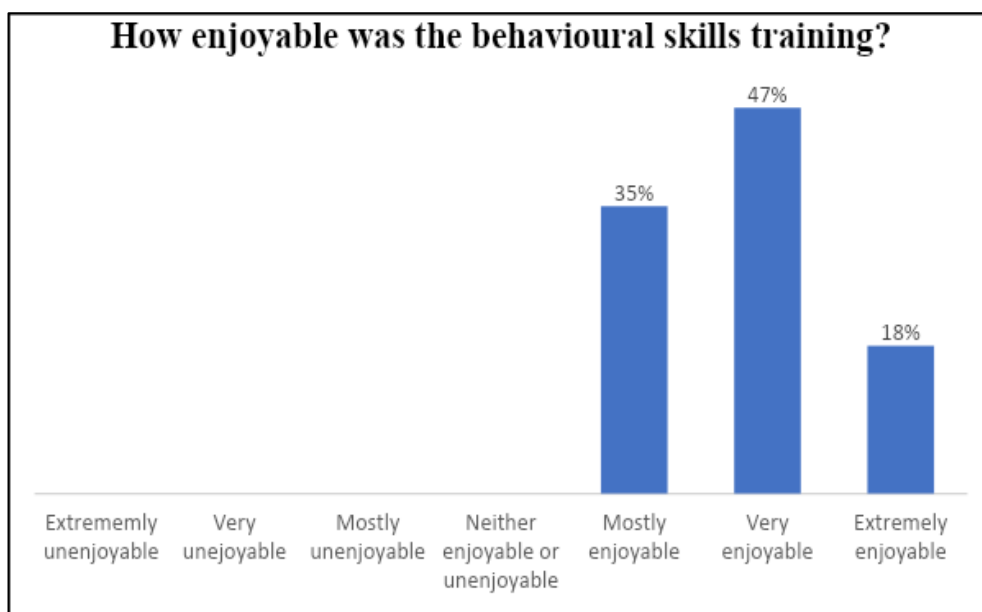


Figure 24: Acceptability survey results for question 1.

The second question inquired, "How suitable or unsuitable was the training for learning information and skills relevant to your current workplace and profession?" The responses revealed that 6% (N=1) of participants deemed the PD 'mostly suitable', 24% (N=4) rated it as 'very suitable', and 71% (N=12) found it 'extremely suitable'.

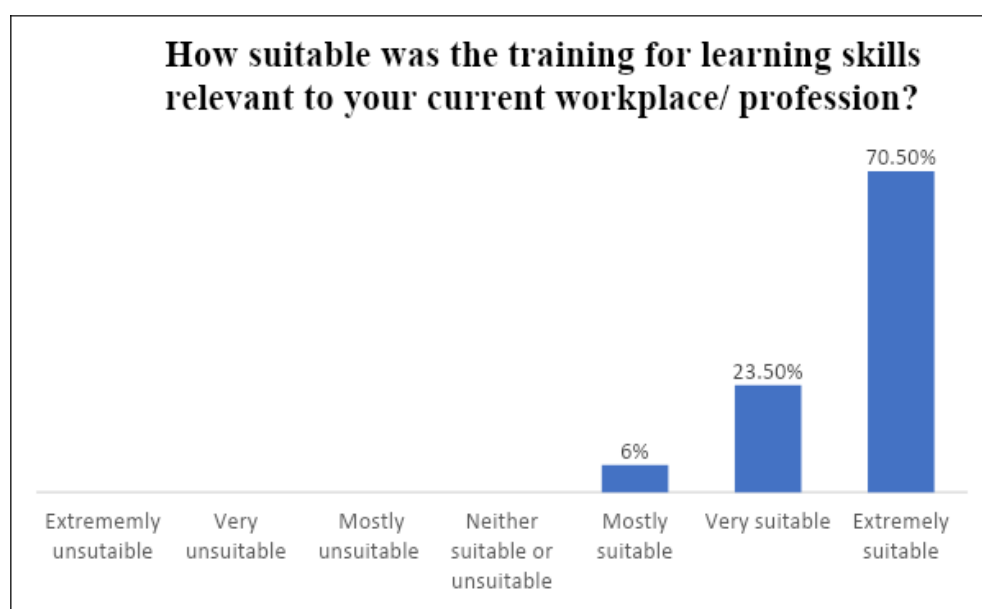


Figure 25: Acceptability survey results for question 2.

The third question on the survey asked, "*How practical was the training in terms of the amount of time and effort required to participate?*" According to the responses, 12% (N=2) of participants considered the PD 'mostly practical', 35% (N=6) rated it as 'very practical', and a notable 53% (N=9) viewed it as 'extremely practical'.

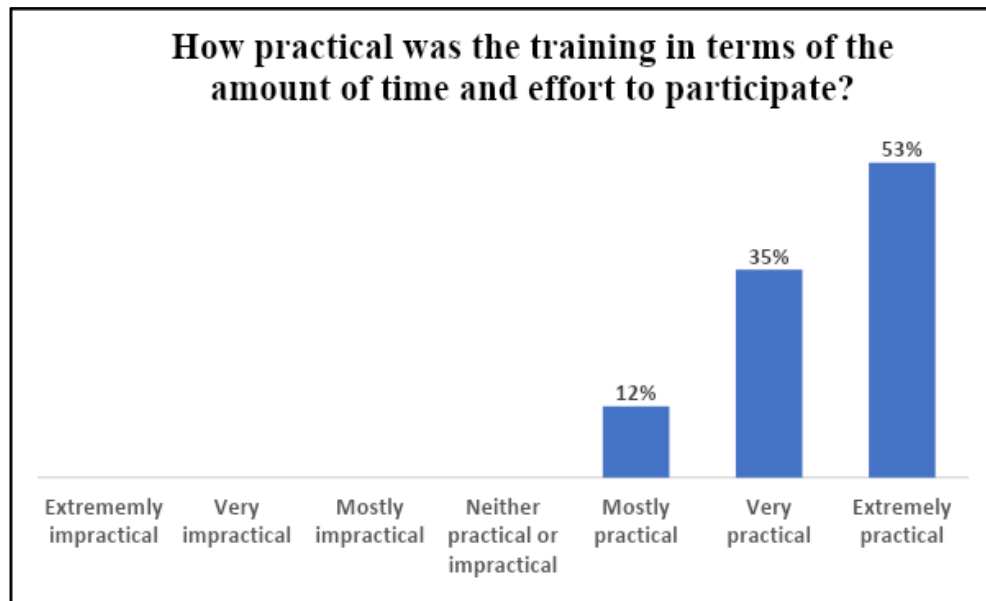


Figure 26: Acceptability Survey results for question 3.

Question 4 was a closed-ended query with only 'yes' or 'no' as response options, asking participants, "*Would you recommend the training to others working in a similar school or Class?*" Notably, all respondents, amounting to 100%, (N=17) indicated that they would recommend the PD. The final two questions (Q5 and Q6) were connected, and both had closed-ended formats. Question 5 inquired whether participants had recently attended PD with the NCSE. Six of the 17 participants (35%) confirmed that they had. Question 6 found that among these 6 individuals, 83% (N=5) believed the PD provided in this study was more closely aligned with the needs of their students.

4.3 Phase 2: Implementation Results

The principal researcher returned to the school eight weeks after the behaviour support workshops had finished to measure implementation rates. The researcher reviewed the anonymised planning documents of 16 students who were educated in each of the school's four established classrooms. It is acknowledged that this data reflects instances of implementation recorded in planning documents but cannot confirm whether each BSC unit was implemented with accuracy and fidelity in practice.

Four of the five Special Education Teachers (SETs) who participated in the research were responsible for creating fortnightly plans, which were subsequently reviewed to assess implementation. The fifth teacher, however, was teaching in an individualised classroom, and the guardians of the student had not returned consent for the researcher to review their educational plans. As a result, this teacher's plans were not included in the review. When a BSC unit appeared in a student's plan for the first time on a date after that unit had been introduced in the behaviour support workshops, this was counted as one instance of implementation. If a student had a goal similar to a BSC unit listed in their planning documents that predated the PD, this was not counted as an instance of implementation. Due to the timing of the PD relative to the school's opening date, most students were still in a period of transition into their new school. Consequently, in most cases, their teachers had not yet completed educational planning whilst the workshops were ongoing. The first class to open, the Yellow Class, was the only classroom with planning documents that predated the PD. This limitation affected the researcher's ability to collect baseline data on implementation for all but five students. Details of the recording system are visually represented in Section 3.18.1.

4.3.1 Implementation Rates Across Classrooms and Students

The review of planning documents revealed that curriculum units were incorporated into teacher planning documents for 14 out of 16 students (88%). In total, there were 38 instances of curriculum unit implementation across the 16 students, averaging approximately 2.4 units per student, with a standard deviation of 1.96. The number of implementations ranged from zero to seven per student. There was a noticeable variation in implementation rates across different classes. The Yellow Class showed the highest level of engagement with 14 instances of implementation, followed by the Red Class with 12 instances. The Green and Blue classrooms had lower implementation rates, with 9 and 3 instances, respectively. These

results, alongside the mean number (total divided by the number of students) per class and the standard deviation figures, are displayed in Table 15.

Table 15 Implementation rates per class and student eight weeks post-intervention

Class	Red	Yellow	Green	Blue
Total Implementation	12	14	9	3
Students in each Class	4	4	5	3
Mean Implementation	3	3.5	1.8	1
Standard Deviation	1.870829	2.061553	1.6	0

Figure 27 shows student-by-student data. This graph demonstrates that while the mean rate of implementation was 2.4 (SD=1.96) across the 16 students, there was a high degree of variation amongst the group, with a range of between 0 and 7 recorded.

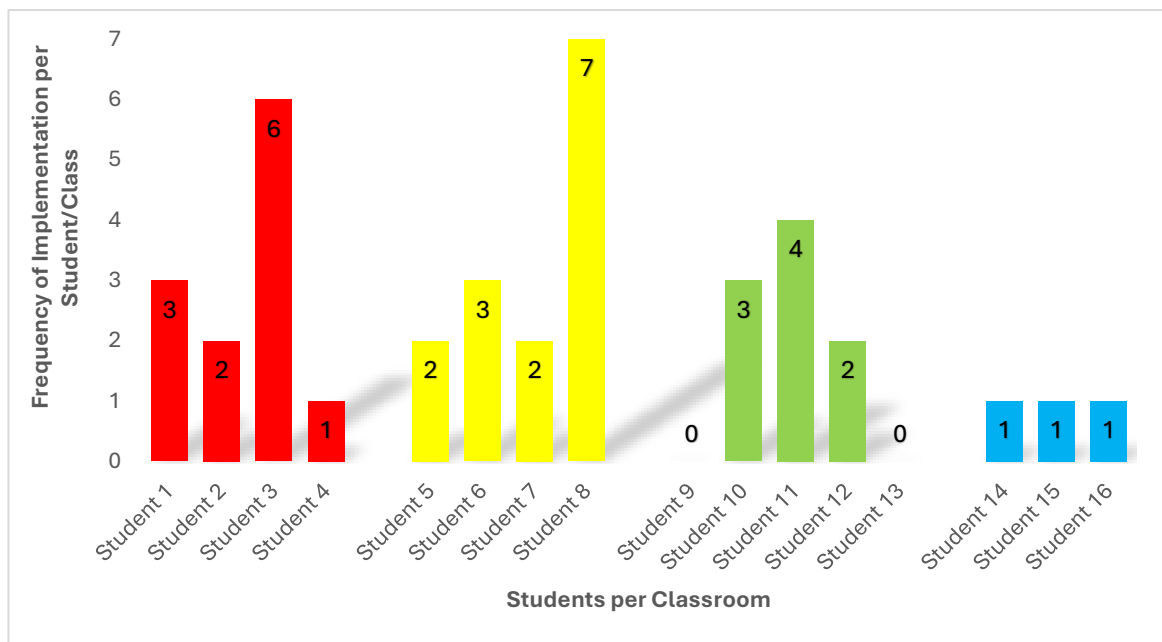


Figure 27: Frequency of BSC implementation for each student eight weeks post-intervention.

4.3.2 Implementation across Curriculum Units

The most frequently implemented curriculum unit was Unit 1.2, "First-Next," which was used eight times. In contrast, the least implemented unit was 2.3, FCT "No," which was applied in only one student's plan. Figure 28 illustrates the implementation levels for each curricular unit across all four classrooms.

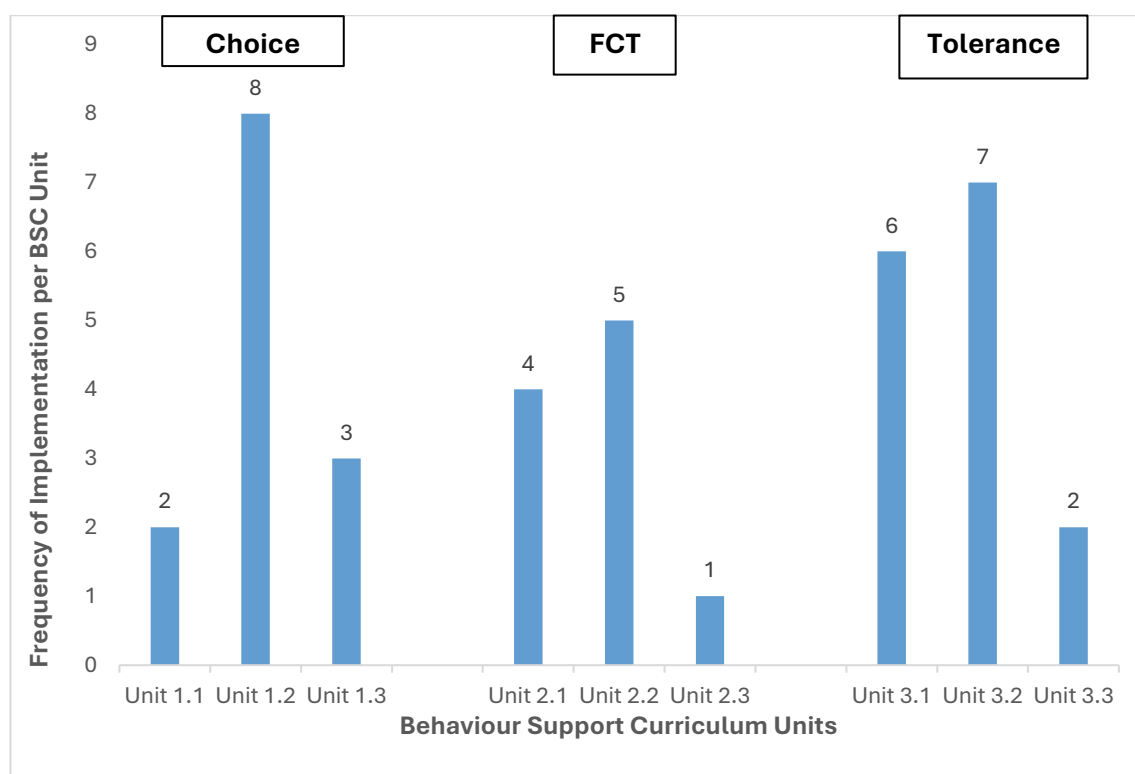


Figure 28: Implementation levels for each behaviour support curriculum unit across all 16 students eight weeks post-intervention.

The review of teacher planning was instrumental in identifying which classroom teams had implemented the most and the least number of curriculum units. This insight was essential for strategically selecting participants for the qualitative interviews, which aimed to capture diverse perspectives on the factors influencing curriculum implementation.

Tables 15-18 demonstrate which curriculum units were implemented in each of the four classrooms and include the ages of the students for whom they were implemented. There was considerable variation among individual students. For instance, Student 8 in the Yellow Class had a total of 7 BSC units implemented, while Students 9 and 13 in the Green Class had zero units implemented.

Table 15: Red Class Implementation Information

Red Class			
Student	Age	Implemented BSC Units	Total = 12
1	7	• 2.2: FCT- “Break” • 3.2: Tolerance- Learning to Wait • 3.3: Tolerance- Support when plans change	3
2	8	• 1.3: Choice- Colour-coded choice boards • 2.3: FCT- Communicating “No”	2
3	9	• 1.1: Choice-Preference assessment • 1.2: Choice-First-Next • 1.3: Choice- Colour-coded choice boards • 2.1: FCT- “More Time” • 2.2: FCT- “Break” • 3.2: Tolerance-Learning to Wait	6
4	7	• 1.3: Choice-Colour-coded choice boards	1

Table 16: Yellow Class Implementation Information

Yellow Class			
Student	Age	Implemented BSC Units	Total = 14
5	12	• 3.1: Tolerance-Not available • 3.2: Tolerance-Learning to Wait	2
6	8	• 2.1: FCT- “More Time” • 3.1: Tolerance- Not available • 3.2: Tolerance-Learning to Wait	3
7	12	• 3.1: Tolerance- Not available • 3.2: Tolerance - Learning to Wait	2
8	9	• 1.1: Choice-Preference assessment • 1.2: Choice-First-Next • 2.1: FCT- “More Time” • 2.2: FCT- “Break” • 3.1: Tolerance- Not available • 3.2: Tolerance-Learning to Wait • 3.3: Tolerance – Support when plans change	7

Table 17: Green Class Implementation Information

Green Class			
Student	Age	Implemented BSC Units	Total = 9
9	12		0
10	13	• 1.2: Choice - First-Next • 2.1: FCT- “More Time” • 2.2: FCT - “break”	3
11	13	• 1.2: Choice - First-Next • 2.2: FCT - “break” • 3.1: Tolerance- Not available • 3.2: Tolerance-Learning to Wait	4
12	13	• 1.2: Choice: First-Next • 3.1: Tolerance- Not available	2
13	13		0

Table 18: Blue Class Implementation Information

Blue Class			
Student	Age	Implemented BSC Units	Total = 3
14	13	• 1.2: Choice: First-Next	1
15	14	• 1.2: Choice: First-Next	1
16	15	• 1.2: Choice: First-Next	1

4.3.3 Interobserver Agreement Checks on Implementation

Interobserver agreement checks were conducted on 100% of reviewed teacher planning documents. The principal researcher and the independent observer were in 100% agreement on all implementation checks.

4.4 Phase 2: Semi-structured Interview Results

The perceptions and experiences of the SNAs and teachers who attended the behaviour support workshops were captured in semi-structured interviews conducted by the principal researcher. These personal narratives provide an authentic perspective on the experience of participating in PD, which incorporates a BST format and the subsequent application of mastered skills in practice. To capture a wide range of experiences, staff were interviewed from two classrooms: the Yellow Classroom, which, according to planning documents, implemented the most BSC units (N=14) and the Blue Classroom, which implemented the least (N=3).

4.4.1 Characteristics of Interviewees

The SET and two SNAs from the highest and lowest implementing classrooms were invited to be interviewed. At the time of the study, three staff members (one teacher and two SNAs) were working in the low-implementing classroom, all of whom agreed to be interviewed. One teacher and three SNAs worked in the high-implementing classroom; the teacher and two of the SNAs consented to be interviewed. The demographic characteristics of all six participants are listed below in Table 19.

Table 19: Characteristics of Participant Interviewees

Code	Age Range	Post	Time in current setting	Previous Exp. in school	Previous PBS training	Previous training using BST
High Implementing – Yellow Class						
5	30-35	Teacher	4 months	10 years	Yes	No
2	30-35	SNA 1	6 months	0	No	No
13	50-55	SNA 2	1 month	5 years	No	No
Low Implementing – Blue Class						
8	-	Teacher	2 months	1 year	Yes	No
3	20-25	SNA 1	2 months	0	No	No
16	30-35	SNA 2	2 months	8 years	Yes	No

4.4.2 Overview of Themes

The analysis of the qualitative data generated three distinct yet interrelated themes: “*True Learning*”- *Warts And All*; *Leading the Way and Help! (I Need Somebody)*. Each theme and interrelated sub-theme aligns with the research questions, which focused on the experience of attending the behaviour support workshops and the factors influencing curriculum implementation post-intervention. The themes and their related sub-themes are visually presented in a thematic map seen in Figure 29.

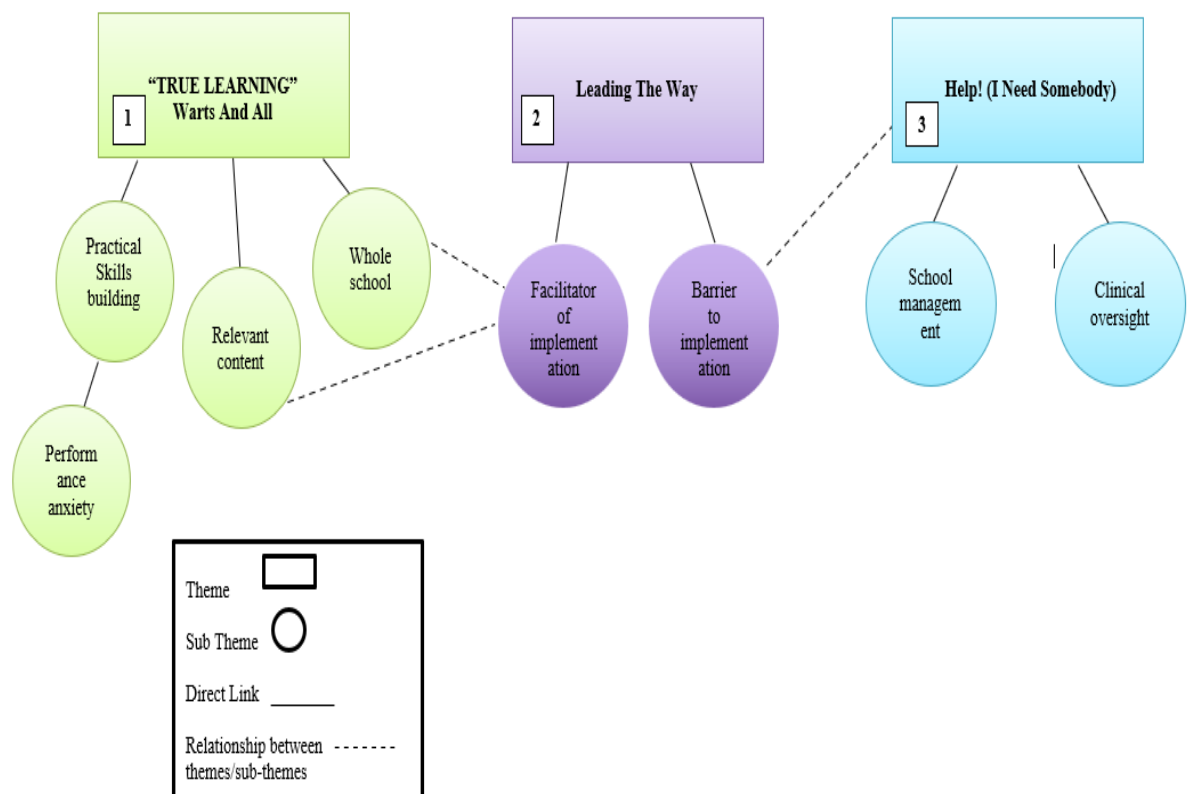


Figure 29: Finalised thematic map.

The following sections will present each theme alongside supporting data extracts. To ensure efficiency and avoid repetition in data reporting, only the most pertinent samples are selected to substantiate the data analysis.

4.4.3 Theme One: ‘True Learning’ -Warts and All

Participants described their experience of attending the behaviour support workshops as an opportunity to engage in what one coined "true learning." Participants described how they felt their active involvement during the PD led to a meaningful learning experience.

I mean, it is the same as anything or in any training I have been involved in before; you can give all the theory in the world, but you just sit back there, and you are passive. You can even demonstrate to somebody, and that is fine, but it is until you get involvement with people, it is that extra dimension, it is that involvement, that true learning takes place. **(SNA 2: Yellow Class)**

The meaningfulness of the learning experience was attributed to several factors. Firstly, participants highlighted the practical skill-building opportunities inherent in a BST-style workshop, which allowed for active learning and immediate feedback. However, this component was also cited as having elicited feelings of anxiety due to the requirement to rehearse publicly. Additionally, participants emphasised the relevance of the workshops' content to their student population and their learning and behaviour support needs. Moreover, the inclusion of the entire school community in the workshops was perceived as beneficial, fostering improved collaboration and a sense of belonging. These factors collectively form sub-themes within the overarching theme of “*True Learning*” – *Warts and All*, which captures the participant's experience of attending the behaviour support workshops.

4.4.1.3 Subtheme: Practical Skill Building

The researcher asked each of the six interviewees which BST components (Instruction, Modelling, Rehearsal, Feedback) they found most beneficial to their learning experience during the behaviour support workshops. All six identified the third and final step of the workshops, ‘rehearsing with feedback,’ as the most impactful component of their learning.

Rehearsing it with your partner was just brilliant. Like, it was fun but really beneficial as well. **(Teacher: Yellow Class)**

The practical side of it. I think the actual doing it for me. It is always about, I suppose, the hands-on experience. **(Teacher: Blue Class)**

Participants were keen to draw comparisons between the BSC and recent PD they had attended, which was solely didactic in nature.

So, I did that with Middletown as well. [Middletown Centre for Autism is a government funded organisation which aims to support the promotion of excellence in the education of Autistic children and young people]. But again, it was more of them expressing what is important. As opposed to the training that you did, which was like roleplay and that kind of stuff. It was more: these are ideas; this is what our kids are feeling. Discussion-based. It wouldn't be like yours now, where it was a structured six-week programme. It was more, it was more just like PowerPoint and then chatting. **(SNA 2: Blue Class)**

The tendency to forget key learning from instruction only PD was also emphasised, particularly by the teacher participants.

I mean, you can sit there in training, and they can just reel things off to you. But then you come back to the school, and you are just back into the busy, busy day. And it just completely leaves your mind. **(Teacher: Yellow Class)**

4.4.2.3 Subtheme: Performance Anxiety

This same PD component (Rehearsals with Feedback) was also cited by multiple participants as having caused trepidation and anxiety.

So, without a doubt, it was the practical for me [the most effective component], but the flip side of that is some people find that quite threatening. Same for a lot of training, like even CPR, and all those things, you know, when you're under scrutiny. When it's all theory, we all will sit back, writing the notes and that. But then if you have to get up in front of an audience. You know? Many people's greatest fear is presentations and presenting yourself. **(SNA2: Yellow Class)**

You know, people really were before it started, people were very anxious, like, are they gonna make me stand up and stuff? And, you know, I know a lot of people would be like that. **(Teacher: Yellow Class)**

The design of the intervention called for a 'blind' baseline rehearsal of each skill prior to participants observing the video model or receiving feedback from facilitators. For this initial rehearsal, participants were handed the resources for each curriculum unit and asked to

roleplay the skill to the best of their ability. This initial rehearsal, in particular, was cited by interviewees as having caused performance anxiety.

Em... the only thing I think was at the beginning, when I suppose I didn't know what I was doing. So, when it was, it was just put in front of us, and we were expected to do it, I was kind of, 'oh my god', I'm like, like that, I was only in a couple of weeks. So, I was kind of 'Oh God'! That was the only part. A little bit daunting, but then once you did it once, it was fine. **(SNA 1: Blue Class)**

Participants who initially reported experiencing anxiety during rehearsals also noted that this feeling dissipated relatively quickly.

I think, as I said, that in the first week, everyone was anxious, and then it just became so natural. **(Teacher: Yellow Class)**

I know, a lot of people in the school talked about being really anxious about having to do that [rehearse], but then it was just so chill. **(SNA 1: Blue Class)**

4.4.3.3 Subtheme: Relevant Content

Participants discussing their PD experiences also highlighted the curriculum content and its relevance to the cohort of students attending the school. They noted that the relevance of the content enhanced their overall experience and facilitated later implementation of the acquired skills.

And I think everyone would agree, like all, each section was so relevant, you know, like to the student profile. **(Teacher: Yellow Class)**

The teacher participants who were interviewed were keen to mention that other PD events they had attended tended to be more aimed at students with SEN who attend school in mainstream settings.

Because sometimes, like, like I said, when we went to the NCSE seminar, a four-day seminar back in January, it was very aimed at, like, students in a mainstream, you know. **(Teacher: Blue Class)**

The fact that the school was in a time of transition was mentioned in relation to the curriculum content. Interviewees felt that the various strands and units were suitable for staff starting out in a special school setting.

And then I loved as well, like, for the new staff. You know, this was really, was perfect timing, because, as I said, a lot haven't been in places like this. So, just start from the ground, teaching them appropriate ways to deal with behaviours and support. **(SNA 2: Blue Class)**

Participants were relieved that during this PD, they could speak freely and easily to the facilitators (who work in a similar context) about the students' profiles and that the complexity of their needs would be readily understood.

Sometimes when you're trying to explain something, you're like, so he does this, he does this, because of this... To give them such a backstory like, you can nearly get lost in asking the question. But with this, it was just, this happens, and then he does this, and you would be able to understand and answer. **(Teacher: Yellow Class)**

When asked why one of their students had seven out of the nine BSC units implemented in their planning, the teacher in the Yellow Class explained that this student had arrived in Ireland just the previous year, had multiple disabilities along with an autism diagnosis, and despite being nine years old, had never been enrolled in a school before.

So, with X [name], I was really struggling kind of because they had just moved from outside of the country and had never been in a school before, even though he was nine. And so, when he came to us, it was kind of really starting from basics; he needed so much help. I just was really struggling with what to do for them and your training really came at such a great time and was such a huge help to me. With him, I could implement all these things [Indicating the BSC]. Cause it just meant I could just kind of start from basics with him, you know, preference assessments, all that sort of stuff, and it really helped. So that's why I would have used it most with him. And he is absolutely thriving now, and I think it really is down to me really meeting him on that level. **(Teacher: Yellow Class)**

The account detailing the profile and context of the student with the most curriculum units implemented suggests that the content may have been especially relevant for students with more complex profiles who were at the beginning of their educational journey.

Another aspect of the behaviour support package referenced as a positive was the breakdown of a number of the BSC into teaching phases, indicating how the skill should be initially taught and then later used in practice.

I love the steps like, you know that you're totally supporting them and then pulling back. You're really like empowering them. Because I think sometimes, I can get a bit lost in teaching this. And I nearly would aim too high. So, it's okay to like completely prompt, pull it back. **(Teacher: Yellow Class)**

This teacher described their previous experience of trying to implement a similar goal from the BSC, which they believe they did not break down sufficiently in the teaching stage and which led to the student acquiring a key communication and advocacy skill in a defective way. They believed that the PD used in this research would have helped them avoid this pitfall with their previous student.

And because even I had a flashback to a few years ago, trying to teach a student to communicate 'No', but at the same time, I was doing 'Yes'. And unfortunately, to this day, he's confused. "Yes, no, yes, no" is what he says, So, that's a lot of guilt, I feel terrible about it. Like, so for you to teach me how to start with the no. You know and it seems so obvious now, that was brilliant. **(Teacher: Yellow Class)**

4.4.4.3 Sub Theme: Whole School Involvement

In discussions about the workshops as a PD experience, participants frequently cited the benefits of attending the PD as a whole school group. SNAs perceived whole school attendance as a sign of being valued and included, while teachers emphasised how attending the PD alongside their SNA colleagues reduced their workload and facilitated the implementation of practices in their classrooms.

And really, the fact that it was the, you know, it was the whole school, I think that was hugely, hugely beneficial because I mean, you know, you as a teacher, you're trying to implement all these things. But if there is a kind of school-wide appreciation of the strategies, then it helps, you know, we're all on the same page. **(Teacher: Blue Class)**

SNA respondents felt they were being valued through this inclusion. One who had previously worked in a mainstream school as an SNA described how, when they attended PD, it was often repetitive and not attended alongside their teacher colleagues.

SNAs do have such a huge role in this school; I never realised I really didn't, until I started, kind of the impact that they have and how much work actually goes in on their behalf. The job we do here, we all do the same work, really. So it was great that we were all included. **(SNA 1: Blue Class)**

For SNAs, it was constantly first aid, first aid, first aid. And more First Aid. And we were separated as a cohort of SNAs. **(SNA 2: Yellow Class)**

Teacher interviewees described how having their SNA colleagues in attendance supported constructive discussion within class teams and aided the timely trialling and later formal implementation of the curriculum units.

We were all in it together, teachers and SNAs, so I didn't need to go back and be like, Okay, this is what we do. And like the 15 minutes in the morning, I'm like okay, start with this, start it this way. Or you know. I just said, we're doing this from the training, and everyone knew what to do. **(Teacher: Yellow Class)**

4.4.4 Theme Two: Leading The Way

All participants reported that they deemed the PD acceptable, relevant, and mostly enjoyable. However, the ability to later implement the curriculum units was directly influenced by classroom leadership. The most prevalent theme identified from participant feedback regarding their experiences implementing the BSC post-intervention emphasised the pivotal role of leadership in shaping classroom practice. In the Yellow Class, where the BSC was widely implemented, the SNA staff identified the teacher as a unifying force who clearly demonstrated what was expected of them in support of implementation. The classroom with low implementation rates cited difficulties with organisation and communication from their class teacher, which they felt impacted their ability to apply their new skills in practice. Both conflicting experiences will now be presented as subthemes.

4.4.1.4 Subtheme: Facilitator of Implementation

In the Yellow Class, where the BSC was widely implemented, both SNAs cited the class teacher's leadership as a facilitating factor. The support staff in this class noted the teacher's

ongoing guidance, career history in the field, and interpersonal skills as beneficial for implementing their skills in practice.

A couple of times before we'd start our day, like we might just run through and X [Class teacher], might just run through a quick like how we're going to deliver it, how we're going to show it to the students and stuff like that. **(SNA 1: Yellow Class)**

Yeah, I definitely think in the whole room like we used it, especially because X [Class teacher], gave us, you know, the guidance, I think around it all - what way we were going to approach it, so we definitely were all on the same page. **(SNA 2: Yellow Class)**

The class teacher's prior work experience as an SNA for several years in a special school before qualifying as a teacher was highlighted as a contributing factor to their effective leadership.

The knowledge base is there, the teacher is proficient. That makes all the difference. It's not all about all the certificates, accolades and whatever; it's about hands-on experience- if you've worked as an SNA, you've got a far better insight. **(SNA 2: Yellow Class)**

The teacher's interpersonal skills and personality traits were acknowledged as key factors that helped staff feel they were working in an environment where it was 'safe' to make mistakes, knowing they would be positively supported.

And if you have people skills and personality and that, to bring other people on board. You're working in that type of safe environment - even when you're doing things wrong. You know they'd [Class teacher] discreetly say, 'well maybe we'll try this'. **(SNA 2: Yellow Class)**

4.4.2.4 Subtheme: Barrier to Implementation

In the Blue Classroom, where the curriculum was used minimally, staff identified classroom leadership as a barrier to effective implementation. One SNA cited the teacher's inexperience and a lack of classroom routine when asked about their experiences using the skills in practice.

Em, our teacher, was still just finding her feet. She was only new herself. So, it was just a bit chaotic in the room. And obviously, with

children with autism, that doesn't work. They need structure; they need routine. **(SNA 1: Blue Class)**

SNAs in this class expressed challenges in applying the curriculum, noting that it is the teacher's responsibility to introduce new targets, while SNAs focus on maintaining the strategies during the school day.

It was also difficult because I've always found that introduction to those kinds of things was at the teacher table [term used in setting to describe 1:1 teaching time with class teacher]. So, if they're going to be introduced, the idea is introduced by the teacher through whatever means of work. And then the practical came into it then, throughout the day. So that would be more me [SNA duties], the practical, as opposed to actually at the teacher table. You know what I mean? **(SNA 2: Blue Class)**

An SNA with considerable experience in special education settings reported successfully applying some of the strategies. However, they observed that without the class teacher's leadership, these strategies were not chosen as goals for the students. Consequently, despite believing these strategies were useful, they were not continued.

I'd try explaining what I was doing today and that it worked well. But like I say, if it's not being pushed by the leader then, it just gets left. **(SNA 2: Blue Class)**

Their colleague noted that they were asking for materials to implement some of the curriculum and then went on to make them themselves. The curriculum materials they mentioned were for Unit 1.2, Choice: First-Then Visual Supports. These were the only units from the behaviour support workshops that were implemented in this classroom. This highlights the instrumental role of the SNA staff in implementing the limited number of strategies in this classroom and suggests that there was an issue with classroom leadership at the time.

So yeah, we definitely needed, we were asking for stuff in the class, visuals and things like that. It might take a couple of weeks to get it, so it was slow, in terms of that side of it. **(SNA 1: Blue Class)**

So, I made first-next boards for all the children in the room. And then we got just the visuals we needed for the schedule, and we implemented it. **(SNA 1: Blue Class)**

SNA 2 was frustrated with what they viewed as a missed opportunity to apply what they regarded as foundational goals for the cohort of students they were supporting.

Can I just say as well, the nine things here in front of me like, [indicating towards the behaviour support curriculum] they are the foundations. So, I found it difficult that it wasn't the sole focus of a new school, with new students, with new teachers and SNAs, that we can't just focus on these for the rest of the year, and really hone in on them you know. Like, we were all crying out for a curriculum, crying out for structure, we were crying out for something to focus on. And you know, it could have been achieved if all these things were the basis of, you know, the focus for the rest of the year. And it was it was disappointing that they weren't followed up. **(SNA 2: Blue Class)**

4.4.5 Theme Three: Help! I Need Somebody.

When asked about how the PD could be improved participants from both classrooms noted that follow-up support would have been welcome. The staff in the Yellow Class highlighted that additional workshops to recap the skills would be beneficial as time went on. Both SNAs and the teacher from the Blue Class (who engaged only minimally in implementing the curriculum) unanimously identified the absence of follow-up support as a critical barrier impacting their ability to effectively apply the strategies learned during the PD. They identified a need for follow-up oversight from the school management and follow-up support from clinical or therapeutic personnel. Both of these form related sub-themes, which will now be explored.

4.4.1.5 Subtheme: Follow-Up from School Management

Both SNAs and teachers noted the importance of follow-up from school management. SNAs mentioned that regular check-ups would enhance accountability and improve implementation. Meanwhile, teaching staff expressed a desire for school-wide PD organised by management to recap on their learning at regular intervals. Responding to a query regarding factors that impeded broader curriculum implementation, an SNA from the Blue Class pointed out their efforts to encourage colleagues to implement their new skills in practice. They suggested that the final explanation for the limited adoption of the curriculum should be sought from the school management, pointing out that they have ultimate authority over teaching and learning within the school.

I would have definitely emphasised and stressed that these things [Indicating towards the BSC] are important and that they should be focused on in our class, with the other SNA and teacher. That these were really important things. And we should really focus on these before we do anything else. So, to answer your question about why they weren't followed up. I don't know. Like, yeah, I don't know, it would have to be more of a managerial answer to that, I think. It's their job at the end of the day. **(SNA 2: Blue Class)**

Both SNAs in the Blue Class advocated for improved managerial oversight and enhanced accountability in relation to classroom practices.

Yeah, and it's tough on the teachers, because they're doing so much anyway. You want to be very motivated for the job. Whereas, if someone else can set that goal for you. Yeah, I just, I think it's important. It's important. **(SNA 1: Blue Class)**

And someone just to keep on top of it because, like it is, it is hard to believe that like for such vulnerable children that there is such limited training and such limited checkups. Like... it is hard to believe that that's the way that goes. Almost like, once you're in, you're in. There should be more regular checkups, I wouldn't be against them, I think it's important that you should be evaluated based on the work you're doing. **(SNA 2: Blue Class)**

The teacher in the Yellow Class expressed a desire to use their monthly 'Croke Park Hours' (a designated time when staff remain in school past the typical school day for meetings or PD) as a possible time for future follow-up on the content covered in the behaviour support workshops.

I do think we could use little extra sessions each month in Croke Park hour; we could all go over them. I think that would be really good, whether it's in your class, or we all come together and do it. **(Teacher: Yellow Class)**

The Blue Class teacher also cited refresher sessions to recap skills over time as something they would like to see organised at a school-wide level.

You know, we need to refresh because I think people can become a little bit lax, when they're doing it all the time, you know, they might forget a step, you know that kind of way, they might, forget something. Maybe we could do this as a whole school in the future. **(Teacher: Blue Class)**

4.4.2.5 Subtheme: Follow-up from Clinical Personnel

Staff in both classes highlighted the potential role of follow-up support from clinical professionals in improving implementation rates. The Blue Class teacher expressed that a debrief would have been beneficial to help activate and apply what they had learned in the workshops.

You're getting all this information, you need to kind of like, it's like anything, you need to kind of debrief and say "Okay, now, what do we do with this? (**Teacher: Blue Class**)

They expressed confidence in their ability to implement more of the BSC, provided they received support in identifying suitable students for each strategy.

So, once we had that instruction, I feel like we could have run it. But it was just picking which students were the right candidates to actually run these things. (**Teacher: Blue Class**)

When asked about ways in which the behaviour support workshops could be improved, various participants identified follow-up support with in-situ observation as a way of enhancing the PD impact.

So, to see you and ask, "Am I doing it right?" If you were supervising, let's say, for a day or for an hour, to see if I had accomplished what was done in the training. And see, like, okay, it's one thing doing it in the room at the time. It's another thing under the pressure of the classroom environment. So maybe that. (**SNA 1: Yellow Class**)

Maybe one thing you could do is. it'd be, like, a follow-up of, like seeing it in place. Like, did that group really understand what we were doing here? Seeing them in action with a student in a classroom. (**SNA 2: Yellow Class**)

Have a BA (Behaviour Analyst) come in on a regular basis and just even pose questions because I think a lot of the time, the way the year is set up is that you already have a break in mind if it's the Halloween break or Easter, whatever. So, it's very easy to just get through the week. Whereas if someone comes in to pose questions, ask questions. Well, then, there's a new focus to that week. Before, we're just looking to get to the end of it. Check, have we achieved this? Have we achieved that? (**SNA 2: Blue Class**)

One suggestion made by an SNA involved seeking external assistance for goal setting. The idea was that an outsider's involvement could potentially encourage people to set higher aims than they might establish independently.

Yeah, setting goals, that maybe someone from the outside could possibly come in and set them for us. As opposed to us trying. You know, to maybe reach a little higher than what we set for ourselves. Now it doesn't matter if you don't achieve them, it's just... Are you going in the right direction? (SNA 2: Blue Class)

4.4.6 Summary of Qualitative Findings

Data gathered during the six structured interviews emphasised the importance of the practical components of the workshops, effective leadership, and the necessity for follow-up support for the successful implementation of behaviour support strategies in educational settings. The first theme (*'True Learning', Warts and All*) showed that all interviewees agreed that active involvement led to meaningful learning, with 'rehearsal with feedback' cited as the most impactful component of the PD. However, this component also induced performance anxiety in some participants. Additionally, interviewees commended the relevance of the BSC content to the specific profiles of students. Furthermore, the involvement of the entire school community was highlighted as advantageous, fostering collaboration and enhancing the sense of belonging among SNAs.

Leadership was identified as a key second theme ("Leading the Way"), with effective classroom leadership recognised as crucial for utilising newly acquired skills. Strong leadership was particularly evident in the Yellow Class, where the BSC was successfully implemented. The leader's hands-on experience and effective interpersonal skills were highlighted as important facilitating factors in this success. Conversely, inexperienced leadership and lack of routine were barriers in the low-implementing Blue Class. The final theme (*Help! I Need Somebody*) highlighted the need for follow-up support from both school management and clinical personnel. The absence of such support was identified as a critical barrier to effectively applying the BSC in the Blue Class. Participants in this class suggested more regular classroom observations from management and goal setting by external professionals to both enhance implementation rates and maintain focus.

4.5 Chapter Summary

This chapter presented the results from the two phases of the research study. Phase 1 encompassed a quantitative evaluation of skill acquisition among participants in nine tailored BSC units and a survey assessing the acceptability of the workshops as a form of PD. Phase 2 focused on how the curriculum was implemented in classrooms, ascertained through reviews of teacher planning and semi-structured interviews.

4.5.1 Phase 1: BST Intervention Results

All participants met mastery criteria in all nine performance skills. The average number of rehearsals needed for mastery in individual curriculum units ranged from 1 (Choice: Colour-coded choice boards with linked schedules) to 2.7 (Tolerance: Support when plans change). The average number of rehearsals to reach mastery over the entire BSC ranged from a low of 1.1 (participant 15) to a high of 2.6 (participant 8). The group average was 1.8 (SD=0.36).

4.5.2 Phase 1: Survey Results

The PD was well-received, with high enjoyment, suitability, and practicality ratings. Most participants found the content highly relevant to their workplace, and all would recommend the PD to peers.

4.5.3 Phase 2: Review of Teacher Planning

Fourteen of the 16 students (88%) had units from the curriculum included in their individual education plans, averaging 2.4 units (SD=1.96) implemented per student. However, there was a noticeable variation in the implementation rates across different classes and students with a range of between zero and seven implementations across the group. This analysis informed the selection of interview participants to understand factors affecting curriculum implementation.

4.5.4 Phase 2: Qualitative Findings

Six semi-structured interviews conducted with participants from the highest and lowest implementing classrooms highlighted three themes: “*True Learning*”- *Warts and All*; *Leading the Way and Help! (I Need Somebody)*. Active learning during the behaviour support workshops was seen as key to effective learning. However, it also led to performance

anxiety for some. Interviewees positively acknowledged the curriculum's relevance and the whole school's involvement. Strong leadership was crucial for effective curriculum implementation, with hands-on experience and interpersonal skills recognised as facilitating factors. Conversely, inexperienced leadership was a barrier to implementation. A need for follow-up support from school management and clinical personnel was identified, as their absence posed a barrier to more widespread curriculum implementation.

Chapter 5 will provide a more detailed analysis of findings, amalgamating and triangulating the results to offer a comprehensive understanding of the impact of the behaviour support workshops within the participating setting.

Chapter 5 Discussion

5.1 Chapter Introduction

This thesis investigated the role of a PD package in facilitating the implementation of a customised BSC in an Irish special school. Evidence-based practices (EBP) recommended for the school population informed the PD package design and complementary curriculum (NCSE, 2016; Hume *et al.*, 2022; Steinbrenner *et al.*, 2021; DE, 2022). Careful consideration was given to ensuring that the content of the BSC aligned with a neuro-affirmative approach to supporting the student population at the school where the research was conducted. The focus was placed on addressing quality-of-life-related needs and challenges rather than attempting to alter behaviour or neurology (Van Loon *et al.*, 2012; Kroll *et al.*, 2024). Parsons, Rollyson, and Reid (2012) identified efficiency, acceptability, and effectiveness as crucial factors in determining the success and sustainability of PD initiatives aimed at disseminating EBP to frontline staff. These factors played a central role in shaping the conceptual framework for the current study, as discussed in Chapter 2 and revisited below in Figure 30. This chapter will align the findings with the study's conceptual framework, research questions, and the broader literature on BST and PD within education.

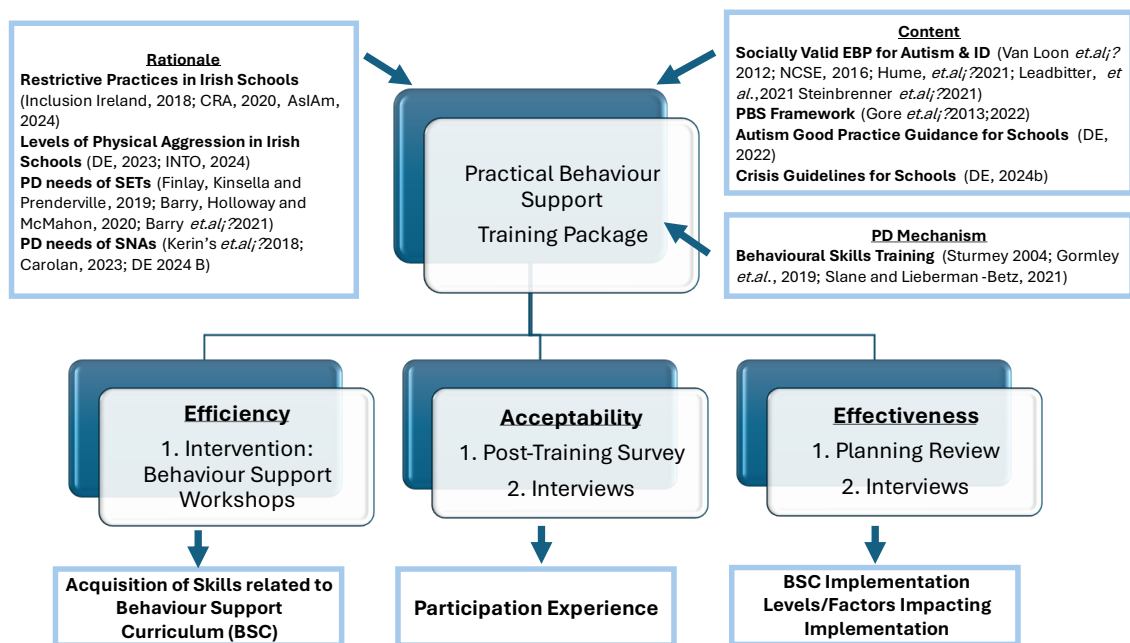


Figure 30: Conceptual Framework used in current research. Adapted from Parsons, Rollyson and Reid, 2012.

5.2 Recap of Research Objectives and Research Questions

Firstly, the study sought to equip staff at the participating school with new skills in PBS, which was assessed through an intervention that included a bespoke curriculum delivered via the PD mechanism of BST. This intervention not only enhanced the skills of the staff but also increased the application of EBP within the educational setting. Secondly, the research aimed to contribute to the PD literature by gathering Irish school staff's opinions of PD, which incorporated BST. This was achieved through a post-intervention acceptability survey and subsequent qualitative interviews with selected participants. The feedback collected provided insights into the staff's perceptions and acceptance of the BST-based PD programme, contributing valuable data to the existing literature. Finally, the study explored the levels of implementation post-intervention and the experiences of staff members who applied their newly acquired skills in classroom settings. This was analysed through a review of planning documents and semi-structured interviews. This phase investigated the practical application of skills and the factors influencing their implementation, offering important insights into the effective application of PBS and EBP in the classroom.

Collecting qualitative data from staff about their experiences participating in the PD and subsequently applying their new skills in practice was a novel approach. This method aimed to add depth to the literature by exploring educators' and SNA's experiences in a nuanced manner, providing insights on how future PD programmes can be improved and effectively implemented. The inclusion of SNAs was particularly novel as they are not usually included in PD initiatives alongside their teaching colleagues in Ireland. In summary, the current research aimed to enhance school staff skills and contribute to the PD literature, as well as to understand the practical application and implementation of PBS in educational settings. The insights gained from this research are intended to inform future PD initiatives and support the effective integration of PBS strategies and EBP in schools.

Phase 1: Intervention

1. Will a behaviour support package, which includes behavioural skills training (BST), increase skills in targeted areas of positive behaviour support (PBS) amongst staff in a special school?
2. Did the participating staff consider the package an acceptable form of professional development?

Phase 2: Implementation

3. Was the behaviour support curriculum (BSC) introduced in the workshops included in the student's education plans post-intervention?
4. What factors influenced the implementation of the curriculum units in classroom practice?

5.3 Efficiency of Behaviour Support Workshops

Efficiency concerning PD emphasises the optimal use of resources to attain specific objectives. It focuses on the output-input ratio to minimise the wastage of resources like time, money, or energy (Sudit, 2012). This research incorporated BST as a PD mechanism within the workshops. Smith *et al.* (2022) reviewed the available peer-reviewed research where BST was used to train front-line staff. One of their main aims was to report on its efficiency, which they conceptualised as the sessions required for participants to reach mastery, the BST component length, and the total workshop duration. The behaviour support workshops of the current study were examined according to these efficiency indicators.

Results from Phase 1 of this study indicate that it is likely that the behaviour support workshops increased skills in the targeted PBS strategies and EBP incorporated into the bespoke BSC. Intervention outcomes showed that participants achieved mastery in each of the nine BSC units, with 1.8 (SD= 0.36) rehearsals needed on average to reach mastery criteria across the entire curriculum. The average number of rehearsals to reach mastery over the entire BSC ranged from a low of 1.1 (participant 15) to a high of 2.6 (participant 8). This aligns with previous research demonstrating the efficiency of BST in teaching role-specific skills to front-line staff (Gormley *et al.*, 2019; Kirkpatrick, Akers and Rivera, 2019; Slane and Lieberman-Betz, 2021; Smith *et al.*, 2022). These outcomes are particularly relevant for policymakers and those responsible for shaping the PD opportunities of school staff in Ireland. This is especially noteworthy because no previous research has applied BST in PD with Irish teachers and SNAs. A critical observation for these decision-makers is that SNAs acquired the skills at rates comparable to teachers during the workshops, underscoring the method's wide applicability and effectiveness across different roles. These findings would concur with research where paraprofessionals working in schools in other jurisdictions (where paraprofessionals have wider pedagogical

responsibilities than SNAs) have been successfully trained in EBP (Brock and Anderson, 2021).

In total, 17 participants successfully mastered nine multi-step skills over the course of six workshops, which spanned a total of nine hours. Each skill was a combination of various EBP for the population, with seven distinct EBP included in the BSC. A typical workshop in the current research lasted around 90 minutes, with two skills imparted per workshop. The instruction component of each curriculum unit typically lasted around 15 minutes, the modelling component lasted 5 minutes, and the rehearsal with feedback components was combined and lasted around 25 minutes. This demonstrates that the content could be covered didactically, without the modelling and rehearsal with feedback components, in just 30 minutes. The methods employed in the workshops required more time than traditional training methods, which rely on instruction-only seminars without rehearsal opportunities or competency criteria. The need for repeated practice and feedback for participants increases the total time required for a BST-orientated workshop over a more traditional model of PD. This increased time requirement might explain why human service organisations like schools often continue using lecture-based training approaches (Reid, 2004). One finding related directly to the efficiency of the workshops was the result from the post-intervention survey question, which asked participants, *'How practical or impractical was the training in terms of the amount of your time and effort to participate?'* Participants were unequivocal in their positive response, with 88% (N=15) agreeing that it was either 'very' or 'extremely' practical. These results demonstrate that the time involved was not considered overly burdensome from the participant's perspective. Seventeen participants successfully mastered nine skills, incorporating seven distinct EBP, over the course of six workshops, which spanned a total of nine hours.

The PD was conducted without disrupting educational services, illustrating how PD can be efficiently integrated at the school level with content tailored to the specific needs of the student population. However, the requirement for staff to attend for 90 minutes beyond their regular working hours depends on their willingness and cooperation, as teaching staff are not obliged to undertake any PD after they complete their initial induction (King, Brennan and Gorman, 2023). Therefore, in Ireland, greater planning and negotiation are needed regarding teacher and SNA contracts to ensure that PD is an integral part of the academic year. This approach would reduce reliance on individual willingness to voluntarily participate or solely attend PL/D during summer months when there are no

immediate opportunities to implement what has been learned. One approach to facilitate a wider roll-out of this form of PD would be to encourage schools to aggregate some of the additional hours that staff are required to attend outside of normal school opening hours under the Croke Park Agreement (DES, 2011). This Public Service Agreement mandates that SNAs attend school for an additional 72 hours and teachers for 36 hours annually. Policy could be developed to recommend that schools utilise this time for joint PD initiatives, fostering collaboration and skill development among staff.

Much BST research involves PD with a one-to-one facilitator-participant ratio (Smith *et al.*, 2022). Following other researchers who used BST in group PD (Hahs and Jarynowski, 2018; Gormley *et al.*, 2019), the current study demonstrated how to improve facilitator-to-participant ratios by providing instructions didactically, using video models and having participants rehearse together alternating between roles as both students and supportive adults while facilitators provide feedback. The behaviour support workshops in the current study required one facilitator for every four participants. Other researchers have employed higher facilitator-to-participant ratios in similar BST-based PD without significantly increasing the time needed for skill development. For example, Gormley *et al.* (2019) conducted BST-based PD with 17 participants in the adult disability sector and used only two facilitators. However, even these ratios are still lower than those typically seen in instruction-only PD sessions. In contrast, standard PD often features one facilitator for a large group, with NCSE seminars typically having 1 facilitator for every 30-40 attendees (NCSE, 2024c). Adopting a lower facilitator-to-participant ratio, as required in BST-based PD, would lead to higher human resource costs. A potential cost-saving solution to address this issue is to implement a pyramidal approach to delivering this type of PD at the school level. In this model, a skilled facilitator first trains assistants from within the organisation's staff, who then deliver corrective and supportive feedback during group-based workshops (Parsons, Rollyson, and Reid, 2013; Lerman *et al.*, 2020), thereby reducing the reliance on external facilitators while maintaining the quality of skill development. Additionally, these assistants are available for on-the-job coaching after the BST workshops have concluded, providing ongoing support to staff (Maffei-Almodovar, Sturmey, and Jessel, 2024). Future researchers should systematically investigate these cost-saving measures to determine their effective implementation boundaries.

During the behaviour support workshops, one notable learning effect was observed: participants who first assumed the role of the student reached the mastery criteria faster

when they later assumed the supportive adult role. This was most likely due to their opportunity to observe their colleague as they rehearsed and received corrective and supportive feedback. These learning effects align closely with observational learning theory, which describes a fundamental process in social cognitive theory that involves acquiring knowledge and skills by observing others' actions and the outcomes of those actions (Bandura, 1977). Research in observational learning has shown that it is an essential process for acquiring both simple and complex sensorimotor tasks. This process involves the integration of sensory information with motor actions to develop and refine complex motor skills (Heyes and Foster, 2002). Examples of complex sensorimotor skills include playing a musical instrument, performing surgical procedures, or engaging in activities like dance or sports (Bassett *et al.*, 2015). In this current research, the participants who initially assumed the role of the student in the rehearsal sequence had the opportunity to observe their partner learn the skill and receive feedback during the process. Systematically counterbalancing roles (Gormley *et al.*, 2019) managed this spillover learning effect; participants who began as students for one curriculum unit were assigned as supportive adults first for the subsequent unit. While facilitators employing these methods should consider this phenomenon and manage it through role rotation, it should be viewed as beneficial since it leads to faster skill acquisition across the group. Future research could more closely monitor the rates of skill acquisition between the groups of first and second performers to determine the effects of observational learning on skill acquisition rates.

5.4 Acceptability of PD by Participants

Whether PD has a sustained impact on workplace practices is directly related to how the participating staff receive the PD. (Wolf *et al.*, 1995; Parsons, Rollyson and Reid, 2012). Regardless of known effectiveness, if staff are dissatisfied with aspects of a PD experience, it increases the likelihood of the newly acquired skills being discontinued or newly acquired knowledge being discarded (Darling-Hammond, Hyler and Gardner, 2017). Quantitative data from the anonymous post-intervention acceptability survey and qualitative data from six semi-structured interviews with staff were examined to determine the acceptability of the PD workshops in this study. The survey results were unequivocal: all 17 participants would recommend the PD to colleagues working in similar contexts. The anonymous survey assessed acceptability in terms of enjoyability, suitability, and practicality of the PD, with average ratings ranging from "6" (very) to "7" (extremely),

reflecting similar outcomes from previous research where this survey was employed (Parsons, Rollyson, and Reid, 2012). Despite past research suggesting that certain work environments might resist the structure and language of behavioural interventions (Gormley *et al.*, 2019), a notable outcome of the current study was that 94% (N=16) of participants deemed the package 'extremely relevant' to their professional setting. This indicated a high level of applicability and acceptance of the PD in the context of the research setting. The qualitative phase of the study allowed the researcher to explore the experiences of participants in greater depth, providing a deeper understanding of the phenomena that influenced the high acceptance reported in the post-intervention surveys. These findings will now be discussed

5.4.1 Whole School Involvement

In addition to improving implementation, the joint-training opportunity offered in this research was cited by participants as a factor which improved the PD's acceptability. Qualitative data collected during participant interviews suggested that the whole-school participation promoted collaboration and enhanced a sense of inclusion and belonging amongst SNAs in particular. These findings support that of Ryan-Sheehan (2023), who examined the classroom relationships of mainstream teachers and SNAs and found that schools could enhance collaborative partnerships with joint PD. SNAs in this study felt that the opportunity to attend joint PD with their teaching colleagues would “put them on an even keel in the classroom” (ibid, 2023, p.519). Paraprofessionals such as SNAs have been described as the employees with the “least amount of power and agency in the education system” (Webster and De Boer, 2021, p. 296). Irish SNAs have described experiencing a certain amount of marginalisation within the educational system (Logan, 2006; Kerins *et al.*, 2018; Ryan-Sheehan, 2023) and have called for greater access to PD as one way of addressing this marginalisation (Kerin's *et al.*, 2018; Fórsa, 2022). SNAs reported that they were motivated by their inclusion in this research and PD, which pertained to their students' behavioural well-being, compared to previous experiences of segregated, generic PD covering topics like First Aid. Despite the DE issuing various guidelines and frameworks promoting whole-school approaches to reduce behaviours of concern (DES, 2006; NEWB, 2008; DE, 2022), SNAs are currently not permitted to attend the PD seminars offered by the NCSE that promote behavioural well-being in schools (NCSE, 2024c). The Special Needs Assistant Workforce Development Unit (SNAWDU) recently published findings from its focus group and survey-based research. Both school

leaders and SNA respondents highlighted the need for improved PD opportunities, including PD in behaviour support (DE, 2024c). The findings from this current research suggest that one way to address these needs is to engage whole-school teams in PD focused on the behavioural support needs of the specific school population. Delivering this PD on-site would allow classroom teams of teachers and SNAs to attend and learn together. The results also indicate that attending joint-PD opportunities can improve the acceptability of the PD by fostering a sense of collegiality and togetherness amongst the whole school team.

5.4.2 Behaviour Support Curriculum Content

In the qualitative interviews, staff commended the content of the behaviour support workshops for its perceived relevance to their students' needs, contrasting it with other PD that was often regarded as less applicable. For instance, a teacher referred to an NCSE seminar for new autism class teachers, noting, "When we went to the NCSE seminar, a four-day seminar back in January, it was very aimed at, like, students in mainstream, you know." This contrast highlights the curriculum used in this research as particularly suitable and effective for the unique educational needs of students enrolled in this special school. It suggests that participants felt it was a better use of their time compared to the referenced four-day seminar. Currently, the NCSE provides the same four-day PD package to both mainstream and special school teachers who have been newly recruited to autism classes (NCSE, 2024e). 88% (N=15) of participants in the current study who attended this NCSE-provided PD indicated that the content covered in the current research intervention better met their needs. These results suggested that schools supporting Autistic students with more complex presentations and co-occurring diagnoses require more tailored PD than our national provider of educational PL/D currently offers.

5.4.3 Acceptability of BST as a PD Mechanism

The impact of PD on workplace practices hinges on how staff receive the PD (Guskey, 2002; Desimone, 2009). Research which examined the acceptance of BST-based PD finds that it is generally well-received by staff (Reid, Parsons and Rotholz, 2015; Reid *et al.*, 2019). Both quantitative and qualitative data from the current study indicated high acceptance and applicability of the PD workshops among staff. Reid *et al.* (2019) extensively evaluated the acceptance of PD that included BST over a period of ten years. They discovered that the most frequent positive feedback about this type of PD related to

the opportunities provided for rehearsal. This was replicated in the findings of this research. Results from the anonymous post-intervention surveys showed that most participants found the PD experience enjoyable, with 65% (11 out of 17) rating it as very or extremely enjoyable. Additionally, 94% (16 participants) rated it as very or extremely suitable, and 88% (15 participants) considered it very or extremely practical. The detailed interviews with participants provided greater insights into why they rated the PD as they did. Participants all highlighted the rehearsal aspect of the PD workshops for its practicality in teaching new skills, considering it the key to 'true learning'. These findings align with reasons proposed by previous researchers for the high acceptance of this type of PD experience. Parsons, Rollyson, and Reid (2012) found that staff favour this form of PD as it enables them to:

Acquire skills that can be immediately used on the job to the benefit of their consumers, unlike training that requires time and effort without instilling confidence in their ability to implement new skills (Ibid, 2012, p.9).

The survey question about the enjoyability of the PD received the least positive response, though it was still generally favourable. 65% (N=11) of participants rated it as either "Very" or "Extremely" enjoyable, while 35% (N=6) chose "Mostly" (point 5 on the 7-point Likert Scale), a notably less positive response compared to the other questions. For instance, 88% (N=15) rated the PD as 'very or extremely practical', and 94% (N=16) found it 'very or extremely relevant'. The moderately lower scores for enjoyability can be better understood in conjunction with the qualitative interview findings. Several interviewees mentioned experiencing performance anxiety related to the rehearsal aspect of the workshops. They spoke about the contrast of this type of PD with theory-based learning and how public presentation is a fear-provoking experience for many people. One SNA reflected on this:

When it's all theory, we all will sit back, writing the notes. But then, if you have to get up in front of an audience, you know? Many people's greatest fear is presentations and presenting yourself. **(SNA 2: Yellow Class)**

According to the National Institute for Health and Care Excellence (NICE, 2013), 12% of adults experience social anxiety disorder at some stage in their lives. Social anxiety is characterised by a fear of negative evaluation in social or performance contexts (Veale, 2003). This is relevant in the context of this research, where participants were required to perform skills in front of colleagues while their performance was evaluated. Such a scenario

can understandably induce a fear response, particularly among those predisposed to social anxiety. The baseline performance, in particular, was identified as a source of apprehension. During this rehearsal, participants were asked to perform the skill unaided, without prior exposure to the video model or facilitator support. An SNA from the Blue Class described feeling overwhelmed: "So, when it was, it was just put in front of us, and we were expected to do it, I was kind of, 'oh my god'". While this step was required for research purposes, it is unnecessary outside such a context. Participants could first watch the video model and then perform the skill with feedback, hopefully reducing the anxiety caused by a 'blind' baseline performance.

The findings related to acceptability highlight the importance of tailored PD experiences, particularly for staff working in settings where the students have more complex needs. Additionally, they emphasise the value of practical skill acquisition through rehearsal, aligning with previous research findings on the benefits of such PD (Kirkpatrick, Akers, and Rivera, 2019).

5.5 Effectiveness of PD on Curriculum Implementation

While efficiency measures focus on the process, effectiveness gauges the degree to which objectives are realised (Jones and George, 2019). Efficiency optimises resource usage, while effectiveness concerns desired outcomes or goals (Robbins and Coulter, 2016). Understanding these distinctions is crucial when interpreting these research findings. PD can be efficient yet ineffective if it fails to achieve its objectives or effective yet inefficient if it consumes excessive resources (Ofsted, 2006). The shortcomings in evaluating how PD impacts classroom practices and educator behaviours are well documented (King, 2014; Merchie *et al.*, 2018). King (2014) reported that evaluating the effectiveness of PD in education is the "weakest link in the PD chain" (ibid, 2014 p. 91). Traditional PD delivery methods have been criticised for their ineffectiveness in establishing targeted performance skills (Sturmey, 1998; Parsons, Rollyson, and Reid, 2012) and for being too reductionist to impact classroom practices significantly (O'Sullivan, 2011). In Ireland, PD provided through in-service and seminar-based instruction has also been reported to have a limited effect on classroom practice (Sugrue, 2011). Although the PD workshops in this research required more time and human resources than instruction-only seminars, the documented implementation in teacher planning demonstrates that this approach is a viable and effective alternative to the conventional PD methods offered by the NCSE. On these

grounds, they should be considered by policymakers charged with improving the delivery of school-based PD in behaviour support and EBP. The findings that demonstrated that both SNAs and teachers acquired the skills at similar rates are particularly noteworthy where the PD of special schools and classes are concerned.

In Phase 2, the review of teacher plans was introduced as a novel method for measuring the implementation of the BSC. The review identified 38 instances of BSC unit implementation across sixteen students, with the number of implementations ranging from zero to seven per student. The average number of implementations was approximately 2.4 (SD = 1.96) units per student. This level of implementation is viewed as an indicator of the curriculum's effectiveness. The curriculum was not designed to be implemented in full; rather, it was offered as a flexible suite of options. Participants were encouraged to exercise their professional judgment in applying the curriculum, selecting goals that best addressed the most immediate needs of their students. This aspect of the research was crucial to ensure alignment with the goals of the evidence-informed framework (Brown, 2017; Kumah et al., 2019) and to provide the teachers with the autonomy recommended in teachers' PL/D (Kennedy, 2014a). A further notable measure of effectiveness is that 14 of the 16 students (88%) had at least one BSC unit implemented. Implementation rates varied widely between classes: the Blue Class had the lowest mean rate at 1 per student, while the Yellow Class achieved the highest at 3.5. Notably, two students in the Green Class had no units implemented in their plans. In contrast, a student in the Yellow Class had seven BSC units integrated into their learning plans. During the qualitative interviews, the teacher in the Yellow Class attributed the high levels of implementation required for this student to their lack of formal education and the presence of behaviours that posed health and safety concerns to the student and peers. This student had never attended school before enrolling at age nine, just four months prior to this research. Since only teachers from the highest and lowest-implementing classrooms were interviewed for this study, it was not possible to understand the rationale of the teacher in the Green Class, where two students had zero curriculum units implemented. Given that the student with the highest level of implementation was reported by their teacher to have very complex needs, it would have been beneficial to have a more in-depth understanding of each student's profile to compare these to the implementation results. However, this was not something that had ethical approval. Future research could examine implementation with a greater emphasis on the students' profiles and behaviour support needs.

The considerable variation in curriculum implementation across classrooms led to the investigation of potential influencing factors. One approach was to examine the mean number of rehearsals required by teachers to master all skills during the behaviour support workshops. Focusing on teachers was appropriate as they were responsible for incorporating curriculum units into students' individualised learning plans. There was a correlation between the number of rehearsals needed to reach mastery and the rate of implementation post-intervention: teachers requiring more rehearsals tended to have lower implementation rates. For instance, the teacher in the highest implementing class needed 1.8 rehearsals on average to master the BSC units. Meanwhile, the teacher in the lowest implementing class required the most rehearsals of all 17 participants, averaging 2.6. This indicates a potential link between the rate of skill mastery during the workshops and the subsequent application of skills in practice. Furthermore, reviews of BST research have concluded that in-situ coaching, provided in the classroom post-intervention, provides a practical context that helps embed and sustain new skills acquired during BST (Buck, 2012; Kirkpatrick *et al.*, 2019). This was not a feature of the current study; however, future initiatives could focus on the number of rehearsals individuals require to reach criteria during the workshops. The data from this research indicates that providing additional targeted post-intervention support to those who take longer to master skills during BST could potentially lead to broader and more effective implementation in classroom settings.

The intervention design required participants to rehearse target skills directly after the instructional component of the workshops, with scores from this rehearsal recorded as each participant's baseline performance. The group results for each of the nine BSC units can be viewed in Section 4.2.1. When averaged across all nine BSC units, the group baseline score revealed an initial performance accuracy of 30% before the modelling, rehearsal, and feedback components were completed. However, there was a wide range in baseline scores across different units. The lowest group baseline score was 5% in Unit 2.3 (Functional Communication Training: "No"), while the highest was 86% in Unit 1.3 (Choice: Rolling Schedule), demonstrating considerable variation in initial proficiency with different skills. A plausible explanation for the notably high baseline performance in Unit 1.3 is the self-explanatory nature of the materials used, as shown in Appendix L. The design of the colour-coded, three-part schedule and its corresponding-coloured cards may have enabled participants to easily understand most of the steps through visual inspection. This inherent comprehensibility likely contributed to the higher baseline scores in these units. However, when examined in conjunction with implementation rates, no evidence suggested that

higher baseline scores led to greater implementation. For instance, Unit 1.3, despite its high baseline, was the third least implemented skill, with only three instances of classroom application. These findings are noteworthy as they indicate that the inherent comprehensibility of the materials did not influence the extent to which the curriculum was implemented in practice.

Data were also analysed to determine if skill complexity affected implementation rates. Skill complexity was determined by the number of steps required to complete the skill's rehearsal as listed in the BSC unit's accompanying mastery assessment. This analysis suggests a link between complexity and implementation: the three most implemented skills (First-Next Visual Schedule, Learning to Wait, and Tolerating 'Not Available') averaged 7.7 steps. In contrast, the least implemented skills (Communicating 'No', preference assessments, and tolerating surprise schedule changes) averaged 13.3 steps. This relationship should be considered when designing skills-based PD focused on future implementation. The implication is that designers should aim to keep skill sequences as concise as possible to encourage future implementation.

All recorded implementations occurred for the first time on a date after they were introduced in a behaviour support workshop. However, a recognised limitation of the implementation findings is that planning documents were not available for all four classrooms prior to the behaviour support workshops. As noted in Section 4.3 of the Methodology Chapter, only the Yellow Class had educational planning that predated the workshops. Because the majority of the students were still transitioning into the school at the time of the study, their teachers had not completed educational planning in most cases. This limitation affects the strength of the results in suggesting that the PD alone influenced the curriculum unit's implementation. However, the five students in the Yellow Class had planning documents available from January 23rd, four weeks prior to the commencement of the workshops. This indicates that the teacher had not considered the implemented units (N=14) prior to the workshops. If using educational planning documents to measure implementation in future studies, researchers should eliminate this limitation by ensuring that the PD only occurs when planning documents exist for all participating teachers. In the case of this study, the PD was fulfilling a need at a time of need for a school that wished their staff to receive PD in positive behaviour support, and waiting until planning existed for all may not have been an ethically sound research decision. The next paragraphs will

examine individual factors that were cited by participants as directly influencing their ability or not to implement the behaviour support curriculum in practice.

5.6 Factors Influencing Effective Implementation

As Guskey (2002) emphasised, positive evaluation of staff PD experiences plays a pivotal role in the later application of knowledge and skills acquired during professional development. Therefore, a thorough understanding of participants' experiences during the PD workshops is vital to enhance the effective implementation of skills post-intervention in future implementations. While extensive research has confirmed BST's efficiency in imparting role-specific skills, studies have shown that BST-based workshops alone may not guarantee staff application of these skills in practice (Reid, O'Kane, and Macurik, 2021). Understanding the factors affecting the application of newly acquired skills in classroom settings was a central objective of this research. There is a lack of published literature exploring the qualitative perspectives of participants who attended PD, which incorporated a BST approach. While some studies, such as those by Parsons, Rollyson, and Reid (2012) and Reid et al. (2019), have utilised acceptability surveys to gather participant feedback, the current research is notable for its novel use of qualitative interviews. These interviews were employed to ascertain participant perceptions of BST-based PD and their experiences implementing the skills in practice. Reviewing teacher planning was employed as a novel way of identifying which classroom teams had implemented the most and the least of the behaviour support curriculum post-intervention. This information was crucial for selecting participants for qualitative interviews to obtain varied insights into the factors influencing curriculum implementation. These interviews provide an in-depth look at the opinions and experiences of staff participating in PD, which included BST as a PD mechanism. Factors highlighted by participants pertaining specifically to their experience of implementation will now be discussed.

5.6.1 Rehearsal Opportunities

Desimone (2009) identified 'active learning' as a critical feature of effective professional development in education. They describe this as watching expert teachers and being observed, followed by interactive feedback and discussion. Through the qualitative interviews, interviewees unanimously agreed that active participation was key to meaningful learning, highlighting 'rehearsal with feedback' as the most effective component of the BST-based workshops. The active learning approach taken in this

current research contrasts with the current approach taken by the NCSE regarding PD in behaviour support. The NCSE currently offers four courses based on behaviour support to teachers. These courses are structured as didactic seminars, focusing on knowledge transfer and lacking opportunities for skill rehearsal with facilitator feedback (NCSE, 2024c). Participants spoke about how the opportunity to observe and rehearse during the workshops led to them being better able to implement the skills in practice; one SNA remarked: “If I can visually see it being done, I can replicate it in school”. Policymakers focused on improving the PD of school staff should consider the findings of this study, which demonstrate the value of incorporating rehearsal opportunities into the design of PD programmes. It is important to acknowledge that while the practical aspect of the workshops was deemed most effective, it also elicited performance anxiety among certain participants. Through the interview process, participants articulated their experiences of the workshops, revealing feelings of anxiety that may not have been otherwise apparent. Future implementations of PD incorporating BST in educational settings should consider accommodations to mitigate this anxiety. One potential adjustment could be recording a role-play of the rehearsal with feedback stage and providing this video model to participants, illustrating the supportive environment intended for that phase of the PD. Another modification could involve relieving assistants of scoring responsibilities and allowing staff to self-score their performance during rehearsals. Since scoring fidelity is less crucial outside a research context, self-scoring could create a more relaxed and supportive atmosphere for school staff.

5.6.2 Behaviour Support Curriculum Content

While the content of the BSC has been previously discussed in terms of its influence on the acceptability of the PD, it also impacted the implementation of the BSC in practice. In educational research examining the effectiveness of teachers' PD, ‘content focus’ is considered one of the most influential factors affecting its later impact on practice (Garet *et al.*, 2001; Desimone, 2009). Content focus highlights the importance of aligning PD efforts with the actual content that educators teach, ensuring that these efforts are directly relevant and immediately applicable in their instructional roles (Guskey, 2001; 2003). In a large-scale evaluation of BST-based workshops, Reid *et al.* (2019) found that ‘workshop content’ was a frequently cited factor when asked, “What was the best thing about the training?”. The authors specifically found that participants prefer content that provides new knowledge and is clearly relevant to their work (ibid, 2018). The results from the current

study mirror these findings in both the survey results and qualitative data. Participants commended the relevance of the curriculum content specific to the school's student profile. The content's suitability was rated as "very" or "extremely suitable" for "learning information and skills relevant to your current workplace" by 94% (N=16) of participants, making it the most positively rated question on the anonymous survey. Interviewees mentioned that the content covered was highly relevant for the student cohort attending the school. Some contrasted it with recent PD they had received, designed for all teachers starting in newly established autism classes, where they felt a lot of the content was not relevant. In addition to being well-suited to the student population, several interviewees noted that the school's transitional phase made the content particularly relevant. They highlighted that much of the curriculum content serves as a foundation for developing consistent and predictable routines and for identifying student preferences. In terms of specific influence on implementation, the teacher who used the curriculum the most stated, "I think everyone would agree, each section was so relevant to the student profile" (Teacher: Yellow Class). This teacher also praised the breakdown of the BSC units into teaching phases, believing it would help them avoid previous pitfalls they had encountered when teaching similar goals.

I love the steps like, you know that you're totally supporting them and then pulling back. You're really like empowering them. Because I think sometimes, I can get a bit lost in teaching this. And I nearly would aim too high. So, it's okay to, like, completely prompt, pull it back. **(Teacher: Yellow Class).**

This finding aligns with what Desimone (2009) asserts about content focus in teachers' PD. Stating that it should focus not just on subject matter but on how students learn the content and that it is this that leads to improvements in practice.

These findings suggest that designers of PD aimed at supporting Autistic students should more closely consider students with co-occurring intellectual disabilities and other complex needs and ensure that PD is adequately tailored to the specificities of these students and the challenges they face in school.

5.6.3 Whole School Involvement

The involvement of the entire school community in this research impacted both its effectiveness and acceptability. This section will discuss how this involvement enhanced

the PD effectiveness by facilitating implementation. Engaging whole-school teams in joint PD experiences has been recommended as advantageous for improving educational PD and inclusive practice in schools (Sugrue, 2011; NCSE, 2018; NCSE, 2019). As far back as 2006, the Task Force for Student Behaviour suggested that PD related to behaviour support should build capacity across the whole school to “heighten the likelihood of new initiatives or improvements taking hold” (DES, 2006, p.97). The feedback from teacher interviewees was that attending the PD together led to a “school-wide appreciation of the strategies”(Teacher: Blue Class) , in keeping with the findings of Bertuccio *et al.* (2019), who found that joint PD led to improved cohesion between classroom teams. The Yellow Class teacher emphasised that the whole-school approach facilitated implementation and successful delegation, primarily due to the ease of communication among the entire team (Da Fonte and Capizzi, 2015). They mentioned how they could easily guide SNA staff each morning to "try this from the training," and it would be easily understood and promptly implemented. These findings suggest that joint onsite PD can address one of the main limitations of short, one-off seminars (Sugrue, 2011) by having a greater impact on classroom practice.

5.6.4 Classroom Leadership

Effective classroom leadership was a key factor influencing the implementation of the behaviour support curriculum. The class with the highest levels of implementation benefitted from strong leadership, characterised by extensive hands-on experience working in special education settings and effective interpersonal skills. Conversely, the low-implementing Blue Class struggled with poor classroom management, which the SNAs attributed to inadequate leadership. In the Blue Class, SNAs expressed frustration over the lack of implementation following the PD workshops and reported a slow response from the classroom teacher. The teacher in this class had no prior experience working in a special school or class and had only one year of teaching experience. It is known that paraprofessionals, such as SNAs, rely heavily on the guidance and supervision of special education teachers (Douglas, Chapin, and Nolan, 2015). However, research has shown that most teachers do not have allocated time for planning or providing feedback to the support staff they work with (Blatchford *et al.*, 2009). The National Council for Special Education (NCSE) review of the role of SNAs in Irish education (2018) states that SNAs should work "under the direction of and in collaboration with teaching staff" (NCSE, 2018, p. 92). The report stops short of explaining how this collaboration should be developed and nurtured.

Research in this area supports formalised supervision and confirms that it positively influences paraprofessional performance (Giangreco, Doyle, and Suter, 2014). In special schools, such as the setting of this research, classroom teams typically consist of one special education teacher and between three and five SNAs. Teaching in these classrooms requires a unique level of leadership and supervision, which is poorly researched in Ireland. The findings from this current study suggest that for PD to have a greater impact in these classrooms and schools, class teachers may need to develop leadership skills that enable them to guide, motivate, and manage a team of adults. The recently established Special Needs Assistant Workforce Development Unit (SNAWDU) has been charged with providing clarity and direction for the SNA workforce in the future (DE, 2023c). The SNAWDU should consider investigating the unique teacher-SNA relationship in special classes and schools, define what effective in-situ supervision should consist of and provide teachers in these roles with PL/D in this area.

The teacher in the Blue Class, who required the most practice for skill mastery and implemented the least of the curriculum, expressed a preference for external support or guidance from school management in selecting suitable students for the various behaviour support curriculum units. This teacher remarked, “Once we had that instruction, I feel like we could have run it. But it was just picking which students were the right candidates to actually run these things,” indicating potential uncertainty in applying the skills learned in the PD workshops. This uncertainty might reflect a lack of confidence, a factor closely linked with teacher efficacy, as noted by Sharma and Sokal (2015). Teacher efficacy is pivotal in education and influences both teaching practices and student outcomes. It encompasses teachers' belief in their ability to facilitate student learning and achievement (Horan and Merrigan, 2019; Zakariya, 2021). Woodcock and Faith (2021) found that teacher efficacy influenced teachers' abilities to effectively implement inclusive practices in the classroom. Although this research did not specifically investigate teacher efficacy, it is evident that this area warrants further exploration to better understand its impact on the implementation of skills-based PD.

5.6.5 Follow-Up Support

From the extant BST research, it is already established that in-situ follow-up support plays a crucial role in ensuring the successful generalisation and maintenance of skills post-BST (Kirkpatrick, Akers and Rivera, 2019; Smith *et al.*, 2022). It is, therefore, unsurprising that

both SNA and teacher participants highlighted a need for follow-up support from both school management and clinical personnel. Some participants identified the absence of such support as a critical barrier to effectively applying the behaviour support curriculum. This finding would align with previous Irish-based research examining teachers' knowledge and use of EBP in the classroom. Barry *et al.* (2021), in their study of 369 Irish teachers working in special autism classrooms, highlighted the importance of professional support in enhancing teachers' capacity to implement EBP for Autistic students. Their findings indicate that teachers who received more support reported more frequent use of EBP. However, the study also revealed that teachers generally received minimal support from other professionals, with 80% receiving two or fewer support visits per year and 25% reporting no access to professional support. Participants in this current study stated that they would welcome more regular classroom observations from management and external professionals to both enhance implementation rates and maintain focus. Guskey (2009) identified follow-up support as a key ingredient to ensuring PD was translated into student gains. "Educators at all levels need just-in-time, job-embedded assistance as they struggle to adapt new curricula and new instructional practices to their unique classroom contexts" (Guskey, 2009, p.297).

A notable finding was the participants' varied interpretations of the follow-up support needed. Both high- and low-implementing classrooms agreed that follow-up support would enhance their ability to sustain new skills over time and that input from on-site clinicians could ensure fidelity in skill implementation. In the low-implementing classroom, SNAs suggested that more oversight from management and clinicians could help maintain focus and provide clearer goals. The teacher in this class noted that greater implementation of the behaviour support curriculum could have been achieved with clinician support in aligning curriculum units to individual students. Interestingly, the teacher in the Yellow Class, who implemented most of the BSC, viewed follow-up practice as something they could facilitate themselves. They identified their monthly 'Croke Park Hours'—designated time for staff meetings or training—as a potential opportunity for this follow-up practice.

I do think we could use little extra sessions each month in Croke Park hour; we could all go over them. I think that would be really good, whether it's in your class, or we all come together and do it.
(Teacher: Yellow Class)

The Yellow Class teacher's comment underscores their self-efficacy and confidence in their teaching and leadership abilities, attributes previously discussed as potential contributors to the higher implementation rates in this class. BST research refers to these types of periodic follow-up sessions as "booster sessions" (Maffei-Almodovar and Sturmey, 2018), and researchers reviewing BST have emphasised their importance in maintaining its effectiveness (Kirkpatrick, Akers, and Rivera, 2019). A cost-saving approach to facilitating booster sessions could involve incorporating video models, like those used in this study, into all skills-based PD. Ensuring that these video models are made available to schools would allow for ongoing booster sessions in the future without requiring additional external resources.

These findings highlight that participants regarded follow-up support as essential for improving their ability to implement skills after BST-based PD. However, perceptions of this support varied, with some participants viewing it as requiring external assistance, while others saw opportunities to address challenges through problem-solving within the school's existing resources.

5.7 Triangulation of Intervention and Implementation Findings

Having previously discussed the findings in relation to the conceptual framework designed for this research, this section will summarise the findings from the two phases of the study and describe how they were integrated to aid interpretation. Triangulation in research, particularly in mixed methods research, is a methodological approach that involves the use of multiple methods and data sources to study the same phenomenon (Jick, 1979). It is considered a means to promote a more comprehensive understanding of the phenomenon under study and enhance the rigour of research (Heale and Forbes, 2013). This strategy aims to enhance the credibility and validity of research findings by overcoming biases associated with single-method approaches (Donkoh, 2023). A recap of the research design can be viewed in Figure 31.

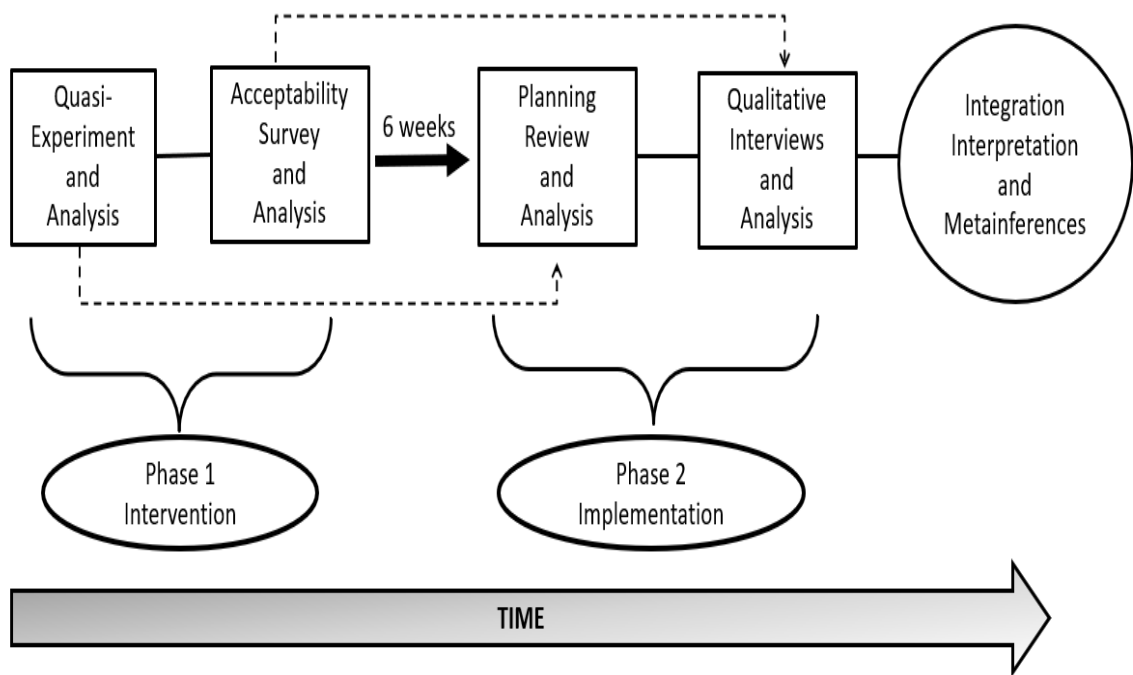


Figure 31: Complex Mixed Methods Design.

The research design focused on three key objectives: first, to equip participants with new skills through a tailored behaviour support package using a BST-based intervention; second, to explore staff experiences with both the intervention and the application of their newly acquired skills in practice; and third, to evaluate the effectiveness of BST-based workshops as a PD mechanism. The intervention's efficiency was evident in the rapid skill acquisition among participants. Participants easily mastered the nine curriculum units, averaging 1.8 (SD= 0.36) rehearsals to reach mastery (Range of 1.1-2.6). This aligns with previous research demonstrating BST's efficiency in developing role-specific skills (Gormley *et al.*, 2019; Smith *et al.*, 2022). A learning effect emerged, showing that participants who initially acted as the 'student' mastered skills more quickly when they switched to the 'supportive adult' role. This indicates the advantages of role rotation during BST-based PD, where the rehearsal of skills is a key feature. Additionally, the study reveals an important insight for Irish policymakers: teachers and SNAs benefited equally from the PD, showing similar skill acquisition rates during the intervention. Qualitatively, every participant interviewed highlighted the shared learning environment as a positive aspect of the PD. Creating these shared PD experiences is a key recommendation of the NCSE when discussing the advancement of inclusion in Irish education (NCSE, 2024a).

Both quantitative and qualitative data indicated strong acceptance of the PD package, with

unanimous recommendations from participants. The post-intervention survey revealed high ratings for the PD practicality, suitability, and relevance. Qualitative interviews further highlighted that the active learning component, particularly rehearsal with feedback, was regarded as the most effective aspect of the PD, supporting Desimone's (2009) assertion that active learning is critical for effective PD. However, some participants reported experiencing performance anxiety during the rehearsal stage, indicating a need for adjustments to mitigate this issue in future implementations.

The effectiveness of the BST-based intervention was assessed by reviewing teacher planning documents to determine implementation levels. The secondary function of this review was to identify high and low-implementing participants to ensure that those invited for interview would represent a wide array of implementation experiences. Analysis of teacher plans revealed an average implementation rate of 2.4 (SD=1.96) BSC units per student, varying considerably between classrooms (Range of 1 per student in the low implementing class and 3.5 in the high implementing class). During the review of teacher planning, the researcher also consulted data gathered during the intervention to assess whether participants' rates of skill acquisition influenced future implementation. A correlation was found between the number of rehearsals required by teachers and their implementation rates, indicating that those needing more rehearsals may benefit from additional support in applying the skills. This finding was further corroborated in the qualitative phase of data analysis. The teacher in the low-implementing class, who required the most rehearsals to master the skills, self-identified that they would have benefited from external support to help align the BSC units with their students' needs. In summary, qualitative data revealed that classroom leadership and follow-up support were factors impacting implementation rates. Ineffective classroom leadership and a lack of post-intervention support hindered the implementation of learned skills in the low-implementing classroom. Conversely, effective leadership demonstrated by active teacher modelling and guidance facilitated greater implementation.

5.8 Chapter Summary

This chapter provides a detailed analysis of the research findings aligned with the study's conceptual framework. The study has demonstrated the efficiency, effectiveness, and acceptability of PD that incorporates BST as a key delivery mechanism. The study contributes significantly to PD research in Ireland, especially in the context of special education settings where supporting students who are experiencing distressed behaviours

of concern is a critical issue. The following chapter concludes this research study. It includes a concise summary of the literature, methodological approach, and research findings. The study's limitations are discussed, and a synthesis of the implications for future research, policy, and practice is provided.

Chapter 6 Conclusion

6.1 Introduction

This research study employed a two-phase, complex mixed methods design to investigate the efficiency, acceptability, and effectiveness of a bespoke behaviour support PD package in a special school setting. This final chapter concludes the study by summarising the key findings, highlighting their contribution to new knowledge, and proposing recommendations for future policy, practice, and research. It will also reflect on the limitations of the study to ensure that the results can be critically examined for their quality and rigour (Cohen, Manion, and Morrison, 2017). The chapter concludes with a discussion of this study's impact on my own professional practice.

6.2 Overview of the Research Study

There is extensive evidence that school staff working in special education in Ireland require additional PD and support in behaviour support (NCSE, 2016; Inclusion Ireland, 2018; CRA, 2021; AsIAm, 2024; INTO, 2024). The findings from this study have implications for policy, practice, and future research regarding the development of impactful PD to improve behaviour support skills in special education settings in Ireland. The study explored the role of a behaviour support PD package in implementing a customised behaviour support curriculum in an Irish special school. The PD package, informed by socially valid EBP for autism, aimed to enhance staff skills in PBS and assess the impact of this bespoke PD on classroom practice. The findings contribute to the literature on skills-based PD within Irish special education, particularly on the factors affecting the successful implementation of such PD in practice. The research project began with a literature review that informed the development of a conceptual framework for the study (Figure 4, Section 2.9). The research design combined quantitative outcome measures from the intervention and planning review with qualitative insights on implementation gathered during interviews with participating SNAs and teachers. Qualitative data were analysed through a six-step process of reflexive thematic analysis (Braun and Clarke, 2021). The research was conducted over two years, with the data-gathering phases occurring over six months in 2023. A complete timeline of the study can be viewed below in Figure 32.

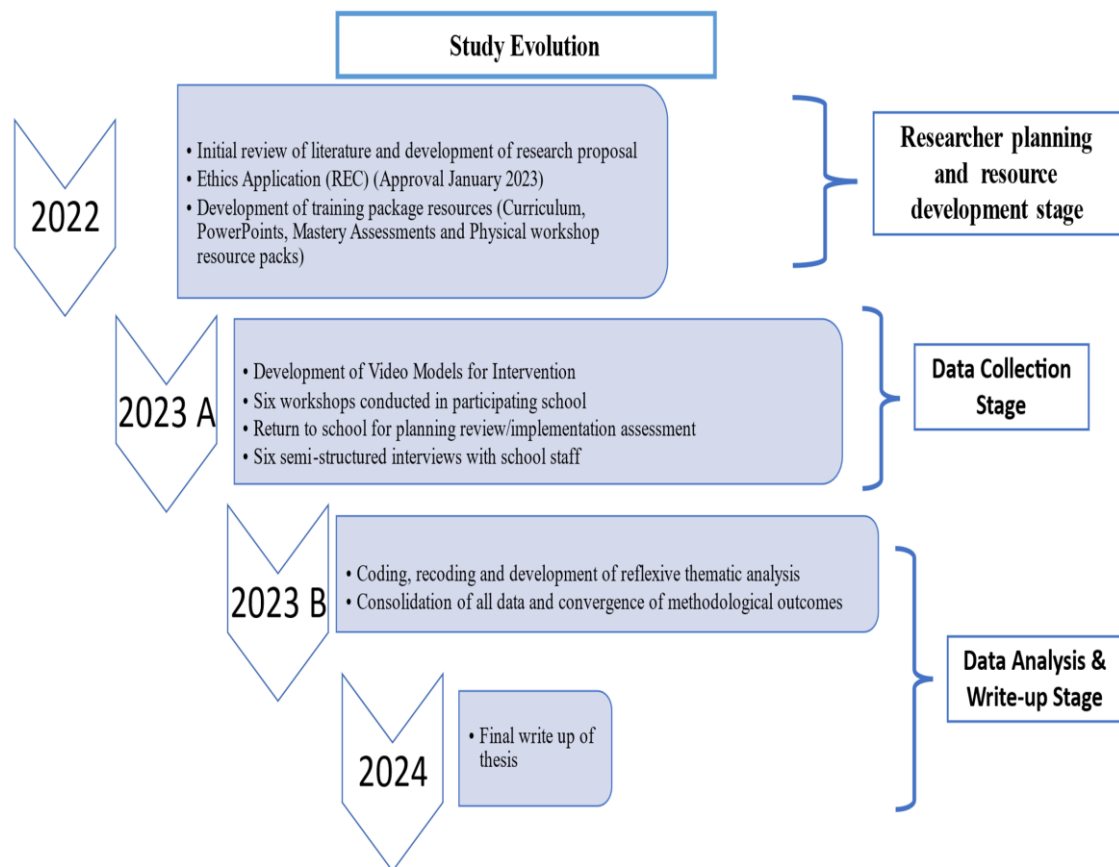


Figure 32: Study Evolution Timeline

6.3 Key Findings

This section will return to the research questions presented in Chapter 1 and present the key findings of the study using the conceptual framework as a guide. The research questions (RQ) guiding this study were:

Phase One: Intervention

RQ 1. Will a behaviour support package, which includes behavioural skills training (BST), increase skills in targeted areas of positive behaviour support (PBS) amongst staff in a special school?

RQ 2. Did the participating staff consider the package an acceptable form of professional development?

Phase Two: Implementation

RQ 3. Was the behaviour support curriculum introduced in the workshops included in the student's individual education plans post-intervention?

RQ 4. What factors influenced the implementation of the curriculum units in classroom practice?

6.3.1 Efficiency of the PD Package

RQ 1 was posed to assess the efficiency of the workshops in equipping participants with nine skills, which formed a bespoke BSC designed for this research. *Will a behaviour support package, which includes behavioural skills training (BST), increase skills in targeted areas of positive behaviour support (PBS) amongst staff in a special school?* The intervention's efficiency was evident in the rapid skill acquisition among participants. All 17 participants mastered the BSC units, averaging 1.8 (SD= 0.36) rehearsals to reach mastery (with a range of 1.1 to 2.6 being recorded in the group). This aligns with previous research demonstrating BST's efficiency in imparting role-specific skills (Gormley *et al.*, 2019; Smith *et al.*, 2022). A key finding was that SNAs acquired the skills at rates comparable to teachers during the workshops, underscoring the method's wide applicability across different roles. The efficiency of the PD was also supported by the positive feedback from the post-intervention survey, indicating that the time invested was not overly burdensome for participants. 88% (N=14) of participants found the PD highly practical despite the increased time demand compared to traditional PD methods. Additionally, the PD did not impact the service provision within the school, which is another crucial determinant of PD efficiency (Parsons, Rollyson and Reid, 2012). All the PD took place on-site after school hours, ensuring that there was no interruption to the education of the students attending the school.

6.3.2 Acceptability of the PD Package

Both quantitative data gathered in the post-intervention acceptability survey and qualitative data from the semi-structured interviews informed the answer to RQ 2. *Did the participating staff consider the training package, which included BST, an acceptable form of professional development?* The package was well-received, with unanimous recommendations from participants. The post-intervention survey showed high ratings for the PD's practicality, suitability, and relevance, aligning the results with that of Parsons, Rollyson and Reid (2012), who designed the survey originally. Qualitative interviews revealed that the active learning component, particularly rehearsal with feedback, was viewed as the most effective aspect of the PD. This supports Desimone's (2009) emphasis on active learning as critical for effective PD. However, the rehearsal aspect also induced performance anxiety in some participants, highlighting the need for accommodations to mitigate this. Suggestions include using video models for rehearsal and allowing self-scoring to create a less intimidating environment. These modifications could address the anxiety associated with performance evaluations and enhance the overall PD experience.

6.3.3 Effectiveness of the PD Package

RQ 3 asked: *Was the behaviour support curriculum introduced in the workshops included in the student's individual education plans post-intervention?* This question was posed to determine the effectiveness of the PD package and whether the BSC introduced in the workshops was later included in the student's individual education plans. The effectiveness of the PD was demonstrated by the considerable implementation of BSC units in students' education plans post-intervention. The review identified 38 instances of BSC unit implementation across sixteen students, with the number of implementations ranging from zero to seven per student. The average number of implementations was approximately 2.4 (SD = 1.96) units per student. However, implementation rates varied and were influenced by factors such as initial skill mastery during the intervention, classroom leadership and follow-up support. The teacher who required more rehearsals to master skills showed lower implementation rates, suggesting a link between skill attainment rates and practical application. The absence of follow-up support was particularly indicated as impacting the lower implementing classroom. This finding aligns with the literature on the importance of in-situ coaching for sustaining new skills post-BST-based PD (Maffei-Almodovar and Sturmey, 2018; Kirkpatrick, Akers and Rivera, 2019). These factors impacting the effectiveness of the PD package will now be summarised.

6.3.4 Factors Influencing Implementation

Data acquired during the review of teacher planning identified the classroom teams that were subsequently invited to interview (participants who implemented the most and least from the BSC post-intervention). This selection criteria ensured that qualitative data gathered would reflect a broad range of implementation experiences when answering RQ 4: *What factors influenced the implementation of the curriculum units in Classroom practice?* Qualitative data revealed several factors affecting the implementation of the BSC in practice. Classroom leadership was acknowledged as a crucial factor, with the high-implementing class benefiting from strong leadership and effective communication. Conversely, a less experienced teacher in the low-implementing classroom was cited by the SNA staff as a factor that impeded a wider implementation of the BSC. The teacher themselves acknowledged that they were unsure about how to match the BSC units to the students in their class. This aligns with research indicating the importance of teacher

efficacy and leadership in implementing educational interventions (Horan and Merrigan, 2019; Woodcock and Faith, 2021).

Another critical factor influencing implementation was the need for follow-up support from school management and clinical personnel. While exploring the effect of this PD on classroom practices, qualitative feedback from teachers and SNAs emphasised the importance of providing timely follow-up support. Some participants identified the lack of such support as a barrier to effective curriculum application. SNA participants, in particular, pointed out the crucial role of their classroom teacher in implementing the curriculum units. Those in classrooms where the curriculum was widely used attributed this to the teachers' experience and ability to effectively model the skills in real scenarios. Conversely, support staff in the classroom with the lowest implementation levels expressed frustrations related to classroom organisation and the teacher's relative inexperience, which they felt hindered effective implementation. The teacher from the classroom with low implementation levels acknowledged their need for additional support to utilise more of the curriculum effectively. They expressed a desire for increased guidance in their class, particularly in identifying which students would benefit most from specific curriculum units. Previous research has emphasised the need for ongoing, job-embedded assistance as essential for translating PD into practice (Guskey, 2009). These findings suggest that structured follow-up support could enhance the sustainability of skills acquired through BST-based PD and that Irish special education staff would welcome more of this guidance in the classroom.

According to the high-implementing Yellow Class, another key factor that aided implementation was the bespoke nature of the goals included in the BSC. In educational research, the concept of "content focus" is pivotal in determining the effectiveness of PD for teachers, emphasising the alignment of PD with the specific content educators teach (Desimone, 2009). The current study supports this, with participants highly valuing the relevance and applicability of the curriculum content to their specific student cohort, particularly in a school undergoing a transitional phase. The findings resonate with previous research, indicating that content tailored to the unique needs of students, such as those with autism and co-occurring intellectual disabilities, enhances the practical impact of PD. Teachers appreciated the breakdown of BSC units into manageable teaching phases, which they found particularly useful for avoiding common instructional pitfalls. This underscores the importance of designing PD that is both relevant to the specific student

population and supportive of teachers' instructional practices, leading to meaningful improvements in educational outcomes.

Finally, the involvement of the entire school community in the research enhanced both its effectiveness and acceptability by facilitating the implementation of strategies. Engaging whole-school teams in joint PD sessions, as recommended in prior research (Sugrue, 2011), proved advantageous for fostering a cohesive approach to the application of skills post-intervention. Feedback from participants indicated that joint PD experiences led to a shared understanding and appreciation of behaviour support strategies across the school, thereby improving communication and collaboration among staff. This whole-school approach enabled easier delegation and more consistent application of the PD in daily practice. These findings highlight the benefits of joint onsite PD in addressing the limitations of traditional, short-term seminars, especially where school staff are working together in classroom teams as is the case in all special schools and classes.

6.4 Contribution to New Knowledge

This was the first time BST has been studied as a PD approach in an Irish educational context. The study's findings indicate that the behaviour support package, which employed BST as a PD mechanism and a bespoke BSC, efficiently imparted role-specific skills to staff in the participating special school. Participants, regardless of whether they held an SNA or teaching position, quickly acquired the targeted skills at similar rates. The PD was also found to be an acceptable form of PD, praised for its practicality, relevance and inclusivity. Notably, this was the first time this form of PD has been qualitatively reviewed by participants, adding significance to its positive reception. The PD effectiveness was demonstrated by the integration of the BSC into students' education plans, though implementation rates varied across classrooms. The qualitative findings further described the school staff's experience participating in this type of PD and identified the facilitators and barriers they encountered during implementation. These findings build on existing research that has demonstrated the efficiency of this type of PD in increasing competency-based skills. Proficient classroom leadership and follow-up support were identified as critical to the successful application of the BSC, suggesting that ongoing support is vital for embedding and sustaining the acquired skills especially where teachers are less experienced.

6.5 Limitations of the Study

A key limitation of this study is the within-subject pretest-post-test design used during the intervention. In this design, participants act as their own control, with no comparison group, making it challenging to definitively attribute improvements in skill performance to the independent variables introduced during the PD workshops. Creswell and Creswell (2023) note that such designs are susceptible to issues like maturation and testing effects, which can independently influence the results. This research somewhat controlled the maturation effect, as the rehearsal measures were conducted in quick succession. However, as previously discussed, the observational learning opportunities provided to the second performer in the rehearsal sequence did influence participant acquisition rates.

A second limitation is that the researcher did not obtain the participants' level of education or their pre-existing knowledge of positive behaviour support strategies. This impacts the claims made regarding the comparable rates of skill acquisition between teachers and SNAs during the behaviour support workshop.

Another limitation was that only one classroom (Yellow) had completed educational planning before the workshops began, limiting the ability to conclusively attribute the implementation of BSC units in most classes solely to the PD. Furthermore, the study would have benefited from more detailed information on student profiles, particularly in aligning these profiles with implementation levels. A deeper understanding of student strengths and needs could have provided valuable context for why some students experienced greater curriculum implementation than others.

An additional limitation is the performance anxiety reported by several participants during the interviews. To the researcher's knowledge, no previous BST-based studies have collected qualitative data, making this a new area of exploration within the field. Future researchers should investigate if certain accommodations to mitigate performance anxiety, such as allowing self-scoring during rehearsals or providing video models of the rehearsal and feedback process at the consent stage, help alleviate participants' performance anxiety.

Lastly, the research was conducted in a single special school in Ireland, limiting the generalisability of the findings to other settings or populations without further study. Additionally, the sample size of interviewees was small, which may not have achieved

saturation of experiences and further restricts the applicability of the findings to broader contexts.

6.6 Recommendations for Future Research

The findings from this study highlight several areas where further investigation could help improve PD in behaviour support within special education settings. While this research has provided valuable insights, it has also uncovered gaps that future studies should address to enhance the efficiency, acceptability, and effectiveness of similar PD initiatives. Firstly, future research should explore cost-saving strategies for using BST as a PD mechanism, such as adopting a pyramidal approach where teachers within the school organisation provide feedback and on-the-job coaching. This approach has been proven effective in previous research (Parsons, Rollyson and Reid, 2013; Lerman *et al.*, 2020; Andzik, Schaefer and Christensen, 2021) but not in an Irish context. This approach could help mitigate the higher human resource demands associated with BST-based PD while also exploring whether similar feelings of performance anxiety arise when colleagues provide feedback.

A suggested avenue for future research would be the formal observation of practice to better assess the implementation of skills learned during PD workshops. In this study, implementation rates were determined through reviews of teacher planning, which addressed the research questions but did not fully capture whether these skills were applied with fidelity in practice. Future studies could explore the use of on-the-job assessments and in-situ coaching, which have been successfully implemented in similar research in other jurisdictions (Parsons, Rollyson, and Reid, 2012) and in adult disability services in Ireland (Gormley *et al.*, 2019). This approach would help ensure that competencies gained during PD are effectively transferred to classroom settings. To further enhance this research, a needs analysis could be conducted with teachers and SNAs prior to the PD, establishing exactly what skills should be included in the BSC designed for use in the study. While Skeritt (2023) cautions that direct observation may provoke negative reactions from Irish teachers, potentially undermining confidence and reinforcing hierarchical dynamics. This study found that teachers and SNAs expressed a willingness to engage in in-class observation and hands-on support. Future research could address these concerns by developing observational models that reduce the hierarchical aspects of observation. One such model is the pyramidal approach outlined by Andzik, Schaefer, and Christensen

(2021), where in-situ coaching is provided by trusted colleagues whom external clinicians or researchers have trained. This approach may also offer a more sustainable and supportive method for ensuring the long-term impact of skills-based PD in the Irish context.

Future research incorporating classroom observations of teacher and SNA skill implementation could also include student observations to determine the impact of similar PD on students' skill attainment and behaviours of concern. Although much BST-based research has explored this relationship and reported its efficacy (Slane and Lieberman-Betz, 2021; Smith et al., 2022), it has not yet been studied in an Irish educational context.

The role of teacher efficacy in implementing skills-based PD and the impact of follow-up support in sustaining newly acquired skills also merits closer examination. We know that teacher efficacy impacts their ability to facilitate learning (Horan and Merrigan, 2019) and improve inclusive practice in the classroom (Woodcock and Faith, 2021). Future similar research could measure teacher efficacy pre- and post-BST-based PD and compare efficacy levels with rates of implementation. Understanding these factors could enhance the longevity and effectiveness of similar PD efforts.

6.7 Recommendations for Future Policy

The findings of this study suggest several key policy changes that could enhance the integration of skills-based PD within the daily operations of schools. To ensure that PD becomes an integral part of the academic year, it is essential to incorporate dedicated PD time into the contracts of teachers and SNAs, moving away from reliance on voluntary participation. This approach would enable better planning and prioritisation of PL/D activities. Teacher and SNA unions are calling for greater preparation for school staff supporting students with complex learning and behavioural support needs (Fórsa, 2022; INTO, 2024). As shown in this study, PD in role-specific skills is a key part of preparing staff for this work. Such initiatives take time and work better when they are sustained over a period of time. Recognising that this will require preparation time from staff needs to be considered not just by the DE and NCSE but also by staff and their unions.

Policymakers in the DE and NCSE should advocate for whole-school PD opportunities that include SNAs to foster collaboration and a sense of inclusion. Although the NCSE acknowledged the potential benefits of joint PD with SNAs in their review of the SNA

scheme, noting that it would "enhance the development of an inclusive school culture" (NCSE, 2018, p.56), this was not included as a recommendation in their most recent policy advice on advancing inclusion in Irish schools (NCSE, 2024a). The current research demonstrates that joint PD can improve the overall acceptability and effectiveness of PD, serving as a facilitator for the increased practical application of skills in the classroom. These findings align with Ryan-Sheehan (2023), who explored the classroom relationships between mainstream teachers and SNAs, highlighting that joint PD can strengthen collaborative partnerships. Notably, this study found that SNAs and teachers acquired skills at comparable rates during the behaviour support workshops, a key consideration for policymakers when assessing future PD opportunities for SNAs.

A policy recommendation is made to support more frequent classroom observations and in-situ follow-up support from external professionals who deliver PD in skills-based behaviour support, as this was identified as a critical factor for effective skill implementation post-intervention. Currently, the NCSE's model of PL/D requires a referral from the school or teacher for follow-up support after attending behaviour support seminars. This research suggests that integrating follow-up support as a standard extension of the seminar would likely be more effective. Implementing this approach would necessitate a significant expansion of the current behavioural programme offered by the NCSE and would require additional investment in staffing. However, the commitments made in the recent announcement of additional therapists to be appointed to the NCSE as part of the new Educational Therapy Support Service (ETSS) present a promising opportunity to realise this aim (DE, 2024a).

The Cosán framework, introduced by the Teaching Council in 2016, provides a national structure designed to guide and support teachers' PL. Its overarching aim is to cultivate meaningful, sustainable, and collaborative PL that promotes teacher autonomy while improving student outcomes. The framework prioritises diverse, context-sensitive learning opportunities, encompassing six key learning areas, one of which is inclusive education (Teaching Council, 2016). Additionally, Cosán identifies six learning processes through which teachers can engage to enhance their professional practice in the classroom. This study aligns with two of these processes: 'courses, programmes and workshops' and 'practice and collaboration'. Recent research has highlighted the need for further development Cosán. King, Brennan, and Gorman (2023) argue that PL should not be detached from teachers' specific contexts and advocate for a more contextualised

enactment of Cosán. They emphasise the importance of focusing on core design features of PL, such as strong content relevance, active learning, collective participation, and sustained duration—elements that were central to the professional development (PD) programme in this study. Policymakers seeking to advance the enactment of Cosán further should consider the successes of this study as a model for school-level PL/D, specifically in terms of how these core design features can be effectively implemented at the school level.

Finally, teachers in special education settings should be provided with PL/D opportunities to build their leadership skills, enabling them to effectively guide and manage classroom teams. This research has shown that this is essential for the successful implementation of skills-based PD. This type of teacher-paraprofessional supervision has been investigated and proven effective in other jurisdictions (Chopra, Sandoval-Lucero, and French, 2011; Giangreco, 2021). The task force investigating the role of the SNA (DE, 2024c) should consider investigating the unique teacher-SNA relationship in special classes and schools, defining what effective in-situ supervision should consist of, and providing teachers in these roles with PL/D in this area. PL in this area should also be incorporated into teacher education programs, particularly post-graduate courses where teachers are receiving professional learning related to special education roles.

In summary, the recommended policy changes aim to establish a more cohesive and supportive framework for PD in behaviour support within educational settings. By incorporating regular PD time into teacher and SNA contracts, endorsing whole-school PL/D opportunities with recommended core design features, integrating follow-up visits after behaviour support seminars, and providing teachers leading SNA teams with PL/D in leadership and supervision models, policymakers can ensure that such PD is both effective and accessible. These changes will foster a more collaborative educational environment, ultimately benefiting both staff and students in special education settings.

6.8 Recommendations for Future Practice

This study has highlighted several key areas where practice can be improved to enhance the effectiveness and acceptability of PD in behaviour support. The recommendations for practice focus on ensuring that PD is not only theoretically sound but also practically relevant and supportive of staff needs in real-world classroom environments. These

suggestions aim to bridge the gap between PD and implementation, ensuring that educators feel confident and capable of applying newly mastered skills.

Desimone (2009) identified ‘active learning’ as a critical feature of effective PD in education. Where seminars aim to impart role-specific skills, attendees should have the opportunity to observe a competent model, rehearse the skills, and receive feedback. Research has shown that this approach is more effective than instruction-only PD (Kirkpatrick, Akers, and Rivera, 2019; Slane and Lieberman-Betz, 2021; Smith et al., 2022). However, such active learning opportunities are currently absent from the behaviour support PD programmes offered by the NCSE (NCSE, 2024c). This study has demonstrated that incorporating rehearsal and feedback not only facilitates the swift acquisition of skills but is also highly valued by staff, who identified it as the most effective component of the PD.

Additionally, when designing PD, it is crucial to ensure that the content is directly relevant to the attendees' work (Guskey, 2001; 2003). The findings of this research demonstrate that special school staff value PD specifically tailored to their student populations' needs. PD providers in the special education sector in Ireland should prioritise designing PD that is more focused on the specific needs of Autistic students with complex presentations and co-occurring ID, thereby ensuring that it is highly relevant and applicable. While this study focused on applying the curriculum in a special school setting, it is highly likely that staff supporting students in autism classes with similar profiles would also endorse the curriculum for its applicability.

It has previously been discussed as a limitation that a deeper understanding of student profiles and behaviour support needs could have provided valuable context for why certain students had extensive BSC implementation while others had none. Future practical applications of BST-based PD could enhance implementation by incorporating pre-PD observations or meetings with teachers and SNAs. In this approach, professionals delivering the skills-based PD would first assess the specific needs of the students or groups of students. This would allow them to customise the BSC, focusing on the most relevant skills for that particular cohort or adding additional units/skills as needed. This tailored approach could potentially reduce the need for follow-up support, such as that requested by the Blue class teacher, as the BSC units and corresponding skills would already be aligned with the student's specific support and learning needs. The ETSS could

pilot this model in selected schools or special classes to assess the feasibility of a wider roll-out of similar whole-school PD in behaviour support skills.

These recommendations for future research, policy development and improved practice are proposed to enhance the efficiency, acceptability and effectiveness of PD initiatives, with a particular focus on skill development in special education settings. The following section will discuss the impact this research has had on my own personal practice.

6.9 Impact on Personal Practice

Bayley and Phipps (2017) described their work on research impact by outlining their framework named ‘Impact Literacy’. Impact literacy involves the knowledge and ability to develop and implement meaningful, appropriate, and realistic impact pathways that generate benefits in the ‘real world’. These researchers and others working in the area of impact literacy have grouped together and described impactful research as:

Research that goes beyond citation counts and makes a difference.
It’s about communities joining together to find solutions that result
in positive change (Emerald Group Publishing, 2024).

Since completing this study, I have been hired to provide the PD designed for this research in several mainstream and special schools. This development transpired through word-of-mouth recommendations from the study participants. These opportunities have enabled me to further refine the PD package and apply some of the insights gained from this research project. Most significantly, I did not conduct baseline measurements of skills during these subsequent PD experiences. Participants were also encouraged to self-score their skill performances during rehearsals. These two adjustments addressed the feedback from this research, where participants reported feelings of performance anxiety. I have also successfully provided the PD to larger groups with fewer assistants. By reducing the measurement requirements during the rehearsal stage of the workshops, the assistants were better able to move around the class, providing additional modelling and supportive and corrective feedback as needed. To gain feedback on these subsequent workshops, I slightly adapted the acceptability survey used in this research (Parsons, Rollyson, and Reid, 2012) and continue to use it today when delivering the PD package. I have been extremely heartened to receive feedback from attendees, such as these comments from attending SNAs and teachers:

This was one of the best courses I have ever attended. Amazing content and exceptional trainers. Their knowledge of what it is really like to work with challenging situations was of great help.
(SNA working in an Autism Class in Mainstream School)

I wish this was required learning for every teacher before stepping inside a special class. Thank you for opening my eyes to real, achievable strategies that I can see straight off will benefit my students next year. **(Teacher working in an Autism Class in Mainstream School)**

One school Principal was in touch after the PD was completed in their large mainstream school, with all staff working in their four autism classrooms.

Thanks so much for all the resources and for your time and expertise last week. I met all the staff on Friday, and the feedback was extremely positive. They all felt it was the best training they had ever received, which was wonderful to hear. I definitely felt a buzz about the group, which was great.

A principal of a special school where I delivered the PD emailed to say:

This training will be of great benefit to our cohort of pupils in the years to come. As well as beneficial, it is practical, makes sense and is not cumbersome to implement. I would highly recommend the training to any school interested.

The experience of further developing and disseminating the package created for this study has brought me great personal satisfaction and added an extra dimension of meaning to my Doctoral journey. My goal has always been to explore better ways of imparting practical skills to school staff who support students with complex behavioural needs. The unexpected outcome of creating something that schools genuinely value and have actively sought out for their staff has been both surprising and deeply rewarding. It also serves as an early indication that this research aligns with Bayley and Phipps' (2019) definition of research impact as "the provable effects of research in the real world" (ibid, 2019, p.3).

6.10 Concluding Statement

Overall, this research provides a comprehensive understanding of how a bespoke behaviour support curriculum and the corresponding skills can be imparted to whole school teams supporting students with complex learning and behaviour support needs. It offers vital

insights into how this form of PD could be organised and deployed and what factors might affect the later implementation of newly acquired skills in practice. The study highlights the importance of tailored, practical PD that includes active learning components such as rehearsal with feedback. The positive reception of the PD suggests that similar BST-based PD could be effective in other educational contexts, particularly for staff supporting students with more complex needs. To enhance the implementation and sustainability of PBS practices in schools, PD programmes should incorporate follow-up support and particularly focus on supporting more inexperienced teachers working in these settings.

The NCSE has expressed a commitment to evolving towards a more inclusive school system, aiming for all students, including those with more complex profiles, to attend their local mainstream schools (NCSE, 2019; 2024a). This transition will inevitably result in a greater number of students with more significant behaviour support needs attending local schools rather than special school settings. In light of this, it is imperative that we equip teachers and SNAs with role-specific skills that will both help support a reduction in behaviours of concern and consequently advance the wider goals of inclusion in education. The establishment of the ETSS recently represents a promising commitment from the DE for more sustained therapeutic and behaviour support in Irish schools. One of the stated commitments on the press release for this service is that therapists will engage in on-site ‘coaching and co-facilitation of interventions, strategies, and resources’ (DE, 2024a). The NCSE and this off-shoot organisation should consider the findings from this study as they advance their goals of a more inclusive education system facilitated by more therapeutic co-facilitation of strategies in classrooms.

In summary, this research contributes significantly to the understanding of effective PD in behaviour support within Irish special education, offering practical recommendations for policy and practice. By integrating these insights into broader educational support frameworks, policymakers and educators can better support the professional growth of school staff, ultimately enhancing the educational experiences of students with more complex behaviour support needs.

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Chapter 8 Appendices

8.1 Appendix A: Databases and search terms used to locate suitable research



Key terms searched 🔍

- Behaviour support/behavior support, positive behaviour support, behaviours of concern, challenging behaviour, school-wide positive behaviour support, behaviour support in schools, behaviour support in special education.
- Professional learning, professional development, continuous professional development. Teachers professional learning, paraprofessionals, Special Needs assistants, paraeducators, Models of professional development/learning in education
- Behavioural skills training, skills/competency training in education, coaching models of professional development.
- Evidence-based practice, evidence-informed practice, evidence-based practice and autism, evidence-based practice for supporting individuals with intellectual disability and behaviours of concern.

8.2 Appendix B: Biographical Survey

Behaviour Support in a Special School

Participant Biographical Information

1. Participant Number: _____

2. Age: _____

3. Gender: _____

4. What post do you hold in the school?

Special Needs Assistant

☐

Class teacher

☐

5. Length of employment in current school

Years

Months

6. Total length of service in other special schools or special classes

Years

Months

7. Have you attended training in positive behaviour support in the past?

Yes

☐

No

☐

8. Have you previously attended any training where behavioural skills training (modelling, rehearsal and feedback built into the training) was used?

Yes

☐

No

☐

9. Would you be willing to be interviewed by the researcher to discuss your experiences of this training and the content covered (this would take place at your workplace at a time convenient to you).

Yes

☐

No

☐

Researcher: Trish Carolan

Email: trish.carolan@mail.dcu.ie

Thank you again to each one of you for agreeing to participate in this research.



8.3 Appendix C: Recruitment Advertisement

Dear staff member,

My name is Trish Carolan. I am a behaviour analyst who will deliver training in your school in the coming months. The training will focus on key areas of positive behaviour support and is designed specifically for staff working in special schools with students with complex learning and behaviour profiles. It will take place in your workplace as part of your continuous professional development.

I am currently enrolled on the Doctor of Education programme at Dublin City University. I hope to collect data on the effectiveness of this training to use in my doctoral research.

While you will be completing this training, you are not required to take part in the concurrent research, although your participation would be very much appreciated. To find out more, please read the recruitment advertisement below. If you choose to participate, you can e-sign the consent form and return it to me directly at the email address provided, or you can print and sign and return it to your school office, where XXX will store it for collection by me prior to the training start date (February 20th).

Have a lovely weekend,

Trish

Are you a teacher or SNA working in a special school?

Do you want to learn positive behaviour support skills?



We want to support you to acquire new skills in positive behaviour support and understand your experiences implementing these skills to support your students.

Participation involves attending workshops where positive behaviour support skills relevant to your workplace will be demonstrated and rehearsed. Participants will be asked to complete a survey immediately after the workshops. Six weeks later a sample of participants will partake in a conversational interview to describe their experiences implementing the skills learned at the workshops.

Who can take part?

Any SNA or teacher working in the school where this training is taking place.

Why is your participation important?

You can help us determine if this type of training is effective and enjoyable for staff working in special schools.

For more information on this study, please read the [Plain Language](#) Statement attached to this email, which will provide additional information or alternatively you can contact the researcher.

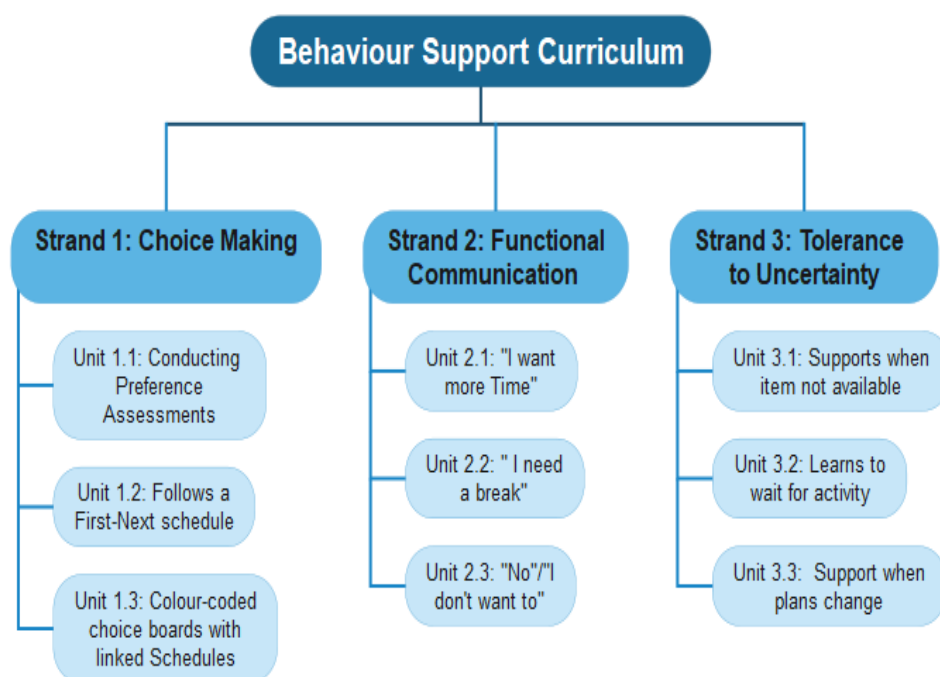


trish.carolan2@mail.dcu.ie



01-8396705

8.4 Appendix D: Behaviour Support Curriculum Overview



Each unit of the behaviour support curriculum is an example of a positive behaviour support (PBS) strategy. PBS is a rights and values-led approach to behaviour support which focuses on increasing skills and opportunities that support life quality. Each unit of the curriculum will equip participants to make environmental and antecedent adaptations or to teach and reinforce functional replacement skills to alleviate common behaviours of concern.

STRAND	STRAND UNITS
Choice-making skills <u>Learning Outcomes</u> Attendees will learn the importance of building strong relationships prior to placing demands on their students and how the preference assessment and pairing process can aid this process. The importance of planning for and providing structured and predictable transitions into our students' days will feature in this strand. Attendees will learn how to support their students to have more autonomy over their school day and how this can reduce common behaviours of concern in this cohort of students. Attendees will be able to support their students to make meaningful choices about what they want to do, where they want to go and when.	- Preference assessments – Attendees will learn how to ensure they have identified their student's true preferences and how to strengthen their relationships in the process. 'First-Next' visual schedule - Attendees will learn how to support their students with environmental transitions using basic visual schedules consistently and how to link these to whole day/Class wide timetables. - Colour-coded choice boards linked to First-Next-Then schedules – Attendees will learn how to support their students with environmental transitions through the use of rolling

	schedules that provide continuous opportunities for students to communicate their preferences.
● Functional Communication <u>Learning Outcomes</u> Attendees will be able to support their students who may be exhibiting behaviours of concern because they do not currently have a functioning communication system that is meeting their needs. Attendees will learn in which circumstances the various strand units are most effective. They will learn why students may be engaging in certain behaviours of concern and be shown how to support students in communicating their will and preference through alternative functional communication.	○ “More Time” - Attendees will learn how to equip their students with the negotiation skills to ask for additional time at end of preferred activities. ○ “Break” – Attendees will learn how to equip their students with the ability to request a break from demanding activities. ○ “No, “I don’t want to” “stop” – Attendees will learn how to equip their students with assertiveness and autonomy skills to tell others when they do not wish to do something or want something to stop.
● Tolerance to uncertainty <u>Learning Outcomes</u> Attendees will be able to support students who may be exhibiting behaviours of concern during everyday situations where their desires cannot be immediately met, where they have to wait for a duration of time or where unexpected schedule changes are causing the young person distress. Attendees will learn in which circumstances the various strand units are most effective. They will learn why students may be engaging in certain behaviours of concern and be shown how to support these students using appropriate visual and additional environmental supports.	○ Support when something is unavailable - Attendees will learn how to support their students in situations where something they desire is currently unavailable. ○ Learning to wait – Attendees will learn how to support their students in situations where they may have to wait for items or activities they desire. ○ Support when plans change - Attendees will learn how to systematically prepare their students for ‘surprise’ situations where new and novel activities or unexpected changes to daily routines.

8.5 Appendix E: EBP for Autism from NCAEP

Table 3.1 Evidence-based practices, definitions, and number of articles across review periods

Evidence-Based Practice	Definition	Empirical Support		
		1990-2011 (n)	2012-2017 (n)	1990-2017 (n)
Antecedent-Based Interventions (ABI)	Arrangement of events or circumstances that precede an activity or demand in order to increase the occurrence of a behavior or lead to the reduction of the challenging/interfering behaviors.	29	20	49
Augmentative and Alternative Communication (AAC)	Interventions using and/or teaching the use of a system of communication that is not verbal/vocal which can be aided (e.g., device, communication book) or unaided (e.g., sign language)	9	35	44
Behavioral Momentum Intervention (BMI)	The organization of behavior expectations in a sequence in which low probability, or more difficult, responses are embedded in a series of high probability, or less effortful, responses to increase persistence and the occurrence of the low probability responses.	8	4	12
Cognitive Behavioral/ Instructional Strategies (CBIS)	Instruction on management or control of cognitive processes that lead to changes in behavioral, social, or academic behavior.	7	43	50
Differential Reinforcement of Alternative, Incompatible, or Other Behavior (DR)	A systematic process that increases desirable behavior or the absence of an undesirable behavior by providing positive consequences for demonstration/non-demonstration of such behavior. These consequences may be provided when the learner is: a) engaging in a specific desired behavior other than the undesirable behavior (DRA), b) engaging in a behavior that is physically impossible to do while exhibiting the undesirable behavior (DRI), or c) not engaging in the undesirable behavior (DRO).	27	31	58
Direct Instruction (DI)	A systematic approach to teaching using a sequenced instructional package with scripted protocols or lessons. It emphasizes teacher and student dialogue through choral and independent student responses and employs systematic and explicit error corrections to promote mastery and generalization.	2	6	8
Discrete Trial Training (DTT)	Instructional approach with massed or repeated trials with each trial consisting of the teacher's instruction/presentation, the child's response, a carefully planned consequence, and a pause prior to presenting the next instruction.	16	22	38
Exercise and Movement (EXM)	Interventions that use physical exertion, specific motor skills/ techniques, or mindful movement to target a variety of skills and behaviors.	6	11	17
Extinction (EXT)	The removal of reinforcing consequences of a challenging behavior in order to reduce the future occurrence of that behavior.	13	12	25
Functional Behavioral Assessment (FBA)	A systematic way of determining the underlying function or purpose of a behavior so that an effective intervention plan can be developed.	11	10	21
Functional Communication Training (FCT)	A set of practices that replace a challenging behavior that has a communication function with more appropriate and effective communication behaviors or skills.	12	19	31
Modeling (MD)	Demonstration of a desired target behavior that results in use of the behavior by the learner and that leads to the acquisition of the target behavior.	10	18	28
Music-Mediated Intervention (MMI)	Intervention that incorporates songs, melodic intonation, and/or rhythm to support learning or performance of skills/behaviors. It includes music therapy, as well as other interventions that incorporate music to address target skills.	3	4	7
Naturalistic Intervention (NI)	A collection of techniques and strategies that are embedded in typical activities and/or routines in which the learner participates to naturally promote, support, and encourage target skills/behaviors.	26	49	75

continued on next page

Table 3.1 Evidence-based practices, definitions, and number of articles across review periods

Evidence-Based Practice	Definition	Empirical Support		
		1990-2011 (n)	2012-2017 (n)	1990-2017 (n)
Parent-Implemented Intervention (PII)	Parent delivery of an intervention to their child that promotes their social communication or other skills or decreases their challenging behavior.	13	42	55
Peer-Based Instruction and Intervention (PBII)	Intervention in which peers directly promote autistic children's social interactions and/or other individual learning goals, or the teacher/other adult organizes the social context (e.g. play groups, social network groups, recess) and when necessary provides support (e.g., prompts, reinforcement) to the autistic children and their peer to engage in social interactions.	19	25	44
Prompting (PP)	Verbal, gestural, or physical assistance given to learners to support them in acquiring or engaging in a targeted behavior or skill.	55	85	140
Reinforcement (R)	The application of a consequence following a learner's use of a response or skills that increases the likelihood that the learner will use the response/skills in the future.	53	53	106
Response Interruption/Redirection (RIR)	The introduction of a prompt, comment, or other distractors when an interfering behavior is occurring that is designed to divert the learner's attention away from the interfering behavior and results in its reduction.	13	16	29
Self-Management (SM)	Instruction focusing on learners discriminating between appropriate and inappropriate behaviors, accurately monitoring and recording their own behaviors, and rewarding themselves for behaving appropriately.	14	12	26
Sensory Integration® (SI)	Interventions that target a person's ability to integrate sensory information (visual, auditory, tactile, proprioceptive, and vestibular) from their body and environment in order to respond using organized and adaptive behavior.	1	2	3
Social Narratives (SN)	Interventions that describe social situations in order to highlight relevant features of a target behavior or skill and offer examples of appropriate responding.	15	6	21
Social Skills Training (SST)	Group or individual instruction designed to teach learners ways to appropriately and successfully participate in their interactions with others.	18	56	74
Task Analysis (TA)	A process in which an activity or behavior is divided into small, manageable steps in order to assess and teach the skill. Other practices, such as reinforcement, video modeling, or time delay, are often used to facilitate acquisition of the smaller steps.	9	4	13
Technology-Aided Instruction and Intervention (TAII)	Instruction or intervention in which technology is the central feature and the technology is specifically designed or employed to support the learning or performance of a behavior or skill for the learner.	10	30	40
Time Delay (TD)	A practice used to systematically fade the use of prompts during instructional activities by using a brief delay between the initial instruction and any additional instructions or prompts.	16	15	31
Video Modeling (VM)	A video-recorded demonstration of the targeted behavior or skill shown to the learner to assist learning in or engaging in a desired behavior or skill.	35	62	97
Visual Supports (VS)	A visual display that supports the learner engaging in a desired behavior or skills independent of additional prompts.	34	31	65

8.6 Appendix F: Multiple Stimulus Without Replacement Data Form

Unit 1.1: Choice Making Skills: Preference Assessment Data Sheet

Child's Name: _____

Evaluator: _____

List of Items:

1. _____	2. _____
3. _____	4. _____

Preference Assessment #1 Date:	
Order of items selected	
Chapter 1	
Chapter 2	
Chapter 3	
Chapter 4	

Preference Assessment #2 Date:	
Order of items selected	
●	
●	
●	
●	

Preference Assessment #3 Date:	
Order of items selected	
●	
●	
●	
●	

Preference Assessment #4 Date:	
Order of items selected	
●	
●	
●	
●	

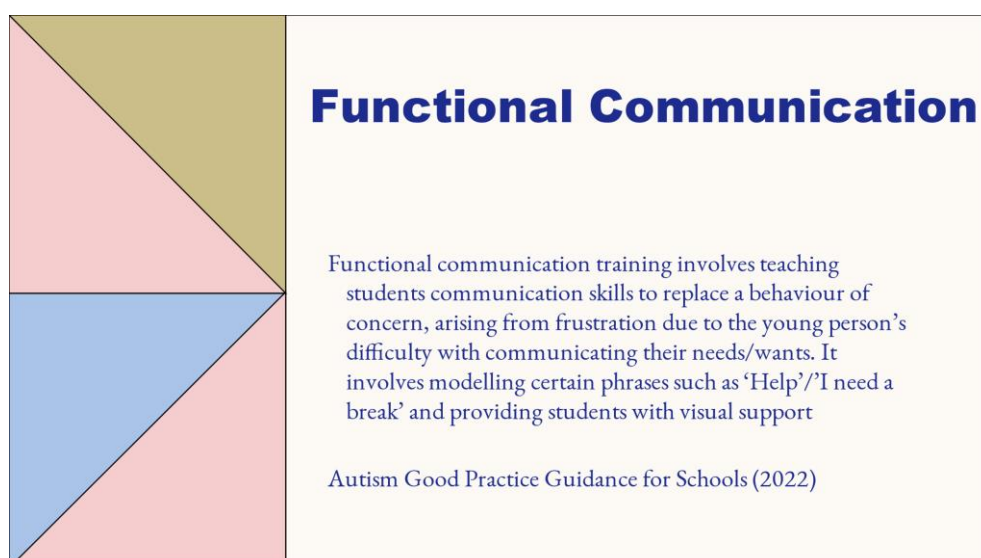
8.7 Appendix G: PowerPoint Slides Sample Unit 2.1 (FCT-‘More Time’)



BEHAVIOUR SUPPORT IN THE SPECIAL SCHOOL

Trish Carolan, BCBA

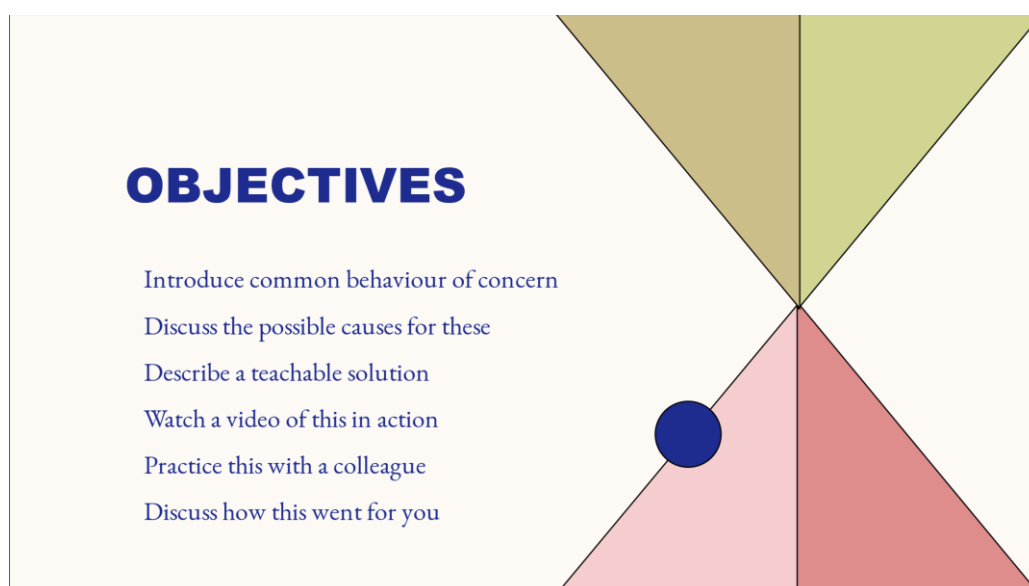
Strand: 2, Functional Communication
Unit: 2.1 “More Time”



Functional Communication

Functional communication training involves teaching students communication skills to replace a behaviour of concern, arising from frustration due to the young person’s difficulty with communicating their needs/wants. It involves modelling certain phrases such as ‘Help’/‘I need a break’ and providing students with visual support

Autism Good Practice Guidance for Schools (2022)



OBJECTIVES

- Introduce common behaviour of concern
- Discuss the possible causes for these
- Describe a teachable solution
- Watch a video of this in action
- Practice this with a colleague
- Discuss how this went for you

BEHAVIOUR OF CONCERN:

- Protesting when giving back preferred items.
- Protesting when preferred activities end.



WHY MIGHT THIS BE HAPPENING?

- Communication differences mean that bargaining and negotiating are difficult for our students.
- Lack of autonomy – most of our students' lives are decided for them.
- Deep interests in particular areas can make termination of preferred activities very challenging for our students.

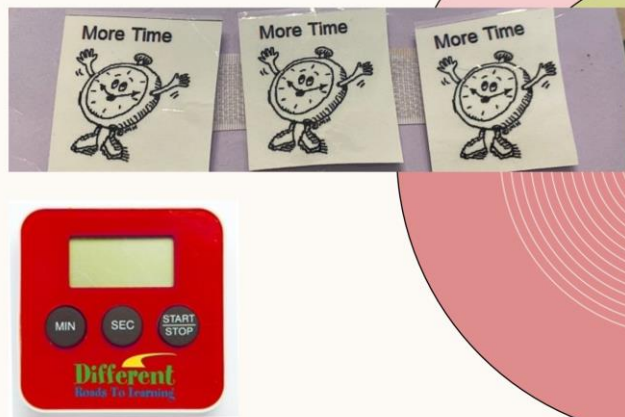
SOLUTION – TEACH NEGOTIATION SKILLS

- Empower!
- Teach our students how to negotiate for more time with their items of interest.
- Honour every request in a way that works for us too.
- Be consistent.
- Prompt these skills initially and then fade the support so that students can do this independently.

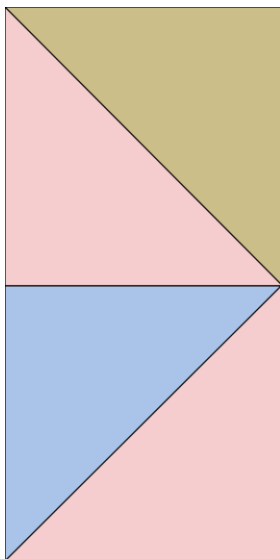
TOP TIP

Use initially when moving from one motivating activity to another. This way the student will not associate the 'more time' tokens with demands. They will learn their function during less demanding transitions.

MATERIALS NEEDED

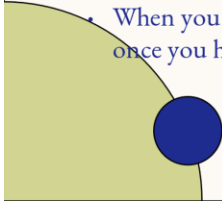
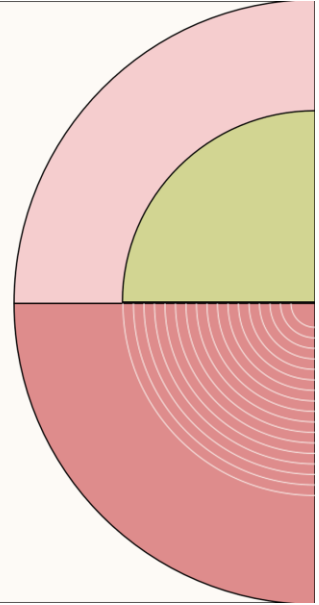


VIDEO EXAMPLE

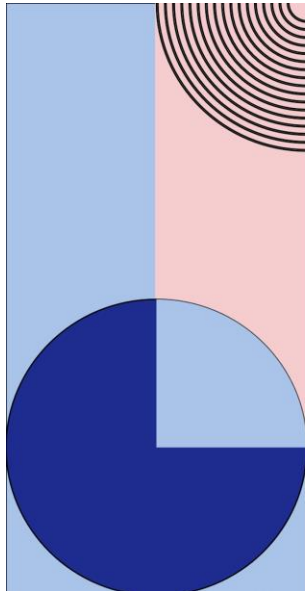


PRACTICE IN PAIRS

- Work with your partner
- Take turns practicing the skill (one of you as the teacher and one as the student)
- We (trainers) will observe and give feedback or remodel it for anyone who wants to see it again.
- We will score your practices as you are completing them
- When you score 90% twice in a row or 100% once you have mastered the skill!!



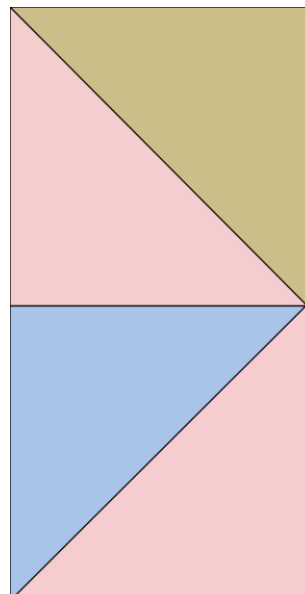
HOW DID THIS GO?

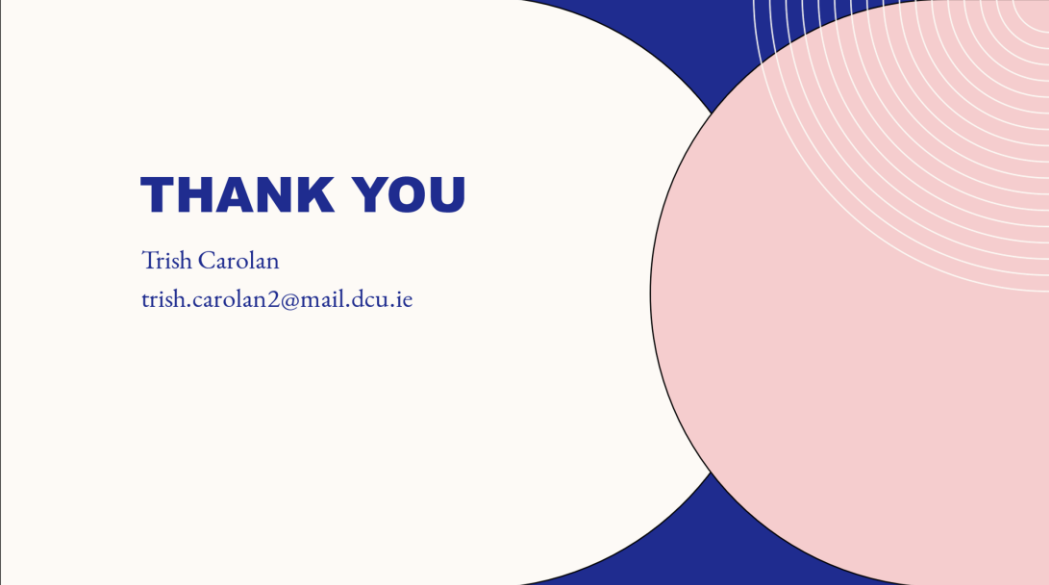


PLANNING

- This is an example of a functional communication goal.
- It can be included in a behaviour support plan in the '*replacement behaviours*' section.
- It can also feature in a Fortnightly Plan/IEP as a Primary Language Curriculum goal.

Strand - Oral Language	
Element	Learning Outcome: 8/9. Requests and Questions
Exploring and Using	Express personal needs, opinions and preferences, and make requests with confidence.





THANK YOU

Trish Carolan
trish.carolan2@mail.dcu.ie

8.8 Appendix H: Mastery Assessments

Participant Code: _____

Mastery Assessment for Unit 1.1 - Choice Making Skills :Preference Assessment

Each participant will perform one rehearsal of the skill (baseline) before watching a video & rehearsing with feedback Preference Assessment training. How to conduct a simple preference assessment to determine a hierarchy of motivating reinforcers.



Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
1. Gather 4 items that student has engaged with during free choice observations.						
2. Arrange items on floor in play area. Ensure area is cleared of any other items.						
3. Ask student to 'Pick one' – student will choose first preference.						
4. Once student has picked item #1, clear the remaining items. <i>Allow student to play for 2 minutes with their chosen item. Engage with student as appropriate.</i>						
5. After two minutes or whenever the student loses interest, present a basket or box and say "finished", pair with Lámh sign for finished. – student will place item in finished box						
6. Arrange remaining 3 items in play area.						
7. Ask student to 'Pick one' – student will choose 2 nd preference.						
8. Once student has picked item #2, clear the remaining items. <i>Allow student to play for 2 minutes with their chosen item. Engage with student as appropriate.</i>						
9. After two minutes or whenever the student loses interest, present a basket or box and say "finished", pair with Lámh sign for finished. – student will place item in finished box						
10. Arrange remaining 2 items in play area.						
11. Ask student to 'Pick one' – student will choose 3 rd preference.						
12. Once student has picked item #3, clear the remaining item. <i>Allow student to play for 2 minutes with their chosen item. Engage with student as appropriate.</i>						
13. After two minutes or whenever the student loses interest, present a basket or box and say "finished", pair with Lámh sign for finished. – student will place item in finished box						
14. Hand the student the last remaining item, #4. <i>Allow student to play for 2 minutes with their chosen item. Engage with student as appropriate.</i>						
15. After two minutes or whenever the student loses interest, present a basket or box and say "finished", pair with Lámh sign for finished. – student will place item in finished box						
16. Score the accompanying data sheet to record the order in which the student selected the four items.						
Total number of Yes	/16	/16	/16	/16	/16	/16
% Score (see scoring code overleaf)						

▲ **Mastery Criteria:** 90% + implementation across 2 consecutive observations or 100% once
 * *verbal* interactions do not need to be verbatim to score correctly - an approximation of the verbal interactions that mean the same thing are acceptable and can be marked correct

Fraction	Percentage	Fraction	Percentage	Fraction	Percentage	Fraction	Percentage
1/16	6%	6/16	37%	11/16	69%	16/16	100%
2/16	12%	7/16	43%	12/16	75%		
3/16	19%	8/16	50%	13/16	81%		
4/16	25%	9/16	56%	14/16	87%		
5/16	31%	10/16	62%	15/16	94%		

Participant Code _____

Mastery Assessment for Unit 1.2 - Choice Making Skills – Choice board linked to First-Then schedule

Each participant will perform one rehearsal of the skill before watching a video & rehearsing with feedback

Choice-making skills linked to First-Next schedules. Moving from a whole day schedule to mini schedules that incorporate choice and visual information of upcoming tasks and transitions.

Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
1. Present the students drop-down whole-day schedule. Ask the student to “ <i>check your schedule*</i> ” – <i>The student will remove the last completed task and place it in the finished pocket on the whole day drop-down schedule.</i>						
2. When the student is placing the playground picture in the finished pocket accompany this action with a verbal affirmation “ <i>playground is finished</i> ”.						
3. Present empty First-Then schedule and gesture to ‘first section’ and say “ <i>First Work</i> ” - <i>prompting the student to place the next scheduled activity on their drop-down schedule (WORK) in the first section of the first-then schedule</i>						
4. Present a choice board preloaded with pictures of known motivators/reinforcers						
5. Ask the student, “ <i>What would you like to do after work time?</i> ”						
6. After the student has picked an item from the choice board, gesture to the ‘next section’ and say: “ <i>then X</i> ” (x=whatever the student has chosen) - <i>prompting the student to place their next chosen activity in the next section.</i>						
7. Place the completed First-Next schedule in front of the student and verbally run through the plan “ <i>Ok, first X (education task), then (chosen activity)</i> ”.						
Total number of Yes	1/7	1/7	1/7	1/7	1/7	1/7
% Score						

Mastery Criteria: 90% + implementation across 2 consecutive observations or 100% once

* verbal interactions do not need to be verbatim to score correctly - an approximation of the verbal interactions that mean the same thing are acceptable and can be marked correct

Fraction	Percentage	Fraction	Percentage	Fraction	Percentage
1/7	14%	4/7	57%	7/7	100%
2/7	28%	5/7	71%		
3/7	43%	6/7	86%		

Participant Code: _____

Mastery Assessment for Unit 1.3 - Choice Making Skills :Transitions/Colour-coded choice boards

Each participant will perform one rehearsal of the skill before watching a video & rehearsing with feedback

Choice-making skills using colour-coded rolling schedules linked to choice boards for 'work', 'play' and 'movement'.

Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
1. Present the student with a mini schedule with 'First-Next-Then' sections. <i>Each section will have a different colour background</i>						
2. Present a choice board depicting choices of educational targets – <i>This choice board will correspond to the colour in the 'first' section of the mini schedule.</i>						
3. Ask the Student "What work would you like to do?" – <i>The student will place one task in the 'first' section of the mini schedule</i>						
4. Present a choice board depicting choices of classroom-based activities e.g., sensory items or toys - <i>This choice board will correspond to the colour in the 'next' section of the mini schedule</i>						
5. Ask the Student, "What would you like to do next?" – <i>The student will place their chosen classroom-based activity in the 'next' section of the mini schedule</i>						
6. Present a choice board depicting choices of locations or activities that require movement from the classroom – <i>This choice board will correspond to the colour in the 'last' section of the mini schedule</i>						
7. Ask the Student, "Where would you like to go after we're finished our work?" <i>The student will place their chosen movement break location in the 'last' section of the mini schedule</i>						
8. Present completed First-Next-Then schedule to your student and verbally run through the plan. "OK, first we're going to do x, then you want to play with Y, and last we will go to Z"						
Total number of Yes	/8	/8	/8	/8	/8	/8
% Score						

Mastery Criteria: 90% + implementation across 2 consecutive observations or 100% once

Fraction	Percentage	Fraction	Percentage
1/8	12.5%	5/8	62.5%
2/8	25%	6/8	75%
3/8	37.5%	7/8	87.5%
4/8	50%	8/8	100%

Participant Code: _____

Mastery Assessment for Unit 2.1 (Functional Communication) 'More Time'

Replacement 'negotiation' communication for students where termination of preferred activities is causing behaviours of concern.

Each participant will perform one rehearsal of the skill before watching a video & rehearsing with feedback.

Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
1. Provides visual information on upcoming transition using 'First-Next' visual board. "Time for classroom, or would you like more time?" *						
2. Presents strip with 3 x more time visual cards displayed - <i>student exchanges 'more time card'</i>						
3. Accepts more time card and sets auditory timer for agreed period (1 minute) and verbalises this agreement. "ok sure, you can have more time"						
4. At sound of timer, Presents strip with 2 x more time cards displayed and offer more time - <i>student exchanges 'more time card'</i>						
5. Accepts more time card and sets auditory timer for agreed period (1 minute) and verbalises this agreement. "more time, no problem"						
6. At sound of timer, Presents strip with 1 x more time card displayed and offer more time - <i>student exchanges 'more time card'</i>						
7. Accepts more time card and reminds student that this is the last 'more time' available. "Ok, this is our last one" Restarts timer for 1 minute						
8. At sound of timer. Supports student to know that there is no more time and the activity is finished. Present them with the empty more time strip to aid this understanding.						
9. Presents 'First-Next' visual schedule to support student in knowing what is the next activity or transition in timetable. "Time to go to the classroom"						
Total number of Yes	/9	/9	/9	/9	/9	/9
% Score						

Mastery Criteria: 90% + implementation across 2 consecutive observations or 100% once

* verbal interactions do not need to be verbatim to score correctly - an approximation of the verbal interactions that have similar meaning can be marked correct.

Fraction	Percentage	Fraction	Percentage	Fraction	Percentage
1/9	11%	4/9	44%	7/9	77%
2/9	22%	5/9	55%	8/9	88%
3/9	33%	6/9	66%	9/9	100%

Participant Code: _____

Mastery Assessment for Unit 2.2 - Functional Communication: Requests breaks

Each participant will perform one rehearsal of the skill before watching a video & rehearsing with feedback. Functional communication training, students will learn to request breaks from demanding situations.

Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
1. Present a demanding task or activity. <i>The break card is located on desk.</i>						
2. During activity when you know the student is coming near to their ceiling of tolerance for the task, gesture to the break symbol (<u>full gestural prompt</u>). <i>Prompting student to locate the break card and hand it to you.</i>						
3. Take the break card and say "Ok, of course, take a break", pair this with the Lámh sign for break. <i>Prompting student to leave instruction area or stay if they prefer but in absence of demands.</i>						
4. After a break re-present demanding task or activity. <i>Break symbol is located on desk.</i>						
5. During activity when you know the student is coming near their ceiling of tolerance for the task, fleeting gesture towards the break card (<u>fleeting gestural prompt</u>). <i>Prompting student to locate the break card and hand it to you.</i>						
6. Take the break card and say "Ok, of course, take a break; pair this with the Lámh sign for break. <i>Prompting student to leave instruction area or stay if they prefer but in absence of demands.</i>						
7. After a break re-present demanding task or activity. <i>Break symbol is located on desk.</i>						
8. During activity when you know student is coming near to their ceiling of tolerance, pause the task (<u>No prompt/pause prompt</u>). <i>Prompting student to locate the break card and hand it to you.</i>						
9. Take the break card and say "Ok, of course, take a break, pair this with the Lámh sign for break. <i>Prompting student to leave instruction area or stay if they prefer but in absence of demands.</i>						
Total number of Yes	/9	/9	/9	/9	/9	/9
% Score						

Mastery Criteria: 90% + implementation across 2 consecutive observations or 100% once.

instructions do not need to be verbatim for the step to be marked correct.

Fraction	Percentage	Fraction	Percentage	Fraction	Percentage
1/9	11%	4/9	44%	7/9	77%
2/9	22%	5/9	55%	8/9	88%
3/9	33%	6/9	66%	9/9	100%

Participant Code: _____

Mastery Assessment for Unit 2.3 - Functional Communication: 'No'/'I don't want to'

Each participant will perform one rehearsal of the skill before watching a video & rehearsing with feedback

Functional communication to teach students how to communicate when they don't want to do something, how to say 'No'.

Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
PHASE 1 - neutral item - full gesture						
1. Present a neutral item . Something you know holds no value for the student.						
2. Say "do you want this?" & gesture to the 'No' card (full gestural prompt). <i>Prompting the student to locate the 'no' card and hand it to you.</i>						
3. Take the No card and say "OK, you don't want it",						
4. Remove the refused item from sight.						
PHASE 2 - Work task -fleeting gesture						
5. Present a work task that the student does not particularly enjoy.						
6. Say "Time for work" fleeting gesture to the 'No' card (fleeting gestural prompt). <i>Prompting the student to locate the 'no' card and hand it to you.</i>						
7. Take the No card and say "OK, you don't want to do this"						
8. Remove the refused work task						
PHASE 3 - Work task -independent						
9. Present a work task that the student does not particularly enjoy.						
10. Say "time for work (or equivalent)" and wait (Independent/pause prompt). <i>Prompting the student to locate the 'no' card and hand it to you.</i>						
11. Take the No card and say "OK, you don't want to do this"						
12. Remove the refused work task						
Total number of Yes	/12	/12	/12	/12	/12	/12
% Score						

Mastery Criteria: 90% + implementation across 2 consecutive observations or 100% once

Fraction	Percentage	Fraction	Percentage	Fraction	Percentage
1/12	8%	5/12	41%	9/12	75%
2/12	17%	6/12	50%	10/12	83%
3/12	25%	7/12	58%	11/12	92%
4/12	33%	8/12	67%	12/12	100%

Participant Code: _____

Mastery Assessment for Unit 3.1. Tolerance skills: Not available

Each participant will perform one rehearsal of the skill before watching a video & rehearsing with feedback

Tolerance and receptive communication skills to support students to cope when items or activities are not available.

Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
<i>Phase one (Teaching stage)</i>						
1. Assemble a First-Then schedule which communicates a transition to complete a task (neutral location) with your student e.g. 'First Kitchen (collect cutlery)- Then classroom' (lunchtime).						
2. Transition to location, on arrival say 'Oh it's busy there, we'll have to come back*' and place the <i>not available</i> symbol over the kitchen picture and return to the classroom This <i>should be practiced multiple times and you should return to the location as planned when it is available.</i>						
<i>Phase two (Using in practice)</i>						
3. Present your student with their choice board. And ask them 'What do you want to do?' <i>prompting your student to make a choice</i>						
4. If it isn't currently available "Sorry, that isn't available right now, we can do that later" and place the 'not available' symbol over it.						
5. Offer them their choice board again and invite them to choose their second choice. "we can choose something different this time?"						
Total number of Yes	/5	/5	/5	/5	/5	/5
% Score						

Mastery Criteria: 90% + implementation across two consecutive observations or 100% once. Spoken instructions do not need to be verbatim for the step to be marked correct.

* verbal interactions do not need to be verbatim to score correctly - an approximation of the verbal interactions that mean the same thing are acceptable and should be marked correct

Fraction	Percentage	Fraction	Percentage
1/5	20%	4/5	80%
2/5	40%	5/5	100%
3/5	60%		

Participant Code: _____

Mastery Assessment for Unit 3.2. Tolerance skills: Learning to Wait

Each participant will perform one rehearsal of the skill before watching a video & rehearsing with feedback. Tolerance and receptive communication skills to support students to cope when waiting is required.

Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
PHASE ONE - TEACHING						
1. Assemble a First-Then schedule, which communicates a transition to visit a neutral location or task, e.g., the kitchen, to do a chore & then a leisure activity. Run through the plan verbally: "First dishwasher, Then library"						
2. When you reach the destination, say, 'Oh, we have to wait a few minutes', and place the 'Wait' card in the 'First' section of the schedule						
3. Tell your student, 'First we'll wait, and then we can go to the kitchen.'						
4. Offer your student their 'busy box' a box containing items they like to pass time with e.g. sensory toys, books, art materials (whatever is preferred) Say "What would you like to do while you're waiting?" - prompting your student to choose an item						
5. Start a timer for ____ (can be reduced to seconds for sake of this practice* this time can be increased as the student becomes more proficient)						
6. When the timer sounds, remove the wait card from their 'First-Next' schedule, point to the location in the 'next' section and say "Waiting is finished; let's go to xx" ** this should be practiced multiple times before using wait in an uncontrived context						
PHASE TWO USING IN REAL CONTEXT						
7. Your student has made a request for a preferred activity, item or location that is not available at that moment but can be accessed shortly. Say, "Oh, sorry, we can't do that right now; we have to wait".						
8. Place the 'Wait' card in the 'First' section of their schedule, followed by the requested location in the 'Next' section.						
9. Start a timer for ____ (can be reduced to seconds for sake of this practice* this time can be increased as the student becomes more proficient)						
10. Offer your student their 'busy box' a box containing items they like to pass time with e.g. sensory toys, books, art materials (whatever is preferred) Say "What would you like to do while you're waiting?" - prompting your student to choose an item						
11. When the timer sounds, remove the wait card from their 'First-Next' schedule, point to the activity in the 'next' section and say "Waiting is finished; let's go do X now"						
Total number of Yes	/11	/11	/11	/11	/11	/11
% Score						

Participant Code: _____

Mastery Criteria: 90% + implementation across 2 consecutive observations or 100%. Spoken instructions do not need to be verbatim for the step to be marked correct.

Fraction	Percentage	Fraction	Percentage	Fraction	Percentage	Fraction	Percentage
1/11	9%	4/11	36%	7/11	64%	10/11	91%
2/11	18%	5/11	45%	8/11	73%	11/11	100%
3/11	27%	6/11	54%	9/11	81%		

Participant Code: _____

Mastery Assessment for Unit 3.3. Tolerance skills: Tolerates changes

Each participant will perform one rehearsal of the skill before watching a video & rehearsing with feedback
Tolerance and receptive communication skills to support students to cope with unexpected changes

Steps	Baseline (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)
PHASE 1 - preferred change						
1. Assemble a whole-day drop-down schedule. Point to the symbol for 'work' (after snack time). Say to your student, "We're going to have a surprise change at that time."						
2. Remove the 'work' symbol from the whole day schedule, hand your student the 'change' symbol and gesture to the blank space on the schedule. <i>Prompting your student to place the change symbol on the schedule after snack</i>						
3. When the snack is finished, and the next activity is 'surprise' - tell your student you are having extra yard time/playground*. <i>*Any preferred change</i>						
4. Place the picture for the playground beside the change symbol on the schedule						
PHASE 2 - indifferent change						
5. Assemble a whole day drop-down schedule. Point to the symbol for 'work' (after snack time). Say to your student, "We're going to have a change at that time."						
6. Remove the 'work' symbol from the whole day schedule, hand your student the 'change' symbol and gesture to the blank space on the schedule. <i>Prompting your student to place the change symbol on the schedule after snack</i>						
7. When the snack is finished, and the next activity is 'change' - tell your student you are doing independent work* instead. <i>*Any indifferent change</i>						
8. Place the picture for independent work beside the surprise symbol on the schedule						
PHASE 3 - non-preferred change						
9. Assemble a whole-day drop-down schedule. Point to the symbol for 'free time'. Say to your student, "We're going to have a change at that time."						
10. Remove the 'free time' symbol from the whole-day schedule, hand your student the 'change' symbol, and gesture to the blank space on the schedule. Then, prompt your student to place the surprise symbol on the schedule after lunchtime.						
11. When the next activity is 'change'- tell your student they will be doing a classroom job instead. <i>*Any non-preferred change</i>						
12. Place the picture for jobs beside the change symbol on the schedule						
Total number of Yes	/12	/12	/12	/12	/12	/12
% Score						

Participant Code: _____

Mastery Criteria: 90% + implementation across 2 consecutive observations or 100% once. Spoken instructions do not need to be verbatim for the step to be marked correct.

Fraction	Percentage	Fraction	Percentage	Fraction	Percentage	Fraction	Percentage
1/12	8%	4/12	33%	7/12	58%	10/12	83%
2/12	16%	5/12	41%	8/12	66%	11/12	91%
3/12	25%	6/12	50%	9/12	75%	12/12	100%

8.9 Appendix I: Sample of video used during the BST

Scan this QR code to watch the video model shown to participants during unit 2.1 (FCT: 'More Time'). For ethical reasons, this video link will be removed before this thesis is publicly available on DCU's access research repository, DORAS.



SCAN ME

8.10 Appendix J: RECAP PowerPoint Covered in Week 6 of BST Intervention



What was the point of this research?

- The aim was not just to see if staff could learn these skills - of course you could /and you did!
- It is to also to see whether the strategies you've learned are implemented in the classrooms.
- And... discuss what your experiences were implementing them or what the barriers might have been.

The slide has a light cream background. On the right side, there is a large pink semi-circle with a green quarter-circle inside it. On the left side, there is a green quarter-circle with a small dark blue circle in the center.

Next step: planning

- I'll be back in the mid-end of May to look at implementation
- I'll be getting consent from parents to review planning documents – I don't need to know names or meet students.
- Do not need to full IEPs etc. It can just be a fortnightly plan or a list of current goals
- Basically any written document that outlines current approaches for a student

The slide has a light cream background. On the right side, there is a large pink semi-circle with concentric white lines. The top and bottom edges of the slide are dark blue.

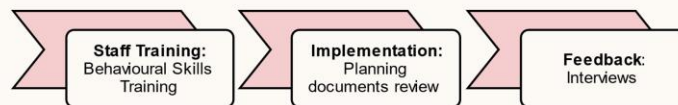
Lastly.... Interviews

I'd love to speak with people sometime in June to discuss how you found this training

1. The process of the actual intervention – the rehearsals etc.
2. The content of the curriculum -was it suitable for the students you support
3. The process of implementing the goals or using them
4. What would help you implement these kinds of targets
5. What is a barrier to implementing them in special school settings
6. If they were put in, did they help?

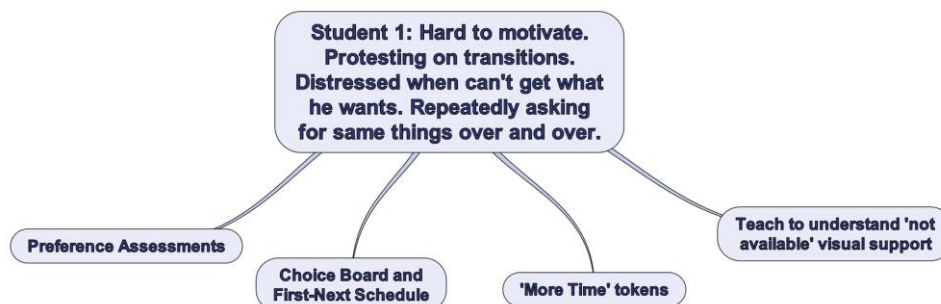
30-45minute conversation, take place in the school, anonymised in the write-up, time and date that suits you.

Stages of the research



Sample Student

7



Sample Student

8

Student 2: Always on the move, anxious profiles, needs reassurance often about the plan, upset when the plan changes. A lot of protesting during any desk type work

Preference Assessments

Colour-coded choice boards

"break" card

Teach "surprise" symbol

Sample Student

9

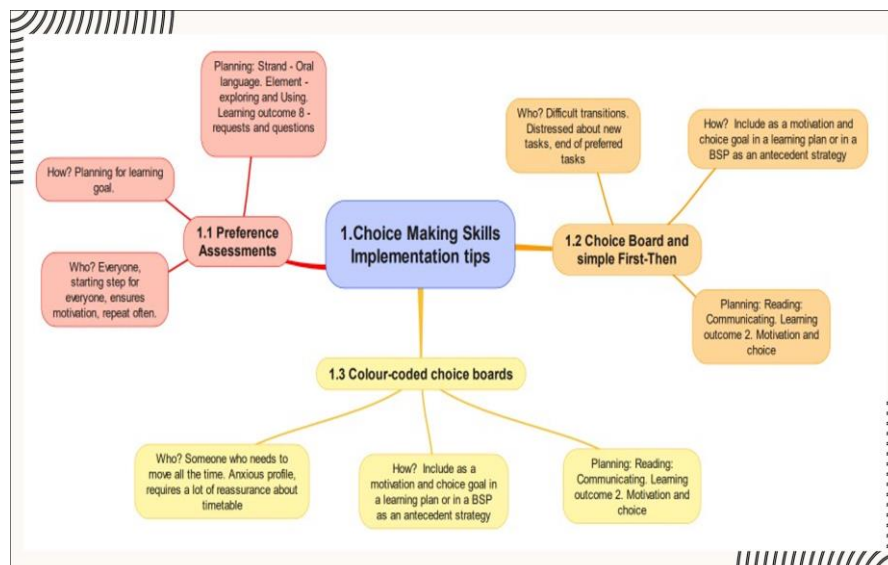
Student 3: Doesn't communicate his needs very often or make many choices. Can be very upset when plans or activities are delayed.

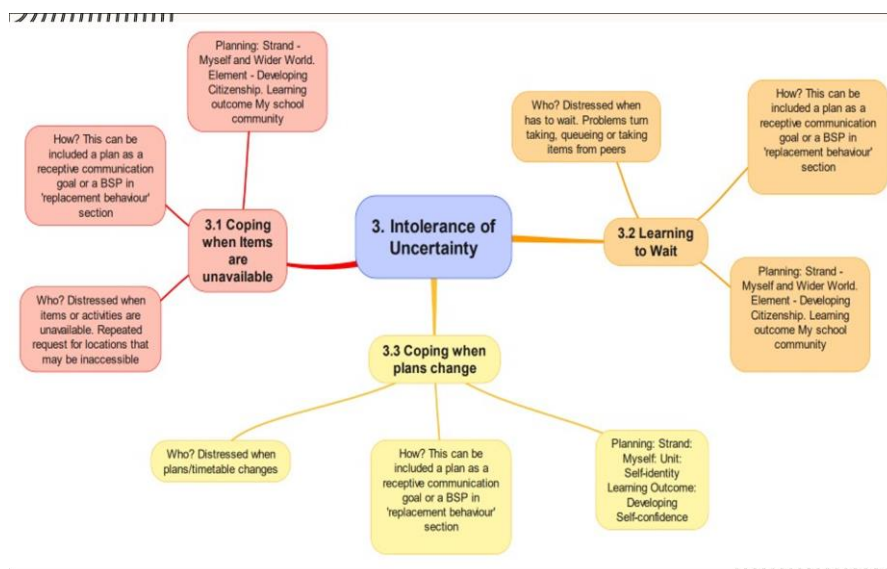
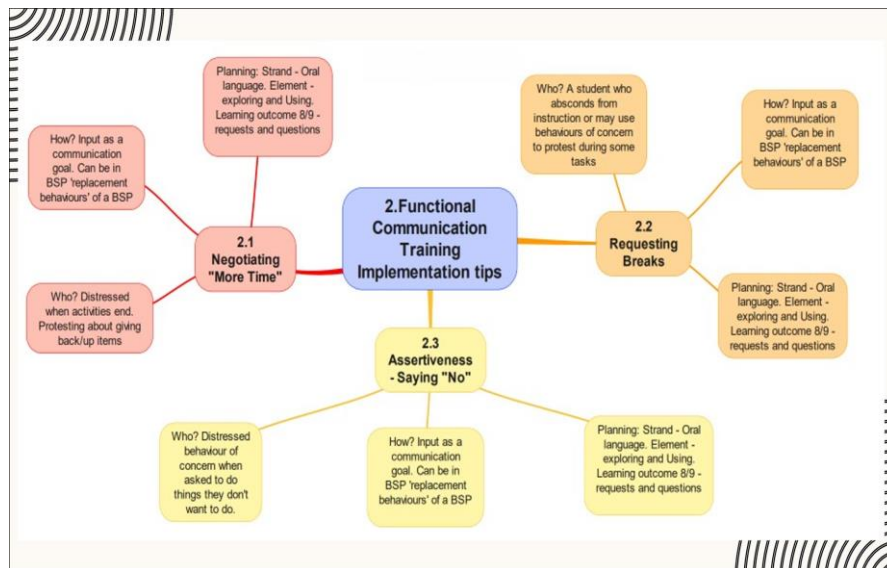
Preference Assessments

Choice Board and First-Next Schedule

Assertiveness - "no"

Learns to wait protocol





Individual Fortnightly Plan

Prompting Level
 1. Hand-over-hand
 2. Verbal/Physical Prompts
 3. Physical Prompt (to be faded)
 4. Independently

Student: _____
 Teacher: _____
 Date: _____
 Class: _____

Code for CM
 N. Not Mastered
 G. Gaining Mastery
 M. Mastered

Language and Communication					Assessment														CM
Key	Strand	Learning Outcome	Objectives and Methodologies	Resources	M	T	W	T	F	M	T	W	T	F	Code				
AD	Reading	Motivation and choice	To support 'Joe' with transitions and encourage choice whilst incorporating movement needs	Colour coded choice boards															
AD	Oral Language	Requests and Questions	To help Joe negotiate for more time at the end of activities	More time tokens, timer															
AD	Oral Language	Requests and Questions	To help Joe negotiate for more time at the end of activities.	More time tokens, timer															

Key: X - IEP TT - Teacher Table G - Group AD - Run all day C - Run in Community WS - Workstation JC - LILPs

THANK YOU!

Thank you to each and everyone of you. I am so indebted to you for taking the time out of your busy weeks to partake in this training and the research. I am a passionate believer in the power of collaboration and idea-sharing between schools. The units in this curriculum are go-to support pieces for the children we teach, and when implemented, each one can have a powerful impact on increasing student happiness and reducing behaviours of concern. I am just on the end of an email if anyone has any questions over the coming weeks. Thanks again, Trish

trishcarolan2@mail.dcu.ie

Paperwork: Anonymous Survey

Behaviour Support in a Special School

Post-Training Acceptability Survey: Please tick one box per question.

1. How enjoyable or unenjoyable was the behavioural skills training?	1. extremely unenjoyable	2. very unenjoyable	3. mostly unenjoyable	4. neither enjoyable nor unenjoyable	5. mostly enjoyable	6. very enjoyable	7. Extremely enjoyable
2. How suitable or unsuitable was the training for learning information and skills relevant to your current workplace and profession?	1. extremely unsuitable	2. very unsuitable	3. mostly unsuitable	4. neither suitable nor unsuitable	5. mostly suitable	6. very suitable	7. Extremely suitable
3. How practical or impractical was the training in terms of the amount of your time and effort to participate	1. extremely impractical	2. very impractical	3. mostly impractical	4. neither practical nor impractical	5. mostly practical	6. very practical	7. Extremely practical

4. Would you recommend the training to others working in a similar school/class?

Yes ☐ No ☐

5. What post do you hold in the school?

Special Needs Assistant ☐

Class teacher ☐

6. Have you recently attended training with the NCSE?

Yes ☐ No ☐

If you answered yes, Was this training (Behaviour Support in a special school) more aligned with the needs of your students?

Yes ☐ No ☐

Researcher: Trish Carolan

Email: trish.carolan@mail.dcu.ie

Thank you again to each one of you for agreeing to participate in this research.

8.11 Appendix K: Video Consent Form

Research Title: *Enhancing Behaviour Support: A practical Staff Training Approach in an Irish Special Education Context*

Childs Name: _____

Dear parents/guardians,

Your child's school behaviour analyst, Trish Carolan, is currently enrolled on a Doctor of Education programme at Dublin City University (DCU). Part of her research will involve demonstrating good practice in positive behaviour support (PBS) practices to school staff who work in other special education settings. Trish hopes to show videos of staff in your child's school supporting your child. Through this method, we hope to increase teachers' and SNAs' abilities to use evidence-based PBS practices effectively in their own settings.

These videos will be focused on key practices that demonstrate the skills of SNAs and teachers in your child's school. The videos we hope to create will feature staff engaged in the following support strategies:

- Using a First-Next visual schedule (showing staff supporting children in making choices using pictures and using these pictures to help children understand upcoming timetable changes).
- Conducting a preference assessment (showing how staff ascertain what activities and toys motivate individual children).
- Helping children transition using visual supports (showing staff using visual supports to help children move between different tasks and locations).
- Helping children to ask for 'more time' when activities end and they are not yet finished or would like a couple of extra minutes, request a 'break' when a situation is difficult for them, and say 'no' when they don't want to do something or go somewhere.
- Showing how to support children when they have to wait for preferred activities, how to support them when things they want are unavailable or when plans change unexpectedly.

The videos will be used under the strict supervision of Trish Carolan and solely by her for her research project. Any video recordings collected will be used during training seminars and will be featured in the proposed research. The videos may be included in the submission of the final write-up of the thesis but will not be posted on any public online forum.

1. Your child will only be recorded with your full consent.
2. Your child will only be recorded if they have one of the above strategies already included in their Individual Education Plan (IEP) or behaviour support plan (BSP).

3. These strategies will not be inputted into your child's plan to accommodate this research.
4. Your child will only be recorded engaging with strategies that they are competent and comfortable performing.
5. Your child will be recorded working with their teacher or SNA.
6. Trish Carolan herself will make the recordings and will speak to your child to explain what she is doing before recording begins. If your child indicates in anyway that they do not wish for her to record, she will not do so.
7. Your child will never be recorded when distressed or upset in any way.
8. Videos will be stored on a password-protected Google Drive that is only accessible to the researcher
9. You are under no obligation to consent, and there will be no impact whatsoever on you or your child if you choose not to.

Thank you kindly for your time and your consideration. Please contact me, Trish Carolan, with any queries.

Email: trish.carolan2@mail.dcu.ie **Tel:** 01-8396705

Parent/guardian – please complete the following (Circle Yes or No for each question).

I have read the Information above (or had it read to me)

Yes/No

I understand the information provided.

Yes/No

I have had an opportunity to ask questions (if any)

Yes/No

I have received satisfactory answers to all my questions.

Yes/No

I understand that I may withdraw my consent at any time.

Yes/No

Please tick the appropriate box and sign below.

I give consent for aspects of my child's learning programme to be recorded for use in the proposed research project.

☐

I do not give consent for aspects of my child's learning programme to be recorded for use in the proposed research project.

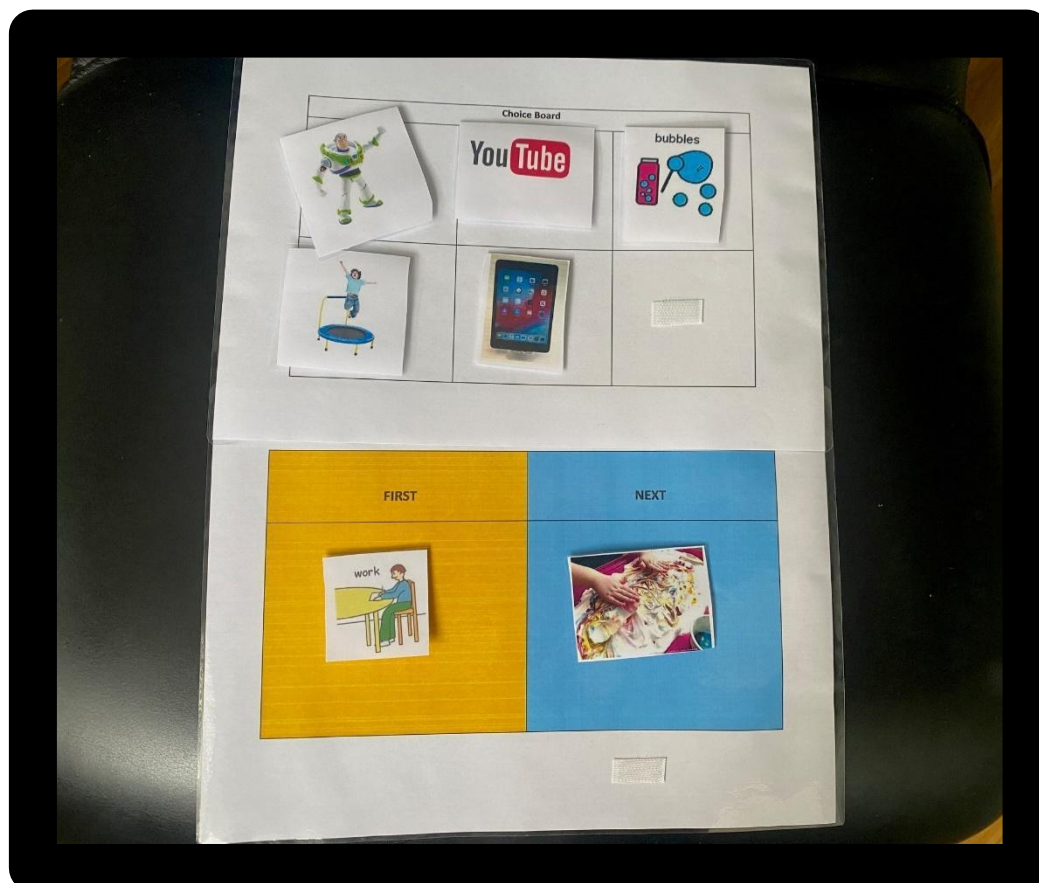
☐

Signature ----- Date:

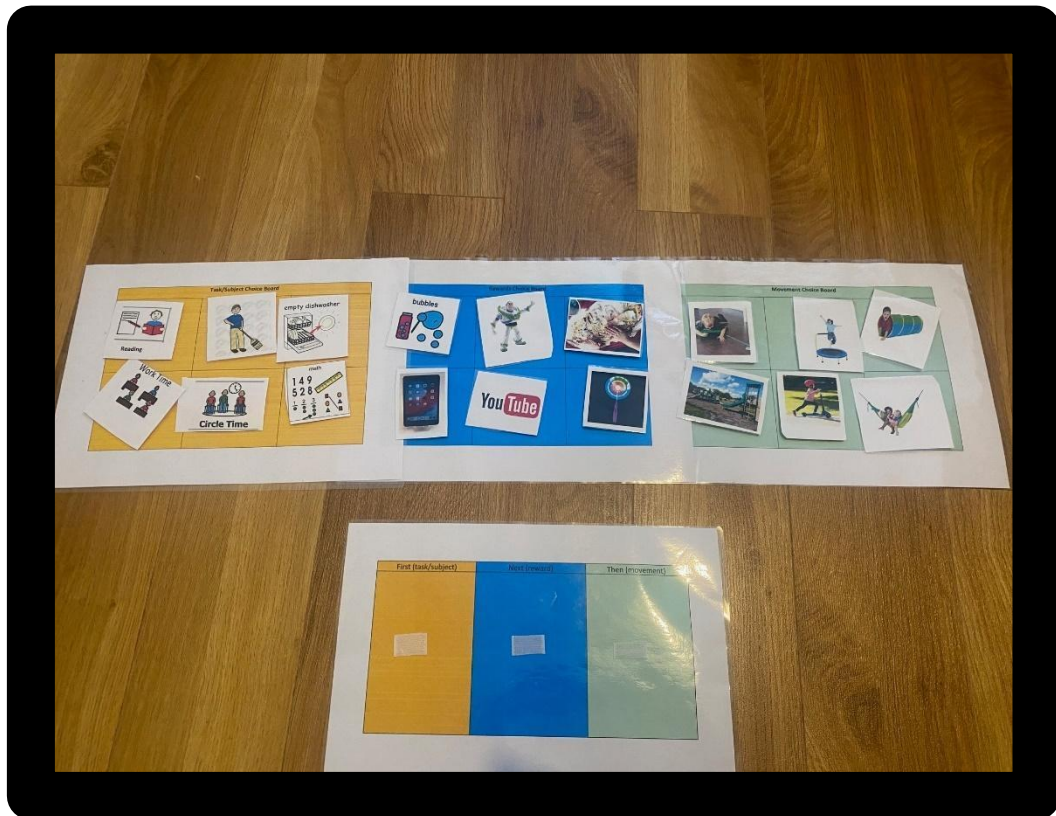
8.12 Appendix L: Photographs of Resources Used during the Intervention



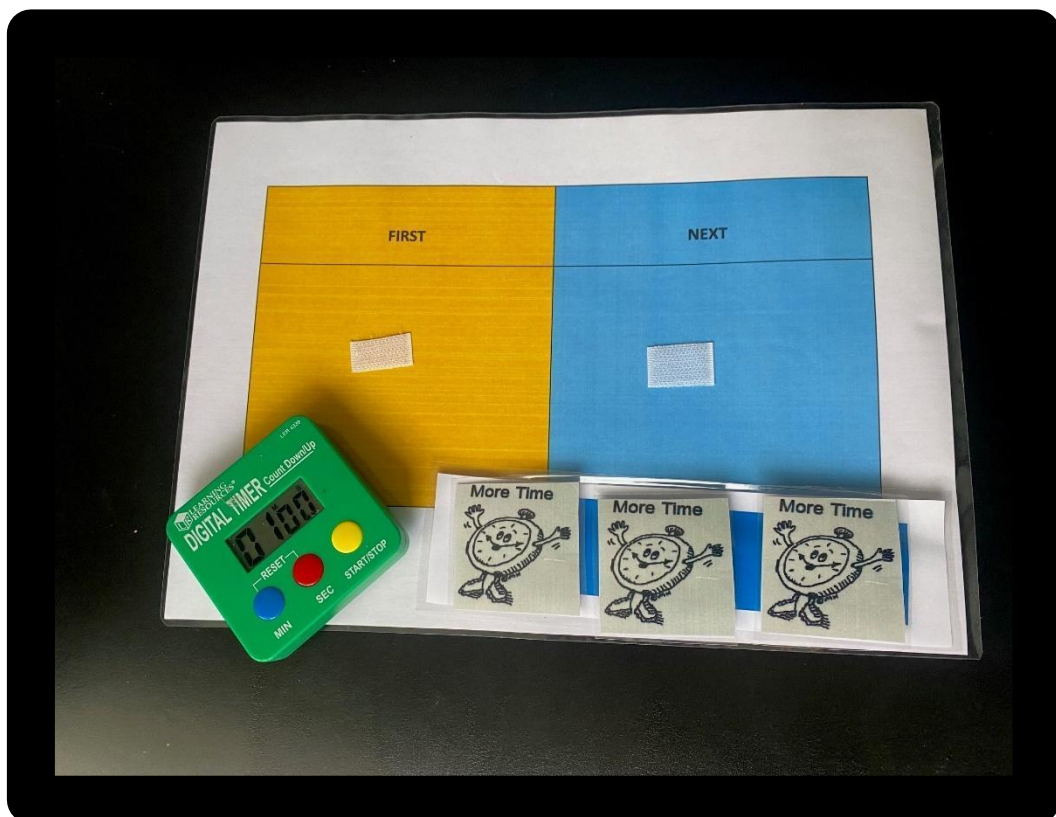
Materials for Unit 1.1: Preference Assessment



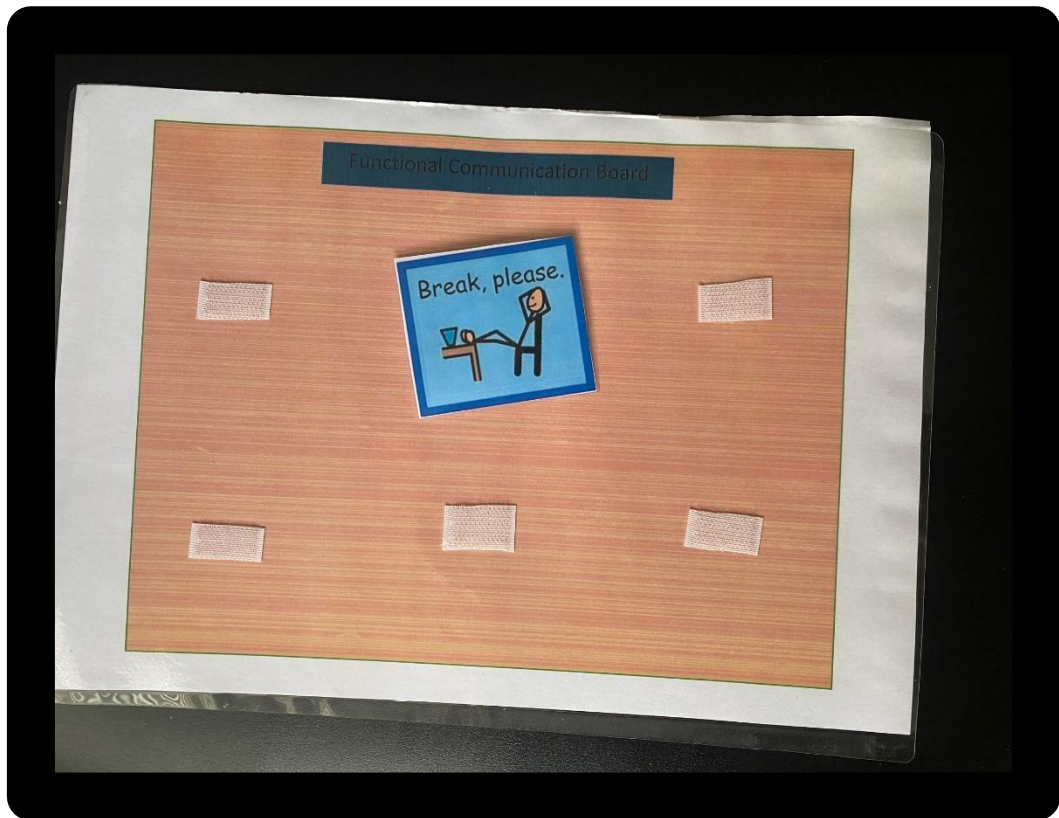
Materials for Unit 1.2: First-Next Schedule



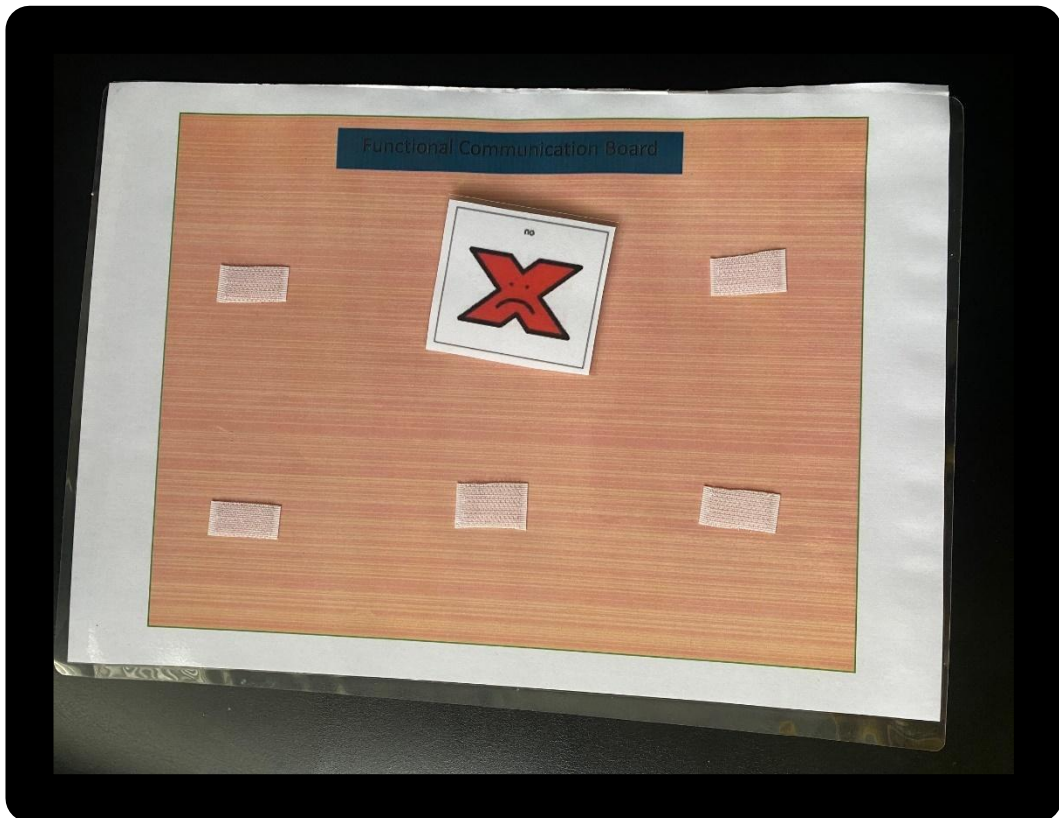
Materials for Unit 1.3: Colour-coded choice boards with linked schedule



Materials for Unit 2.1: FCT "More Time"



Materials for Unit 2.2: FCT "Break"



Materials for Unit 2.3: FCT "No/I Don't Want to"



Materials for Unit 3.1: Tolerance: Not Available



Materials for Unit 3.2: Tolerance: Waiting



Materials for Unit 3.3: Tolerance :Support when plans changes

8.13 Appendix M: Post-Intervention Acceptability Survey

Behaviour Support in a Special School

Anonymous Post-Intervention Acceptability Survey: Please tick one box per question.

1. How enjoyable or unenjoyable was the behavioural skills training?	1. extremely unenjoyable	2. very unenjoyable	3. mostly unenjoyable	4. neither enjoyable nor unenjoyable	5. mostly enjoyable	6. very enjoyable	7. Extremely enjoyable
2. How suitable or unsuitable was the training for learning information and skills relevant to your current workplace and profession?	1. extremely unsuitable	2. very unsuitable	3. mostly unsuitable	4. neither suitable nor unsuitable	5. mostly suitable	6. very suitable	7. Extremely suitable
3. How practical or impractical was the training in terms of the amount of your time and effort to participate	1. extremely impractical	2. very impractical	3. mostly impractical	4. neither practical nor impractical	5. mostly practical	6. very practical	7. Extremely practical

4. Would you recommend the training to others working in a similar school/Class?

Yes ☐ No ☐

5. What post do you hold in the school?

Special Needs Assistant ☐

Class teacher ☐

6. Have you recently attended training with the NCSE?

Yes ☐ No ☐

If you answered yes, **Was this training (Behaviour Support in a special school) more aligned with the needs of your students?**

Yes ☐ No ☐

8.14 Appendix N: Parental Consent for Access to Student Plans

Research Title: *Enhancing Behaviour Support: A practical Staff Training Approach in an Irish Special Education Context*

Dear parent or guardian,

As part of their professional development and with the permission of the school Principal, staff in your child's school have recently attended six weeks of training in Positive Behaviour Support (PBS). This training was delivered by Trish Carolan, who is a behaviour analyst with 18 years of experience working in a special school supporting Autistic children and young people. Trish is currently enrolled on a Doctor of Education programme at Dublin City University (DCU) and is researching the area of professional development for staff working in special schools. This research is carried out under the supervision of Dr Sinéad Smyth and Dr Laura Gormley.

The strategies staff learned in the training were:

- How to use a choice board alongside a First-Next visual schedule. Staff learned how to support children in making choices using pictures and to then use these pictures to help children understand upcoming timetable changes.
- How to conduct a preference assessment. Staff learned how to ascertain which activities and toys motivate individual children and why this is important before placing demands.
- How to help children transition using visual supports and incorporate these into movement breaks. Staff learned how to use visual support to help children move between different tasks, locations, and activities.
- How to teach children the language to negotiate for 'more time' when activities end, ask for a 'break' when a situation is difficult for them, and assert their preference by saying 'no' when they do not want to do something or go somewhere.
- How to appropriately support children when they must wait for preferred activities, when something they want is unavailable, and support with unexpected schedule changes.

Six weeks after the training has finished (sometime in May) the researcher will return to the school and investigate the impact on school practice. To do this, we hope to access various planning documents that the teachers in your child's school are obliged to keep. These could include behaviour support plans (BSP) and/or fortnightly/monthly teacher plans. This is to facilitate the researcher in determining if any of the strategies taught during the training were later included in your child's learning programme.

Important

- Your child's educational planning documents will not be shown to the researcher without your consent.

- All identifying information (names/dates of birth/addresses) and any other personal information will be removed by the school principal before the documents are released to the researcher.
- The researcher will not know the identity of the children at any time.
- The researcher will ask the school to provide your child's age to match the plans to the student's age profile.
- The documents will be used solely in this research project. They will not be used for any other purposes.
- Information found in the documents that is relevant to the study will form part of the write-up of the research thesis.
- A secondary researcher will review the redacted and anonymised planning documents after the primary researcher to ascertain that the primary researcher has counted the number of strategies implemented correctly.
- Digital documents will be stored on a password-protected Google Drive and deleted once the research project is complete.
- Paper-based documents will be stored in locked filing storage and shredded once the research project is complete.
- The primary researcher and the research supervisors will have access to the documents.
- You are under no obligation to consent, and there will be no impact on your child's educational programme if you choose not to release the redacted/anonymised documents.
- You can change your mind at any time and withdraw your consent.

Thank you kindly for your time and your consideration. Please contact me, Trish Carolan, with any queries. **Email:** trish.carolan2@mail.dcu.ie **Tel:** 01-8396705

Parent/guardian– please complete the following (Circle Yes or No for each question)

<i>I have read the Information above (or had it read to me)</i>	Yes/No
<i>I understand the information provided</i>	Yes/No
<i>I have had an opportunity to ask questions (if any)</i>	Yes/No
<i>I have received satisfactory answers to all my questions</i>	Yes/No
<i>I understand that I may withdraw my consent at any time</i>	Yes/No

Please tick the appropriate box, sign below, and return to school.

I give consent for my child's redacted and anonymised planning documents to be reviewed for use in the proposed research project.

☐

I do not give consent for my child's redacted and anonymised planning documents to be reviewed for use in the proposed research project.

☐

Signature ----- Date: _____

8.15 Appendix O: Fortnightly Plan Sample

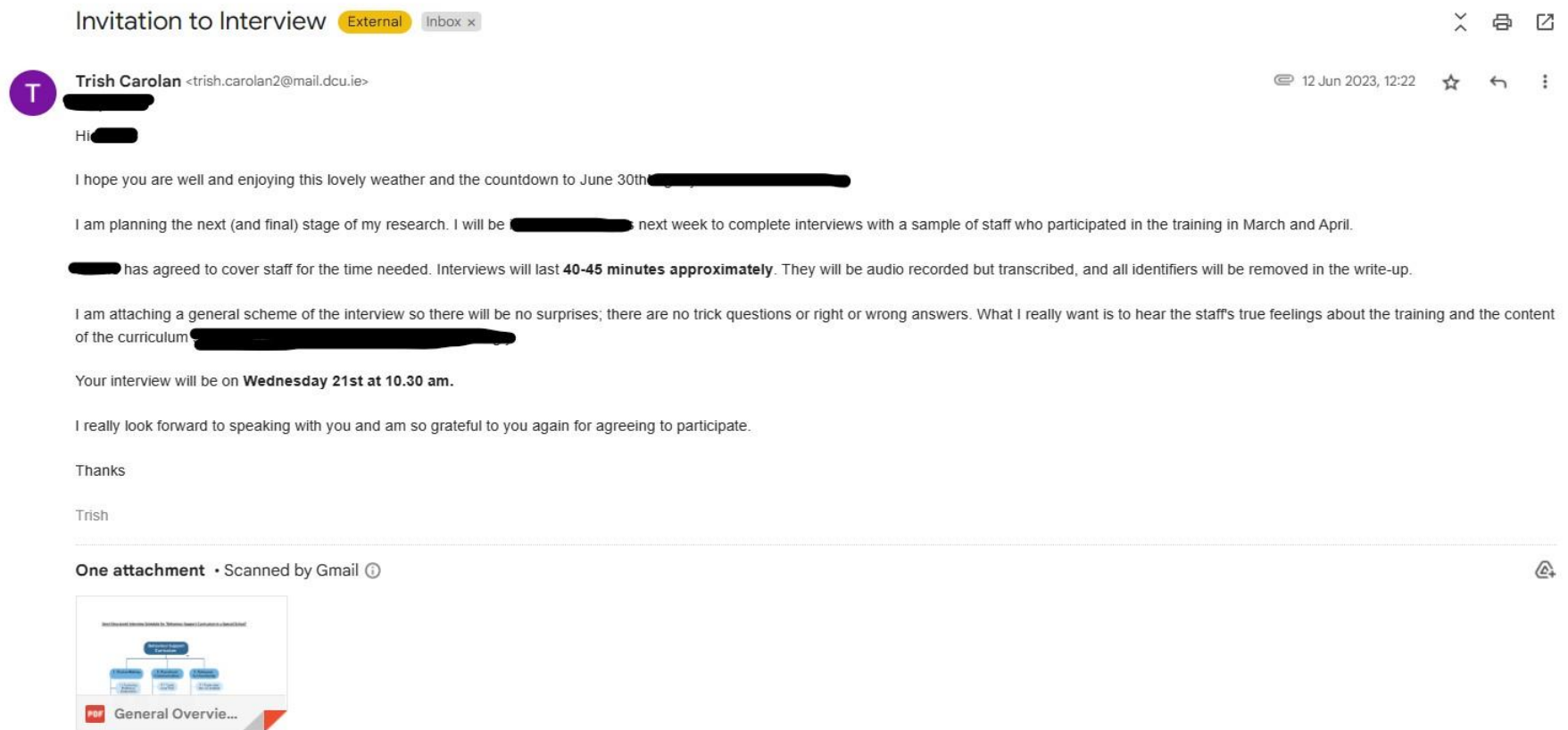
Individual Fortnightly Plan

SPHE and Behaviour														
Key	Objectives and Methodologies	Resources	Skills	Assessment										CM
				M	T	W	T	F	M	T	W	T	F	Code
AD unik 3.3	Through use of "change" visual and daily schedule, [redacted] will be given 3 changes daily to learn how to cope with change as they occur.	change/surprise visual, daily schedule	developing self confidence	2	2	2	2	2	2	2	2			AD
AD	Through the use of our class rules, [redacted] will understand the necessity for adhering to the class and school rules.	class rules visual, modelling	my school community	2	2	2	3	3	3	3	3			AD
AD unik 3.2	[redacted] will be given 3 opportunities daily to learn to wait (1-3 minutes in length with choice of activities while waiting).	waiting box, wait visual,	developing self confidence	2	2	2	2	3	3	3	3			AD

Physical Education and Occupational Therapy														
Key	Objectives and Methodologies	Resources	Skills	Assessment										CM
				M	T	W	T	F	M	T	W	T	F	Code
C	[redacted] will be enabled to walk in [redacted] setting for extended periods on community walks	N/A	running	3	3	3	3	3	3	3	/	/		C

Key: X - IEP TT - Teacher Table G - Group AD - Run all day C - Run in Community WS - Workstation JC - L1LPs

8.16 Appendix P: Pre-Interview Email and Overview Sent to Participants



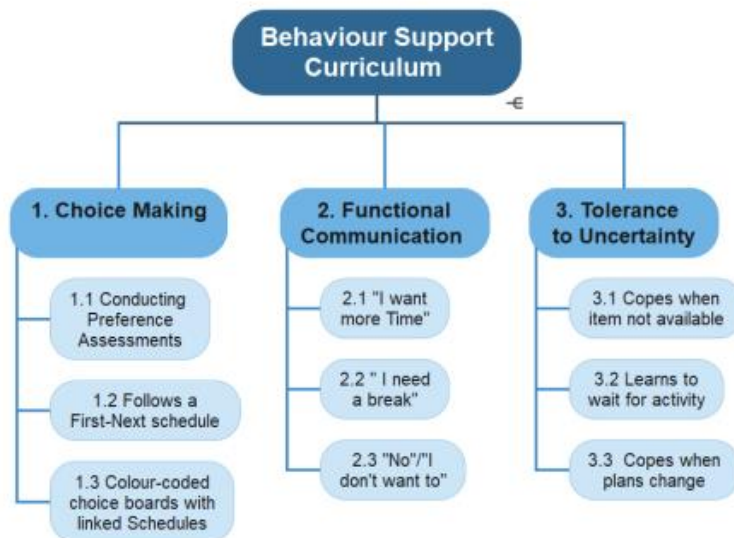


Figure 1: Reminder of the Curriculum Strands and units covered in the training.

General Scheme of questioning we will cover*:

1. **Career to date:**
Your current role/previous work experiences and training/qualifications

2. **Behavioural Skills Training as a professional learning experience:**
Experiences of participating in the training, opinions on the style of training and the content of the curriculum.

3. **Implementation of curriculum units in classroom practice:**
Experiences using the curriculum (if used). Challenges to implementing curriculum units.

4. **Perceptions of Behaviour Support:**
Thinking around positive behaviour support in general – and how to support young people with behaviours of concern.

**This is a broad scheme, and it can change depending on the answers given. We may also stop and discuss a point you make in more detail. This is so I capture your points correctly. As a result, we may not explore all the questions.*

8.17 Appendix Q: Complete Interview Schedule

Semi-Structured Interview Schedule for ‘Behaviour Support Curriculum in a Special school’

Prompts for Researcher:

1. I want to take this opportunity to thank you for agreeing to participate in this interview.
2. Can I check that you have completed the consent forms?
3. I will provide anonymity to you by using pseudonyms when transcribing and reporting data. However, there can be no absolute guarantee of total anonymity.
4. Do I have your permission to record?
5. The semi-structured interview should last approximately 30-45 minutes max
6. You may ask to stop the interview at any stage.
7. I will mostly ask questions based on the interview schedule sent to you last week. However, we may also stop and discuss a point you make in more detail. This is so I capture your points correctly. As a result, we may not explore all the questions.
8. I may take notes and check my prompts as I listen to ensure I address the important elements of the research.
9. This semi-structured interview seeks to get your views and experiences of being involved in the six-week training programme in behaviour support practices that took place in your school in March and April of this year. The interview will also aim to ascertain whether the training impacted your practices in your day-to-day work and explore any factors that enabled (*helped*) or inhibited (*didn't help/hindered*) you in using the skill sets you mastered during the six-week training.
10. If you would like me to clarify anything I've asked at any time during the interview, please let me know.
11. Today is the (date) of the (month) 2023, and this interview is taking place in (place).
12. Are you happy to proceed?

(Each section has several overarching questions followed by a list of prompts to extend the conversation if necessary)

Career to date:

- Can you tell me about yourself?
- What is your role in the school?

- Previous work experience and your training/qualifications to date?

Prompts

- Experience with Autistic pupils with co-occurring ID
- Any previous professional learning (*CPD/Training*) in behaviour support – if so, what and what did it look like?
- Have you attended training in the past with your entire school team?

Behavioural Skills Training as a professional learning experience:

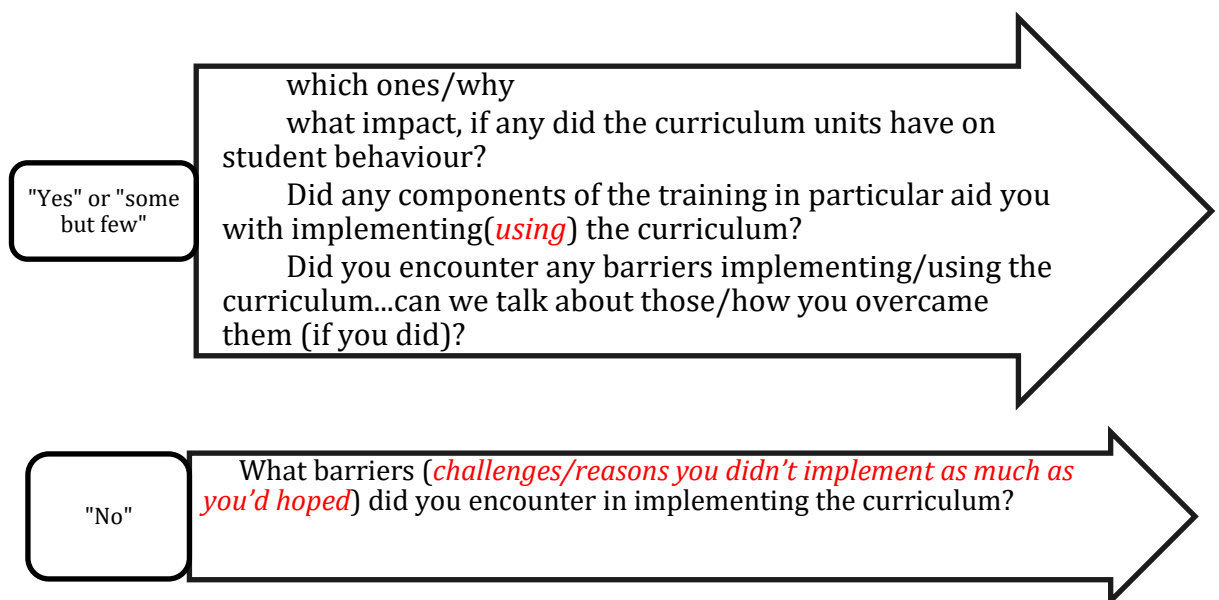
- Why did you choose to participate in the Behaviour Support training/what were you hoping to gain? Were your expectations met?
- Of the four parts of the training (instruction/video model/rehearsal/feedback), which did you feel helped you the most in learning the skills?
- How did behavioural skills training compare to other styles of professional learning (*CPD/Training*) you may have received from organisations that support your school? (e.g. NCSE, PDST, Middletown, CDNTs)
- Were the curriculum strands (content) relevant for the cohort of students you support/teach?
- All the students in your setting were still transitioning into the school at the time of this training. Was the curriculum content useful for supporting this process?

Prompts

- Would you welcome the continued use of BST (*this style of training*) for imparting new skill sets to the school team?
- Are there any changes you would make or recommend in terms of the structure of the BST? (*Suggested improvements/Improve the experience of participants*)

Implementation of curriculum units in classroom practice:

1. Did you apply any of the skills learned in the BST workshops in your work with the students in your Classroom?



2. Were the curriculum units appropriate for the age/stage of your students?
3. What additional supports are needed for a wider implementation of the curriculum in your setting?
4. Are there other approaches other than PBS that you use to support students with behaviour of concern?

Prompts:

1. How do you feel about every class team member attending the training?
2. Were there any practices already present in the school that supported you with implementing the curriculum?
3. Have you or anyone you work with needed additional rehearsals since the BST workshops finished?

Final Thoughts:

- Is there anything else you would like to add about the training or how you have implemented it that hasn't been addressed?

Thank you very much for taking part in this interview and for expressing your experiences of taking part in the training. I will now stop recording.

8.18 Appendix R: Research Ethics Committee Approval Letter

Ollscoil Chathair Bhaile Átha Cliath
Dublin City University



Ms Trish Carolan
School of Inclusive and Special Education

13th January 2023

REC Reference: DCUREC/2022/221
Proposal Title: Behaviour Support Training for Special School Staff s
Applicant(s): Ms Trish Carolan, Dr Sinead Smyth, Dr Laura Gormley

Dear Colleagues,

Thank you for your application to DCU Research Ethics Committee (REC). Further to expedited review, DCU REC is pleased to issue approval for this research proposal.

DCU REC's consideration of all ethics applications is dependent upon the information supplied by the researcher. This information is expected to be truthful and accurate. Researchers are responsible for ensuring that their research is carried out in accordance with the information provided in their ethics application.

Materials used to recruit participants should note that ethical approval for this project has been obtained from the Dublin City University Research Ethics Committee. Should substantial modifications to the research protocol be required at a later stage, a further amendment submission should be made to the REC.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'Dr. Melrona Kirrane', is written over a light blue horizontal line.

Dr. Melrona Kirrane
Chairperson
DCU Research Ethics Committee



Taighde & Nuálaíocht Tacaíocht
Ollscoil Chathair Bhaile Átha Cliath,
Baile Átha Cliath, Éire

Research & Innovation Support
Dublin City University,
Dublin 9, Ireland

T +353 1 700 8000
F +353 1 700 8002
E research@dcu.ie
www.dcu.ie

Note: Please retain this approval letter for future publication purposes (for research students, this includes incorporating the letter within their thesis appendices).

8.19 Appendix S: Plain Language Statement

Plain Language Statement/ Information Sheet

Invitation

We would like to invite you to take part in a research study, ***Enhancing Behaviour Support: A practical Staff Training Approach in an Irish Special Education Context.***

We are aiming to evaluate a type of professional development in behaviour support designed specifically for staff working in special schools. This research is being conducted by Trish Carolan, MSc, BCBA, as part of her Doctoral studies in Education at Dublin City University (DCU), School of Inclusive and Special Education. The research will be conducted under the supervision of Dr Sinéad Smyth and Dr Laura Gormley.

We invite staff employed as Special Needs Assistants (SNA) and special education teachers (SET) to participate. This *Information Sheet* will explain more about the research, what it will involve, and the benefits of taking part to help you decide if you would like to participate. If there is anything you are unclear about or have any questions, we will be happy to discuss these with you. Please take as much time as you need to review this information. This research has been approved by the Research Ethics Committee at Dublin City University.

Introduction and Purpose

We have designed a behaviour support curriculum which is aimed at supporting students with moderate-severe intellectual disabilities and autism. The curriculum is a combination of functional communication, choice-making and tolerance skills. We wish to introduce and train teachers and SNAs in the implementation of the various skills related to this behaviour support curriculum. Research is necessary to better understand the impact of this kind of professional development on staff skills and to ascertain if school staff found this type of training beneficial.

The research will focus specifically on a form of professional learning known as Behavioural Skills Training (BST). BST is a coaching approach to professional development. Instead of listening to instructions only, attendees at a BST workshop receive some basic information before watching a video of a skill being performed. This is followed by opportunities to practice the skill with feedback from expert facilitators. The facilitators present during the proposed research will be behaviour analysts, teachers and SNAs who work full-time in a school very similar to the school where you work.

Participation: What does it involve?

If you consent to participate in the research project, you will attend training at your place of work during pre-assigned professional development training time. Participants will listen to the researcher introduce a short introduction to each skill and why it might be useful to their students. You will then watch a video of the skill being used with a young person in a similar context to your own school. After that, you will work in pairs with a colleague and practice the skill. You will be asked to keep a record of how your colleague

performs on each rehearsal on a pre-written data collection form. The data collection forms will be anonymised. At no time will your name or your school's name be disclosed during the research process. At the end of the BST workshops, you will be asked to complete an anonymous survey relating to your experiences and opinions of the training. Six weeks after the BST is complete, the principal researcher will return to your school and seek to interview a sample of staff who participated in the training. This phase of the research will aim to establish what your experiences were implementing the skills learned during the BST workshops.

Potential Risks or Inconveniences

There are no foreseen risks associated with participating in this research. The researchers have taken every effort to minimise the risk to you. Despite this, there is always a small chance that a participant may become uncomfortable during participation in research. If this is the case, you can withdraw at any stage. During the interview stage of the research, if you would prefer not to answer any questions, you can skip them. You can withdraw from participating at any point during the research, and your decision will be respected without question.

Potential Benefits

You will be learning new skills that will enable you to support the students you are working with in communication, choice-making, negotiation and tolerance to disappointments. We hope this research will contribute to developing a practice model for imparting behaviour support skills to staff working in schools where students present with behaviours of concern. The ability to intervene early to replace behaviours of concern with communication and choice-making skills is a known protector against the use of restrictive practices and can protect staff from experiencing the adverse effects related to working with students who engage in behaviours that challenge them.

Your Rights

It is up to you to decide whether you would like to take part. If you decide that you would like to take part, you will be given this *Information Sheet* to keep and be asked to sign a *Consent Form*. **Participation is voluntary. You are free to withdraw at any time and without giving a reason. If you wish to withdraw consent at any stage, any data relating to you will be destroyed if you so wish.**

Confidentiality and Anonymity

Every effort will be made to protect the confidentiality of participants. Participant and school information will be anonymised, and data will remain confidential. All data collected will be stored under each individually assigned participant number, i.e., no real names will be used within the research. Only the consent form will have your name and signature, and this form will be kept separate from all the other materials.

Confidentiality of information can only be protected within the limitations of the law (subject to subpoena, freedom of information claim or mandated reporting). Data will only be available to me and my two supervisors. Data will be kept in secure password-protected files and destroyed after the initial thesis is accepted and approved. All hard copies of data will be stored in locked, secure files until converted to digital format, after which they will be destroyed. Excerpts from the data collected may be used within my final thesis and any journal articles or presentations that may follow but will not be used for any other purpose without your consent. Once approved, a copy of the thesis will be sent to your school, and the results will be shared with participants. It may also be sent to the National Council for Special Education (NCSE) to support the development of guidelines relating to whole-school training in behaviour support.

Further Information and Queries
--

If you have any queries at any point during or after the study, the researchers will be at hand to address the issue. If you would like any further information, please do not hesitate to contact the principal researcher, Trish Carolan, at any time. If you have any questions about this study and wish to contact someone independent and in confidence, you may contact the Secretary of DCU Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, e-mail rec@dcu.ie

Principal researcher:

Trish Carolan, MSc ABA, BCBA **Email:** trish.carolan2@mail.dcu.ie **Tel:** +353868404326

You will be given a copy of the *Plain Language Statement /Information Sheet* and a signed *Consent Form* for your records.

Thank you kindly for your time and your consideration to participate in this study.

8.20 Appendix T: Informed Consent Form for Participants of Research

Informed Consent (Research Participants)

Research Title: *Behaviour Support Training in a Special School*

Purpose of the research

We are conducting research to explore whether a newly designed curriculum in positive behaviour support (PBS) strategies delivered using a coaching model of professional development known as behavioural skills training (BST) will increase skills in PBS among staff working in special schools. The curriculum has been designed specifically with the needs of students who have intellectual disabilities in the moderate-severe range along with diagnoses of autism. We hope that this research will contribute to the development of a practice model for imparting behaviour support skills to staff working in schools where students present with behaviours of concern.

Requirements of participation in this study

- Participation in the research will involve attending training workshops in your place of work and the completion of an anonymised survey after the training is finalised.
- In a later phase of the research, you may be invited to partake in an interview with the researcher. These interviews aim to explore the impact the training had within your school and determine your experiences implementing the strategies learned during the BST. The interviews will be audio-recorded so that we can accurately reflect and report on what you say.

Confidentiality and Rights

- Every effort will be made to protect your identity.
- Participant names and school names will not be used in the study or in any publications or presentations of the research.
- Although interviews will be audio-recorded with an audio recording device, recordings will not be shared with anybody and your name or any other personal information will not be used in any written report. This guarantee of anonymity is promised within the legal limits to data anonymity.
- You are not obliged to participate. You are free to refuse to answer any questions and you are free to withdraw from the research at any stage. If you are happy to take part in the research, please could you fill in the consent form below.

Participants – please complete the following (Circle Yes or No for each question)

I have read the Plain Language Statement (or had it read to me). Yes/No

I understand the information provided. Yes/No

I have had an opportunity to ask questions and discuss this study. Yes/No

I have received satisfactory answers to all my questions. Yes/No

I agree to attend behavioural skills training (BST) workshops. Yes / No

I agree to complete a survey at the end of the BST workshops. Yes / No

*I agree to partake in an interview with the researcher in the second phase of the research.
Yes / No*

I agree to the interview being audio recorded for later analysis by the researcher. Yes/No

I understand that I may withdraw my consent at any time. Yes / No

I understand the information provided in relation to data protection. Yes/No

I give permission for the researcher to retain fully anonymised quantitative data collected during the BST workshops indefinitely for use in later publications or presentations. Yes/No

I give permission for the researcher, to use excerpts from the data collected during the interviews for the final thesis, journal articles and presentations for five years following completion of the study. Yes / No

Signature:

I have read and understood the information in this form. My questions and concerns have been

answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take

part in this research project

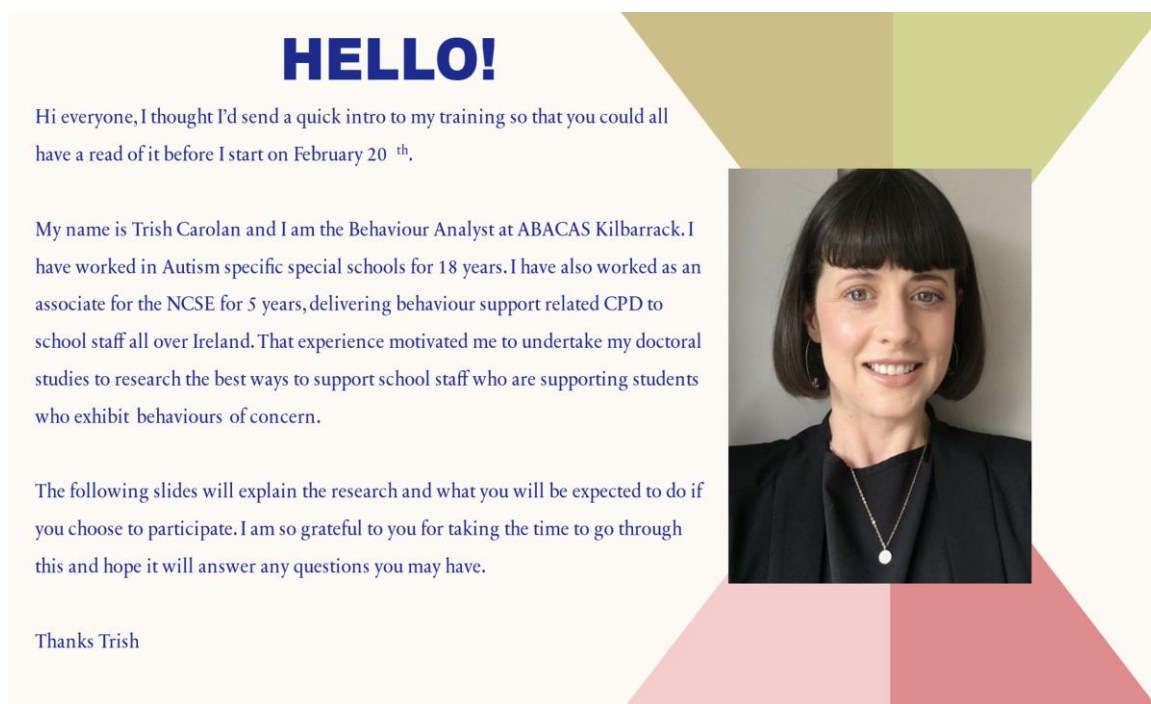
Participants Signature:

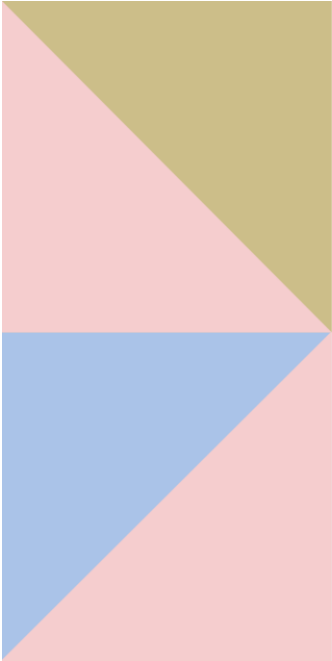
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Date:

8.21 Appendix U: PowerPoint Explainer Sent to Staff Prior to Recruitment

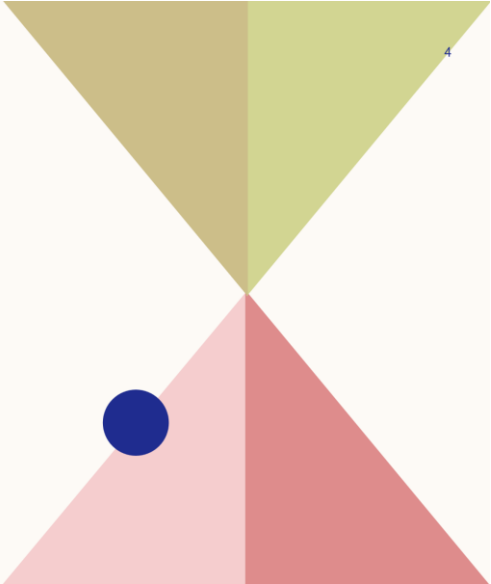


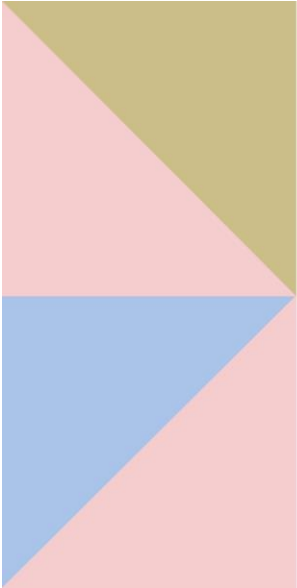


INTRODUCTION

- The training is a 6-week course of workshops on a behaviour support curriculum designed by me specifically for staff working with Autistic students with co-occurring complex needs.
- It will take place each Monday from 2.30pm -4pm
- The training will be given by me and 2 teachers (Ursula & Anna) and an SNA (Aimee) who work with me in ABACAS will be co-trainers
- Each of the co-trainers are also qualified behaviour analysts

DATES

- Feb 20th
 - Feb 27th
 - March 6th
 - March 13th
 - March 20th
 - March 27th
- 



TRAINING CONTENT

- The curriculum strategies are based on positive behaviour support (PBS).
- PBS is a rights and values-led approach to behaviour support which focuses on increasing skills and opportunities that support quality of life (Gore *et al.* 2022)

TRAINING CONTENT

- Each of the strategies featured in the training were chosen because they have an evidence base for the population of students in your setting.
- Each unit of the curriculum will equip participants to make environmental and antecedent adaptations or teach and reinforce replacement skills to alleviate common behaviours of concern.
- The strategies included in the curriculum are also featured in the recently published 'Autism Good Practice Guidance for Schools' (DE, 2022).

Behaviour Support Curriculum

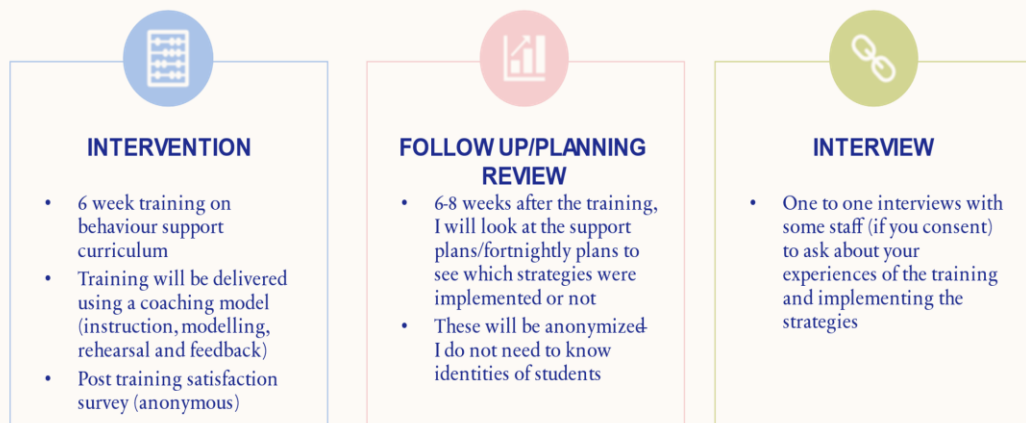
<u>Strand 1</u> How to teach choice making skills	<u>Strand 2</u> How to teach Functional communication	<u>Strand 3</u> How to increase tolerance to disappointment
1.1 Conducting preference assessments to determine motivators	2.1 Teaching students to negotiate for 'more time'	3.1 Teaching students to cope/tolerance when an item/activity is not available
1.2 Teaching choice linked to 'First-Next' visual schedule	2.2 Teaching students to request breaks when fatigued, distressed, in need of movement, etc	3.2 Teaching students to cope when waiting for desired items/activities
1.3 Teaching transitioning skills linked to colour-coded choice boards	2.3 Teaching students the autonomy skills to say 'no' or 'I don't want to' or 'stop'	3.3 Teaching students to cope/tolerate with unexpected changes in routines/timetables

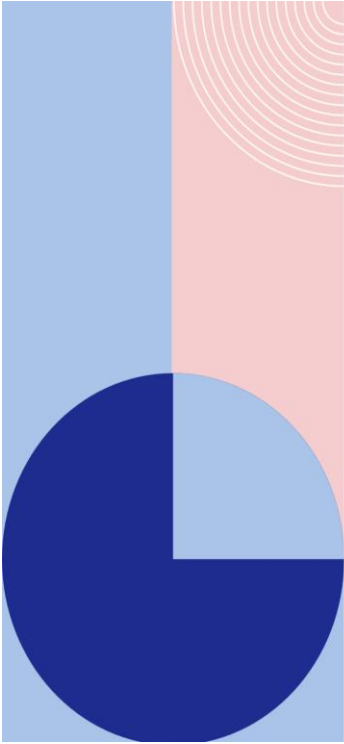
HOW THE TRAINING WILL LOOK

- The training will use a coaching method known as 'Behavioural Skills Training' (BST).
- BST has a proven record for teaching skills to range of professionals.
- This method uses four steps. We will follow these steps when learning each unit of the behaviour support curriculum

Instruction	Modelling	Rehearsal	Feedback
• The subject matter will be introduced via a PowerPoint presentation. Accompanying slides and handouts will be provided	• The trainer/s will demonstrate each skill using videos and in-situ modelling	• You will work in pairs and rehearse the strategies, following the steps outlined in accompanying mastery assessments	• The training will give support and feedback and additional modelling during and after the rehearsal sessions

PHASES OF THIS RESEARCH





WHAT DO I NEED FROM YOU?

- This training is taking place as part of the school's in-house training for all staff.
- Whilst everyone will be attending, that does not mean they have to participate in the research
- If you participate, I will collect data during the intervention. To show your progression while learning the skills.
- This data will not be linked to your name.
- Everyone who participates will have a code that anonymises their data.
- I am asking you to read the accompanying plain language statement, which further explains the study.
- If you agree to participate, I ask that you sign the consent form attached and return it to me at this email address.

THANK YOU!

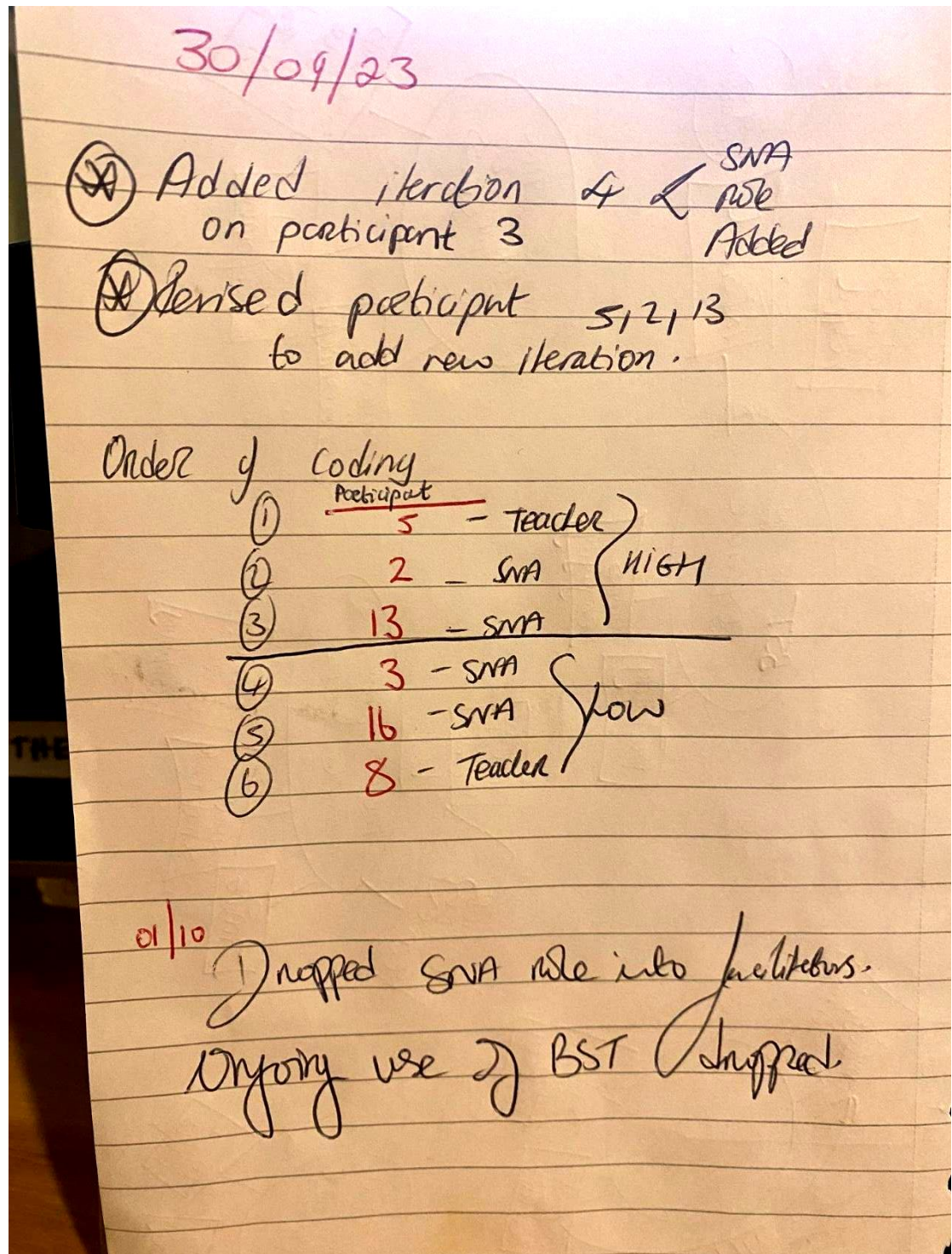
Again, thank you for taking the time out of your day to read and consider this research. I am really looking forward to working with you next term. I'm excited about creating a fun and interactive training experience for everyone and I really believe that the content of this training will be very useful to you in your work and have a positive impact on your students. If you've any questions please just drop me an email.

trishcarolan2@mail.dcu.ie

8.22 Appendix V: Reflexive Thematic Analysis Workflow and Audit Trail

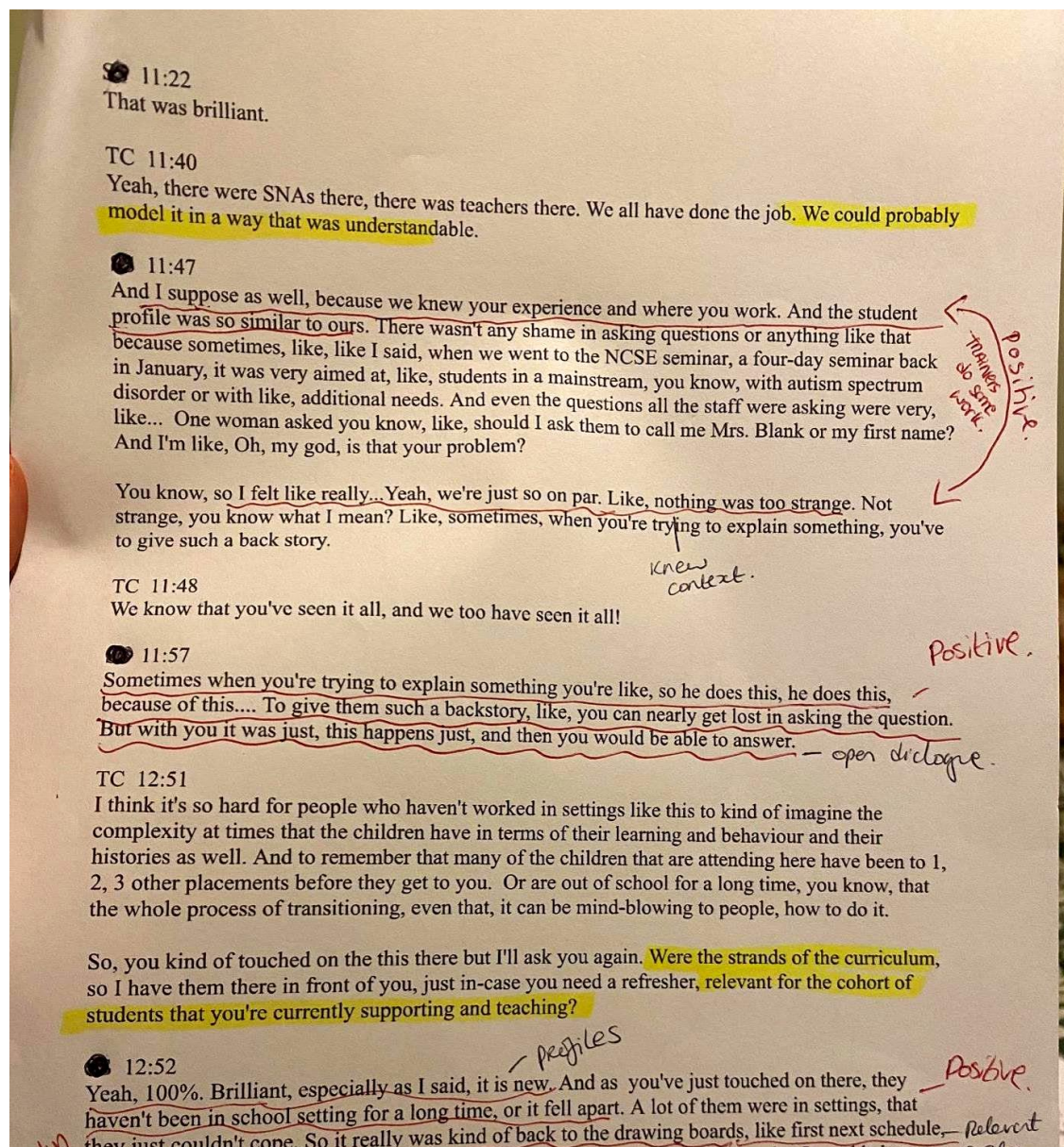
Sample of Journaling

A handwritten journal was kept throughout the RTA to record the processes of the analysis



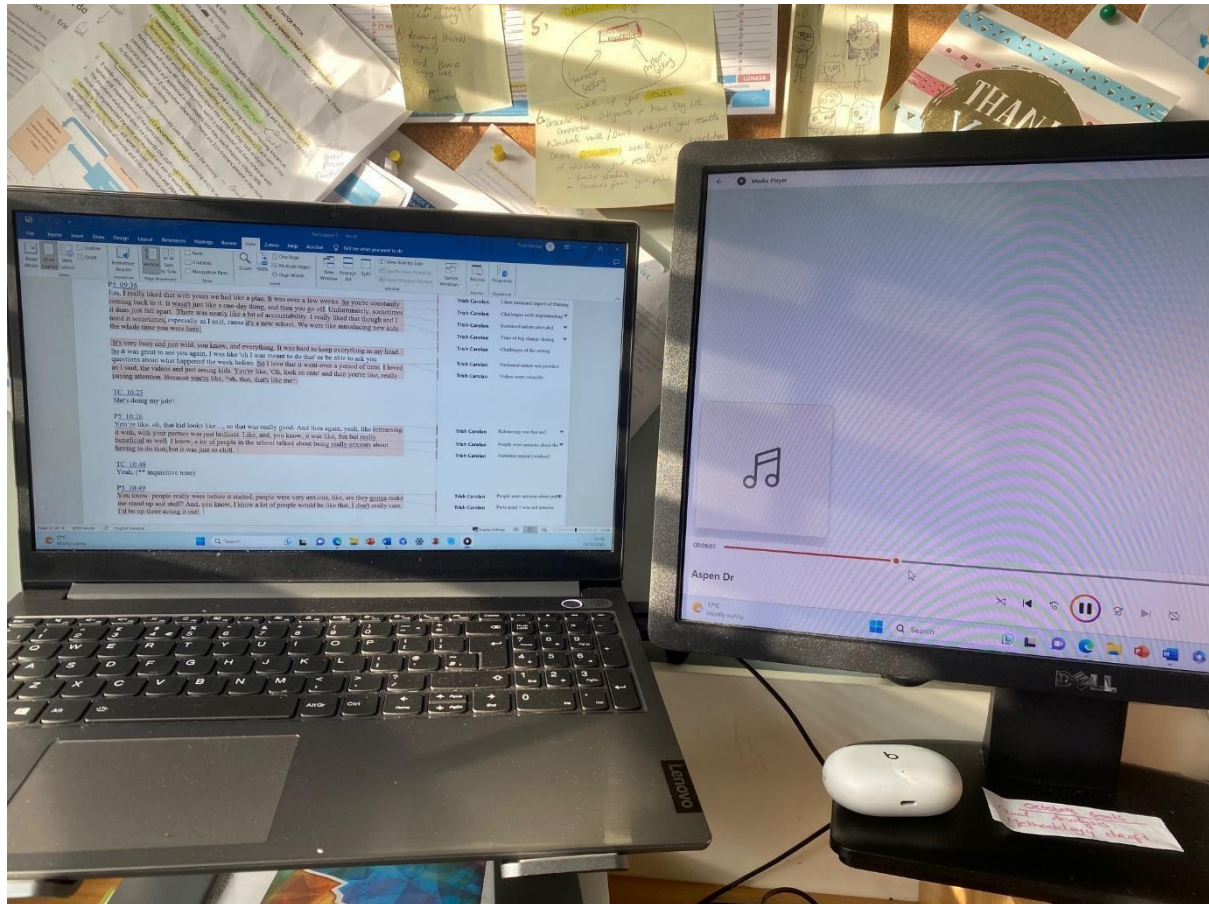
Phase one: Data familiarisation

After transcribing the interviews, the researcher printed hard copies to read and re-read the transcriptions, highlighted and underlined text of interest and recorded notes in the margins.



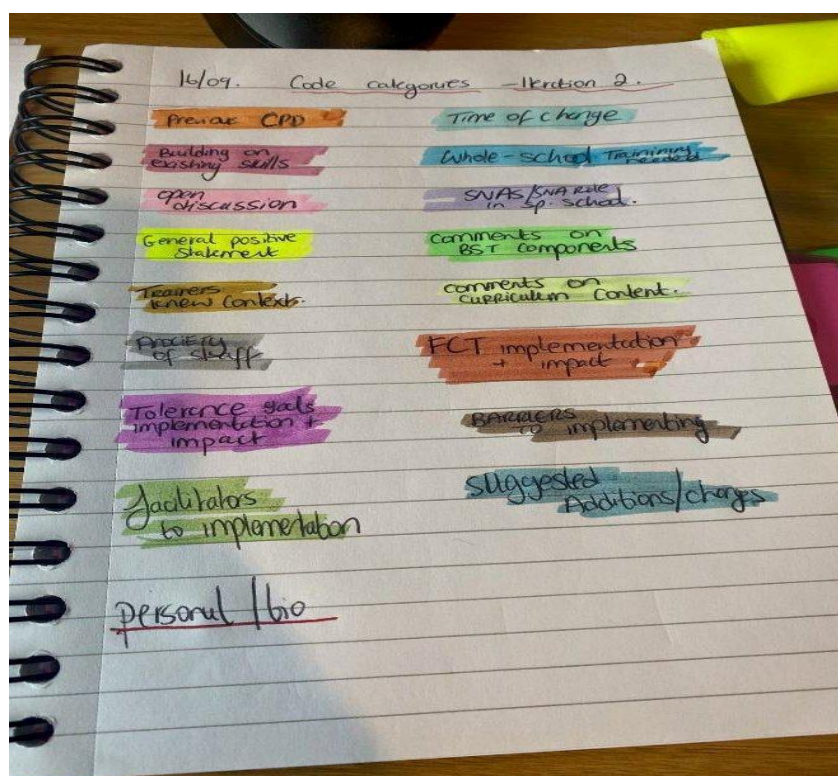
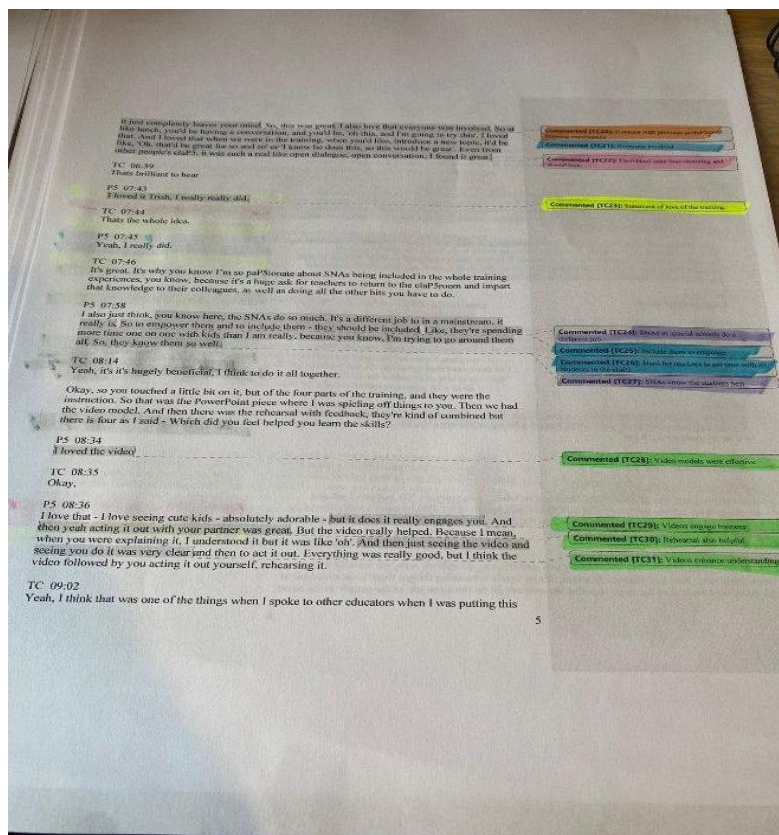
Phase Two: Initial Coding

Early coding iteration, reading and listening to audio. Data extracts were selected, and first draft codes were created in the comments.



Phase Three: Search for Themes

A: Printed paper copies of transcriptions with first iteration codes in comments. Codes were grouped together, with each group receiving a category label and a designated colour.



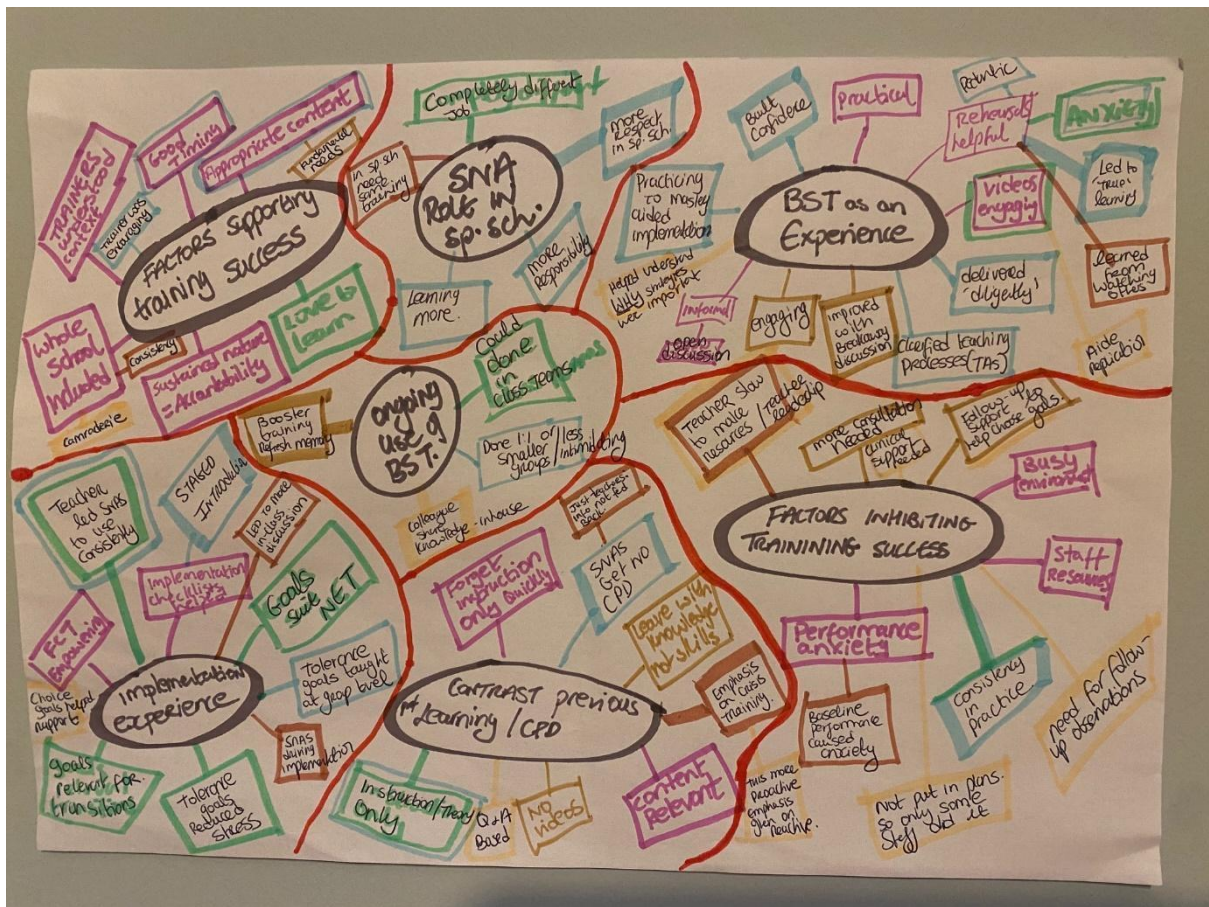
Phase Three: Search for Themes

B: Data extracts and their corresponding codes were then digitised into an electronic format. This digital database comprised an Excel workbook featuring an individual sheet for each participant.

Coding .xlsx				
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A	B	C	D	E
Sample #	Data Extract	Code iteration 1	Code iteration 2	Code iteration as part of theme revision
37	And like we did talk about it for the week. Like, what did you think of this one, what did you think of that one? So it was good like team building as well, you know, and then trying to create that kind of "oh this is what we do here". This is how we do it in this place.	Whole school training aided discussion and team building	whole school training	Factors supporting training success
38	So, if someone new comes in, then they can just join that team and that approach, and we're all uniform in that approach.	Whole school training aided a uniform approach	Aided team building	Factors supporting training success
39	Yeah, and also like some teachers, or some people like you say, maybe it doesn't have to be from outside coming in - some teachers are great at some stuff, some teachers are great at other stuff and this is how I do it in my class guys - what do you think of this?	Could use the format to share in-house ideas	would welcome more BST	Ongoing use of BST
40	No, just trying to think like it was all very good ...maybe one thing you could do is; obviously, it'd be, like, a follow-up of ... like seeing it in place. Like, did that group really understand what we were doing here? Seeing them in action with a student in a classroom.	Follow-up in class observations of staff using the skills would have helped	Suggested Additions/Adaptions	Factors inhibiting training success
41	And see, like, okay, it's one thing doing it in the room at the time. It's another thing under the pressure of the classroom environment. So maybe that. I mean, it was really good, it was delivered very well, I thought.	Would have liked in class support after the training	Suggested Additions/Adaptions	Factors inhibiting training success
42	I got a lot out of it. I got a huge amount out of it. Things that I was doing, because that's just the way I saw other people doing it, and now to actually understand, now it's been explained to me that this is the process. The "I need a break" one, that one in particular of like how that's taught. Because a lot of the time, there are shortcuts taken, you're just showing the visual and telling them it's time for a break. But that's not an accurate way to communicate that. So, that breakdown was great.	The breakdown of HOW to teach a skill like FCT was very helpful.	Comment on BST component	BST as an experience
43	So, to see you and ask, "Am I doing it right?" If you were supervising, lets say, for a day or for an hour, to see if I had accomplished what was done in the training	Would have liked in class support after the training	Suggested Additions/Adaptions	Factors inhibiting training success
44	Like observation and then support, yeah, I think it's important.	Follow up observations would have helped	Suggested Additions/Adaptions	Factors inhibiting training success
45	A double whammy check yeah - and then if you do frequently, it's not a big deal. It's, initially like, oh, they're coming in checking in on you but if you if you just do it so frequently, then it's just a normal thing like.	Frequent in-class support removes anxiety	Suggested Additions/Adaptions	Factors inhibiting training success
46	it's not judgment, its we're here for the kids and sort of...	Being observed is just to help the kids	Suggested Additions/Adaptions	Factors inhibiting training success
47	Conducting preference assessments. Like I said, I was new to them, they were new to the school so we had to find out what they liked straightaway	Choice implementation helped to get to know the students	choice implementation/impact	Experience implementing goals
48	The first next schedule, although some kids did go straight into the dropdown daily schedule. Other kids would struggle with just first and next. I'm not changing to colour-coordinated choice boards but I did offer choices based on what I thought was important from conducting the preference assessments.	Used preference assessments in conjunction with visual schedules	choice implementation/impact	Experience implementing goals
49	So, I knew, whichever kid I was working with, I knew what they liked and what they didn't like. And each time, I would throw in another choice along with that, but yeah, making the choice boards and stuff I was just, that was a step too far for me. (implying not his responsibility as an SNA).	Used some of the skills learned but did not have the resources - implied it was not his responsibility as an SNA to start the goals	needed more leadership	Factors inhibiting training success
50	I tried to put into the plan, but then it just wasn't followed up by others	Inconsistency of implementation in the class	needed more leadership	Factors inhibiting training success

Phase Three: Search for Themes

C: As part of the search for themes in phase three, an early draft thematic map was created.



Themes in Initial Map:

- BST as an experience
- Factors supporting training success
- Factors inhibiting training success
- Contrast with previous professional learning experiences
- Experiences implementing curriculum
- Ongoing use of BST
- SNA role in a special school

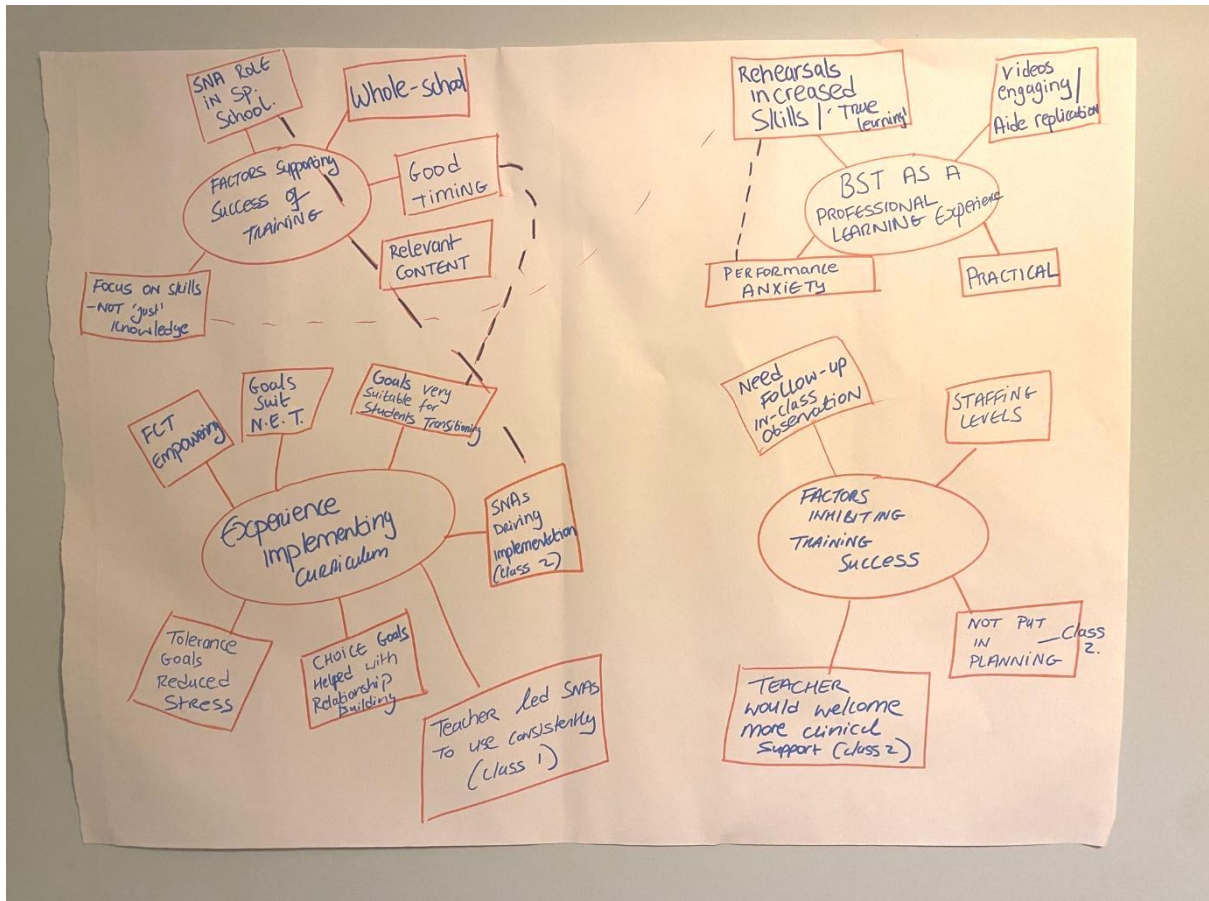
Phase Four: Reviewing Themes

A: Further refining and distilling of codes into groups and early themes/sub-themes and eliminating categories that did not align with the research questions.

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A B C D E F					
Sample #	Data Extract	Code iteration 1	Code iteration 2	Code iteration as part of theme revision	Code iteration as part of theme revision
46	But then it was giving you brilliant, like tools to use aswell.	Training gave you new tools	New skills	Factors supporting training success	Factors supporting training success
47	And I suppose as well, because we knew your experience and where you work. And the student profile was so similar to ours.	Trainers do same work as participants	Trainers knew context	Factors supporting training success	Factors supporting training success
48	There wasn't any shame in asking questions or anything like that	Easy to ask questions	Informal Nature of training	BST as an experience	BST as an experience
49	Because sometimes, like, like I said, when we went to the NCSE seminar, a four-day seminar back in January, it was very aimed at, like, students in a mainstream, you know.	Previous training didn't align with student needs in this setting.	Previous Professional Learning/CPD	Contrast with previous Professional Learning	Contrast with previous Professional Learning
50	One woman asked you know, like, should I ask them to call me Mrs. Blank or my first name? And I'm like, Oh, my god, is that your problem?	Surprised at other attendees 'problems'	Previous Professional Learning/CPD	Contrast with previous Professional Learning	Contrast with previous Professional Learning
51	Sometimes when you're trying to explain something you're like, so he does this, he does this, because of this.... To give them such a backstory, like, you can nearly get lost in asking the question. But with you it was just, this happens just, and then you would be able to answer.	Ease of communication in the training	knowledge of trainer	BST as an experience	BST as an experience
52	they haven't been in school setting for a long time, or it fell apart. A lot of them were in settings, that they just couldn't cope.	Profile of students attending	Student Profile	Dropped code	Dropped code
53	So it really was kind of back to the drawing boards, like first next schedule, I need a break, communicating no and not available.	Appropriateness of the curriculum	Comment on curriculum content	Factors supporting training success	Factors supporting training success
54	They were just exactly what I would always teach a new class, like back in September, before I had done the training. And I opened up that other class, I had worked on the teaching them not available, communicating no. So, I was really kind of happy with myself. I was like, 'Oh that was relevant'	Curriculum content affirmed that teacher was on right track	Comment on curriculum content	Factors supporting training success	Factors supporting training success
55	You know, so it was like, okay, it's okay to like completely prompt, pull it back. And because even I have a flashback to a few years ago, trying to teach a student to communicate No, but at the same time, I was doing yes and no. And unfortunately, to this day, he's confused. "Yes, No", "yes, no" is what he says, So, that's a lot of guilt, no I do, I feel terrible about it.	Expression of guilt over teaching too quickly in past	Teaching errors in past	Dropped code	Dropped code
56	So yeah, so relevant very, very relevant.	Content was relevant	Comment on curriculum content	Factors supporting training success	Factors supporting training success
	Definitely, even like one example I can really think of is like the break (symbol) was in the social story to send home to the child for their transition. You know, I could say "you can request a break", you know, so I had the visual introduced in the social story before they even	Curriculum content helped with	Curriculum relevant for	Factors supporting training	Factors supporting
+ Participant 2 Participant 3 Participant 5 Participant 8 Participant 13 Participant 16 Early category themes Final Themes/Subthemes					

Phase Four: Reviewing Themes

B: Revised thematic maps created during phase four, which eliminated and amalgamated themes and highlighted the relationship between themes and sub-themes



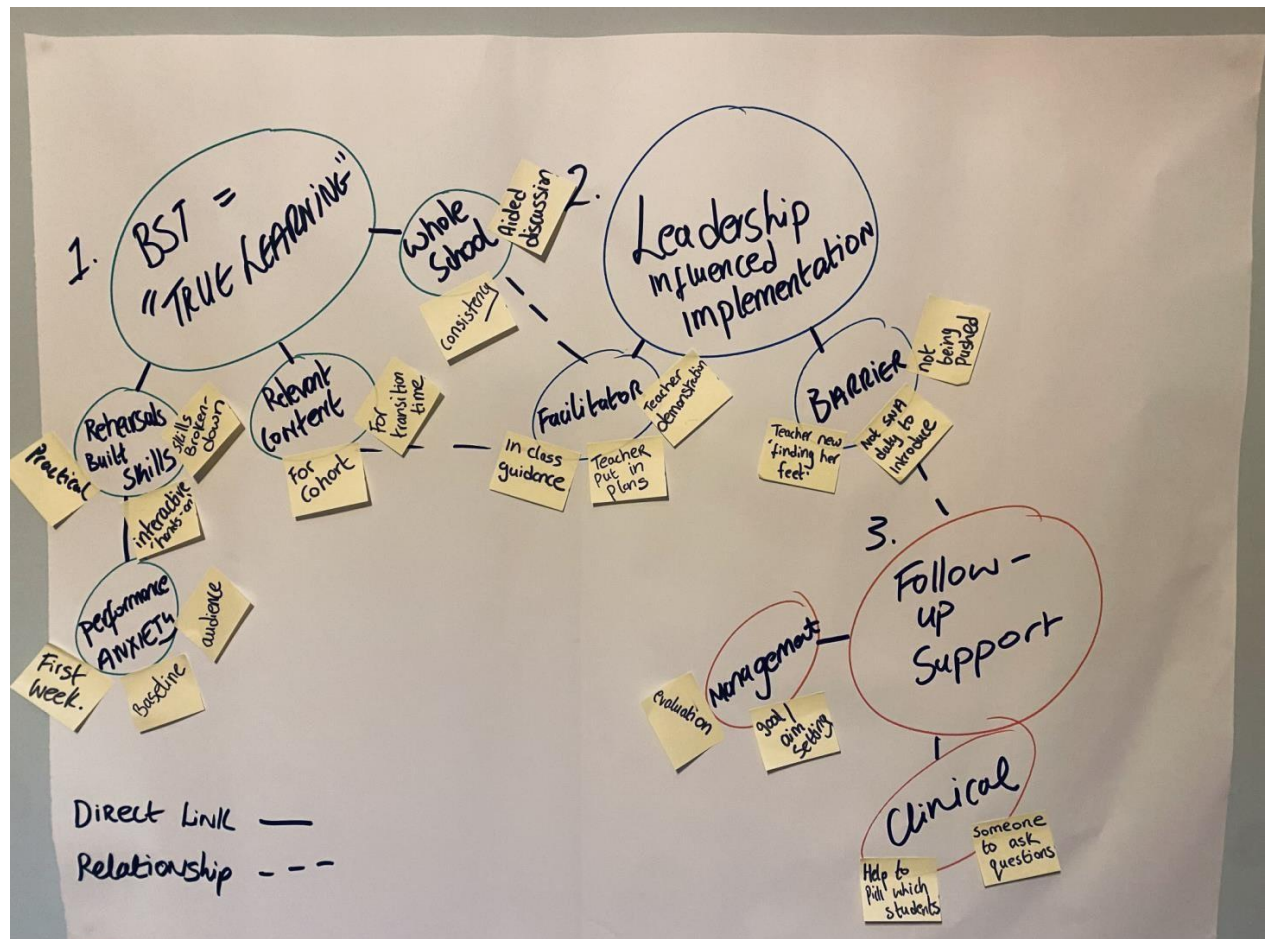
Phase Five: Naming the Themes

A: Merging various category labels into a broader thematic framework. This process was followed by again cross-referencing the data extracts with the existing code iterations and category themes recorded in the electronic data-base.

Coding .XLSX			
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Q Menus 100% 123 Times ... 12 B I A			
D8 Oh, yes, absolutely. Yes, everything that we did every week was like, we could always implement it back and refer back to at least one child in the class that I was in. (Relevant for cohort)			
A	B	C	D
1 BST as an experience	Factors supporting training success	Factors inhibiting training success	Experience implementing goals
2 And even stuff I realised maybe I wasn't doing correctly. You educated me more, like say the preference assessment, I would have done them a different way. Or teaching kids how to request a break, I kind of realised, maybe I've been doing it a bit wrong. (enhanced learning)	And you know, the children are new so we're still learning their behaviours and their triggers. And you know, what works and what doesn't work for them. (Timing)	Em our teacher was still just finding her feet. She was only new herself. So it was just a bit chaotic in the room. And obviously, with children with autism, that doesn't work. They need structure, they need routine. (LEADERSHIP -)	And I know the SNAs in the class, we were kind of very, what's the word? We were very vocal about getting these implemented and what we learned because they were for the benefit for the benefit of the child (Leadership as a barrier)
3 I loved that it was, you know, we would act it out in the training, very hands-on, very like practical. (Practical)/True Learning	Because we all had done the training, we knew what we were doing. (Whole School)	Em... the only thing I think was at the beginning, when I suppose I didn't know what I was doing. So, when it was, it was just put in front of us and we were expected to do it, I was kind of, 'oh my god', I'm like, like that, I was only in a couple of weeks. So, I was kind of 'Oh God' .. that was the only part. A little bit daunting, but then once you did it once, it was fine. (Performance Anxiety) BASELINE	Definitely, the not unavailable one has been great I found in our classroom. So just you know, even on a rainy day, we'd have the yard visual beside the door, and we'd stick up the clear circle and just let them know that it's not available. It's raining; little stuff like that was definitely great.
4 And I suppose as well, because we knew your experience and where you work. And the student profile was so similar to ours. Because sometimes, like, like I said, when we went to the NCSE seminar, a four-day seminar back in January, it was very aimed at, like, students in a mainstream, you know. (relevant for cohort)	But I think we all benefited from it, and being in the same class and being able to go back to the class and saying oh yeah that would work with him. And that'll work with her was really good. (Whole School)		Yeah, so definitely a couple of times xx the teacher would have. I think she tried to use it in little parts. Like we'd be playing a song on the board, and she might stop it and just say, "Oh, it's not available at the moment". And then you know, put it back on straightaway, a second later. Stuff like that XX would have done before we actually used it. (leadership as facilitator)
5 Sometimes when you're trying to explain something you're like, so he does this, he does this, because of this.... To give them such a backstory, like, you can nearly get lost in asking the question. But with you it was just, this happens just, and then you would be able to answer. (relevant for cohort)	It definitely helped that we were all at the training. We were like, Okay, this, is going to work for this child, its going to work. And then kind of the next day, we were like, Okay, let's implement this. So, I suppose in the mornings when we all came in before the children. We were like, Okay, let's try this today to see if it worked. (Whole School)	Yeah. But look, it's part of the learning that's always you know, to further people's learning I.... it has to be done. So yeah. Well, that was the only thing, other than that, no, I really thought it was really beneficial overall. (Performance Anxiety)	It gives them a little choice, like, Do I want more time? Or am I finished? Like, it lets them have their choice. (goals gave choice)
6 Before, I just wasn't really confident on how to to implement a lot of these strategies. (Skill building)	And then if it did work, we'd kind of, I suppose talk the next staff through what I did, let's say, and then they were able to implement it but because we all had the same training. It was really beneficial in that sense that we all knew what we were doing (Whole School)	So yeah, we definitely needed, we were asking for stuff in the class from the teaching side of it - from the teachers role, visuals and things like that. It might take a couple of weeks to get it so it was slow and that, in terms of that side of it. (LEADERSHIP)	Yeah, definitely a couple of times before we start our day, like we might just run through and X (class teacher) might just run through a quick like how we're going to deliver it, how we're going to show it to the students and stuff like that. (leadership as facilitator)
7 I feel more confident now you've taught me these skills to impart on to the students. And so that really helped. (Skill building)	I also just think, you know here, the SNAs do so much. It's a different job to in a mainstream, it really is (SNA role)	Yeah, yeah, so we just needed a little bit more support in terms of actually going from the first step to the next step. Because yeah, yeah, if that makes sense. (follow-up support)	Yeah, I definitely think in the whole room like we used it, especially because X (class teacher) gave us, you know, the guidance, I think around it all - what way we were going to approach it, so we definitely were all on the same page (leadership as facilitator)
8 I liked the practical side of it. I think the actual doing for me, it's always about, I suppose, the hands-on experience. because you know, it's one thing watching a video but you have to think, how do I run it? you know, that kind of way. (Practical/True Learning)	I really liked that with yours we had like a plan. It was over a few weeks. So you're constantly coming back to it. It wasn't just like a one-day thing, and then you go off. There was nearly like a bit of accountability. I really liked that though and I need it sometimes. (sustained/accountability)	It's very busy and just wild, you know, and everything. It was hard to keep everything in my head. (Leadership pressures)	Oh, yes, absolutely. Yes, everything that we did every week was like, we could always implement it back and refer back to at least one child in the class that I was in. (Relevant for cohort)
I definitely felt like I felt like it was really run well. Sometimes			
Participant 2 Participant 3 Participant 5 Participant 8 Participant 13 Participant 16 Early category themes Final Themes/Subthemes			

Phase Five: Naming the Themes

B: Once again, the thematic map was restructured and the final three key themes and related subthemes were identified. The map demonstrates an evolution in theme development to bring the final narrative into line with answering the key research questions regarding the acceptability of BST as a type of professional learning and what influenced the implementation of the curriculum post-intervention.



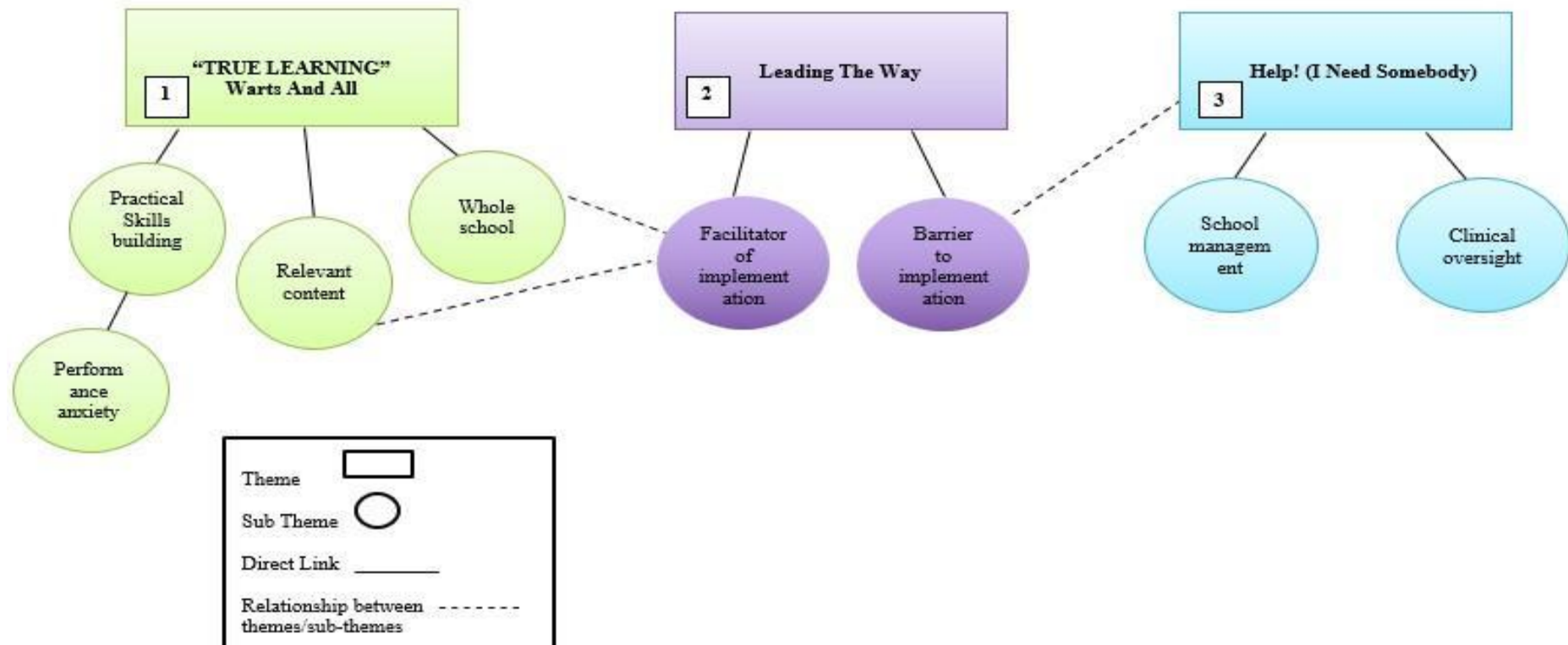
Phase Six: Producing the Report

A: In preparation for preparing the written report data extracts are organised by theme/subtheme as per the finalised named themes.

38 Codes					
A		B		C	
Theme 1. BST Experience = 'True Learning'		Codes		Sample data extracts	
Sub Theme					
Rehearsals built real skills		Practical, interactive, broken down skills		I mean, it's the same as anything, in any training I've been involved in before, you can give all the theory in the world, but you just sit back there and you're passive. You can even demonstrate to somebody and that's fine, but it's until you get involvement with people, it's that extra dimension, it's that involvement, that true learning takes place. As I say, I have nothing but positive things to say. It was all about, it was the demonstration and my involvement, the real learning takes place in the involvement. So, you actually practising the skill of doing it, that's where the learning happens.	
Rehearsals led to performance anxiety		Worry about audience/baseline performance/anxiety faded		So without a doubt, it was the practical for me (the most effective component), but the flip side of that is some people find that quite threatening. Same for a lot of training, like even CPR, and all those things, you know, when you're under scrutiny. When it's all theory, we all will sit back, writing the notes and that. But then if you have to get up in front of an audience. You know? Many people's greatest fear is presentations and presenting yourself. Em... the only thing I think was at the beginning, when I suppose I didn't know what I was doing. So, when it was, it was just put in front of us, and we were expected to do it (baseline rehearsal). I was kind of, 'oh my god'! It was a little bit daunting, but then once you did it once, it was fine.	
Relevant Content		For cohort/time of transition		And then I loved as well like, for the new staff. You know, this was really was perfect timing, because as I said a lot haven't been in places like this. So just start from the ground teaching them appropriate ways to deal with behaviours and support. You know, people really were before it started, people were very anxious, like, are they gonna make me stand up and stuff?	
Whole school involvement		Aided discussion/implementation		It definitely helped that we were all at the training. We were like, Okay, this, is going to work for this child, it's going to work. And then kind of the next day, we were like, Okay, let's implement this. So, I suppose in the mornings when we all came in before the children. We were like, Okay, let's try this today to see if it worked. So it's a big year of change. So your training really came at like the perfect time.	
Theme 2. Leading The Way		Codes		Sample data extracts	
Sub Themes					
Facilitator of implementation		Teacher experienced leader/gave guidance & demonstration		The knowledge base is there, the teacher is proficient. That makes all the difference. It's not all about all the certificates, accolades and whatever; it's about hands-on experience - if you've worked as an SNA (teacher in class had 7 years SNA experience), you've got a far better insight. And if you have people skills and personality and that, to bring other people on board. You're working in that type of safe environment - even when you're doing things wrong. You know they'd (the teacher) discreetly say, 'well maybe we'll try this'	
Barrier to implementation		Teacher inexperience/Not SNA role to introduce/Not being pushed by teacher		Can I just say as well, the nine things here in front of me like (indicating to behaviour support curriculum), they are the foundations. So I found it difficult that it wasn't the sole focus of a new school, with new students, with new teachers and SNAs, that we can't just focus on these for the rest of the year, and really hone in on them you know. Like, we were all crying out for a curriculum, crying out for structure, we were crying out for something to focus on. And you know, it could have been achieved if all these things were the basis of, you know, the focus for the rest of the year. And it was it was disappointing that they weren't followed up. Yeah, definitely a couple of times before we start our day, like we might just run through and X (class teacher) might just run through a quick like how we're going to deliver it, how we're going to show it to the students and stuff like that.	
Theme 3. Help! (I need somebody)		Codes		Sample data extracts	
Sub Themes					
School Management		Evaluation of teaching/ classroom practice		And someone just to keep on top of it because, like it is, it is hard to believe that like for such vulnerable children that there is such limited training and such limited checkups. Like... it is hard to believe that that's the way that goes. Almost like, once you're in, you're in. There should be more regular checkups, I wouldn't be against them, I think it's important that you should be evaluated based on the work you're doing. I would have definitely emphasised and stressed that these things (the curriculum) are important and that they should be focused on in our class, with the other SNA and teacher. That these were really important things. And we should really focus on these before we do anything else. So, to answer your question about why they weren't followed up. I don't know. Like, yeah, I don't know, it would have to be more of a managerial answer to that I think. It's their job at the end of the day	
Clinical Practice		Matching curriculum units to students/aim setting		Have a BA come in on regular basis and just even pose questions, because I think a lot of the time the way the year is set up is, that you already have a break in mind, if it's the Halloween break or Easter, whatever. So, it's very easy to just get through the week. Whereas if someone comes in to pose questions, ask questions. Well, then there's a new focus to that week. Before, we're just looking to get to the end of it. Check, have we done this? Check, have we done that? Yeah, setting goals, that maybe someone from the outside could possibly come in and set them for us. As opposed to us trying. You know, to maybe reach a little higher than what we set for ourselves. Now it doesn't matter if you don't achieve them. It's just, how many more in that class did you?	

Phase Six: Producing the Report

B: The finalised thematic map demonstrates themes and subthemes and their links and relationships to each other, which will be described in the written report.

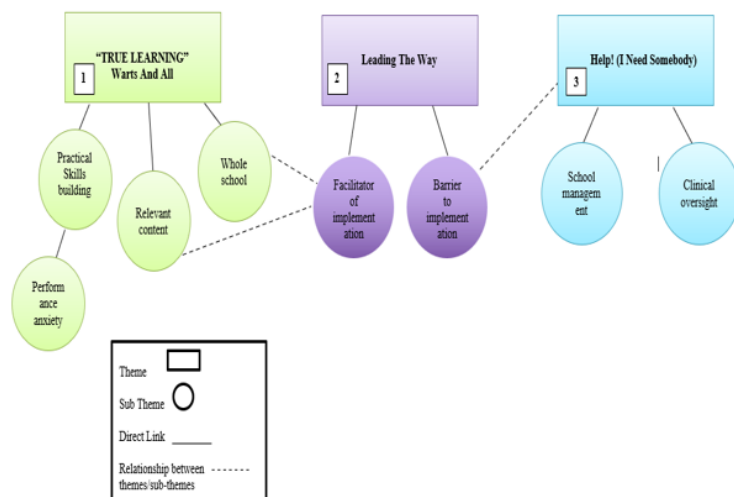


Phase Six: Producing the Report

C: Early draft of the report, which was edited and updated as the analysis progressed, intertwining the writing stage with the entire analytical process

4.4.2 Overview of Themes

The analysis of the qualitative data generated three distinct yet interrelated themes: “True Learning”- Warts and All; Leading the Way and Help! (I Need Somebody). Each theme and interrelated sub-theme aligns with the research questions, which focused on the experience of attending the behaviour support workshops and the factors influencing curriculum implementation post-training. The themes and their related sub-themes are visually presented in a thematic map seen in Figure__.



4.4.3 Theme One: ‘True Learning’ -Warts and All

Participants described their experience of attending the behaviour support workshops as an opportunity to engage in what one coined "true learning." Participants described how they felt their active involvement during the training led to a meaningful learning experience.

I mean, it is the same as anything or in any training I have been involved in before; you can give all the theory in the world, but you just sit back there, and you are passive. You can even demonstrate to somebody, and that is fine, but it is until you get involvement with people, it is that extra dimension, it is that involvement, that true learning takes place. (SNA 2: Yellow Class)

The meaningfulness of the learning experience was attributed to several factors. Firstly, participants highlighted the practical skill building opportunities inherent in a BST-style workshop, which allowed for active learning and immediate feedback. However, this component was also cited as having elicited feelings of anxiety due to the requirement to rehearse publicly. Additionally, participants emphasised the relevance of the workshops content to their student population and their learning and behaviour support needs. Moreover, the inclusion of the entire school community in the workshops was perceived as beneficial, fostering improved collaboration and a sense of belonging. These factors collectively form sub-themes within the overarching theme of “True Learning” – Wart and All, which captures the participant's experience of attending the behaviour support workshops.

Subtheme: Practical Skill Building

The researcher asked each of the six interviewees which component they found most beneficial to their learning experience during the behaviour support workshops (Instruction, Modelling, Rehearsal, Feedback). All six identified the third and final step of the modeshow, ‘rehearsal with feedback’ as

8.23 Appendix W: Individual Participant Results from Behaviour Support Workshop

Unit 1.1 Choice: Preference Assessments *=when participant reached criteria

Participant	Baseline Rehearsal	Rehearsal 1	Rehearsal 2	Rehearsal 3	Rehearsal 4	Totals
1	0%	94%	100%*			
2	19%	94%	100%*			
3	19%	100%*				
4	25%	100%*				
5	43%	87%	87%	100%*		
6	50%	87%	100%*			
7	56%	94%	100%*			
8	69%	81%	81%	94%	94%*	
9	12%	94%	100%*	100%*		
10	25%	94%	100%*			
11	25%	100%*				
12	19%	100%*				
13	ABSENT					
14	ABSENT					
15	ABSENT					
16	ABSENT					
17	ABSENT					
Participants who reached mastery at each rehearsal	-	4	6	1	1	12
Number of rehearsals	-	12	8	3	1	24
Mean Number of rehearsals to reach mastery	2					
Mean Group Baseline	30%					

Unit 1.2 Choice: First-Next Schedule

Participant	Baseline Rehearsal	Rehearsal 1	Rehearsal 2	Rehearsal 3	Totals
1	ABSENT				
2	14%	57%	100%*		
3	0%	43%	100%*		
4	28%	86%	100%*		
5	28%	86%	100%*		
6	57%	100%*			
7	28%	100%*			
8	57%	100%*			
9	28%	86%	86%	100%*	
10	14%	100%*			

11	43%	100%*			
12	0%	86%	100%*		
13	28%	86%	100%*		
14	57%	100%*			
15	57%	100%*			
16	14%	71%	100%*		
17	71%	100%*			
Participants who reached mastery at each rehearsal	-	7	7	2	16
Number of rehearsals	-	16	9	2	27
Mean Number of rehearsals to reach mastery	1.7				
Mean Group Baseline	31%				

Unit 1.3: Choice: Rolling Schedules with linked Choice Boards

Participant	Baseline Rehearsal	Rehearsal 1	Rehearsal 2	Rehearsal 3	Totals
1	100%*				
2	88%	100%*			
3	100%*				
4	ABSENT				
5	100%*				
6	100%*				
7	100%*				
8	100%				
9	88%	100%			
10	100%				
11	13%	100%			
12	88%	100%			
13	100%				
14	75%	100%*			
15	62%	100%			
16	100%				
17	62%	100%			
Participants who reached mastery at each rehearsal	-	9+7			16
Number of rehearsals	-	16			16
Mean Number of rehearsals to reach mastery	1				
Mean Group Baseline	86%				

Unit 2.1: FCT: More Time

Participant	Baseline Rehearsal	Rehearsal 1	Rehearsal 2	Rehearsal	Totals
1	0%	33%	100%*		
2	0%	88%	100%*		
3	ABSENT				
4	55%	77%	100%*		
5	22%	100%*			
6	0%	77%	100%*		
7	ABSENT				
8	33%	88%	100%*		
9	77%	88%	88%	100%*	
10	55%	66%	100%*		
11	55%	88%	100%*		
12	66%	100%*			
13	44%	77%	88%	100%*	
14	11%	66%	100%*		
15	55%	100%*			
16	0%	88%	100%*		
17	0%	22%	100%*		
Participants who reached mastery at each rehearsal	-	3	10	2	15
Number of rehearsals	-	15	12	2	44
Mean Number of rehearsals to reach mastery	1.9				
Mean Group Baseline	31.5%				

Unit 2.2. FCT: Break

Participant	Baseline Rehearsal	Rehearsal 1	Rehearsal 2	Rehearsal 3	Rehearsal 4	Totals
1	ABSENT					
2	11%	55%	100%*			
3	33%	33%	33%	66%	100%*	
4	11%	100%*				
5	11%	44%				
6	22%	77%	100%*			
7	22%	100%				
8	11%	33%	55%	100%*		
9	22%	100%*				
10	11%	100%*				
11	33%	100%*				
12	11%	88%	100%*			
13	33%	77%	88%	100%*		

14	11%	88%	100%*			
15	11%	100%*				
16	11%	77%	100%*			
17	11%	100%*				
Participants who reached mastery at each rehearsal	-	6	6	3	1	16
Number of rehearsals	-	16	9	4	1	30
Mean Number of rehearsals to reach mastery	1.9					
Mean Group Baseline	17%					

Unit 2.3: FCT :No/I Don't want to'

Participant	Baseline Rehearsal	Rehearsal 1	Rehearsal 2	Rehearsal 3	Totals
1	8%	100%*			
2	0%	83%	100%*		
3	0%	67%	100%*		
4	33%	100%*			
5	17%	92%	100%*		
6	0%	67%	100%*		
7	17%	83%	100%*		
8	0%	25%	92%	100%*	
9	ABSENT				
10	0%	41%	100%*		
11	ABSENT				
12	0%	58%	100%*		
13	0%	92%	100%*		
14	0%	83%	100%*		
15	0%	100%*			
16	0%	33%	100%*		
17	0%	41%	83%	100%*	
Participants who reached mastery at each rehearsal	-	3	10	2	15
Number of rehearsals	-	15	12	2	29
Mean Number of rehearsals to reach mastery	1.9				
Mean Group Baseline	5%				

Unit 3.1: Tolerance: Support when something is unavailable

Participant	Baseline Rehearsal	Rehearsal 1	Rehearsal 2	Rehearsal 3	Totals
1	40%	100%*			
2	100%*				
3	ABSENT				
4	100%*				
5	40%	60%	100%*		
6	20%	80%	100%*		
7	ABSENT				
8	40%	80%	100%*		
9	20%	100%*			
10	80%	100%*			
11	20%	80%	100%*		
12	20%	100%*			
13	100%*				
14	20%	80%	100%*		
15	60%	100%*			
16	60%	80%	100%*		
17	40%	80%	100%*		
Participants who reached mastery at each rehearsal	-	3+5	7		15
Number of rehearsals	-	15	7		22
Mean Number of rehearsals to reach mastery	1.5				
Mean Group Baseline	51%				

Unit 3.2 : Tolerance: Learning to Wait

Participant	Baseline Rehearsal	Rehearsal 1	Rehearsal 2	Rehearsal 3	Totals
1	9%	100%*			
2	9%	81%	91%	91%*	
3	9%	100%*			
4	ABSENT				
5	18%	91%	100%*		
6	18%	73%	100%*		
7	27%	100%*			
8	9%	36%	64%	100%*	
9	18%	81%	100%*		
10	9%	91%	100%*		
11	18%	100%*			

12	0%	36%	100%*		
13	9%	45%	81%	100%*	
14	27%	81%	100%*		
15	18%	100%*			
16	27%	100%*			
17	18%	100%*			
Participants who reached mastery at each rehearsal	-	7	6	3	16
Number of rehearsals	-	16	9	3	28
Mean Number of rehearsals to reach mastery	1.8				
Mean Group Baseline	15%				

Unit 3.3: Tolerance: Support when plans change

Participant	Baseline Rehearsal	Rehearsal 1	Rehearsal 2	Rehearsal 3	Rehearsal 4	Totals
1	0%	83%	100%*			
2	0%	83%	83%	100%*		
3	0%	8%	58%	65%	100%*	
4	0%	58%	100%*			
5	0%	83%	100%*			
6	8%	83%	100%*			
7	33%	91%	100%*			
8	0%	16%	58%	65%	100%*	
9	ABSENT					
10	0%	91%	100%*			
11	ABSENT					
12	8%	16%	75%	100%*		
13	0%	100%*				
14	8%	91%	100%*			
15	8%	58%	100%*			
16	16%	100%*				
17	8%	41%	83%	100%*		
Participants who reached mastery at each rehearsal	-	2	8	3	2	15
Number of rehearsals	-	15	13	5	2	35
Mean Number of rehearsals to reach mastery	2.3					
Mean Group Baseline	6%					