Occupational Therapists in Chilean schools: their role and practices towards the inclusion of students with Special Educational Needs or disabilities.

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Abstract

The inclusion of children with special educational needs or disabilities in education differs according to local contexts and the individuals involved. I explored what School-Based Occupational Therapists (SBOTs) do to address this issue, given that they are allied health professionals who facilitate the participation and performance of diverse students in school settings, particularly those with special educational needs or disabilities. Drawing on my experience as an SBOT in Chile, I examined the role and practices Chilean SBOTs play in supporting these students, as well as the factors that influence their services. Despite the growing number of SBOTs in schools of Chile over the past five years, no research about their services has been published, so little is known about their practices and contributions to inclusion. To address this gap, I considered the concept of inclusive practices — the daily actions individuals take to make inclusion meaningful.

First, I conducted a scoping review of interventions provided by SBOTs, exploring which interventions have been evaluated, their components, the outcomes of occupational therapy that have been addressed, and the tiers of support utilised. There were 50 studies since 1990, the majority of which were pre/post-test studies conducted primarily with students aged five to eight years. Interventions were provided across diverse tiers of support, but most were focalized interventions administered individually or in small groups, outside of classrooms and addressing academic tasks, particularly handwriting.

Then I explored the practices of Chilean SBOTs and associated factors, employing a mixed methods research design that incorporated both qualitative and quantitative methodologies. A cross-sectional survey resulted in 245 valid responses from Chilean SBOTs that were analysed using descriptive statistics. Participants predominantly provided services through individual and targeted interventions conducted in settings separate from mainstream classes, and for specific groups of students. The application of ‘universal design for learning’, which is the inclusive framework required by the Chilean government was also missing from their accounts. The factors that had an impact on these

findings were explored with 18 SBOTs in four online focus groups. The practices and services of Chilean SBOTs were shaped by five factors: contextual dependence based on institutional constraints, perspectives held by the educational community, characteristics of the students, persistent demands to take a deficit-oriented approach, and the impact of the COVID-19 pandemic.

I integrated these results with the scoping review and outlined the current model of SBOT provision in Chile. This was characterised by SBOTs' difficulty in developing an inclusive praxis, making it challenging for them to play an active role in fostering classroom inclusion. This contributes to the Chilean practice of initially segregating students in need of support and reflects the challenges of integrating a health service into educational settings such as schools.

On the basis of these findings, I argue for change in three main areas to support inclusive practice from SBOTs in Chile (i) policy transformations, particularly regarding the inclusion of SBOTs in legislation and the creation of improved guidelines; (ii) school culture transformations, particularly regarding the development of a culture of collaboration and teamwork; and (iii) transformations from the profession of SBOTs, particularly regarding the undergraduate preparation to work in schools and the provision of professional development opportunities. If these issues are substantially addressed, only then will Chilean SBOTs may have greater opportunities to provide services that reflect inclusive practice.

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Chapter 1: Introduction

In schools, various people are involved in students' teaching and learning processes, contributing to different aspects of the education of children and youth. These people include teachers, students, parents, and others, who form what is commonly known as educational communities. In the literature, there is much information on the role of teachers, students and parents in learning processes (see Ainscow, 2020; Jurkowski & Müller, 2018). The role of other members of these communities, however, has been less explored, particularly when professionals from health are involved (Dinamarca-Aravena, 2023a).

I focused in this project on the practice and role of School-Based Occupational Therapists (SBOTs), who are allied health professionals that can be part of educational communities. SBOTs' aim in schools is to facilitate student participation and performance in both academic and non-academic activities, considering education as one of the main undertakings in which children involve (Hinder & Ashburner, 2017). I explored how they provide their services within an inquiry focused on human actions in a social context (Schoonenboom, 2019). This context was the Chilean educational system, where no research about the services and practices of SBOTs has been published (refer to Section 1.3 for more details). Chile is not the only context in which studies about SBOTs have not been conducted. However, I focused on it because I am a Chilean Occupational Therapist (OT) and I worked in schools as a SBOTs in Chile for five years, an experience that prompted this research (refer to Section 1.2 for more details).

SBOTs fundamental role in education is to promote the inclusion of diverse students as a means of transforming education systems so that they are accessible to all (WFOT, 2016b). Therefore, I examined the services of Chilean SBOTs considering the concept of *inclusive practices*, which refers to the daily actions and activities that give the concept of inclusion meaning (Florian, 2008). This indicates that I focussed on the praxis of SBOTs, on their grounded actions that demonstrate inclusion and how the diversity and variety of

students are acknowledged, with a particular emphasis on students with Special Educational Needs (SEN) or disabilities.

SBOTs contribute to the inclusion of these students by collaborating with other members of educational communities in an interactive process in which they support each other's work (Kampwirth & Powers, 2016). The United Nations Educational Scientific and Cultural Organisation (UNESCO) stated that for Latin American nations, the formation of these collaborations should be essential in government efforts to achieve inclusion (UNESCO, 2020). Consequently, when examining the practice of Chilean SBOTs, I focussed on the actions that reflected a collaborative relationship. For this, I considered the collaborative foundation of the Universal Design for Learning (UDL) and Response to Intervention (RtI) approaches (Basham et al., 2010; CAST, 2018; Fuchs & Fuchs, 2006; Meyer et al., 2014; Murawski & Hughes, 2009).

Because SBOTs have received more attention in health research and could be therefore less well-known among educational researchers, an explanation of what SBOT means is provided in the sections that follow. This insight is accompanied by an explanation of why my research was conducted in a certain way and how I positioned myself within this endeavour. This chapter concludes with a description of the structure of this thesis.

1.1. OTs in school settings: SBOTs

OT is an allied health profession concerned with promoting health and well-being through *occupation*, which refers to everyday activities that people perform for self-care, care for others, to be productive and enjoy life (WFOT, 2010). The OT profession holds the assumption that humans are occupational beings and that occupation is necessary for the achievement of health, well-being, and ultimately, survival (Polatajko et al., 2013). I focused in this research on what OTs do in school settings because for them, learning is generally more robust when children actively partake in meaningful activities (i.e. occupations), as they develop skills, personality, and self-identity through these activities (Case-Smith, 2015).

OTs view education as one of the child's fundamental occupations and being a student as one of their most important roles (Rodger & Kennedy-Behr, 2017). This role involves engaging in a variety of academic (e.g., math, reading) and non-academic (e.g., recess, sports, band), prevocational and vocational activities (AOTA, 2020). Students are expected to engage in this range of activities from the moment they enter the school premises until the final bell of the day. Being a student also requires the ability to demonstrate knowledge, pay attention to instructions, collaborate with peers and access learning materials (Cahill & Bazyk, 2020).

The majority of previous OT research has centred on the participation and performance of students in academic activities (Beck et al., 2006; Rodrigues & Seruya, 2019; Spencer et al., 2006). My research, however, focuses on all these activities, including academic, non-academic, and vocational activities for which SBOTs offer support.

1.1.1. Foundations to understand the practice of SBOTs within this research

The foundations of OT practice are described by a variety of professional frameworks. The Canadian Practice Process Framework, for instance, directs OTs towards an evidence-based, client-centred reflective practice (Craik et al., 2007), whereas the American (United States of America, i.e. USA) OT Practice Framework outlines the key concepts, fundamental assumptions, and vision of the OT practice (AOTA, 2020).

I considered pertinent to use the American framework in this research since it has been used to guide the practice of SBOTs (Laverdure, Stephenson, et al., 2019). Moreover, I used it in my practice as a Chilean SBOT because I learned it as part of my OT education and am thus more familiar with it. In fact, American OTs founded Chile's first OT training institution in the 1960s, signalling the beginning of American influence on the Chilean OT profession, which continues to this day. Using and selecting a framework based on my experience is consistent with the mixed reasoning on which I based this project, a reasoning in which my experience played a significant role (see Chapter 5 for details).

The American framework emphasises the central philosophical assumption that people of all ages and abilities require occupations to grow and prosper (Hooper & Wood, 2019). Within it, the delivery of OT services involves three stages: assessment, intervention and measuring outcomes (AOTA, 2020). I focused primarily on analysing how services were provided, so on the intervention stage and its outcomes. Nevertheless, I am aware that assessments influence interventions, so I have also incorporated elements from this stage.

OT interventions are methods that aim to improve or enhance engagement in occupations in a way that allows individuals, groups, and populations to achieve health, wellbeing, and participation in life (AOTA, 2020). These methods include six types of interventions: occupations and activities as interventions, interventions to support occupations, education and training, advocacy, group interventions and virtual interventions. Please refer to Table 8 for definitions of each of these interventions.

OTs implement these interventions focusing on the outcomes, i.e., the accomplishments that individuals may achieve (AOTA, 2020). These outcomes involve increasing or enhancing participation in personally satisfying and culturally acceptable occupations. This is essential for SBOTs, as participation in school reflects children's abilities and skills, the opportunities they have had, the social and physical support they have received, and the values of their family and community (Case-Smith, 2015). By increasing or enhancing participation, OTs contribute to achieve occupational justice, which refers to increasing people's access to the complete range of meaningful activities available in a given context (AOTA, 2020).

OT interventions also aim to improve or enhance occupational performance, which is the act of performing a certain occupation or task (AOTA, 2020). Performing a task requires the deployment of performance skills, which are observable, goal-directed actions that involve motor, process and social interaction skills that enable the execution of a task (AOTA, 2020). By improving or enhancing occupational performance, OTs seek to promote

role competence, which is the ability to effectively meet the demands of the roles one engages in, such as being a student.

Other OTs' interventions aim to enhance *health prevention*, reduce the incidence of unhealthy conditions, risk factors, diseases, or injuries, and improve *health* and *wellness*. For OTs, health refers to the state of physical, mental and social well-being, and wellness to the active process of making choices toward a more successful existence, aligning with the World Health Organisation (WHO, 2007). They also aim to enhance *well-being*, which refers to the satisfaction with one's own health, self-esteem, sense of belonging and security.

All of these aims have as their ultimate objective the improvement or enhancement of people's *quality of life*, which is defined as a dynamic appraisal of life satisfaction, hope, self-concept, health, functioning and socioeconomic factors (AOTA, 2020). This final objective reflects the belief in the American framework that outcomes are intrinsically linked; consequently, work on one affects the others. In school contexts, this means that when performance is addressed, participation is also addressed. Therefore, SBOTs facilitate the participation of students in school occupations and contribute to the improvement of their school performance (Hinder & Ashburner, 2017). But how they do this in practice?

1.1.2. SBOTs' services

Typically, SBOTs are convened when students' role is affected by physical, developmental, sensory, attentional, learning, social, or cultural challenges, or to prevent students' role from being affected by preventing the impact of these challenges in their education (Whalen, 2003). This implies that their services span a wide range of areas, although the majority of SBOT research concentrates on the areas in which students with SEN or disabilities have difficulties (Arbesman et al., 2013; Beck et al., 2006; Cahill & Lopez-Reyna, 2013; Nye & Sood, 2018; Piller & Torrez, 2019; Rosenberg et al., 2017; Spencer et al., 2006; Szucs et al., 2016; Zingerevich, 2009). Nonetheless, SBOTs offer a variety of services to enhance both academic and non-academic activities.

Common services, which is how these services have been defined historically, and multi-tiered services, which is a more recent method to organise them into tiers based on student needs and responses, are two ways to classify these services (Bazyk & Cahill, 2015). The descriptions in Table 1 reflect these two perspectives, although recent recommendations for children with disabilities and with sensory integration and processing difficulties call for multi-tiered approaches (Anaby et al., 2019; Whiting et al., 2021):

Table 1: SBOTs' Services

Common services (Bazyk & Cahill, 2015; Julie Causton & Tracy-Bronson, 2014; Rioux & Jackson, 2019)	
Direct services	Hands-on services provided to the students directly either individually, in small or large groups. They are provided in different locations: **Pull-out direct services**: provided outsite mainstream classrooms. **Push-in direct services**: provided inside mainstream classrooms.
Indirect services*	Provided on behalf students with various people, including mainstream and special education teachers, or parents. These may include workshops, drop-in sessions or training. They also include screening, evaluation, documentation, and planning.
Integrated services*	Planned based on shared goals and provided by non-intrusive methods, which requires team collaboration and a combination of teacher education, consultation, and services embedded in a natural context.
Multi-tiered services (AOTA, 2012; Bissell & Cermak, 2015; Chu, 2017; Frolek Clark & Polichino, 2021)	
Universal services*	OTs collaborate with the educational system, teams, and classrooms. They improve the community's understanding of students' needs and abilities and assist teachers in skills through curriculum-based activities for all.
Targeted services	OTs assist in modifying teaching practices to accommodate students whose requirements cannot be met by universal strategies. They work together with teachers to discover ways to modify assignments and instructions and to identify students who may require more individualised support.
Intense services	When a student cannot meet learning requirements. OTs provide direct and intense services to individual students and implement adjustments to the activity or environment to maximise their participation and performance.

** Services that reflect better inclusive practices (more details in Section 2.5.2)*

1.2. What motivated this project?

My professional background and experience as a Chilean SBOT prompted this research. Before starting my postgraduate studies in the United Kingdom (UK), I worked for about five years as an SBOT in Chile. During these years, I was a member of a team of professionals in mainstream schools who supported students with SEN or disabilities, particularly those with behavioural or cognitive issues. This experience stimulated my interest in this area, which indicates that my research topic was selected based on my prior position as an SBOT and my desire to produce knowledge in this area. Indeed, my research questions were inspired by my experience and my desire to comprehend how SBOTs, as a group and community, support students with SEN or disabilities, as I have worked with these students throughout my whole career. This explain the focus of my research.

Scholars throughout the time have acknowledge that meaningful research emerges from everyday practice, especially when discussing pragmatism, the philosophical approach on which my research was founded (Maxcy, 2003). Others have stated that pragmatism entails resolving problems that arise from experience, with practice serving as a catalyst for research (Norwich, 2019). These factors were crucial to my transition from SBOT practitioner to researcher, as throughout my years as an SBOT I struggled to understand my role and potential contributions to the teams I was a part of. This prompted my desire to examine this practice and its influencing factors in the Chilean context in greater depth.

Due to my familiarity with the topic, I consider myself an insider researcher within this project. Indeed, I shared characteristics with the participants I spoke with during certain phases of my research. These similarities were disclosed to them to be transparent about my position, as I was aware that my familiarity with the topic could influence aspects of my study (Berger, 2015). This position demanded a balance between acknowledging my role in the research processes and the rigour required to produce a high-quality piece of work. This balance is especially essential for initiatives that utilise multiple data collection methods, such as this one (Onwuegbuzie & Johnson, 2006). This is further discussed in Section 2.5.

1.3. Research problem: Lack of information about Chilean SBOTs services

As described in the previous section, the problem I addressed in this research arose from previous experiences as a SBOT, which was compounded when, as a researcher, I found that there was in fact no official information released on Chilean SBOTs and the specifics of their services and practices. I viewed this as a concern because organisations such as UNESCO have stated that the challenge of inclusiveness demands initiatives from the entire educational community (UNESCO, 2020). This requires knowledge of how all groups operate and contribute to inclusive learning settings. Overlooking members of these educational communities could be a significant issue in educational systems where resources are scarce and information about their practice is limited, such as Chile.

In the Chilean context, SBOTs are classified as professional Educational Assistants (EAs). Professional EAs are graduates who provide learning support, contribute to educational improvement, and implement inclusion projects in school settings (Law 21.109/2018, Chilean Ministry of Education, 2018). The literature suggests that EAs services are continually evolving to accommodate task parameters and facilitate inclusion (Chambers, 2015, Giangreco et al., 2006, 2010). Given that research regarding these responsibilities have not been conducted in Chile, it is challenging to predict this development. To this absence it can be added that the contributions of SBOTs to Chile's inclusive educational framework, which is the Universal Design for Learning (UDL), have also been disregarded. This has happened despite the fact that their contributions align with this framework (Hinder & Ashburner, 2017). UDL is a framework developed in the 1990s by the Centre for Applied Special Technology in the USA, in which the principles of flexible and open to all environments in architecture were applied to the educational environment (Meyer et al., 2014).

The omission in research of Chilean SBOTs results in a lack of understanding of their practices and contributions, which is a concern since their number has increased over the past five years. Table 2 shows these numbers for the years between 2017 and 2021.

Table 2 *Number of EAs, professional EAs and SBOTs in Chile from 2017 to 2021*

Years	2017	2018	2019	2020	2021
Prof. EAs	31131	34642	37884	37366	37238
SBOTs	632	821	1103	1177	1173
SBOTs/Prof. EAs	2.03%	2.36%	2.91%	3.14%	3.15%

Source: Centre of Studies of the Ministry of Education (2018, 2020, 2021)
Notes: Prof.= Professional; SBOTs/EA= % of representation of SBOTs among EAs; SBOTs/Prof. EAs= % of representation of SBOTs among professional EAs.

The number of SBOTs has increased over time, except for a slight decline in 2020-21 (see Table 2). When comparing the number of SBOTs to the number of professional EAs, such as educational psychologists and speech and language therapists, the proportion of SBOTs has increased over time. The Chilean Ministry of Education, OT institutions, and scholars have ignored this crucial fact.

Indeed, a decade-old national analysis of the work of professional EAs in Chile did not identify SBOTs; however, the percentage of 'other specialists' reached 35.4%, which could include SBOTs (Marfan et al., 2013). No research comparable to this has been conducted recently. Nonetheless, a more recent study ABOUT the employment status of OTs in Chile concluded that only the health care system had relevant data (Hernández, 2017). Therefore, SBOTs were not included in the study. Although experts have affirmed that monitoring the correct use of resources is a top priority for Chilean legislators and society (Iturra, 2019), these gaps remain. Institutions such as UNESCO have asserted that EAs play a crucial role in fostering inclusion (UNESCO, 2020b). In fact, UNESCO reported in 2020 an increase in the availability of EAs, including SBOTs, in certain nations. However, there is a lack of evidence regarding their contributions to fostering inclusion.

I intended to address the lack of knowledge regarding Chilean SBOTs with the research presented here. My goal, therefore, was to explore the services of Chilean SBOTs considering international trends documented in the literature and local factors uncovered by my research. Consequently, two sets of Research Questions (RQs) were considered:

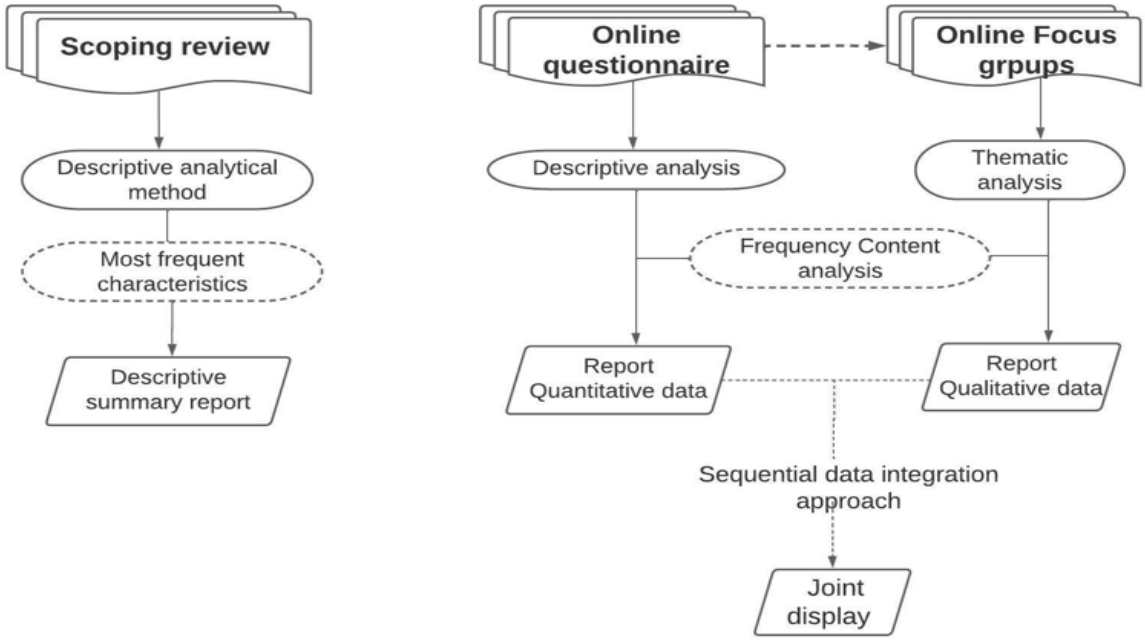
- RQ1. What is known from scientific studies on school interventions delivered by OTs for children with and without SEN or disabilities? which OT outcomes are targeted and assessed? which tiers of support do the interventions described correspond and what are their components?
- RQ2. What services do Chilean SBOTs provide and how do they do it? Are the UDL principles involved in these services? What are the factors and how do they influence SBOT services?

1.4. Addressing the research problem: Methodologies used and results reached

I conducted two studies within the same exploratory research project to address the questions described in the section above. For this, I used a pragmatic approach centred on the consequences of human actions in a social context (Schoonenboom, 2019). Within this approach, I used inductive and deductive reasoning to establish a connection between theory and data (Morgan, 2007; Schoonenboom, 2019).

To respond to the first set of RQs, I completed a scoping review, as a form of knowledge synthesis that summarises and synthesises evidence (Colquhoun et al., 2014). To address the second set of questions, I conducted a mixed-methods study in which focus groups followed a cross-sectional survey. The findings from both methods were then combined based on a joint display analysis, in which the two datasets were compared against each other (Haynes-Brown & Fetters, 2021). Figure 1 presents a summary of these studies, and detailed information about methods is provided in Chapter 5.

Figure 1: *Summary of the studies conducted*



Regarding the collected results, the scoping review revealed that studies on interventions delivered by SBOTs tended to target specific student groups and were mostly concerned with enhancing or increasing their school performance. These studies also offered information regarding interventions that were predominantly administered in a targeted or intense manner, with similar components. According to the results of the questionnaire, SBOTs in Chile tend to support specific students and provide mostly direct pull-out services on an individual basis (i.e., outside mainstream classrooms). The focus groups revealed that SBOTs services were context-dependent and influenced by the attitudes of the educational community and the student characteristics. Many conflicts and problems were also identified, in which professional factors played a role, as participants lacked preparation for school practice and were apprehensive about their work.

1.5. Organisation of the thesis

Chapter 2 describes the context in which this research was conducted. This includes the Chilean educational system, considering the varieties of schools and educational modalities, as well as how inclusion is conceptualised within it. Also described is the function of educational communities, with an emphasis on professional EAs. In addition, it provides an overview of the Chilean definition of SBOTs and the characteristics of the schools where they have provided services over the past decade. The chapter concludes with a comprehensive description of my position within this context, including my theoretical positions, how I conceptualised inclusive practices and UDL from a multi-tiered perspective, and my theoretical positions.

Chapter 3 examines the literature on SBOTs practices, focusing on the discrepancy between what scholars advocate for inclusive practices and what research has discovered in various contexts. Included here is the literature on SBOT service models, collaborative practices, and the factors influencing these patterns. Key messages about what was discussed are presented at the end. This chapter provides information at a service level about the practice of SBOTs, in which several interventions can be implemented.

Chapter 4 continues the presentation of literature, but now at the intervention level, based on a scoping review of school interventions delivered by SBOTs. In this chapter I first outlined the scoping review methodology, and then the results obtained, with a description of the nature of the included publications, a synthesis of OT outcomes and tiers of support. A brief discussion of the significance of these results is also provided, followed by a discussion of the strengths and limitations of how I conducted this review. At the end, key messages regarding the results are conveyed. The inclusion of this scoping review provided a complete picture of the literature on SBOT, and all of the topics discussed in this thesis.

Chapter 5 provides an overview of the mixed methods study I conducted to explore the services and factors that influence Chilean SBOTs. First, my philosophical perspectives and the reasons and methods for combining the questionnaire and the focus groups are

outlined. The questionnaire is then described in greater detail, including ethical considerations, design, sampling strategy, and data analysis procedures. Then, the focus groups are described using the same format. At the end, the approach for integrating these two methodologies is defined.

Chapter 6 presents the results obtained from the mixed methods study. The response profile and characteristics of the questionnaire participants are shown first. The main findings are shown second, which characterise assessments, services, collaborative practices and the role of UDL. The significance of these results is briefly discussed, along with the highlights and drawbacks of the method I used. The results obtained from focus groups are described next, including the characteristics of the participants and the many factors influencing SBOTs services. These sections are followed by a brief discussion of the results and the strengths and weaknesses of this method.

Chapter 7 presents an in-depth discussion of the study's findings. I begin this chapter by offering a model that describes Chilean SBOTs' services and the multiple factors that impact these services. There are discussions of how Chilean SBOTs based their practices on a medical approach and the deficit-based strategy they use. I also cover their collaborative strategies and how they work on an isolated manner, as well as the significance of involving all members of educational communities in the task of being inclusive. A discussion of the mixed-methods study's methodology is offered at the end.

Chapter 8 provides a conclusion, in which I recapitulate my findings and their implications. I then provide a list of transformations that according to my findings are necessary to adopt a more inclusive practice of Chilean SBOTs. These transformations involve policy-level, school-level, and occupational therapy level actions.

Chapter 2: Contextualising and positioning this research

Describing the context in which I conducted this research is crucial to understand this project and the positions I took as a researcher. This chapter firstly describes Chile's educational model and modalities, with a discussion of how inclusion is understood in this context and the roles of the members of educational communities. How SBOTs can provide their services within the educational offer in Chile is offered later, characterising the schools in which they have worked in the last decade. Finally, a discussion of my position as a researcher within this context and project is provided.

2.1. Education in the Chilean model

In Chile, the right to education is enshrined in its constitution (Constitución Política de la Republica de Chile, 1980). International agreements have been signed for this, including the Universal Declaration of Human Rights and the Convention on the Rights of the Child (United Nations, 1948, 1989). Local legal efforts have also been made to reflect this right through various laws and decrees, the first being the body that establishes what should be done or not, while the second indicates how it should be done. For example, the General Education Law regulates the education provided by the state and indicates that the state must finance a free system to guarantee access to education for all (Law 20.370, Chilean Ministry of Education, 2009). The Decree 170, on the other hand, defines how to assess students that would access additional support in education, especially those with SEN (Supreme Decree 170/2009, Chilean Ministry of Education, 2009).

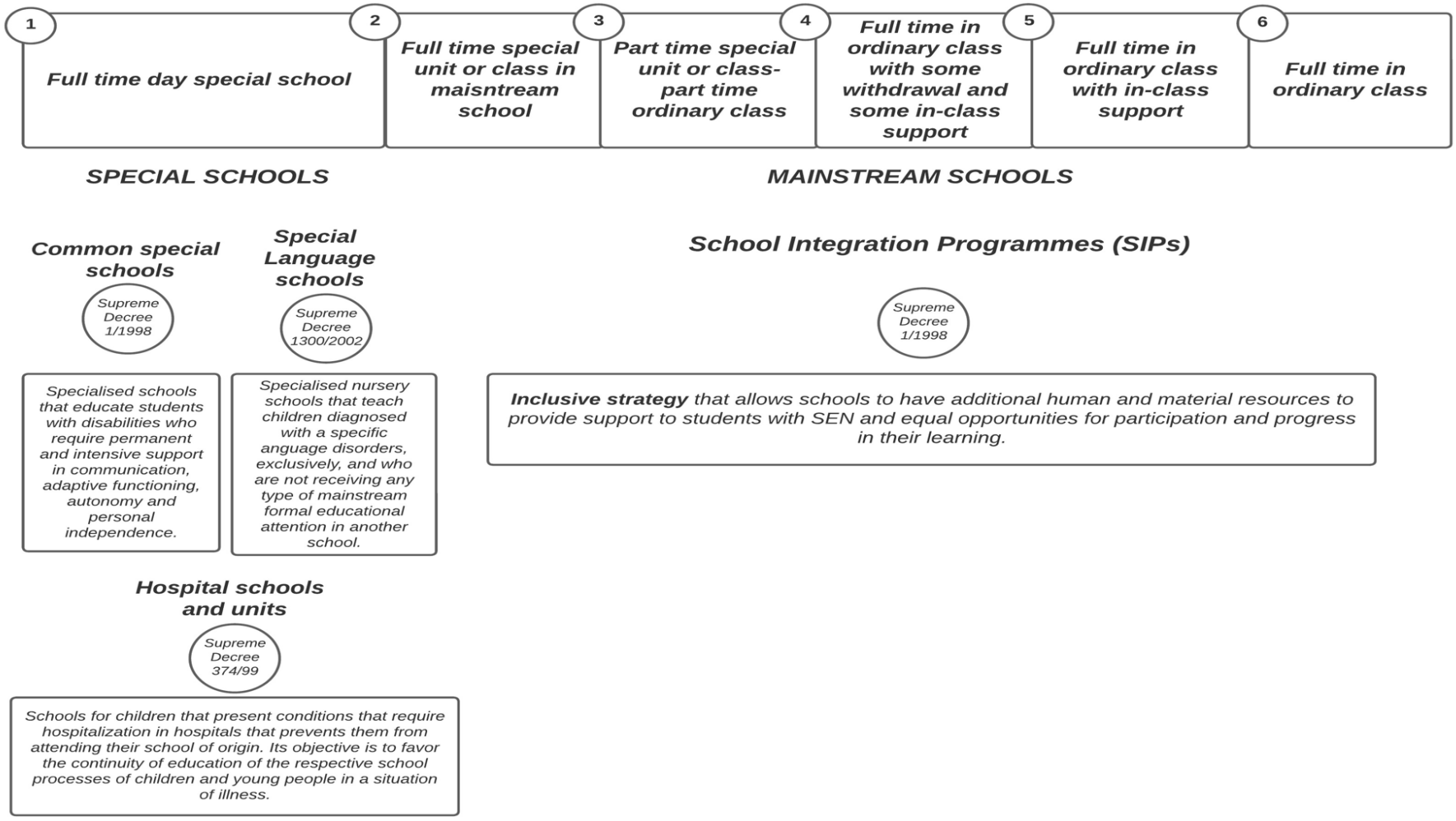
The state fulfils its duty in education by providing services through public schools, which are exempt schools run by municipalities or local educational services (Law 21.040, Chilean Ministry of Education, 2017). Municipalities are public corporations that administer a region and supervise the educational services within this region. Local educational services are public services (recently created) that replace the role of municipalities in education.

Private entities also offer educational services, via two types of schools: subsidised private schools, which are funded by the state and families, and fully private schools, where families are the only source of funding (Ramos, 2013). In subsidised private schools, state funding is received and administered by privates through a system of vouchers depending on students' needs. Families contribute what they can, and any student can be enrolled in them (Centre of Studies of the Ministry of Education, 2020b). Thus, there are three types of schools depending on their finances: public schools (fee-exempt), subsidised private schools (mixed), and fully private schools (fee charged). Public and subsidised private schools respond to the requirements from the Ministry of Education, while fully private schools are independent. SBOTs provide their services in any of these schools.

Schools commonly provide eight 45 minute pedagogical periods per weekday, and taught a single national curriculum (Santiago et al., 2017). Teaching levels are organised in three stages: preschool (up to six years of age), primary education (up to 13 years), and secondary education (up to 18 years) (Supreme Decree 1126, Chilean Ministry of Education, 2017). Most schools offer these three levels, allowing students to spend their entire schooling life in one school. Beginning in 2003, both primary and secondary education are required, totalling 12 years of compulsory instruction (Chilean Ministry of Education, 2003). SBOTs can support students in any of these levels.

The ultimate goal of the Chilean educational system is to provide high-quality educational opportunities to students with diverse needs by facilitating their access, participation, and advancement in the national curriculum (Chilean Ministry of Education, 2005). This objective is primarily achieved through mainstream and special education, the latter being the one that provides services to ensure quality learning for children who require additional support to carry out their learning processes, particularly those with SEN or disabilities (Law 20.422/2010, Chilean Ministry of Planning, 2010; Supreme Decree 170/2009, Chilean Ministry of Education, 2009) (Figure 2). SBOTs can support students in any of these alternatives, whether in mainstream or special schools.

Figure 2: *Continuum of Chilean Educational Provision (Diagram adapted from Norwich, 2008)*



The continuum presented in Figure 2 is adapted from Norwich 's (2008) flexible interactive continuum of educational services. The numbered boxes represent the alternatives suggested by Norwich, although in the Chilean context there are fewer alternatives. How placements are available in Chile is presented below the boxes. Box 1 represents placements in special schools, where students spend the day in either common special schools, special language schools or hospital schools or units, depending on their characteristics and needs. Boxes 2 to 6 represent the diversity of special education placements available in mainstream schools through School Integration Programmes (SIPs), programmes by which schools receive human and material resources to respond to students' needs (Chilean Ministry of Education, 2017; Godoy et al., 2004).

SIPs offer additional support to students who have been identified as having SEN after undergoing a comprehensive evaluation based on a model with a strong psycho-medical emphasis (Muñoz et al., 2015). This approach characterises special education in Chile, a modality historically associated with concepts such as normalisation, medicine, and psychology, which views students with SEN as individuals who need to be cured (Estay et al., 2015; Ramos, 2013). This reflects a medical perspective in which the problem is inherent to an individual (Norwich, 2013; Oliver, 2013; Reindal, 2008). Recently, a social perspective has been encouraged, conceiving SEN as a consequence of the interaction between students' characteristics and environmental barriers (Law 20.422, Chilean Ministry of Planning, 2010; Supreme Decree 170, Chilean Ministry of Education, 2009; Supreme Decree 83, Chilean Ministry of Education, 2015). This definition emphasises barriers imposed by society (Oliver, 2013; Shakespeare, 2008). Nonetheless, assessments are still administered with a strong medical perspective, and support is based on an individualised pedagogical approach based on individual plans (Tamayo et al., 2018). Indeed, SEN are, until these days classified according to a list of diagnoses (available in Appendix 1) (Espinoza, 2019; Iturra, 2019; Supreme Decree 170, Chilean Ministry of Education, 2009).

Consequently, a deficit-based paradigm predominates in the educational context of Chile (Valencia & Hernandez, 2017).

The medical perspective in Chilean policy has lead educational communities to believe that learning is challenging due to the unique characteristics of each student (Peña, 2013). Indeed, a medical conception is deeply entrenched in the educational communities of Chile (Iturra, 2019; Muñoz et al., 2015). This has resulted in practices of exclusion as policies develop and normalise differences through typically individual-based constructs of disability (Infante & Matus, 2009). This situation is directly related to this project because it may affect the support provided by SBOTs and the scope of the implementation of inclusive practices. In fact, even though SBOTs are frequently hired as part of SIPs and are therefore embedded in mainstream schools as inclusive strategies, they continue to be mandated by special education in accordance with the same individualised approach. These dilemmas make inclusion difficult to define in the Chilean context, an aspect discussed in more detail in the next section.

2.2. Inclusion within the Chilean educational model?

There are numerous ways to define inclusion, depending on political, experiential, and cultural circumstances. Nonetheless, international institutions have asserted that certain principles, including universal access, the availability of high-quality learning environments, and the development of approaches that promote student achievement, should be adhered to (UNESCO, 2017; United Nations, 2015). According to the Salamanca Declaration, the essential components of an effective education, especially for students with SEN, are the development of an appropriate curriculum, the establishment of organisational structures and partnerships, and the provision of sufficient resources (UNESCO, 1994). These concepts have been adopted by the United Nations (UN) in diverse efforts. For instance, the Sustainable Development Goal 4 defines inclusion as a transformative process that promotes complete participation and access to quality learning opportunities for all (UN,

2015). This definition acknowledges and respects diversity, thereby eradicating all forms of discrimination. When examining services provided to students with SEN or disabilities, it is important to consider these principles, but for the purposes of this thesis, those pertaining to organisational structures and partnerships were essential.

In Chile, *inclusion* is defined as the process of eradicating all forms of arbitrary discrimination that impede the learning and participation of any student (Law 20.845, Chilean Ministry of Education, 2015). For this reason, the state ensures that all students, including those with SEN or disabilities, have access to mainstream and special schools (Law 20.422/2010, Chilean Ministry of Planning, 2010). This conception is represented by the continuum in Figure 2, where SIPs are conceived as the means to attain inclusion. In fact, SIPs were designed as inclusion strategies because they make mainstream education accessible to all students. Because of this, terms such as *inclusive schools* are not used in Chile. In contrast, schools with SIPs are seen as inclusive.

Commonly, the progress of inclusion in Chile has been correlated with the progress in terms of access, which is common among Latin American nations as they share aspects such as limited access to education caused by geographical and cultural factors (Blanco & Duk, 2019; Marchesi & Hernández, 2019). Diverse initiatives have addressed this issue in this region in recent decades, resulting in an expansion of access and a reduction in poverty, albeit to a limited extent (Marchesi, 2019).For instance, over the past three decades, the number of students enrolled in schools in Chile has increased significantly (Prieto, 2015).

However, this expansion lacked strategies that enable students to remain, continue, and benefit from their educational experiences. Consequently, it is common for certain groups to experience inequality, including those with disabilities (Blanco & Duk, 2019). The Chilean Ministry of Social Development (2016) reports that adults with disabilities have spent between seven and nine years in formal education, while adults without disabilities have spent close to twelve years. The lack of strategies to promote effective educational experiences may have contributed to these results, which represent a problem requiring

multifaceted solutions. I claim that the role of professionals such as SBOTs may be crucial for addressing this issue.

The lack of strategies is attributable to a variety of factors in Latin America, including insufficient existing resources, restricted working conditions, and diminished training opportunities for educational communities (Marchesi & Hernández, 2019). When resources exist, it is difficult to monitor their proper allocation (Iturra, 2019). These circumstances have created significant obstacles to guarantee the right to education. One of these obstacles has been the proper development of a framework that incorporates multiple professionals with complementary roles in educational communities (Blanco & Duk, 2019). For these frameworks to be educationally pertinent, researchers have emphasised a shift from individual to collaborative work (Blanco & Duk, 2019). This action is in line with the recommendations of OT scholars who advocate for practices that emphasise collaboration in schools (Bissell & Cermak, 2015; Cahill & Lopez-Reyna, 2013; Garfinkel & Seruya, 2018; Stephenson, 2019).

When exploring the practices of SBOTs, I deemed this emphasis crucial, as inclusion in Chile has primarily focused on providing access and less on overcoming obstacles to promote positive educational experiences. My focus was particularly on the measures taken to guarantee effective educational experiences and the requirements for establishing a framework that successfully integrates diverse professionals. I focused specifically on SBOTs when supporting students with SEN or disabilities. I understand that this emphasis may be contested by other academics as it may overlook other students that may also require support from SBOTs (Ainscow et al., 2012). Indeed, Chapter 6 reveals that SBOTs in Chile feel constrained by the notion of limiting their support to students with SEN or disabilities. Consequently, I expanded my perspective in this project to reflect the perspectives of my participants. Notwithstanding, I assumed that the inclusion of these students may necessitate special accommodations and support, and that focusing on them does not compromise the inclusion of all children (Rieser, 2012).

2.3. The role of educational communities in the Chilean model

Educational communities in Chile consist of students, parents or carers, teachers, Educational Assistants (EAs), and executive teaching teams (Law 21.040, Chilean Ministry of Education, 2017). All are accountable for assuring students' complete spiritual, ethical, moral, affective, intellectual, artistic, and physical development (Law 20.370, Chilean Ministry of Education, 2009). I centred on EAs, specifically on SBOTs.

EAs have been involved in these communities since the twentieth century in response to the expansion of the Chilean system and the complexity of the administrative and teaching processes (del Valle et al., 2015). They collaborate on the development of teaching and learning processes, the delivery of educational services, and the creation of study plans (Law 21.109, Chilean Ministry of Education, 2018). Their roles vary significantly based on their professional or technical backgrounds (Law 20.370, Chilean Ministry of Education, 2009). This variation has led to their roles being commonly misunderstood, with individuals conducting tasks outside of their assigned roles and ignoring their actual responsibilities (del Valle et al., 2015). This is a crucial point I considered, as SBOTs' involvement in educational communities could be impacted by a misunderstanding of their roles.

Regarding the role of EAs with students with SEN or disabilities, schools with SIPs must employ a variety of professional EAs, including SBOTs, to meet student needs (Tamayo et al., 2018). Professional EAs collaborate on assessments, the design and implementation of individual educational plans, and curricular modifications (Supreme Decree 83/2015, Chilean Ministry of Education, 2015). They are assigned to each class with SEN students to provide three hours of support per week, either in or outside the mainstream classroom (Supreme Decree 170, Chilean Ministry of Education, 2009). These hours are allocated to one or more professionals based on the requirements of the students.

According to a new orientation from the Chilean Ministry of Education, professional EAs who support students in SIPs have three primary responsibilities: evaluating (assessments), supporting, and collaborating (Chilean Ministry of Education, 2019). The focus of this thesis is on the latter two. In their role as supporters, there is a strong emphasis on promoting inclusion via the support of educational processes, the pedagogical function of teachers, students, and their families. They also inform the educational community about diversity, inclusion, and the potential contributions of their respective disciplines. They are encouraged to provide support not only to the individual, but also to the school, with a focus on reform processes and institutional variables that facilitate or impede support provision (Chilean Ministry of Education, 2019). As collaborators, they support and complement the efforts of the administrative and teaching teams. This typically involves brainstorming, initiating dialogues, and researching solutions to respond to demands by providing relevant and new perspectives that facilitate problem-solving (Chilean Ministry of Education, 2019).

This policy encourages the use of inclusive practices as it emphasises a whole-school approach and considers collaboration a central component. However, assuming these roles might be challenging for professional EAs, who have historically concentrated on restoring a lost function in individual students (Albornoz et al., 2015). This scenario reflects the previously described medical perspective, which pays little regard to context. This situation persists despite claims that inclusive practices in education result in more inclusive practices from EAs (Bock & Borders, 2015). Indeed, professional EAs in Chile tend to view students as cases to be treated, leading the development of individualised interventions. This could be the case with SBOTs, an element that my research explores.

2.4. SBOTs in Chile

The above-described new orientation regarding professional EAs who work in SIPs has for the first time defined the role of SBOTs in supporting students with SEN or disabilities. This makes Chile one of the few nations where a formal educational policy

establishes the function of allied health professionals in schools, such as SBOTs (Dinamarca-Aravena, 2023a).

This policy states that SBOTs support the acquisition of skills for learning and school adaptation, favouring inclusion based on a human rights approach (Chilean Ministry of Education, 2019). Their support focuses primarily on students with permanent SEN due to a disability that impacts their entire school life. They conduct evaluations and define psychomotor, occupational, and functional profiles, aiming for optimal sensory maturation and functional movement while emphasising independence and autonomy (Chilean Ministry of Education, 2019). They offer support on an individual, group, and community level, both inside and outside of the mainstream classroom, and adapt furniture and equipment. They participate in vocational and pre-vocational activities and collaborate with teachers, families, and other professionals (Chilean Ministry of Education, 2019).

In my perspective, at the core of these characteristics are the concepts of participation, functional skills, environment, and collaboration, which are in accordance with international guidelines and what is expected in schools for the role of SBOTs (Villeneuve & Shulha, 2012; WFOT, 2016b). However, its foundation is still connected to a deficit-based approach, as it links SBOTs to permanent SEN and focuses primarily on the motor domain, limiting what SBOTs can offer in schools (for more information about my critique of this policy, see Section 8.1.1).

Prior to this doctoral thesis, no research had been published on Chilean SBOTs and how they have been integrated into the educational system. Nonetheless, Ministry of Education statistics can be compiled to characterise the schools in which OTs have been involved and some of their characteristics. I have compiled, analysed, and presented these data to contextualise and provide an overview of the presence of OTs in Chilean schools over the past decade.

The data I compiled were available in a platform that provides free open access to databases about students, teachers, EAs and schools of Chile. I consulted two databases: the official directory of schools, from which I selected schools with OTs (https://datosabiertos.mineduc.cl/directorio-de-establecimientos-educacionales/) and the public database of EAs working in schools, from which I selected OTs (https://datosabiertos.mineduc.cl/asistentes-de-la-educacion/). The variables I chose from each database were analysed using descriptive statistics, and I included some variables in the questionnaire. I selected the time periods for which OT data was available.

I performed a time series analysis on the official directory of schools to determine the number of schools with OTs from 2014 to 2021 (Table 3).

Table 3: *Number of schools with and without SBOTs from 2014 to 2021*

Schools	2014	2015	2016	2017	2018	2019	2020	2021
Total schools	12061	12253	12213	12114	12021	12069	12086	12077
Schools SBOTs	235	304	404	591	739	1007	1076	1064
Representation%	1.9%	2.4%	3.3%	4.8%	6.1%	8.3%	8.9%	8.8%

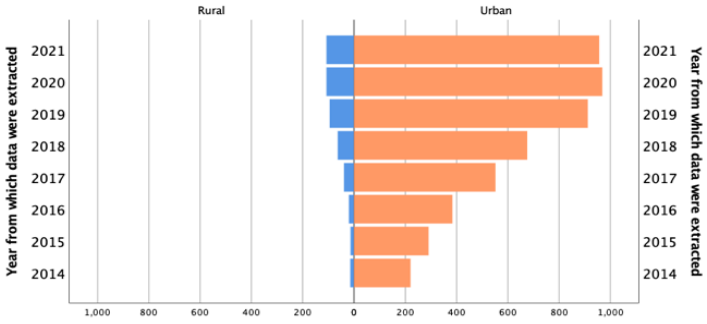
Source: Official directory of schools, Centre of Studies of the Ministry of Education

Table 3 demonstrates that the number of schools with OTs has steadily increased over the years, with a slight decrease in 2021, while their percentage of representation remains nearly unchanged. Their representation has also grown over time, which corresponds to what was described in Section 1.3.

Figure 3 displays these schools' rurality index (A), governance (B), teaching levels (C), and SIP agreements (D).

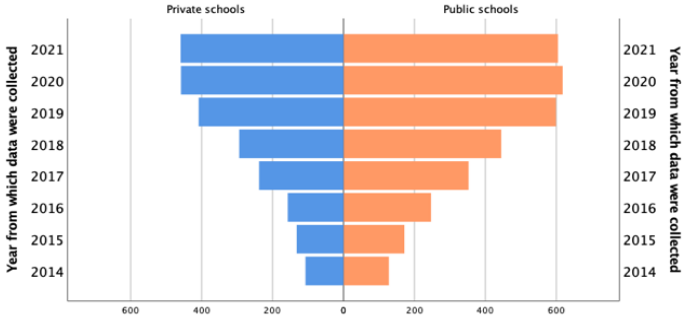
Figure 3: *Characteristics of schools in Chile that have SBOTs from 2014 to 2021*

A. Rurality index



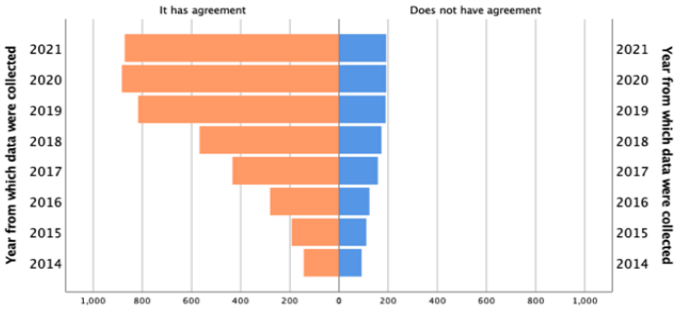
Source: Official directory of schools, Centre of Studies of the Ministry of Education

B. Governance



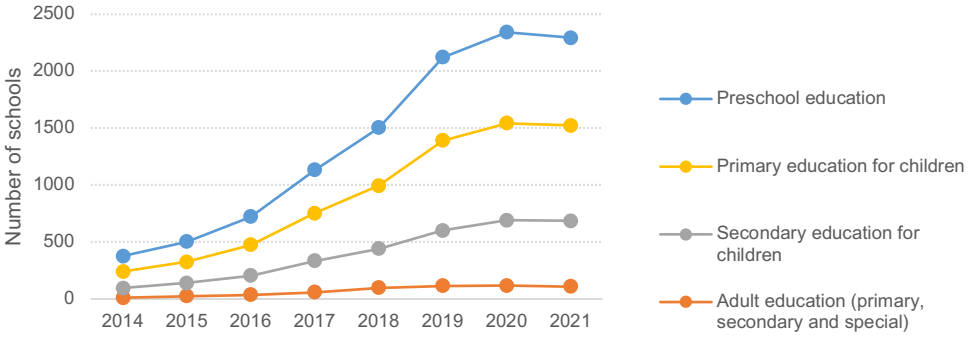
Source: Official directory of schools, Centre of Studies of the Ministry of Education

C. SIP agreements



Source: Official directory of schools, Centre of Studies of the Ministry of Education

D. Teaching levels

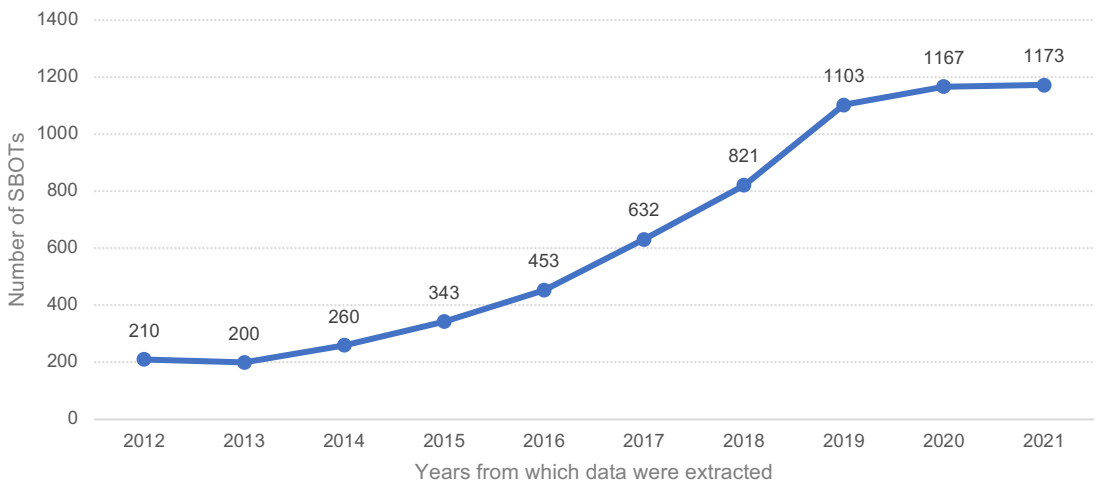


Source: Official directory of schools, Centre of Studies of the Ministry of Education

Most schools with OTs over the years have been located in urban areas (Figure 3-A), and although the numbers of private and public schools have been comparable, the majority have been public schools (Figure 3-B). Most private institutions were subsidised private schools. Figure 3-C demonstrates that most OTs have been included in schools with a SIP agreement, i.e., mainstream schools with SIPs. Those without a SIP agreement may be mainstream schools without SIPs or special schools. Figure 3-D depicts that these schools primarily provide primary education.

In the public base of EAs working in schools, I also performed a time-series analysis to identify the number of Chilean SBOTS from 2012 to 2021 (Figure 4).

Figure 4: Number of Chilean SBOTs from 2012 to 202



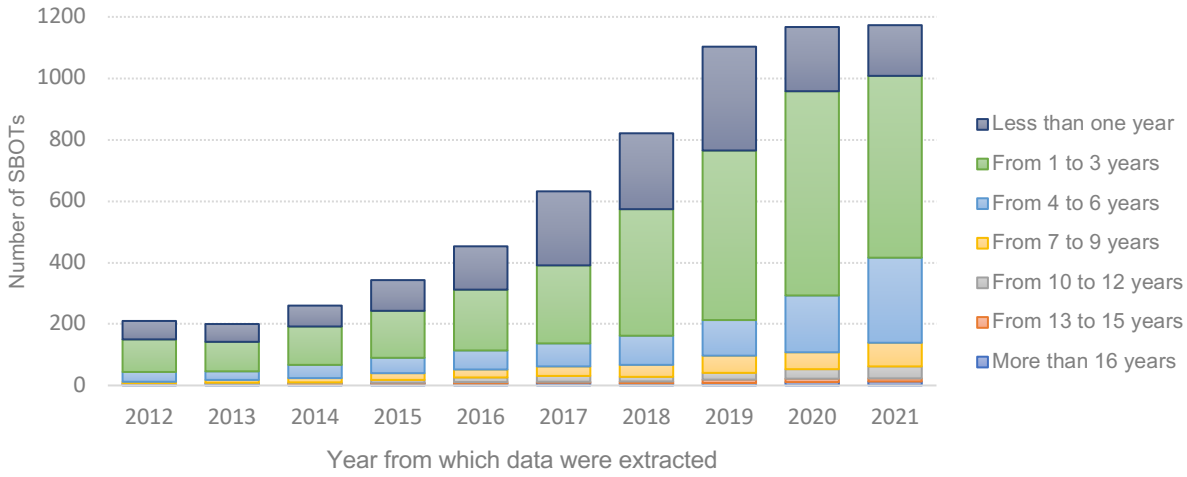
Source: Public base of EAs working in schools, Centre of Studies of the Ministry of Education

Figure 4 shows the continuous increase of SBOTs throughout the years, with only a small decrease from 2012 to 2013, and a steadier increase from 2019.

Figure 5 shows their years of experience (A) and participation in training (B).

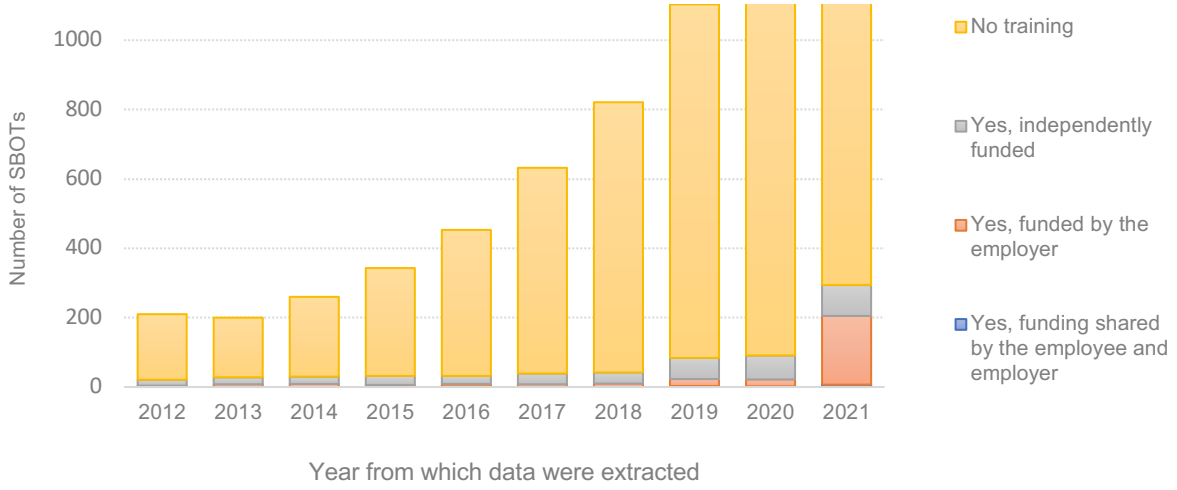
Figure 5: *Characteristics of Chilean SBOTs from 2012 to 2021*

A. Years of experience



Source: Public base of EAs working in schools, Centre of Studies of the Ministry of Education

B. *Training*



Source: Public base of EAs working in schools, Centre of Studies of the Ministry of Education

Figure 5-A demonstrates that the majority of SBOTs in Chile have had less than six years of experience. In addition, the majority have not undergone training, and those who have done have financed it themselves, although employers were the primary funders in 2021 (Figure 5-B). The most common topics included sensory integration, school life, psychomotor development, conflict resolution, integration, and the Supreme Decree 170/09.

Regarding the number of hours that SBOTs have reported working in schools, Table 4 reveals that in 2012, the majority worked between 1 and 20 hours per week, a trend that persisted until 2014. From 2015, the majority of SBOTs reported working 11 to 30 hours per week, a trend that continued until 2021.

Table 4: *Number of Working Hours Declared by SBOTs from 2012 to 2021*

Hours/Years	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
From 1 to 10	91	52	50	60	74	113	137	141	135	116
From 11 to 20	46	58	76	102	125	179	238	313	294	301
From 21 to 30	34	47	63	88	130	179	224	318	334	341
From 31 to 40	12	18	39	54	62	75	106	177	218	214
More than 41	27	25	32	39	62	86	116	154	186	201

Source: Public base of EAs working in schools, Centre of Studies of the Ministry of Education

These trends suggest that the characteristics of schools and SBOTs have remained consistent over time. This can influence SBOTs' services, which is particularly relevant to this study.

2.5. Where do I stand within this context?

In this research, I examined the practices of SBOTs to explore how they can make sense of inclusion. I used the concept of inclusive practices to reflect on their inclusion-related praxis, which is discussed here considering inclusive education and disability studies theories. These theories are first described in this section to explain the rationale for my conception of inclusive practices, which is explained later.

2.5.1. My theoretical positioning

Given that the focus of my thesis was on the efforts made to ensure effective educational experiences and the criteria for a framework that effectively integrates diverse

professionals into educational communities, I took a constructivist stance on inclusion. This means that I focused on providing support to students who needed it in order to effectively engage in the teaching and learning process (Ainscow et al., 2012). This is consistent with what the UN has stated, namely that the principles of inclusion and equity are not only about access, but also about having quality learning spaces and pedagogies that enable students to flourish and work for a more equitable society (UN, 2015).

This stance is based on two foundations that guided my research: a) a continuum of educational alternatives, combining special education elements within an inclusive framework; and b) a biopsychosocial approach to comprehend the barriers and challenges for inclusion, combining the social and medical model of disability.

Regarding education, I consider a continuum of services for students with SEN and disabilities to be necessary and therefore acknowledge it. This continuum considers a spectrum of placements ranging from the most isolated to the most integrated, as described in Section 2.1 for the Chilean context. A continuum of services rooted in the concept of inclusion and belonging may be necessary to meet the requirements of all students, especially those with more complex SEN or disabilities. Within this conception, I follows Kauffman et al.' conception of special education as an effort to ensure that these students are not neglected, that they learn as much as possible, and that they are given equal opportunities in schools of their choice (Kauffman et al., 2018; Kauffman & Badar, 2014). In adhering to these ideas, I consider the philosophy of acceptance and belonging that defines inclusive education, and I emphasise the role of collaboration in providing this (Salend, 2011).

As OTs consider inclusive education a non-negotiable right (WFOT, 2016b), I contend that all children, including those with SEN or disabilities, have the right to be educated in mainstream contexts. In their position statement on SBOTs, the World Federation of Occupational Therapists (WFOT) endorses the Universal Declaration of Human Rights, the Convention on the Rights of the Child, and the Convention on the Rights

of Persons with Disabilities (United Nations, 1948, 1989, 2006). However, I also recognise that mainstream settings may not be suitable for some children if they are unable to receive the education that best meets their requirements (Kauffman & Badar, 2014).

These beliefs are inextricably linked to my experience as a Chilean SBOT, a crucial aspect of this project. As a SBOT, I supported students in mainstream schools where, despite efforts to include them into mainstream classrooms, this was sometimes difficult due to a combination of student characteristics and lack of community support. On the basis of this experience, I recognise a role for special educational settings, such as special schools or units, which seek to meet the needs of students through the availability of resources, particularly human resources that can support all students (Giangreco et al., 2010; Norwich, 2008; Warnock, 2010). Therefore, I argue for elements of special education, such as individual assessment, planning, and specialised instruction, when necessary, but always under the umbrella of acceptance and belonging as outlined in the philosophy of inclusive education. Consequently, OT efforts ought to centre on delivering services in the most inclusive manner possible, not limiting this to any setting. The most inclusive methods are understood here to be indirect/integrated and universal services, with collaboration serving as the basis for this provision (more details in Section 2.5.2).

In keeping with the premise of combining concepts, I reject the dichotomy of medical and social models of disability in order to comprehend SEN and disabilities, because if only the environment is considered, the experiences caused by impairments may be neglected (Crow, 1996; Koch, 2001). Indeed, Shakespeare (2008) asserts that upgrading to the social model does not permit a description of what causes disability, contending that it is impossible to eliminate all barriers. I concur with these authors and therefore argue that the combination of both models could result in an inclusive praxis.

The International Classification of Functioning, Disability and Health (ICF), a global framework for organising and documenting information on functioning and disability, declares a biopsychosocial perspective (WHO, 2001). Within ICF, disability and functioning

are conceptualised as a dynamic interaction between a person's health condition, environmental factors, and personal factors (WHO, 2001). This concept was expanded in the ICF for Children and Youth (ICF-CY), which is proposed for the SBOT practice (WHO, 2007). In truth, there is a high degree of congruence between the OT practice that acknowledges the interaction between the person, context, and occupations and the ICF and ICF-CY (Cramm et al., 2012; Prodinger et al., 2015). Thus, the OT profession is consistent with the biopsychosocial model outlined in these guidelines. Honouring this understanding, I adopt a biopsychosocial perspective to comprehend disability and SEN. This involves viewing SBOT services within a biopsychosocial approach, recognising both individual and environmental aspects when supporting students with SEN or disabilities.

2.5.2. Inclusive practices

Based on these theoretical positions, I explored SBOT services considering the concept of *inclusive practices*. Diverse interpretations of this concept exist. To understand how it was used here, the definition of *inclusive pedagogy* by Florian and Black-Hawkins is necessary to discuss as there is a sutil difference between the two concepts. *Inclusive pedagogy* is a framework that seeks to reduce educational inequality by enhancing learning opportunities so that all students can participate (Florian, 2008; Florian & Black-Hawkins, 2011). In contrast, *inclusive practices* refer to actions and activities, or what school staff do to give inclusion meaning (Florian, 2004). As I was interested in the praxis of SBOTs as a group, inclusive practices allude to their actions that embodied the concept of inclusion.

Florian argues that inclusive practices are a poorly articulated concept because, just as the definition of inclusion differs, so do the criteria for what constitutes evidence of inclusive practices (Florian, 2015). Although I agree with this statement, I opt for the term *inclusive practices* due to its emphasis on actions. Additionally, I considered the consensus among researchers that contextualising inclusion is necessary to comprehend it, which is what I do throughout this thesis.

In addition, while I concur with the objective of refocusing on learning opportunities that are accessible to all, examining SBOTs using inclusive pedagogy was problematic for a variety of reasons. One of these was that inclusive pedagogy refers to a pedagogical framework, and thus to the act of teaching and the decisions that comprise teaching (Florian, 2015; Florian & Black-Hawkins, 2011). SBOTs are not pedagogical professionals and are not trained to teach; therefore, it can be counterproductive to comprehend their practices through inclusive pedagogy. This holds true for UDL as a pedagogical model as well. However, research has described a relationship between UDL and SBOT, probably due to its foundations on the universal model in arquitecture (Campbell et al., 2012; Hutton et al., 2016; Kennedy et al., 2018; Missiuna et al., 2012; Schoonover & Norton-Darr, 2016). This point is elaborated upon in Section 2.5.3.

In addition, while some academics have regarded UDL as a process-based framework that supports inclusive pedagogy (Fornauf & Erickson, 2020), I concur with others who view them as two models that provide practical tools to leverage student diversity (Sanger, 2020). Thus, I consider them to be distinct frameworks, one of which has been associated with OT and was therefore considered for this project: the UDL approach.

Another reason for not considering inclusive pedagogy was because it concentrates on enhancing the quality of mainstream education and promotes non-differentiation. The process of providing additional services to some students is defined as differentiation (Florian, 2015). I advocate for the provision of services in all contexts, not ontly on mainstream schools, and while I believe that inclusive practices may lead to less differentiation, I recognise that some students may still require it (Kauffman et al., 2018; Kauffman & Badar, 2014).

Considering these factors, I assumed here that inclusive practices were those that implemented UDL-aligned strategies. Consequently, indirect/integrated and universal services best reflected inclusive practices (definitions were provided in Table 1). This conception is based on research indicating that SBOTs have expanded their support to

assist all students, while direct pull-out services fail to promote practices in natural settings (Cahill et al., 2014; Truong & Hodgetts, 2017). Natural settings are those in which students engage in their daily school activities.

An inclusive practice of SBOTs would, therefore, require that they be embedded in various school activities, incorporated into students' programming, and work as members of the educational community (Barnes & Turner, 2001; Hanft & Shepherd, 2016; Stephenson, 2019). These strategies expand the scope of SBOTs, which scholars have advocated for because it promotes a collaborative practice that supports successful inclusion (Kurth et al., 2015; Laverdure et al., 2017; Rodger & Kennedy-Behr, 2017). Consequently, collaboration and teamwork strategies are essential, and are those that better reflect inclusion within this project. SBOTs are required to comprehend the school's context, culture, routines, and philosophies, as well as the underlying policy to align with this concept (Hinder & Ashburner, 2017). They also need to reinforce diverse teaching and learning processes, allow students to achieve team-agreed objectives, and define school-related requirements (Cahill & Lopez-Reyna, 2013; Coster et al., 2013).

2.5.3. UDL: An opportunity for SBOTs?

There are a variety of universal-based learning models with inclusion at their foundation. I envisioned inclusion based on UDL principles, which aligns with the current educational policies in Chile. The Supreme Decree 83/2015 proposes UDL for the praxis of inclusion (Supreme Decree 83, Chilean Ministry of Education, 2015). In this decree, there is a distinct obligation for professional EAs to implement UDL, collaborate with teachers, and oversee the actions required to implement this model. This gives SBOTs a direct role.

UDL focuses on the elimination of barriers to learning and seeks to devise a curriculum that enables all students to acquire the knowledge, skills, and enthusiasm for learning to succeed in school life (CAST, 2018; Meyer et al., 2014). Within it, the concept of inclusion for all is adhered to, with students with SEN or disabilities viewed as those with

perhaps more pronounced and specific challenges, but as part of the same group of students (Galkienė & Monkevičienė, 2021). Consequently, diversity is regarded as a natural phenomenon as students differ in how they are motivated, how they comprehend information, and in how they express their knowledge, but all can participate in education (Meyer et al., 2014). As a result, three principles, each accompanied by three guidelines, can be applied in practice when UDL framework is used.

One principle encourages teachers to provide multiple means of engagement, i.e. the 'why' of learning, which relates to how students become engaged and motivated (Meyer et al., 2014). This principle is based on networks associated with the limbic system, which are influenced by prior experience and the processing of sensory information. Its guidelines include providing multiple options for self-regulation, for recruiting interest, and for sustaining effort and persistence.

Referring to the 'what' of learning, a second principle encourages teachers to offer multiple modes of representation, which pertains to how students collect information and classify what they observe, hear, and read. It depends on recognition networks, which consist of sensory networks in the occipital, parietal, and temporal lobes. This principle entails offering multiple alternatives for perception, comprehension, language, mathematical expressions, and symbols (Meyer et al., 2014).

The third principle promotes the provision of numerous action and expression options, i.e., the "how" of learning, focused on how students plan and execute assignments and organise and communicate their ideas. It is linked to the strategic networks in the frontal lobes, which are responsible for response and action. Its guidelines include offering multiple options for executive functioning, physical actions, and communication (Meyer et al., 2014).

These principles put the Salamanca Statement into practice by acknowledging that every student has the right to learn at a level that is accessible to them and tailored to their unique abilities (Galkienė & Monkevičienė, 2021). Scholars have argued that UDL principles could be used to accommodate students' requirements without segregating them or

disrupting their typical classroom routines (Lee et al., 2006; Missiuna et al., 2012). I deemed this pertinent to my conception of inclusive practices.

In this regard, UDL seeks to foster expert learners who are resourceful, strategic, goal-directed, motivated, and able to sustain the effort necessary for success (CAST, 2018; Meyer et al., 2014). These characteristics reflect the expected outcomes of SBOTs: students who are able to select strategies to resolve performance issues and manage their motivation to engage in schoolwork. To accomplish this, the knowledge base of SBOTs, their expertise in activity analysis, and their capacity to adapt tools and environments are essential (Schoonover, 2019). Activity analysis refers to an evaluation that enables SBOTs to comprehend the typical demands of an activity in order to assist teachers in determining, for instance, how to make materials accessible to the largest number of students (AOTA, 2020: Schoonover, 2019). This indicates that SBOTs could support all students by providing solutions to barriers in the physical, academic, and social environments through supporting, advising, and modelling UDL principles (WFOT, 2010).

SBOTs can also contribute to UDL by emphasising collaboration, as key components of this framework include the development of partnerships to create flexible pedagogy and tools for an accessible and enriching curriculum for all students (Meyer et al., 2014). UDL promotes a culture of collaboration and the cooperative interchange of information from diverse perspectives and professions because this has the potential to transform the way in which students learn. This enables SBOTs to become productive educational participants outside the classroom (Schoonover, 2019). However, empirical research has neglected the prominent role of collaboration within the UDL framework. This was a crucial consideration for me, as I envisioned inclusive practices to be based on collaboration and teamwork.

Among empirical research regarding UDL, three studies evaluated SBOT engagement with educational community members (Browder et al., 2008; Dalton et al., 2012; Friedman et al., 2022). Browder et al. (2008) recommended a UDL-based team planning to ensure student participation. Dalton et al. (2012) focused on a UDL workshop for

teachers and SBOTs, emphasising the importance of professional development for all professionals. Friedman et al. (2022) highlighted training and coaching to increase collaborative abilities by actively designing flexible educational courses. These studies also found that working collaboratively in accordance with UDL principles increased teachers' use of SBOTs recommendations and improved relationships and communication skills because they shared the same common understanding. However, these studies varied in research design, ranging from a qualitative description of a South African workshop to quasi-experimental studies conducted in the USA. These distinctions reduce the applicability of the advantages obtained.

How SBOTs implement their services with UDL principles in mind has also been largely ignored by researchers. Nonetheless, a scoping review of English-language research examining how rehabilitation health professionals utilised UDL in school contexts provides crucial insight (Kennedy et al., 2018). This review found that OTs apply UDL in several ways, but only address a few of its principles: numerous means of engagement, focusing on alternatives for attracting interest; and various means of action and expression, focusing on physical action. This discovery confirms SBOTs practice area restrictions. But it also shows SBOTs' capability in these areas and highlight niches where they could be indispensable. However, this notion has not been empirically demonstrated.

SBOTs collaboration under the UDL has not been studied in Chile. However, a qualitative study of teachers' opinions on collaboration found that institutional characteristics and school cultures influenced collaboration (Moreno et al., 2021). This study did not involve SBOTs, but it gives vital information regarding the pieces that play a role in collaborating for UDL implementation, which might be applied to SBOTs. However, only public-school teachers who work in SIPs (School Integration Programmes) in the Metropolitan Region of Chile were interviewed for this research. Thus, only these experiences were analysed. Another study about UDL found a need to prepare teachers for its implementation, particularly when collaborative practices were involved (Valencia & Hernandez, 2017). And,

an action-research study that aimed to redesign a course unit using UDL found that collaboration produced learning instances for classroom team members (Caceres & Caceres, 2015). Hence, considering UDL principles in planning enriched with diverse strategies the teaching methods. However, there were several obstacles for this, including time constraints and dependence on the willingness of professionals to work collaboratively.

UDL implementation in Chile has also proven contentious. Scholars suggest that while its promotion accords with inclusive perspectives, comparable strategies may be employed (Espinoza, 2019). Espinoza claims UDL lacks proof to be considered a national policy. Indeed, although systematic reviews have found UDL to improve learning processes, increase access to the mainstream curriculum, and provide educational services for students with intellectual disabilities, concerns have been raised about the quality of the evidence as there is limited empirical evidence involving pre/post-test methodology (AlRawi & AlKahtani, 2021; Capp, 2017; Ok et al., 2017; Rao et al., 2014).

The above demonstrates that UDL studies have not followed the best research designs and that empirical research is needed, which should consider before implementing it as part of a national strategy. I considered this issue and, as a result, conceived UDL immersed in a multi-tiered approach, specifically a Response to Intervention model. This model is based on the inclusive education principles of early interventions and tiers of support based on student responses (Fuchs & Fuchs, 2006). I was able to conceptualise UDL within this framework because Chilean educational policies cite UDL as the first step to address students' learning differences, implying that additional steps could be implemented (Supreme Decree 83/2015, Chilean Ministry of Education, 2015). This conceptualisation is explained in the next section.

2.5.3.1. UDL within a multi-tiered model: Response to Intervention (RtI)

RtI is defined as an approach that moves away from the practice of allowing students to fail prior to receive support, by proactively providing high-quality interventions that fit

student needs, monitors progress often, and uses response data to make key educational decisions (Murawski & Hughes, 2009). It has its origins in the public health literature, based on a three-tiered model focused on prevention (Basham et al., 2010). The first tier includes population-wide practices to prevent public health issues. In education, this translates into the use of research-based interventions primarily for teachers. The second tier focuses on early detection and immediate research-based intervention to those at risk of a public health problem. In educational this implies evidence-based tailored interventions for students who require extra help. The third tier includes the most intensive treatments delivered to those who have already developed a health problem. In education, intense interventions are provided to students who need them, based on assessments and performance data (Basham et al., 2010).

This origin was important from a theoretical standpoint because OTs, as allied health professionals, are educated based on this public health model. Consequently, their school-based services would easily resemble this model. Indeed, OT institutions have described RtI as a model that provides guidance to ensure that all students receive needs-based support (WFOT, 2016b). It also facilitates participation in mainstream education, enabling OTs to carry out tasks at a system level (AOTA, American Physical Therapy Association, 2014; Frolek Clark et al., 2017). Consequently, SBOTs can provide valuable strategies across all tiers (AOTA, 2012; Bissell & Cermak, 2015).

Empirical studies have found that when SBOTs provide whole-class interventions (tier 1, i.e., T1), all students are able to enhance their skills (Bellows et al., 2013; Lust & Donica, 2011). Others, however, have found no difference between intense and universal interventions (tier 3, i.e., T3), or when comparing a collaborative classroom-based approach to a pull-out model (Dreiling & Bundy, 2003; Sayers, 2008). Despite these contradictory findings, these studies have highlighted the advantages of delivering universal services, particularly in terms of collaboration and capacity building. Therefore, there is space for SBOTs to provide services that more closely reflect inclusive practices. Indeed, taking

students out of school natural settings has been valued for its possible educational benefits but less appreciated for social reasons (Hannes et al., 2012).

According to Giangreco and Suter (2015), multi-tiered models such as RtI provide the foundations of a useful school organisational framework that enables all students to be taught in nonsegregated settings through scheduling and skilful deployment of teaching and professional staff. In fact, Giangreco and Suter have developed an inclusive service delivery model for the entire school that includes related services, which in the USA are provided by professionals such as SBOTs (see Giangreco & Suter, 2015, pp., 119). Nevertheless, their model is more concerned with the function and organisation of teaching assistants. My focus was on SBOTs (related services within Griagreco's model) and a shift from perceiving them as special education services to as part of the services offered to all students. For this to occur in contexts such as Chile, modifications are necessary, and the purpose of my study was to determine which ones would pave the way for a transformation of SBOT services.

To analyse the practices of Chilean SBOTs, I considered a model for school-based health services that reflects my vision of UDL and RtI integration. This was the Partnering For Change (P4C) framework, which was designed by the CanChild Centre for Childhood Disability Research in Canada (Missiuna et al. 2012). UDL is the foundation for inclusive service delivery in the P4C model, which emphasises collaboration and capacity development (Figure 6).

Figure 6*: Partnering for Change (P4C) Model*

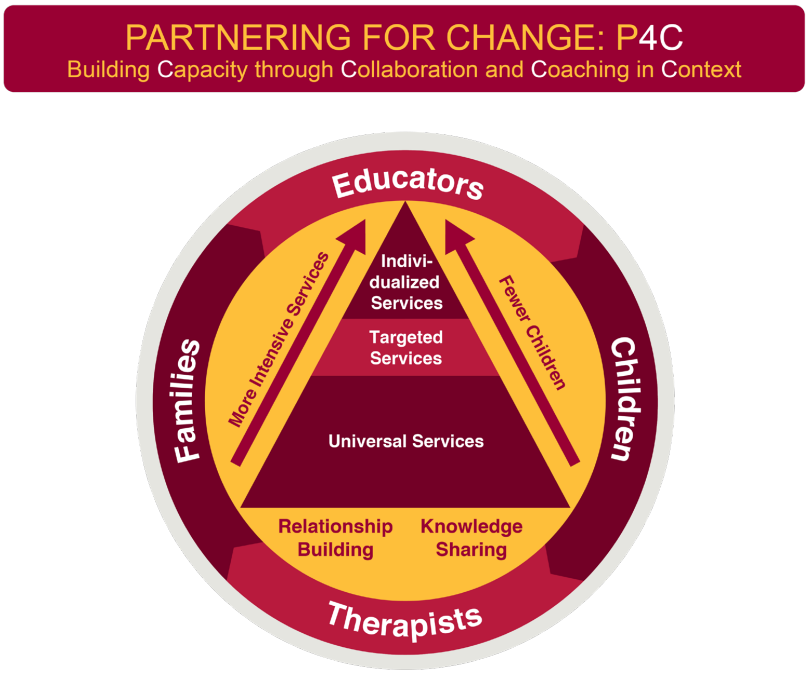


Diagram reproduced with permission by the authors for one time use.

P4C is a model that was created for children with Developmental Coordination Disorder (DCD), which is a neurodevelopmental condition that affects a child's ability to conduct daily personal care and academic tasks (Missiuna et al., 2006). P4C is based on the partnership of SBOTs with teachers, families, and children to alter a student's daily environment (Missiuna et al., 2012). This foundation defines the acronym P4C, which stands for *Partnership* for *Capacity* building through *Collaboration* and *Coaching* in *Context*. As such, this model advocates relationship building and knowledge transfer as core activities, considering the school to be the end recipient of SBOTs services.

This model involves three tiers in which SBOTs can provide their support. UDL plays a role in the first tier (i.e., T1), which provides universal services to support the academic achievements and needs of all students, aligned with an accessible curriculum (Meyer et al., 2014). In this tier, teacher knowledge and competence are prioritised over serving one student (Missiuna et al., 2012). Thus, occupational performance through modifications in the

physical and social environment is prioritised, designing resources to support varied students meet learning goals and full curriculum engagement (Campbell et al., 2016).

From the second tier onwards (i.e., T2), processes of differentiation are involved. Indeed, once collaborative strategies have enhanced an understanding of how to optimise the environment, SBOTs and teachers would focus on students who are struggling (Missiuna et al., 2012). In this tier, SBOTs use their skills in person-environment interactions, observation, and daily occupation analysis to identify issues that require targeted interventions that are additional to the UDL strategies already implemented. While doing this, SBOTs observe students who have had targeted interventions and determine how the task and environment are affecting task completion. They next implement more intensive interventions (T3), test strategies, and determine which ones improve curriculum access (Missiuna et al., 2012).

The P4C approach presents these tiers in a pyramidal format that represents the number of students supported at each tier (Figure 6). This is consistent with the notion that intense services would only be required for students who did not respond to interventions at other tiers (Chu, 2017; Frolek Clark & Polichino, 2021). This illustration adheres to the RtI methodology.

Research on P4C characterises its efficacy in enhancing the knowledge and capabilities of educational communities, for which time and consistency are essential (Missiuna et al., 2012; 2017). It has also been demonstrated that time spent in classrooms with teachers forces SBOTs to reconsider their recommendations considering the limitations and practicalities of school settings (Campbell et al., 2012). Teachers prefer collaborative SBOTs based on P4C because they learn strategies and discover ways to implement them within their daily routines (Wilson & Harris, 2018). These results mean that changes to SBOTs practices are possible by using the P4C approach. However, the problem is that the creators of the models were involved in all these studies, and there is no evidence of how P4C could enhance the application of UDL principles. In addition, empirical evidence

regarding its effectiveness with children with other SEN or disabilities, as well as children without difficulties, is lacking. However, the focus of my research is not on the effectiveness of this model, but rather on positioning SBOTs within its ideas. Consequently, I took into account the P4C premise that partnerships are necessary to facilitate the successful engagement and participation of all children (Campbell et al., 2012).

2.6. Key contextualisation points

This chapter provided a description of the characteristics of the context in which I carried out this research. I explored SBOTs services, focusing on their daily practices in all types of schools and in any educational modality of Chile. When it comes to inclusion, I decided to concentrate on educational experience's issues rather than access difficulties, taking into consideration inclusive practices and the requirement for a framework that would allow professionals to provide their services in the most inclusive manner possible. The model of UDL within a RtI approach was chosen to explore SBOTs practices based on the concepts of special and inclusive education as well as a biopsychosocial viewpoint on disability.

Chapter 3: Literature on SBOTs' service models: a research conundrum

This chapter describes what has been written about SBOT services and influencing factors. It discusses the literature on SBOTs practices at a service level, reflecting on research about the forms of work of SBOTs as a provision delivered in educational contexts. Therefore, it answers the question: What has research identified and described about SBOT services? This question was addressed by examining systematically the research on this topic from different contexts and from various perspectives (the procedures followed are available in Appendix 2).

A mismatch between the call to deliver services aligned with inclusive practices and the empirical data found was detected across diverse contexts and perspectives, which is described in this chapter according to SBOTs' services and SBOTs' collaborative practices. Factors impacting this practice are examined within these categories.

3.1. SBOTs practices: A tendency towards direct pull-out services

Literature about SBOTs services has been published since 1990, with an incremental increase in the number of studies published in the last five years. This research has primarily been carried out in the USA and Europe.

In the USA, research about SBOTs practice has been conducted through studies incorporating mainly the survey method, particularly using mailed or online quantitative questionnaires. In this literature, it was identified that more direct pull-out services were provided regardless of the state and time in which the studies were conducted (Bolton & Plattner, 2019; Crowe & Kanny, 1990; Seruya & Garfinkel, 2020; Spencer et al., 2006). By contrast, one study concluded that OTs spent more time providing integrated therapy in classrooms and consultation with teachers (Case-Smith & Cable, 1996). However, what integrated therapy meant was not explained, making the study's conclusion confusing since being in a classroom does not mean that services are necessarily integrated since this requires them to be planned based on shared goals and provided by non-intrusive methods

(Bazyk & Cahill, 2015; Causton & Tracy-Bronson, 2014; Rioux & Jackson, 2019). These characteristics were not described in this study.

In other countries, survey studies within a quantitative research framework also explored SBOT services. In Portugal, Ireland and Israel it was found that direct services in a therapy room were more frequently delivered (Maia et al., 2016; O'Donoghue et al., 2021; Weintraub & Kovshi, 2004). In Canada, OTs also indicated to provide more frequently services in specialised classes, according to a traditional model with individual referrals (Jasmin et al., 2019). In Switzerland, in contrast, OTs working in mainstream schools indicated to provide services mainly in the mainstream classroom, focusing more on the environment and less so on individual children (Kaelin et al., 2019). However, the participants of this study were mainly self-employed OTs, an element worth considering when SBOT practices are being analysed as the employer plays a crucial role in how services are provided. The case of Switzerland suggests that although direct pull-out services can be identified as the standard way to provide support in most settings, this cannot be assumed for all contexts.

Other studies that conducted qualitative research, such as using the interview method, also indicated a tendency towards direct pull-out services. For instance, a study in England identified that more pull-out direct services were provided in a special and a mainstream school, either individually or in small groups, and focused on the performance of students (Salazar Rivera & Boyle, 2020). This result aligns with what was found in the USA, Israel, Ireland, Portugal and Canada, suggesting that SBOTs provide similar service models. However, the application of a qualitative approach to the English study, in which three OTs were involved, suggests that its results may not be widely applicable. Thus, although similarities were found among the distinct countries, further research should be conducted to identify more generalisable tendencies in contexts such as England. This lack of generalisability could be applied to other studies in which, although more OTs were involved, their representativeness is not guaranteed either. For example, in the Irish study, 35

responses were examined, representing only 29.7% of the target population due to recruitment difficulties (O'Donoghue et al., 2021). Consequently, differences in methodological approaches and sample sizes should be considered when comparing these studies.

Regardless of the above, the tendency towards pull-out services has also been identified in studies focused on specific areas of the SBOT practice in diverse contexts. In the USA, these areas included SBOTs services in secondary schools (Rodrigues & Seruya, 2019); SBOTs' use of assistive technology in rural schools (Cronin, 2018); when assessing integrated services (Watt et al., 2021); and when addressing mental health needs (Salamat et al., 2021). The tendency towards individualised services was also found when assessment strategies were examined, with most OTs assessing individual components (Burtner et al., 2002). This indicates the use of traditional evaluation methods in which the individual is the focus. However, updated literature is required to corroborate this statement since the call for more inclusive practices, which requires assessing not only individual components, has been stronger in the last decade.

In Brazil and South Africa, the relationship between SBOTs and school inclusion has been searched using different methodological approaches but resulting in similar findings. A quantitative questionnaire in Brazil found that the primary relationship between OTs and school inclusion occurred outside schools (Da Fonseca et al., 2018). In South Africa, a study using a phenomenological approach found more direct pull-out services were provided in mainstream schools, but consultancy strategies were also frequently used in special schools (Sonday et al., 2012). Consultancy strategies in special schools were also frequently indicated in an interview-based study conducted in England (Caie & Brooks, 2021). These results suggest that services depend on the type of school in which they are provided. However, the nature of the studies examined made this statement difficult to assumed.

The location in which these services have been provided varied throughout the literature. However, pull-out locations were frequently indicated, particularly an OT room, in

the USA, Israel and Portugal (Bolton & Plattner, 2019; Maia et al., 2016; Spencer et al., 2006; Weintraub & Kovshi, 2004). In Canada, although specialised classrooms were frequent, strategies that can also be provided in mainstream classrooms or other locations were indicated, including adaptations of the environment (Jasmin et al., 2019). The lead role of pull-out locations contrasts with what was found in Switzerland since OTs indicated to mainly provide services in mainstream classrooms, the gym, or craft rooms (Kaelin et al., 2019).

Considering these findings, it seems that more inclusive strategies have been identified in Canada and Switzerland since they have mainly focused on the environment and aligned services to mainstream activities. On the contrary, SBOTs services in other countries have been provided mainly separately from mainstream activities. It may be hard to draw such concrete conclusions, however, since although a tendency to address mainly individual needs was detected, different services at different frequencies were identified in all the contexts reviewed. This means that although direct services were provided more often, which may perpetuate a traditional model of service provision, indirect and integrated services were also delivered, but less frequently so. This diversity indicates that needs are not solely individually met since other methods that are more aligned with inclusive strategies are also provided.

3.1.1. Factors influencing SBOTs' services worldwide

Diverse factors influencing these services were discussed in the studies presented so far. In the USA, the attitudes of OTs towards specific services, a lack of training and professional development opportunities, issues regarding resources, the diversity of guidelines and absence of scientific journals for this practice impacted SBOTs services (Bolton & Plattner, 2019; Burtner et al., 2002; Case-Smith & Cable, 1996; Spencer et al., 2006). The social and work environment, particularly the relationship between OTs and teachers, was also identified as a significant element. A lack of knowledge from the

educational community, particularly from teachers, regarding the role of OTs and the areas in which they can contribute influenced this relationship (Salamat et al., 2021). Cronin (2018) explains that because OTs spend little time in classrooms, they do not examine alternative areas where they can contribute, which impacts the level of community awareness of their services.

These factors were also identified in USA studies about SBOTs' role in fine motor skills and handwriting interventions (Cramm & Egan, 2015; Wehrmann et al., 2006); sensory-based interventions (Benson et al., 2019); social participation (Beck et al., 2006; Leigers et al., 2016); and transition services (Kardos & White, 2005). In Ireland, similar factors were also recognised (O'Donoghue et al., 2021).

Additional research about factors impacting SBOTs services discusses similar issues. In the USA, studies using a questionnaire method have identified throughout the years that the levels of undergraduate preparation and self-efficacy regarding collaboration and service provision impact the way services are implemented (Brandenburger-Shasby, 2005; Semple-Dormer, 2013). Indeed, it has been argued that many OTs that work in schools are under-prepared for this unique context, which highlights the influences of undergraduate preparation and training (Laverdure, 2014). Student needs and their attitudes towards OT services, and SBOTs' workloads and caseloads are also elements that impact their services (Corley, 2021; Long, 2003). *Workload* refers to all the activities and range of demands on OTs to meet students' needs, while *caseload* refers to the number of direct intervention minutes or assigned students.

In Switzerland, a study focused on SBOTs' practice experiences and clinical reasoning found that OTs were relatively new in schools, so their experiences in work fields outside mainstream education influenced their school practice (Echsel et al., 2019). Therefore, similar aspects impact the use of services in countries such as the USA and Switzerland. This points to a need of preparation of OTs to work in schools since,

apparently, they require specific skills for this practice that have not been taught in the appropriate levels.

Studies that conducted qualitative research, such as using the interview method, identified other factors in the USA. Benson (2013) found that referential models were associated to the daily practices of SBOTs. Referential models are framework that apply theory to the OT practice. The work of SBOTs with key persons such as teachers also impacted their integration into classrooms. Clough (2019), for its part, evidenced that the nature of planned interventions, classroom activities and social pressures affected services delivered. The SBOTs' perspectives as school practitioners and their perceived responsibilities also influenced their services.

Silverman and Bourke-Taylor (2009) compared the multi-layered impact of legal, institutional and organisational structures in the USA and Australia using a contextual perspective. They found that special education and civil rights legislation supported the inclusion of OTs in schools, although they were likely to be more involved in special settings. These findings provide novel information since they identify how policy influences the OT profession. However, the study did not consider the experiences of SBOTs, and therefore the impact of these elements was not evaluated by OTs in practice.

Silverman and Bourke-Taylor (2009) also identified inequities in service decisions due to underfunding and inconsistent decision-making processes, with a dependence on decisions by non-OT personnel. This dependence was also identified in studies examining SBOTs' participation in areas such as transition planning (Kardos & White, 2005) and when supporting students with emotional disturbances (Beck et al., 2006). This type of system-level influence, and how other agencies could guide SBOT services, are factors that have also been identified as barriers to implement best practices in schools in the USA and England (Cramm & Egan, 2015; Salazar Rivera & Boyle, 2020). Indeed, in England, services depended on what local authorities offered to schools, the school management, the relationships among the education community and the dominant role of external agencies.

Considering the various research presented here, it seems reasonable to infer that a lack of inclusive practices in SBOTs service models has been observed globally and across time, with multiple factors playing crucial roles. To support this conclusion, however, it may be required to examine SBOTs procedures at the intervention level, as this would provide a better understanding of the services provided. I considered this and conducted a scoping review of school interventions delivered by SBOTs which is presented in Chapter 4.

The literature presented in Chapter 3, however, shows that there has been a growing interest in investigating SBOTs services in the last decade, particularly in the USA, where most of the research comes from. This topic has also been investigated in other countries, mainly in Europe. Only Brazilian studies were found in Latin America, indicating a need to produce knowledge of SBOTs in Latin America.

This literature also shows that, although different services were indicated in various contexts, it is possible to identify a discrepancy between academic claims and empirical evidence. For example, a tendency towards pull-out individual direct services was found in almost all the contexts I examined, with only a few exceptions. This means that indirect and integrated services, considered in this project as those more aligned with inclusive practices, are provided less frequently. I detected this trend regardless of when the studies were conducted, their methodologies and the areas examined.

This conclusion should acknowledge the different methods used in these studies, as most used quantitative methods such as questionnaires, whereas others conducted qualitative research employing focus groups, interviews or observations. In both sides, strengths and limitation should be considered. In quantitative research, the authors created most of the questionnaires used, which allowed them to respond to their research questions, but also rendered any comparison difficult and indicated an unstandardised manner to examine this topic. In addition, in some studies the content validity of the questionnaires was not specified, which impacted the quality of these studies. For qualitative research, reflexivity

and member-checking strategies in which participants corroborate the findings were part of the processes, but some authors did not provide detailed information of this kind.

3.2. Collaborative practices: An area requiring substantial work

Literature about collaborative practices of SBOTs is available from 2001, with an incremental increase in the number of studies over the last seven years. These studies have been conducted mainly in the USA, similar to what was presented in Section 3.1. The focus of this literature has been predominantly on collaboration between OTs and teachers, but a small number of studies has also explored their relationship with parents. This indicates a lack of research regarding other educational community members, which disregards the fact that SBOTs collaborate with diverse community members, including other therapists (Rodrigues & Seruya, 2019). Encouraging inclusive practices in school settings emphasises the necessity of building relationships with all the community members, which researchers seem to have overlooked.

Despite these issues, in the USA, collaborative practices between teachers and OTs have been explored (Barnes & Turner, 2001), as well as teachers' perceptions of the value of collaborating with OTs (Edick et al., 2022), and of the role of OTs (Benson et al., 2016). All this literature has been based in survey studies. Their levels of collaboration have also been explored through mixed-methods methodologies (Huang et al., 2011), and grounded theory studies (Bose & Hinojosa, 2008).

The forms of collaboration I found in these studies included monitoring, reviewing and problem-solving strategies that were frequently conducted informally in classrooms or hallways, during lunch, before or after school, or while providing interventions (Barnes & Turner, 2001; Bose & Hinojosa, 2008). Scheduled meetings were one of teachers' preferred method to collaborate, as demonstrated respect for their time (Huang et al., 2011). Consultation, a method in which teachers are provided with input and strategies to solve a

problem, was also identified as one of the main strategies (Benson et al., 2016; Edick et al., 2022). Other strategies involved the use of emails and phone calls.

Despite the variety of these strategies, low levels of collaboration were detected in these studies. Therefore, a need to improve communication, to increase formal collaboration time, and to schedule verbal meetings was identified in contexts such as the USA (Barnes & Turner, 2001; Benson et al., 2016; Bose & Hinojosa, 2008; Edick et al., 2022; Huang et al., 2011).

In Australia, a qualitative descriptive study explored teachers' perceptions regarding the usefulness of OT reports, as the primary strategy used to collaborate with teachers (Vincent et al., 2008). It was found that although teachers understood OT reports, they wanted more personal interactions with OTs. In Slovenia, another qualitative study explored interprofessional collaboration between teachers and OTs. Interprofessional collaboration is an approach in which two or more professions cooperate to reach common aims by sharing decision-making, resources, and accountability for outcomes (Suc et al., 2017). The Slovenian study identified that OTs that were hired by parents to provide school services (i.e., external professionals) used strategies such as classroom visits and meetings inside or outside schools to collaborate. These strategies, however, were conceived by the participants as inappropriate for interprofessional collaboration, arguing that OTs needed to be constantly physically present at schools to truly develop partnerships. This aligns with Rens and Joosten (2014), who claim that OTs need to increase the time spent in schools to build better relationships.

3.2.1. Factors influencing collaborative practices between teachers and OTs

Factors influencing the levels of collaboration included a lack of teacher receptiveness and malfunctions in communication strategies (Barnes & Turner, 2001; Benson et al., 2016; Bose & Hinojosa, 2008; Edick et al., 2022; Huang et al., 2011). OTs' view of themselves as “experts” impeded their ability to collaborate effectively (Suc et al.,

2017). Other factors included the use of unfamiliar vocabulary, insufficient introductory information of the profession, poor timing regarding information exchanges and only brief periods in the classroom (Vincent et al., 2008). Furthermore, being itinerant service providers with large caseloads in each school was considered a barrier to best practices (Corley, 2021). Itinerant service providers are OTs that have a list of schools that must visit within a working week. This form of employment is commonly used in the USA.

These factors have been discussed in diverse reviews about SBOTs. For example, Villeneuve (2009), after critically appraising research on collaborative consultation, found that a lack of time to meet and the itinerant nature of SBOTs' work significantly limited opportunities for information sharing with teachers. Truong and Hodgetts (2017), who conducted a scoping review about teachers' perceptions, identified that a confusion over OTs' role and a lack of opportunities to collaborate impacted how OTs' understanding of the constraints of classrooms. For their part, Wintle et al. (2017) analysed the tensions experienced by OTs and teachers through a scoping review and found that tensions resulted from diverse sources. These sources included personal-level tensions, such as poor communication skills, and environmental-level tensions, such as the nature of the OT service and of school settings.

These results suggest that a lack of collaboration and an increasing need to transform OTs' collaborative practices are shared in diverse contexts, as well as the factors influencing these practices. However, a wider array of studies has been conducted in the USA, enabling a better picture of this setting, which might be not the case for the other contexts.

Other researchers, with the intention of resolving the issues described in studies about collaboration between teachers and OTs, have developed interventions to find ways to improve this situation. Bucey and Provident (2018) conducted a project to improve the perceived competency for collaborative consultation services in the USA, finding that peer mentoring was an effective way of engaging and motivating OTs to act towards practice

change. In Canada, coaching strategies successfully permitted discussions and problem-solving between OTs and teachers (Hui et al., 2016). In Spain, coaching strategies implemented after a workshop effectively improved teaching assistants' capacity-building (López-De-la-fuente et al., 2021).

The use of these strategies align with recommendations made for changes in SBOT practice (Stephenson, 2019). However, participants of these interventions faced problems to take advantage of these strategies. These problems included time constrains, role confusion, space and resource issues, and difficulties in establishing mutually respected solutions (Bucey & Provident, 2018; Hui et al., 2016; López-De-la-fuente et al., 2021). Other factors, on the contrary, were described as facilitators, including setting goals within a timeframe, developing relationships, employing the workload approach, and establishing communication methods.

A set of principles to enhance collaboration was also identified in a study that aimed to provide an evidence-informed foundation for decision-making in SBOT collaborative consultation (Villeneuve & Shulha, 2012). These principles included: sufficient time to assess considering the learning environment, the implementation of case meetings, support teachers considering meaningful communication and showing them how to implement recommendations, and support families in understanding the rationale OTs' involvement and engage them proactively in the services.

The involvement of families, however, seems to have been less considered by researchers since a small number of studies have been focused on the relationship between OTs and families in school settings. This indicates a lack of interest in exploring and understanding the dynamics between OTs and families and their ways of collaboration. Indeed, small-scale projects have been conducted in the USA, in which parental perceptions were explored (Benson et al., 2015) and in Canada, in which collaborative practices were explored (Kennedy et al., 2021).

The Canadian study explored communication strategies between OTs and families, evidencing that the most common method in this context was sending handwritten notes to homes. Phone calls and in-person meetings were less frequent. Emails were also used, but concerns with this method were raised since, for some OTs, it was against professional college regulations. In the USA, families described the presence of OTs in meetings as an increase in their involvement and investment in their child's outcomes. This strategy was not described in the Canadian study. However, in both studies, relevance was given to teamwork and the involvement of all team members to reach outcomes and engage families to the maximum.

A need for more collaboration between OTs and families was stated in both studies. In Canada there was a need for service transformations since there was little time for OTs and families to connect. In addition, some families described that engaging with OT services was sometimes complex and cognitively demanding, making them feel uncomfortable and less engaged. In the USA, families also reported a desire for a collaborative relationship with OTs and perceived more significant improvements in their child as the collaborative process increased. They also argued for OTs to consider all the areas in which they can contribute, particularly social participation, as this was an area overlooked by OTs.

Based on these elements, it seems that the call for service transformation also embraces OTs collaborative practices with families. However, further research is required to elucidate and understand how OTs work with families in schools, which collaborative strategies they use the most and how this impacts a child's development. Additionally, how collaborative practices with families align with those with teachers seems to be another topic that is especially relevant in this setting since coordination among all educational community members is essential.

3.3. Key messages about the literature on SBOTs services

The literature presented in this chapter shows that there has been a growing interest in investigating SBOT services in the last decade, particularly in the USA, where most of the research comes from. This topic has also been investigated in other countries, mainly in Europe. Only Brazilian studies were found in Latin America, indicating a need to produce knowledge about Latin SBOTs.

Although different services were indicated, a mismatch between academic claims and empirical evidence was identified. For example, a tendency towards pull-out individual direct services was found in almost all the contexts, with only a few exceptions. This means that indirect and integrated services, considered more in line with inclusive practices, are provided less frequently. This trend was detected regardless of when the studies were conducted, their methodologies, and the areas examined. This preference was also identified when collaborative practices were reviewed. Although various strategies for collaboration were indicated, low levels of collaboration were detected in various contexts, particularly between teachers and SBOTs. This situation also has an impact on inclusive practices since, although collaboration is conducted in all types of services, it is essential for indirect and integrated services.

The factors that influenced the trends identified were varied and came from personal, professional, institutional, and social sources. Most of the factors described can be considered barriers, which suggests that the participation of OTs in the school environment requires special attention considering all the levels from which these barriers emerge. The diversity of factors (or barriers) affecting SBOT service delivery models suggests that the complexity of school systems plays a key role, which is relevant for OTs trained or used to provide services in other settings such as hospitals or clinics.

Chapter 4: School-based interventions delivered by OTs: a scoping review.

The literature discussed in Chapter 3 delved into the various services that could be provided by SBOTs, offering an in-depth analysis of the existing research on the subject matter. However, it is important to note that these services can consist of a diverse range of interventions, which are programmes provided by SBOTs that are crucial to grasp to fully know the impact they have within educational settings such as schools. This chapter will now provide a scoping review of the interventions conducted by OTs in schools, i.e., a complete summary of the existing evidence pertaining to school-based interventions delivered by OTs. This will enable me to ascertain whether the findings I identified in the literature review pertaining to service level in Chapter 3 may also be observed at the intervention level.

Scoping reviews are a tool that seeks to describe published research on a specific topic and an overview of what each study focuses on (Arksey & O'Malley, 2005; Levac et al., 2010: Munn et al., 2018). They can be used in different ways, and I used it as a form of knowledge synthesis that allows multiple study designs to be incorporated to comprehensively map various types of evidence (Colquhoun et al., 2014). This review has been recently published in the Journal of Occupational Therapy, Schools, & Early Intervention, available at this link https://doi.org/10.1080/19411243.2023.2232806 (Salazar Rivera et al., 2023).

This review was necessary because more comprehensive knowledge about school-based interventions delivered by OTs have commonly been delimited to academic activities (Grajo et al., 2020) and on motor and handwriting skills (Eddy et al., 2019; Engel et al., 2018). Furthermore, as these studies have been conducted following an effectiveness or efficacy-based approach aiming to find the best evidence to inform practice, studies were excluded due to methodologies concerns. Some methodologies, however, respond to the complexity of OT practice in school settings due to the variability in the way services are

delivered and the influence of factors such as institutional and organisational policies and structures (Silverman & Bourke-Taylor, 2009).

Scoping review methodology aims to identify all types of research yet does not evaluate the quality of evidence or the effectiveness or efficacy of interventions (Arksey & O'Malley, 2005; Colquhoun et al., 2014; Daudt et al., 2013; Levac et al., 2010). The review by De Oliveira Borba et al., (2020) took this approach but did not focus on the participation of OT practitioners (OT and/or OT assistants) in the service provided. This methodology allowed for the examination of various school interventions delivered by OTs in multiple research designs to comprehensively map various sorts of evidence.

This scoping review, therefore dressed the first set of RQs of this project: what is known from scientific studies on school interventions delivered by OTs for children with and without special educational needs or disabilities? which OT outcomes are targeted and assessed? which tiers of support do the interventions described correspond and what are their components?

4.1. Scoping review procedures

Scoping reviews need to be conducted rigorously and transparently, and documented in sufficient detail to enable the study to be replicated by others, which increases reliability and methodological rigour (Arksey & O'Malley, 2005; Munn et al., 2018). Indeed, scoping reviews follow methodology that is similar to systematic reviews, though the quality of evidence is not usually appraised nor is the effectiveness of the interventions evaluated (Daudt et al., 2013; Levac et al., 2010). As such, I focused on processes and procedures, not on the effectiveness of the interventions or the quality of the research.

As part of the methodology rigour required for scoping reviews, some scholars have recommended to engage an iterative inter-professional team to ensure the successful completion of the study (Daudt et al., 2013; Levac et al., 2010). Five people were involved in this review. I (JSR) created the search strategy, conducted the screening processes, and

selected sources, extracted the data, and wrote the results. Two persons acted as review collaborators: Nouf Alsaadi (NA), a post-graduate research colleague from the School of Education (SE) at the University of Exeter (UE), and Eliana Parra-Esquivel (EP), an OT colleague from the National University of Colombia. Professor Christopher Morris (CM), from the Medical School and Professor Christopher Boyle (CB) from the Graduate School of Education (at the time) at the University of Exeter provided methodological and written support based on their supervisory role. The engagement of this team allowed for greater accuracy and richness on account of their varying perspectives without compromising the depth and effectiveness of the analysis.

A protocol was developed prior to undertake this review, which was published in Open Research Exeter (ORE) through the College of Social Sciences and International Studies (SSIS) of the UE in February 2020 (http://hdl.handle.net/10871/120161). This protocol was developed using the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) Protocol, which contains the essential items of a systematic review protocol (Shamseer et al., 2015). Because of its focus, adaptations to the protocol were made considering the extension for scoping reviews (PRISMA-ScR) (Tricco et al., 2018). PRISMA-ScR was also used to report this review. Amendments to the protocol were made, based on the iterative nature of scoping reviews (Peters et al., 2015).

4.1.1. Search strategy

To cover the main topics of this review, the concepts *school** OR *education** AND *occupational therapy** OR *school health services* AND *disability** OR *support** were indexed through MeSH (Medical Subject Headings). Supplementary concepts were also included, such as class, inclusion, and integration. The search terms used in the interfaces EBSCO and OVID are presented in Table 5, and an example of the MEDLINE search strategy is on Appendix 3.

Table 5: *Search terms of the scoping review*

OVID	EBSCO
(((school* or class*) adj3 (regular or mainstream or special*)) or "school base*").ti,ab.	(school* or class*) N3 (regular or mainstream or special*) or "school base*"
Schools/	(MH "Schools+")
(education* adj3 (integrat* or inclusiv* or special*)).ti,ab.	(education* N3 (integrat* or inclusiv* or special*))
("occupational therap*" or OT).ti,ab.	"occupational therap*" or OT
Occupational Therapy/	(MH "Occupational Therapy+")
School Health Services/	(MH "School Health Services+")
Rehabilitation/	(MH "Rehabilitation+")
(disabil* or difficult* or "developmental disease" or disorder* or "disabled child*" or "at risk").ti,ab.	(disabil* or difficult* or "developmental disease" or disorder* or "disabled child*" or "at risk").ti,ab.
(("SEN" or "special* or additional*") adj2 (need* or support*)).ti,ab.	"SEN" or ("special* or additional*" N2 (need* or support*)).ti,ab.

The following electronic databases were searched in April 2020 and June 2021: CINAHL, AMED, Education Research Complete and British Education Index were searched through EBSCO, and Medline, Embase and PsycINFO through OVID. Otseeker was a subject-specific database that was searched independently. Backward and forward citation chasing was conducted by examining the references of the articles included via database, and handsearching relevant websites such as *CanChild* (https://www.canchild.ca/). This search strategy was developed with input from experienced university librarians and information specialists.

4.1.2. Eligibility criteria

Eligibility criteria detail the basis on which sources were considered for inclusion and narrow the search to answer research questions more precisely (Arksey & O'Malley, 2005;

Levac et al., 2010). The PCC (Population, Concept, Context) framework suggested by Peters et al. (2020) guided this review: a) Population: children aged 3 to 16 years; b) Concept: school-based interventions explicitly provided by OTs that address formal education activities and target any OT outcomes (described in Section 1.1.1); c) Context: articles published in scientific journals between 1975 and 2021, written in any language and based on any design; and, interventions carried out in a school, either in the classroom or in any other school-area. The interventions had to have been provided inside a school. Articles in which OTs acted only as researchers were excluded, as well as those that referred to the school only to reach the target population (school-age children).

4.1.3. Selection of sources of evidence

EndNote was specified in the protocol as the software package for selecting studies. However, the COVID-19 pandemic and subsequent lockdown restrictions made its use impossible, as not all reviewers had access to it on their personal laptops. Therefore, Rayyan was used, which is a free application that allows multiple authors to collaborate on systematic reviews (Ouzzani et al., 2016). Academics have recommended Rayyan for systematic reviewers who need easy-to-use tools to support their selection of titles and abstracts (Cleo et al., 2019; Harrison et al., 2020).

The following steps were performed in Rayyan, based on the recommendations of Cumpston and Chandler (2019): a) Search results from different databases were merged and duplicates were removed (JSR); b) Titles and abstracts were screened by two reviewers (JSR/NA); c) Full texts of potentially relevant studies were retrieved (JSR). Then, d) Full texts were examined using a screening form to ensure studies met the eligibility criteria (JSR/NA and JSR/EP). Screening forms are available in the protocol (Salazar Rivera et al., 2020).

4.1.4. Data extraction and analysis

Data extraction processes were based on the descriptive analytical method recommended by Arksey and O'Malley (2005). This method involves a review of studies based on a common analytical framework that locates key issues and summarises them (Pawson, 2002). This requires creating a data matrix containing the critical elements selected. For this review, standardized data extraction tools were designed, and the most frequent characteristics within each of the elements were analysed based on a simple frequency approach (Bazeley, 2018). Data were extracted in two distinct levels (JSR): studies and interventions (Table 6). Second reviewers checked for accuracy (NA and EP).

Table 6: Elements extracted at study and intervention levels

Data items	Description
	Study level
Reference	People who wrote the article, article title and journal title
Year of publication	Year in which the article was published
Language	Language in which the article was written
Country	Country where the study was conducted
Aim	Objectives of the study
Outcome measures	Instruments used to gauge the outcomes
School	Characteristics of the school in which the study was conducted
Sample	Who and how many people were involved
	Students' diagnoses or difficulties, age (in years), sex (male of female)
	Intervention level
Intervention name	Name or phrase that describes the intervention
Rationale or goal (why)	Rationale, theory, or goal of the elements essential to the intervention
Materials (what)	Physical or informational materials used in the intervention
Procedure (what)	Procedures, activities and/or processes used in the intervention
Who provided	Identification of the provider and their expertise, background
Modes of delivery (how)	Modes of delivery of the intervention, and whether it was provided individually or in a group
Location (where)	Where the intervention occurred

Table 6: Elements extracted at study and intervention levels

Data items	Description
When and how much	Number of times the intervention was delivered and over what period. Number of sessions, schedule, duration and intensity
How well	Planned: fidelity assessment and if any strategies were used to maintain or improve fidelity.

At a study level, data were extracted based on the recommendations made by Arksey and O'Malley (2005) and Levac et al. (2010). Studies were then grouped according to the OT outcomes embraced. The outcomes considered here were those listed in the OT Practice Framework from the American Occupational Therapy Association (AOTA, 2020), which were clustered into three groups for practical and educational purposes:

- School participation: studies that aimed to increase access and levels of participation in school activities (occupational justice). Studies that aimed to adapt the physical or social environment required to carry out school activities; increase access to educational resources, parents' and teachers' knowledge of the child's strengths and weaknesses; and support the school system.
- School performance: studies that aimed to improve or enhance performance skills (motor, process, and social interaction skills), and competence for the development of students' roles.
- Health and wellness: studies that aimed to identify, reduce or prevent the appearance of unhealthy conditions, risk factors, diseases or injuries; promote healthy lifestyles; improve or enhance health and wellness and quality of life.

At an interventions level, data were extracted based on their components. Therefore, key elements were broken down using the Intervention Description and Replication Checklist (TIDieR) that contains the minimum recommended elements to describe an intervention (Hoffmann et al., 2014). Interventions were then classified according to the types of intervention described in the OT Practice Framework (AOTA, 2020) and the three tiers of support based on multi-tiered models (described in Table 1). The most frequent

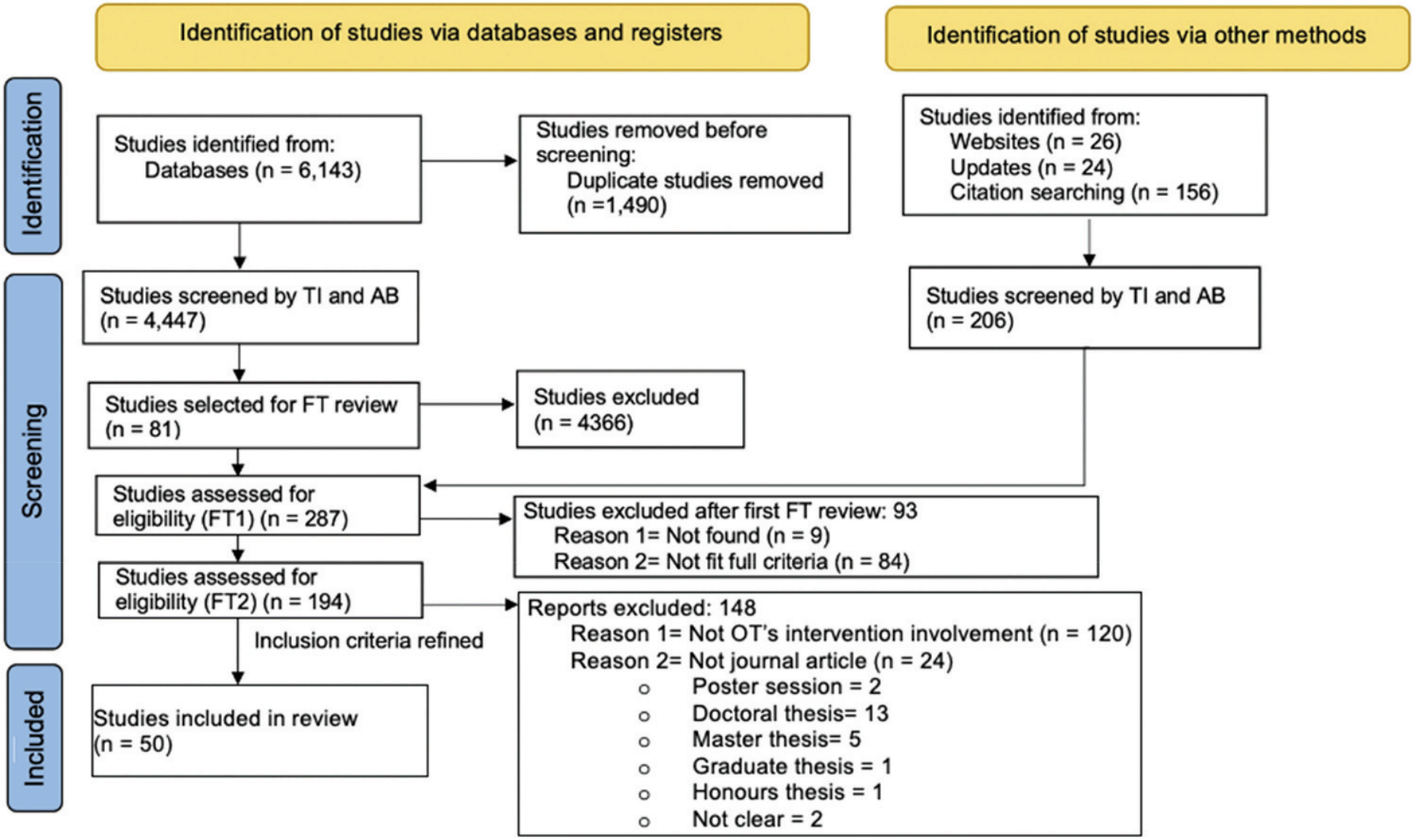
characteristics within each of items extracted were counted and summarised to understand the nature of the interventions (Bazeley, 2018; Hsieh & Shannon, 2005).

4.2. Results

4.2.1. Selection of sources of evidence

There were 4,447 articles screened by title and abstract after removal of duplicates, of which 81 were selected for full text examination. The citation searching conducted in these studies, and the studies found in websites and review updates allowed to identify another 206 articles based on their title and abstract, which then underwent full text examination. After examining 287 full texts, 50 studies were included (Figure 7). The list of studies included and the data supporting the findings of this review are openly available on Figshare at https://doi.org/10.6084/m9.figshare.17213441.

Figure 7*: PRISMA flow diagram depicting the selection process of the scoping review. Diagram adapted from Page et al. (2021).*



4.2.2. Characteristics of sources of evidence

Regarding the timing of the selected articles, their years of publication ranged between 1990 and 2021. In the first decade of this period, four articles (8%) written in English were identified, all produced in the USA (Case-Smith, 1996; Kemmis & Dunn, 1996; Kiendl et al., 1997; Oliver, 1990). In the second decade, ten articles (20%) written in English and conducted primarily in the USA were identified. However, two of these articles were conducted in Israel (Gophna, 2009; Ratzon et al., 2009), one in Australia (Zwicker & Hadwin, 2009), one in South Africa (Van Niekerk, 2007), and one in Canada (Leew, 2001). In the decade between 2010 and 2020, the number of articles increased to 36 including one study in 2021 (72%), all written in English except for one written in Portuguese (Barba & Minatel, 2013). Most of these studies were also conducted in the USA. However, four were developed in Australia (Challita et al., 2019; Mills & Chapparo, 2017; Mills et al., 2021; Richmond et al., 2014), and further four in Taiwan (Chang & Yu, 2013, 2014; Chang & Yu, 2017; Lin et al., 2012). Three were conducted in Israel (Golos et al., 2011; Selanikyo et al., 2017, 2018) and two in Ireland (Mac Cobb, 2012; Mac Cobb et al., 2014). The rest were conducted in diverse countries, as illustrated in Figure 9:.

Figure 8: *Studies' publication dates of school-based interventions delivered by OTs*

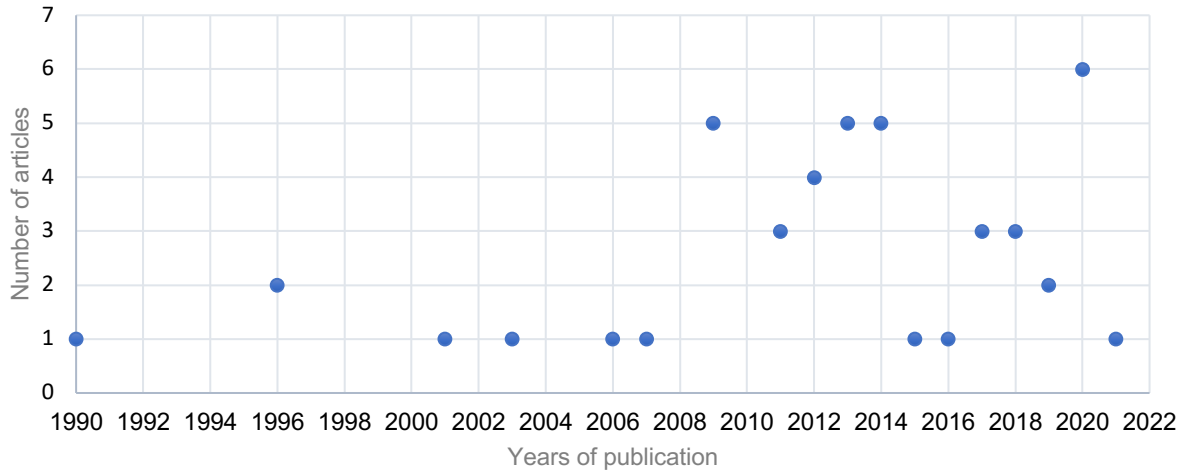
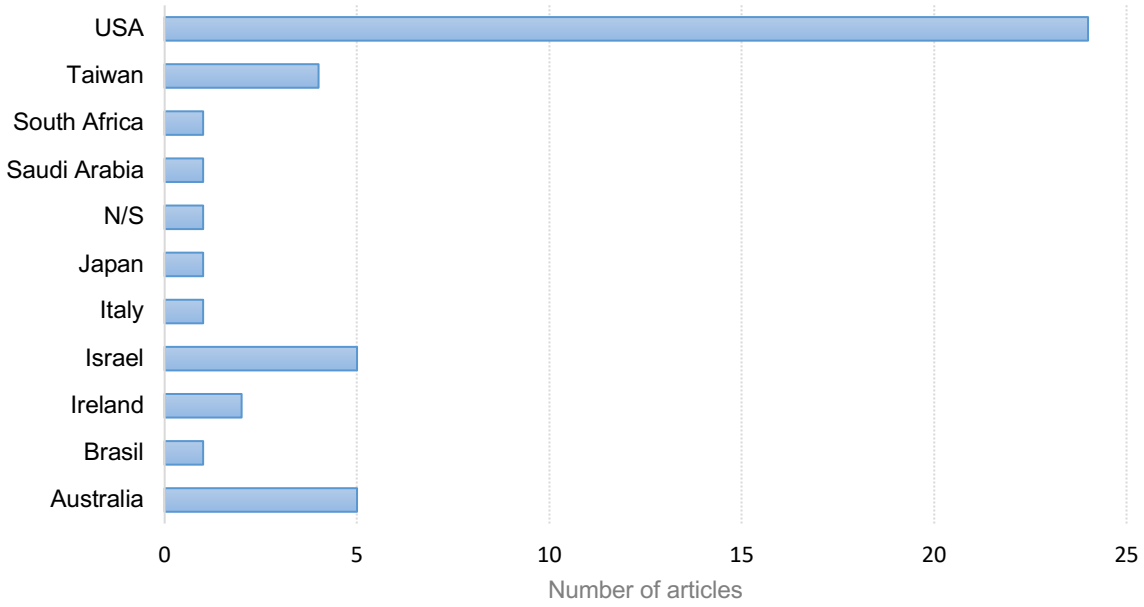


Figure 9: *Countries of the studies of school-based interventions delivered by OTs*



As can be seen in Figure 9:, there was only one study conducted in Latin America, specifically in Brazil. There was a complete absence of literature regarding school-based interventions delivered by SBOTs in Chile.

Regarding the methodologies used in these articles, the most common design was pre-post tests (n=33; 66%), which were implemented by various means, including quasi-experimental and non-equivalent pre-post tests with randomized, semi-randomized and non-randomized samples. A further seven studies used case series designs (14%) and two were case studies (4%) (Barba & Minatel, 2013; Benson et al., 2019, 2020; Cox et al., 2009; Kemmis & Dunn, 1996; Mac Cobb, 2012; Mac Cobb et al., 2014; Van Niekerk, 2007; Vandenberg, 2001). A further four conducted a randomized controlled trial (RCT) (8%) (Chang & Yu, 2013, 2014, 2017; Zwicker & Hadwin, 2009), and one was defined as a static group comparison (Donica et al., 2013). Three studies either did not specify the design or were defined as a qualitative description (Gophna, 2009; Kiendl et al., 1997; Leew, 2001).

All these studies were conducted in schools ranging from preschool, primary, and secondary, although most commonly in preschool and primary schools. Schools were in rural, suburban, and urban areas and were governed by public and private organizations. One was an international school (Alhusaini et al., 2016) and another was a virtual school where students attended remotely (Criss, 2013). As for the type of education provided, most of the studies do not specify this, although special schools were specified in five of the pre-post-test (Koenig et al., 2012; Mills et al., 2021; Mills & Chapparo, 2017; Selanikyo et al., 2017, 2018). Special schools were also identified in three other studies: in a RCT (Chang & Yu, 2017), in a case study (Van Niekerk, 2007), and in a qualitative description (Gophna, 2009).

In relation to the participants, students' ages in the research covered in this analysis should have ranged from three to 16 years of age based on the eligibility criteria, but in two studies, students were up to 20 years (Selanikyo et al., 2017, 2018). Because the data supplied was judged useful, this research were not excluded. Generally, the students who took part in these studies were mostly between the ages of five to eight, and most studies included both males and females. Only males were involved in three studies (6%) (Benson et al., 2020; Golos et al., 2011; Van Niekerk, 2007), while the sex of the students was not explicitly indicated in other six (12%).

All these students were described as having various difficulties, although students without difficulties were also included. The most frequent difficulty was related to handwriting, followed by fine motor and visuomotor difficulties. Autistic Spectrum Disorder (ASD) was the most common diagnosis, and Attention Deficit Hyperactive Disorder (ADHD) was also regularly reported. Sensory modulation problems, behaviour problems, Down Syndrome, developmental delays and learning problems were also named.

OTs not only delivered the interventions but were also considered participants in eight studies (16%) (Barba & Minatel, 2013; Bazyk et al., 2018; Kemmis & Dunn, 1996; Ohl et al.,

2013; Pierce et al., 2020; Schneck et al., 2012; Selanikyo et al., 2017, 2018). Teachers were considered participants in 11 studies (Barba & Minatel, 2013; Bazyk et al., 2018; Golos et al., 2011; Kemmis & Dunn, 1996; Mac Cobb et al., 2014; Mills et al., 2021; Alisha Ohl et al., 2013; Schneck et al., 2012; Selanikyo et al., 2017, 2018; Yamaguchi et al., 2020). And others, such as OT assistants and monitors also participated in a fewer number of studies.

4.2.3. Synthesis of results: OT outcomes and tiers of support

4.2.3.1. Studies and OT outcomes

Table 7 shows the studies included in this review depending on the OT outcomes addressed in them. Some of the studies are repeated as they addressed more than one group of outcomes.

Of the 50 studies examined, 32 were focused on improving school performance, with the majority focused on handwriting and motor and visuomotor skills, and a few on performance skills as a whole, on social skills and on task performance. Most of these studies used a mix of assessment tools to measure outcomes. The studies focused on participation were 16, mainly designed to improve students' attention and behaviour, and balance their activity levels to participate in school activities. A few were focused on art and assistive technology to increase participation or collaborative consultation, and on adaptation of the physical environment. In eight of these studies tools to measure outcomes were mentioned. Four other studies addressed health and well-being outcomes, primarily related to mental health, psychological adjustment and self-esteem, independence, and transition, with three of these studies mentioning the use of outcome measure tools.

4.2.3.2. SBOT interventions and tiers of support

Among the included studies, 48 interventions were examined (Table 8).

Table 7: *Studies depending on OT Outcomes*

Reference	Aims	Outcome measures
	School performance	
Alhusaini et al., 2016	Evaluate the additive effects of sensorimotor interventions on the child's handwriting	MHA. Handwriting Proficiency Screening Questionnaire.
Bazyk et al. (2009)	Document and describe integrated OT services and measure fine motor and emergent literacy outcomes	PDMS –2. VMI. Five small pegs from a nine-hole pegboard. Developmental sequence. OSELA. Approximations to Text.
Case-Smith et al. (2011)	Develop and pilot an integrated handwriting programme Write Start	ETCH–M. MHA.
Case-smith et al. (2012)	Evaluate the effects of the Write Start programme	ETCH–M. WJ-III.
Case-Smith, Weaver & Holland (2014)	Compare Write Start with a standard handwriting programme	ETCH M. WJ-III.
Case-Smith, Holland & White (2014)	Examine the effectiveness of Write Start programme	ETCH–M. WJIII.
Case-Smith (1996)	Research the degree and type of change in fine motor skills and functional performance	Motor Accuracy. Southern California Sensory Integration Test. Five small pegs and a nine-hole pegboard. PEDI.
Challita et al., 2019	Investigate the impact of a playground social skills programme	GAS. PRPP.
Chang & Yu, 2013	Test how advanced digital technology enables a more effective training on handwriting	The elementary reading and writing test. Computerized handwriting movement analysis
Chang & Yu, 2014	Compare a computer-assisted feedback training with the traditional sensorimotor programme of handwriting	The elementary reading and writing test. Computerized handwriting movement analysis
Chang & Yu, 2017	Investigate whether a programme addressing visual–perceptual and haptic–perceptual skills can improve handwriting performance	TVPS –3. TPT. BCBL.
Criss, 2013	Discus the use of telerehabilitation in the areas of fine motor and/or visual motor skills that impact handwriting	The Print Tool™.
Dankert et al. (2003)	Evaluate the assumption that OT provision will significantly improve visual-motor skills	VMI.
Denton et al. (2006)	Investigate the effectiveness of two different handwriting intervention approaches	THS. DVTP -2. TMP. IHM.
Golos et al., 2011	Evaluate the efficacy of a multidisciplinary and multimodal early intervention programme in improving children's performance skills and participation	VMI. MABC. MAP. SPO.

Table 7: *Studies depending on OT Outcomes*

Reference	Aims	Outcome measures
Gophna, 2009	Present an intervention programme to improve prewriting skills and performance skills necessary for writing	VMI-Revised. VPT-Revised.
Howe et al. (2013)	Examine the effectiveness of two approaches used to improve children's handwriting	MHA. VMI.
Mills et al., 2021	Evaluate a classroom-based SAS and its impact on cognitive strategy use (behaviour?) could be participation instead?	PRPP.
Mills et al., 2017	Determine the impact of a classroom SAS on cognitive strategy use during task performance	PRPP.
Ohl et al., 2013	Examine the efficacy of a Tier 1 RtI programme to improve fine motor and visual–motor skills	BOT 2. VMI. Developmental Scale of Pencil and Crayon Grips.
Oliver, 1990	Describe and pilot a writing readiness programme to teach writing readiness skills	VMI.
Pfeiffer et al. (2015)	Determine whether SMHP is effective in improving handwriting legibility	THS-Revised. MHA.
Ratzon et al., 2009	Evaluate the efficacy of various short term service delivery methods on the visual-motor skills	VMI. DTVP-2.
Richmond et al., 2014	Determine if the ABSS is an effective therapy tool in developing bilateral and spatial skills	VMI. SASP. SFA. Children's speed of placing pegs in a board
Schneck et al., 2012	Investigate the effectiveness of HWT when delivered through a consultative model	MHA.
Taras et al. (2011)	Evaluate the effectiveness of the Write Direction handwriting skill development programme	Routine district-level functional measurement tool.
Taverna et al. (2020)	Examine the effectiveness of activities and games to stimulate and improve visual-motor integration and manual dexterity skills	VMI. MABC-2.
VandenBerg, 2001	Measure on-task behaviours while wearing a weighted vest in classroom fine motor activities	N/A
Zwicker & Hadwin, 2009	Compare the effectiveness of cognitive versus multisensory interventions in improving handwriting legibility	ETCH.
Donica et al. (2013)	Determine if students educated in the classroom using the HWT curriculum would demonstrate better handwriting skills	THS-Revised.
Zylstra & Pfeiffer (2016)	Examine the effectiveness of an occupational therapist–led handwriting intervention	THS–Revised. North Dakota Title I Kindergarten Reading Standards Assessment.

Table 7: *Studies depending on OT Outcomes*

Reference	Aims	Outcome measures
Arnaud & Gutman (2020)	Assess the effectiveness of an occupational therapy reading programme that targeted foundational reading skills and reading participation	BAS. DIBELS. DSWL. TOWRE. ROHQ
	School participation	
Benson et al., 2020	Explore sensorimotor strategies embedded in the classroom on attention and in-seat behaviours	N/A
Benson et al., 2019	Determine the effects of alternate seating on increasing the attention and in-seat behaviours	N/A
Cox et al., 2009	Evaluate the impact of weighted vests on the amount of time engaged in appropriate in seat behaviours	N/A
Golos et al., 2011	Evaluate the efficacy of a multidisciplinary and multimodal early intervention programme in improving children's performance skills and participation	VMI. M–ABC. MAP. SPO.
Lin et al., 2012	Determine how sensory processing strategies in the curriculum could reduce excessive activity levels	Test of Sensory Integration Function: User's Manual. The Actical® physical activity monitor.
Mac Cobb et al., 2014	Report on the first phase of a pilot alert programme on self-management of behaviour	Questionnaire for teachers and students.
Mac Cobb, 2012	Support learning and school participation for students with significant challenging behaviours	N/A
Selanikyo et al., 2018	Corroborate the effectiveness of Co-PID for enhancing participation in classroom-related activities	SOSPiC. SFA. GAS.
Selanikyo et al., 2017	Investigate the effectiveness of the Co-PID for enhancing participation	SOSPiC.
Kiendl, Hooyenga & Trenn (1997)	Describe a project which provided art and assistive technology for children with disabilities in inclusive settings, primarily schools.	N/A
Leew (2001)	Describe a short-term programme (Passport to Learning) that address difficulties with organization and task completion	N/A
Koenig et al. (2012)	Examine the effect of the GRTL programme among children with ASD on decreasing maladaptive behaviours	ABC– Community to assess challenging behavior (Aman & Singh, 1994). VABS–II.
Arnaud & Gutman (2020)	Assess the effectiveness of an occupational therapy reading programme that targeted foundational reading skills and reading participation	BAS.. DIBELS. DSWL. TOWRE. ROHQ.

Table 7: *Studies depending on OT Outcomes*

Reference	Aims	Outcome measures
Barba & Minatel, 2013	Report the experience of OTs based on the theoretical reference of Collaborative Consulting	N/A
Kemmis & Dunn, 1996	Explore the success of collaborative intervention and therapist-teacher consultation choices	N/A
Yamaguchi et al., 2020	Examine the effect of collaborative consultation with teachers using iPad application for goal setting	COPM. GAS.
	Health and wellness	
Bazyk et al., 2018	Evaluate the meaning and impact of the Comfortable Cafeteria programme	VAS.
Van Niekerk, 2007	Report on a unique career exploration programme	N/A
Onwumere et al. (2020)	Examine the effectiveness of the Independence Curriculum intervention	GAS. VABS-II. American Institute for Research Self-determination Scale. Middle School Checklist.
Pierce et al., 2020	Examine the effectiveness of OT transition readiness services	SIB-Revised. Arc's Self-determination Scale.

Notes: N/A= Not Applicable; *MHA= Minnesota Handwriting Assessment; PDMS= Peabody Developmental Motor Scale; VMI= Visual-Motor Integration; OSELA= Observation Survey Early Literacy Achievement; ETCH–M= Evaluation Tool Children Handwriting Manuscript; WJ-III= Woodcock-Johnson; PEDI= Paediatric Evaluation Disability Inventory; GAS= Goal Attainment Scaling; PRPP= Perceive Recall Plan Perform; TVPS= Test Visual Perceptual Skills; BCBL= Battery Chinese Basic Literacy; THS= Test Handwriting Skills; DVTP= Developmental Test Visual Perception; TMP= Test Manual Pointing; IHM= In-hand Manipulation; MABC= Movement Assessment Battery Children; MAP= Miller Assessment Pre-schoolers; SPO= Structured Preschool Observation; VPT= Visual Perception Test; BOT= Bruininks Oseretsky Test of Motor Proficiency; SFA= School Function Assessment; SOSPiC= Structured Observations of Students' Participation in Classroom; VAS= Visual Analogue Scale; VABS= Vineland Adaptive Behaviour Scale; SIB= Scale of Independent Behaviour; COPM= Canadian Occupational Performance Measure; ABC= Aberrant Behaviour Checklist; BAS= Benchmark Assessment System; DIBELS= Dynamic Indicators of Basic Early Literacy Skills; DSWL= Dolch Sight Word List; TOWRE= Test of Word Reading Efficiency; ROHQ= Reading Occupations and Habits Questionnaire.*

Table 8: *Interventions classified by types and Tiers of Support*

Focus	Name	Studies	Tiers of support T1	T2	T3
Occupations and activities: Designed to address the underlying needs of the person's mind, body, and spirit, considering activity demands and person factors.					
Handwriting	Write Start programme	Case-Smith et al., 2011; 2012; Case-Smith, Weaver & Holland, 2014; Case-Smith Holland & White, 2014	X		
	Size Matters programme	Pfeiffer et al., 2015; Zylstra & Pfeiffer (2016)	X		
	Handwriting Without Tears (HWT)	Schneck et al., 2012; Donica et al., 2013	X		
	Write Direction programme	Taras et al., 2011	X		
	Handwriting club	Howe et al., 2013		X	
	Sensory-motor intervention	Alhusaini et al., 2016			
	Cognitive and multisensory handwriting	Zwicker & Hadwin, 2009			X
	Visual-motor integration skills and fine motor skills	Taverna et al., 2020	X		
	Sensorimotor groups	Denton et al., 2006		X	
	Therapeutic practice			X	
	Visual–perceptual and visual– motor integration training	Chang & Yu, 2017		X	X
	Computer assisted instruction	Chang & Yu, 2013; Chang & Yu, 2014			X
	Sensory-motor intervention			X	
	Prewriting intervention programme	Gophna, 2009		X	
	Writing readiness skills-Direct Treatment				X
	Writing readiness skills-Supplementary programme	Oliver, 1990			X
Fine motor skills	Integrated OT services for fine motor and emergent literacy	Bazyk et al., 2009	X		
	Fine motor skills	Case-Smith et al., 1996	X		
Visual motor skills	Anker Bilateral Spatial System's-ABSS	Richmond et al., 2014		X	
	Specialized Teaching and Enhancement of Performance Skills for Kindergarteners STEPS–K	Ohl et al., 2013	X		
	Visual-motor direct treatment			X	
	Collaborative consultation treatment	Ratzon et al., 2009			X
	Combined treatment			X	X

Table 8: *Interventions classified by types and Tiers of Support*

Focus	Name	Studies	Tiers of support		
			T1	T2	T3
	Visual-motor performance and academic success	Dankert et al., 2003		X	X
	Visual and haptic–perceptual training	Chang & Yu, 2017			X
Process skills	Independence curriculum	Onwumere et al., 2020		X	
Reading skills	Passport to Learning	Leew, 2001		X	
	Occupational therapy reading programme	Arnaud & Gutman, 2020		X	
Interventions to Support Occupations: Methods and tasks that prepare the person for occupational performance are used as part of a treatment session in preparation for or concurrently with occupations and activities.					
Assistive technology and environmental modifications: Assessment, selection, provision, and training in use of high and low-tech assistive technology; application of universal design principles; and recommendations for changes to the environment or activity					
Collaborative consultation	Aid for Decision-making in Occupation Choice for School- ADOC-S	Yamaguchi et al., 2020	X		
Participation	Empowered to Scribble	Kiendl et al., 1997	X		
	Collaborative Consultation for Participation Students with Intellectual Disability- Co-PID	Selanikyo et al., 2017; Selanikyo et al., 2018		X	
Self-regulation: Actions the practitioner performs to target specific person factors. Intervention approaches may address sensory processing or work or leisure activities or executive functioning.					
Behaviour	Alert programme	Mac Cobb et al., 2014	X		
	Get Ready to Learn (GRTL)	Koenig et al., 2012	X		
	Sensory motor intervention and attention levels	Benson et al., 2020	X	X	
	Alternate seating and attention levels	Benson et al., 2019		X	
	Sensory processing strategies and activity levels	Lin et al., 2012		X	
	Weighted vests	VandenBerg, 2001; Cox et al., 2009		X	X
	Noncontingent Reinforcement	Cox et al., 2009		X	X
	Sensory Activity Schedule	Mills et al., 2017; 2021			X
Education and training: Imparting of knowledge and information to enable the person to acquire helpful behaviors, habits, and routines. Facilitation of the acquisition of concrete skills for meeting specific goals.					
Collaborative consultation	Multidisciplinary early intervention programme	Golos et al., 2011	X		
	An OT procedure proposal	Barba & Minatel, 2013		X	X

Table 8: *Interventions classified by types and Tiers of Support*

Focus	Name	Studies	Tiers of support		
			T1	T2	T3
	Remedial and compensatory interventions in school	Kemmis & Dunn, 1996		X	
Mental Health	Comfortable cafeteria	Bazyk et al., 2018	X		
Advocacy: Efforts directed toward promoting occupational justice and empowering persons to seek and obtain resources.					
Transition	Career exploration programme	Van Niekerk, 2007	X		
	Ohio Occupational Therapy Transition Outcomes-OTTO	Pierce et al., 2020		X	X
Group interventions: Use of distinct knowledge of the dynamics of group and social interaction and leadership techniques to facilitate learning and skill acquisition across the lifespan.					
Behaviour/social participation	Group work and collaboration	Mac Cobb, 2012		X	X
	Perceive Recall Plan Perform PRPP (Mystery Club)	Challita et al., 2019		X	
Virtual interventions: Use of simulated, real-time, and near-time technologies for service delivery absent of physical contact, such as telehealth or mHealth.					
Handwriting	Telerehabilitation technologies	Criss, 2013			X

Twenty-eight interventions used occupations or activities as intervention strategies, mostly focused on handwriting and visual and fine motor skills. Eight were universal interventions, ten were focalized, five were intense, and three crossed T2 and T3. Another 11 interventions employed occupation-supporting methods and tasks. The majority were self-regulation interventions largely focused on student behaviour, with the remainder utilizing assistive technology and environmental adjustments. Four of these interventions were universal, three were targeted, one was intense, and three spanned multiple tiers.

Four interventions focused on collaborative consultation and mental health through education and training. Two of these interventions were universal, one was targeted, and the third covered both T2 and T3. Two others were advocacy interventions aimed at empowering students to seek help as they transitioned from school to work. The first was a universal intervention, whereas the second was in line with T2 and T3. Two group interventions addressed behaviour and social participation; one was a focalized intervention, while the other addressed T2 and T3. Another was a virtual intense intervention centred on handwriting.

T1 interventions (n=16) focused primarily on handwriting, fine and visual motor skills. Its components included integrated strategies, capacity building, a whole-class approach, and curricular activities. The processes were distinguished by education, training, and monitoring strategies, using common school materials. These interventions were delivered by OTs, but teachers were also highly involved. They were carried out in large or small groups, mainly in classrooms, over a period of 4-12 weeks, with 30–45-minute sessions planned once or twice a week.

Interventions classified in T2 (n=24) also focused primarily on handwriting and visual and motor skills, but student behaviour was also targeted. Remedial and compensatory approaches, and teamwork were part of their main components. Materials such as handwriting books, worksheets, and sensory resources were used. Their procedures included meetings, monitoring and modelling strategies, group activities, fostering teacher-

led strategies, and providing ongoing feedback. OTs provided all these interventions, but teachers implemented one with the close supervision of the school OT. Interventions were conducted face-to-face mainly in small groups, but also in class groups and individually, delivered inside and outside classrooms, lasting 5-10 weeks, and with 10-12 sessions of 30-45 minutes once or twice a week.

T3 interventions (n=16) primarily focused on handwriting and visual motor skills, but behaviour was also a common focus, with sensorimotor interventions standing out. Individualized strategies and remedial programmes were part of their foundation. Their materials were largely unreported, but handwriting books and weighted vests were indicated. Procedures included direct student-centred activities, individualized instructions, modelling and copying strategies, and the use of protocols. OTs provided these interventions, but OT students, experienced trainers, and teachers also participated. They were carried out face-to-face, except one that was virtual. All were individual interventions, but sometimes pairs of students or small groups were involved. The most common location was outside the classroom, although those related to behaviour occurred inside. They commonly lasted 5-12 weeks, with sessions of 30-45 minutes once a week.

In almost all these interventions, a flexible approach of implementation was followed to respond to specific characteristics and needs. However, how these processes were developed was not described, so this item of the TIDiER Checklist was not considered. The same criterion was applied to the modification of interventions and their intensity.

4.3. What these results mean?

We identified 50 studies published between 1990 to 2021, the majority of which were published in the previous decade, demonstrating increasing and sustained interest in conducting studies based on school interventions delivered by OTs. These studies also show an interest in conducting research in different school environments and with a broad student population, although there was a propensity to concentrate on students between the

ages of five and eight who frequently had behavioural issues or fine motor issues, particularly with handwriting. The inclusion of students with ASD, ADHD, and sensory modulation issues was also common.

The findings regarding the students included in these studies aligns with claims that OT services in schools are restricted to certain difficulties and to specific groups of students (Bolton & Plattner, 2019; Jasmin et al., 2019; Maia et al., 2016; O'Donoghue et al., 2021). Students with other types of challenges, such as those with physical or mental health conditions were, in fact, underrepresented in the studies examined. These tendencies align with what we identified regarding OT outcomes as the studies were mainly limited to addressing school performance and aiming to improve or enhance performance skills. This finding supports what other academics have observed regarding the constrained application of OT in schools (Beck et al., 2006; De Oliveira Borba et al., 2020; Piller & Torrez, 2019; S. Rodrigues & Seruya, 2019; Spencer et al., 2006)

Although the AOTA practice framework states that addressing one outcome has an impact on the others, a tendency towards the academic realm is shown by focusing primarily on performance skills. As evidenced by the small number of studies concentrating on other areas, this tendency may lead to a lack of understanding of interventions carried out in other domains, notably those aimed at non-academic activities, health, and well-being. Neglecting these areas does not reflect the biopsychosocial perspective of the OT profession. Indeed, this review's findings imply that the research conducted so far has not fully delved into the origins of the OT profession in fields like universal access and mental health, missing out on chances to deepen our understanding of this practice.

Despite the foregoing, the propensity to employ occupations and activities as interventions is compatible with the nature of the OT profession and implies that school settings support the use of occupations as guiding factors. This is consistent with the research by Benson (2013) which shown that interacting with students in their natural environment provided chances to address issues they could be having in the schools.

However, as we found in our study, these possibilities might be diminished if research is primarily focused on focalized interventions. Indeed, although the research examined here evaluated interventions at the universal, focalized, and intense tiers, focalized interventions were the most prevalent. This implies that there is still a tendency on interventions given to certain student groups, despite a movement over time towards looking at universal interventions, which reflects growing interest on research at this tier.

There were fewer studies that looked at other sorts of interventions, such as assistive technology strategies, environmental modifications, and teaching and training. When examined from a multi-tiered viewpoint, this situation may create issues because RtI models, such as the P4C model, emphasize the importance of factors such as knowledge sharing and capacity building, which are typically involved in these types of interventions. However, teachers were involved in several of the interventions assessed throughout the three tiers, particularly in T1 and T2, with some interventions performed collaboratively. This implies that while assessing types of interventions from an OT perspective, focus should be placed primarily on their specific components. This gives a duty on researchers to provide all pertinent details regarding the interventions being examined, which we found to be absent in some studies.

Moreover, distinguishing between the several tiers of support was challenging because the intervention components at each tier were similar, particularly in terms of timeframe. In effect, interventions at the three tiers were made up of a similar number of weeks, with sessions that were nearly equivalent in terms of schedule and length. Because of these similarities, OT practitioners may have difficulty distinguishing between, say, focalized and universal interventions. They may also struggle to differentiate SBOT from regular clinical practice, which has been considered critical for the growth of the SBOT practice (Bolton & Plattner, 2019; Silverman & Bourke-Taylor, 2009; Spencer et al., 2006). Nonetheless, these similarities may also lead to OTs realizing that universal interventions may not require large modifications to what they now provide, and they might explore giving

support across all tiers of support. This notion, however, should be investigated and empirically tested.

Since studies are vulnerable to research and publication bias and this review only looked at what was available, one worry with the findings is that the proportion of studies classified at each tier may differ from what occurs in practice. In addition, although our results suggest that researchers have been interested in conducting studies that acknowledge multi-tier models, it appears that this knowledge has not been transferred to practitioners, as evidence suggests that they primarily offer interventions one at a time outside of the classroom (T3) (Bolton & Plattner, 2019; Maia et al., 2016; O'Donoghue et al., 2021; Rodrigues & Seruya, 2019; Salazar Rivera & Boyle, 2020; Spencer et al., 2006; Watt et al., 2021).

This review, thus, reveals a potential weakness in the relationship between research and practice, emphasizing the importance of including OT practitioners in research projects as one method to alter praxis (Coburn & Penuel, 2016; Di Bona et al., 2017; Wentworth et al., 2017). Additionally, it demonstrates the urgent need to expand OTs' opportunities for action, strengthen their roles in all learning processes and school-related activities, and reflect this in research. Also, there is a need to advance the move towards universal support by fostering a better knowledge of OT support within educational communities and OT practitioners. The data presented in this review, therefore, enables reflection on these concerns with reference to both the function of research and the requirement for SBOTs to reflect in their services.

The methodological characteristics of the papers included are another pertinent finding of this review that may be helpful for the reflection of OT practitioners in school interventions. They included a range of research designs, although pre-post-test designs proved to be most prevalent. Although these techniques might restrict the development of generalizations and theories, they offer insights to SBOTs who insist that the research be in line with the realities of their own practice (Bolton & Plattner, 2019; Silverman & Bourke-

Taylor, 2009; Spencer et al., 2006). Due to the complexity of working in schools, and the unique challenges that researchers encounter, this tendency emphasizes the importance of considering the characteristics of school settings within the OT profession and among the research community.

Within the same idea, it is important to consider the many studies that were excluded from this review since OTs were not engaged in the delivery of the interventions. The OT profession, in especially its school practice, requires ongoing modifications at many levels to meet the requirements of teams and schools as well as those of students (Bissell & Cermak, 2015; Garfinkel & Seruya, 2018; Stephenson, 2019). Research participation by OTs may be essential for these changes to occur (Coburn & Penuel, 2016; Wentworth et al., 2017). Moreover, the absence of OT participation in the research has been cited as one of the weaknesses of other reviews (Grajo et al., 2020). This suggests an additional effort on the part of the educational system and the wider OT profession to consider the involvement of practitioners that work in real-world settings, like schools, in research. This would be in line with the World Federation of OT research priorities, including professional OT concerns (WFOT, 2016a).

The fact that most of the studies under consideration were conducted in the USA raises further pertinent questions because it suggests that our findings may more accurately reflect the characteristics of research in this country than in others. Previous systematic reviews have not given attention to study's locations (Eddy et al., 2019; Engel et al., 2018; Grajo et al., 2020). Yet, by analysing international research on schools and OT, De Oliveira Borba et al. (2020) recognized this as a cause for worry since the production of knowledge has been concentrated in the USA and Europe. This is significant since contexts, educational programmes, and practice restrictions vary throughout nations. As a result, additional research from other contexts is required so that SBOTs can reflect considering research that more closely mirrors their realities. In our review, one study came from Latin America, for instance, which highlights the necessity for this region to create

knowledge that takes practitioners in SBOT into account. This holds true for other parts of the world as well.

4.4. Strengths and limitations of this scoping review

This scoping review identified studies on school-based interventions delivered by OTs, using a systematic methodological approach following the recommendations of key scholars of scoping review methods: Arksey and O'Malley (2005), Levac et al. (2010) and Daudt et al. (2013). It also pursued the PRISMA-ScR checklist to ensure the essential components of scoping reviews were respected (Tricco et al., 2018). Considering the suggestions of these key scholars allowed the research questions that prompted this review to be responded. This can be considered an advance in the state of knowledge of interventions delivered by SBOTs, since this was missing until now. It also endorsed the reliability of the findings and methodological rigor, which is crucial for systematic methods such as scoping reviews (Munn et al., 2018).

The engagement of an iterative inter-professional team also offered tangible benefits to the process such as a reduction of bias and errors in data extraction, greater accuracy, and richness on account of the varying perspectives of the collaborators without compromising the depth and effectiveness of the analysis. However, consultation with an expert was not developed since, although contact was made to one expert and the material was sent, no feedback from who was contacted was received. The reasons for non-response were unknown, and no more efforts were made due to time constraints.

Another element not thoroughly followed in this review was related to policy, practice, or research implications. Although the results were used to inform SBOTs about outcomes and tiers of support they might consider reflecting on their daily practices, these implications might be limited because evidence quality was not considered. This is evident when the elements of the PRISMA-ScR checklist are proven (Tricco et al., 2018) since all were meet, excepting those related to the critical appraisal of sources of evidence. Although this aligns

with a scoping methodology and with the purposes of this review, it also imposes some restrictions, particularly from an effectiveness perspective. Hence, the results of this scoping review should be considered carefully, especially when purposes other than those stated in this thesis are at stake.

4.5. Key messages about the literature of SBOTs (services and interventions)

Chapter 3 symbolises the mismatch between scholars' call to provide SBOT services aligned with inclusive practices and empirical research finding the opposite. This mismatch was also identified when examining school-based interventions delivered by SBOTs in this chapter, particularly regarding OT outcomes addressed and tiers of support. In addition, although inclusive practices have been revealed in more recent literature, these practices have not been embraced equally around the world, as a tendency to provide individual and specialised support continues in most countries. This fact generates a conundrum in this matter since the call from academics to align SBOT support with inclusive practices does not match what I have found at a service and intervention level. This is critical since this mode of support is somewhat lacking concerning practice within natural settings in schools.

Chapter 5: Exploring Chilean SBOTs services

This chapter explains the methodology that I used to explore how Chilean SBOTs provide their services and the factors that influence these practices. My philosophical assumptions are presented, as well as a connection between these conceptions and the methodological design I selected. First, I give this philosophical background, analysing how the viewpoints I hold regarding ontology, epistemology, and axiology influenced my research. A comprehensive discussion and justification of the methodological design and each data collection instrument comes next.

It is important to clarify and reflect on the framework that guided my work as well as describe my philosophical assumptions to offer significance to the logic behind my research, which is something that is required from researchers (Coates, 2021; Ivankova & Plano Clark, 2018). In other words, it is possible to judge the authenticity of the researchers' research claims if their philosophical assumptions are clarified beforehand (Collins et al., 2012; Frels et al., 2015). Therefore, it is imperative that researchers communicate their philosophical assumptions and methodological decisions.

5.1. Philosophical location of my research

There are many different philosophies that offer their own explanation of the world and the process of producing knowledge. Some scholars believe that there is a continuum that extends from positivists, who assume there is only one reality, independent knowledge, and value-free generalizable inquiry, to constructivists, who assume there are numerous realities, interdependent knowledge, and context-based inquiry (Alexander, 2006). Typically, a positivist perspective is associated with quantitative research, whereas a constructivist perspective is associated with qualitative research. In educational research, these philosophies and how to view them have been the subject of an ongoing debate, with some

scholars advocating for a continuum and others viewing them as opposing concepts (Alexander, 2006; Morgan, 2007; Norwich, 2020).

I adhere to the concept of a continuum of philosophies, pondering a pragmatic approach that allows for their combination (Wheeldon & Åhlberg, 2012b). In fact, my beliefs align with the classic pragmatism of John Dewey, who has been associated with a variety of philosophies but has always focused on examining the social consequences of human actions (Schoonenboom, 2019). Human interactions, the extent to which collaborative understanding can be attained, and the types of shared behaviours that can result from these understandings are emphasised by pragmatism (Morgan, 2007). This is consistent with my emphasis on the daily activities of Chilean SBOTs and how they give meaning to their practice and to the concept of inclusion.

Pragmatism researchers have been criticised for relying solely on methodological choices due to their preoccupation with the methodological procedure (Biesta, 2015; Morgan, 2014; Norwich, 2019). Indeed, they have been criticised for neglecting the experiences, values, and policies that influenced their research (Biddle & Schafft, 2015; Hesse-Biber, 2015; Morgan, 2007; Charles Teddlie & Tashakkori, 2009a). I assume this criticism and therefore share the philosophical basis and professional history that guided my research as this enhance its clarity and prevents pragmatism from being regarded as a simplistic philosophy (Coates, 2021; Denzin & Lincoln, 2018; Ivankova & Plano Clark, 2018; Schoonenboom, 2019).

Figure 10 illustrates my pragmatic approach, which Morgan (2007) suggests as an alternative to quantitative or qualitative approaches. The columns depicts the primary distinctions between the approaches. The rows compare the three options that are fundamental to the sort of goals pursued and the methods utilised.

Figure 10: *Pragmatic approach followed in this research*

A Pragmatic Alternative to the Key Issues in Social Science Research Methodology

	Qualitative Approach	Quantitative Approach	Pragmatic Approach
Connection of theory and data	Induction	Deduction	Abduction
Relationship to research process	Subjectivity	Objectivity	Intersubjectivity
Inference from data	Context	Generality	Transferability

Source: Morgan 2007, p. 71.

The distinction between inductive and deductive approaches is made in the top row of Figure 10. Induction is a form of reasoning that seeks understanding by concentrating on what the data indicates and then relating this to theory (Given, 2008). Inductive reasoning-based qualitative analysis, for example, improves comprehension by focusing more intently on individual case data and context-specific realities. In deduction, data are inserted into a theoretical context that has been previously determined. In quantitative studies, deductive analysis frequently collects and analyses data based on pre-existing assumptions (Teddlie & Tashakkori, 2009b). Morgan (2007) proposes an abductive approach to pragmatism in which inductive and deductive processes interact continuously.

My knowledge creation process is exemplified by this abductive approach, as I combine induction and deduction to answer my questions and produce knowledge that, despite being socially constructed, is more likely to correspond with individual experiences in some versions. In these processes, my experience as a former SBOT played a role, which is conceivable with pragmatism (Wheeldon & Åhlberg, 2012).

This epistemological perspective allows me to emphasise transferability for data inference (bottom row of the Morgan figure), which refers to the extent to which research results can be transferred to other contexts (Creswell & Plano Clark, 2017b; O'Cathain, 2015; Schoonenboom, 2019; Teddlie & Tashakkori, 2009b). Therefore, my methodological framework was founded on the criteria of purpose-fit and applicability, with an emphasis on

what people can do with the knowledge I produced, as opposed to its ability for generalisation.

This epistemological approach was founded on my axiological position, in which values such as adherence to rigorous procedures and their dissemination to permit their replication were combined with my flexibility and the recognition of my attachment to my research subject and participants. This position acknowledges that the subject of study I chose was based on my professional experience as a SBOT in Chile. My research queries were indeed inspired by this experience and my desire to comprehend this practice. This acknowledgement is consistent with pragmatism's emphasis on practice and academics' emphasis on meaningful research in everyday practice (Maxcy, 2003). This is also in agreement with those for whom pragmatism is about solving problems that are manifest in experience and with the notion that practice is the driving force of research (Norwich, 2019).

This combination of values reflects my relationship to my research process (middle row in Morgan's figure), in which I recognised that both subjectivity and objectivity played roles at different points. Therefore, I adhere to the concept of intersubjectivity, which refers to the denial of complete subjectivity and objectivity in comprehending the world and what constitutes reality (Morgan, 2007). This is my ontological perspective, one in which I am aware of the existence of an external reality that is independent of our minds, but which can only be determined by the experience of those who inhabit that reality (Teddlie & Tashakkori, 2009b).

The position described above gives a prominent role to processes of communication and shared meanings between the participants and me since I was closely linked to the subject due to my professional background and experience. This means that I shared characteristics with my participants, which I considered relevant and therefore positioned myself as an internal researcher. An internal researcher has some advantages, such as the ability for participants to see me as an equal, sympathetic to their experiences, reactions, and reflections, which I deliberately used and shared with the participants to facilitate access

(Savvides et al., 2014). However, this position also brings some difficulties, such as that I could influence the communication processes and shared meanings, with the risk of blurring the limits, imposing my values, and projecting biases (Berger, 2015). It can also carry the danger that participants won't share obvious information with me, and I may have overlooked certain aspects of their experiences. In this research, I identified, for example, that the role of teaching assistants in how SBOTs provide support came up in the discussions because I made some comments on this matter. Therefore, although efforts were made, I may have influenced part of my results. This is what happens in projects like this one, in which, rather than running away from my experience, I became aware and reflected on these issues.

My research was therefore directed by my intention to produce knowledge that could influence the professional development of SBOTs. Understanding the practices of SBOTs is pertinent to educational research, as SBOTs participate in education, which is conceptualised here as one of the most important occupations of children (AOTA, 2020; Piccioli, 2019). These assumptions form the basis for the conceptual framework that governed my project and the methodological design I selected (Coates, 2021; Ivankova & Plano Clark, 2018). This design is discussed in the following section.

5.2. Methodological design: A mixed-methods approach

Mixed methods studies are based on the premise that the joint use of quantitative and qualitative approaches can provide a better understanding of research problems (Wheeldon & Åhlberg, 2012a). This is done by combining empirical accounts with lived experiences of those involved in those accounts. As described in the previous section, I mixed two methods within a study based on philosophical assumptions encompassing inductive/deductive and objectivity/subjectivity approaches within a pragmatic perspective (Høgaard, 2022; Lieber & Weisner, 2015; Morgan, 2017b).

I conducted an exploratory mixed-methods study that analysed the services of Chilean SBOTs and, therefore, addressed the second set of RQs for this project (since the

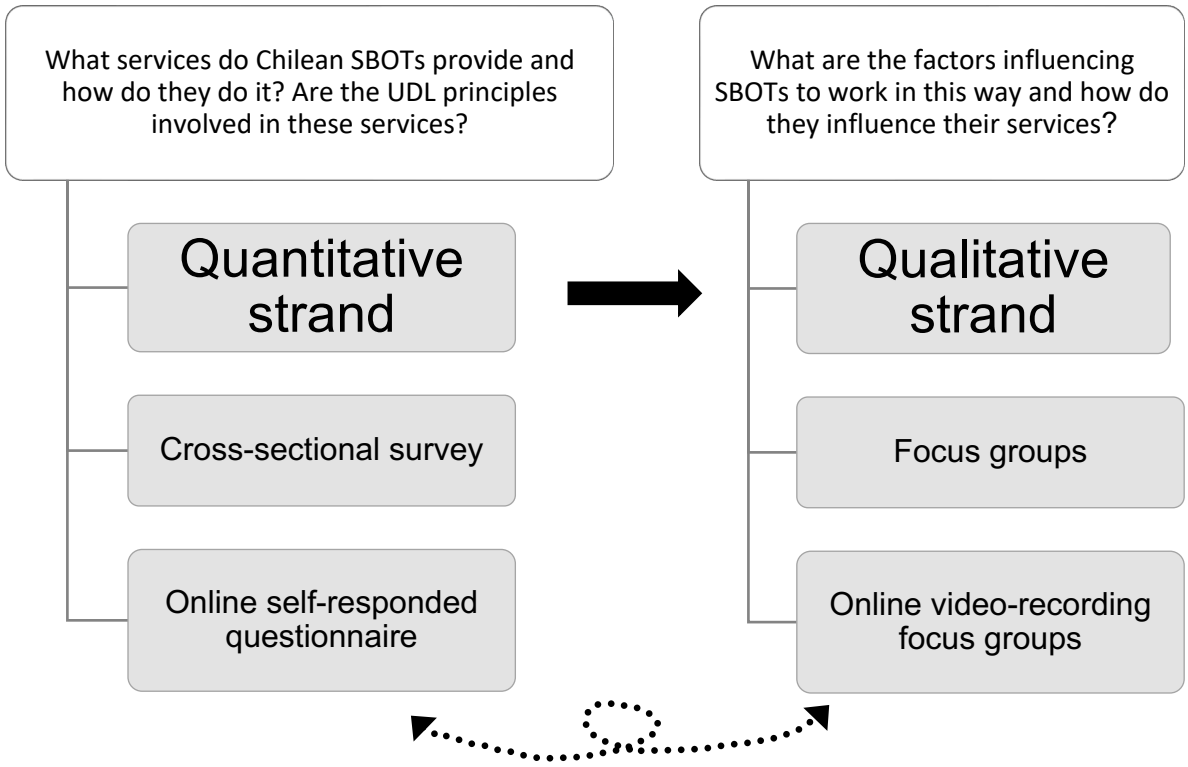
first set was tackled in Chapter 4). These questions were: What services do Chilean SBOTs provide and how do they do it? Are the UDL principles involved in these services? What are the factors and how do they influence SBOTs' services?

A classical quantitative or qualitative study could not answer these questions since they indicated the need for an interaction of both to be answered (Teddlie & Tashakkori, 2009a). Indeed, my research problem required plural approaches to be addressed since being immersed in schools can be complex due to the diversity of people involved, the range of activities developed and the implementation of diverse policies. Due to this complexity, some scholars have argued for mixed-methods designs due to their ability to uncover this complexity (Greene, 2005; LaRusso et al., 2009). I considered this when planning this research, since school settings and the interaction of variable services, elements, and circumstances make the practice of SBOTs complex (Argabrite, 2013; Bazyk & Cahill, 2015; Cahill & Bazyk, 2020; Craig et al., 2019; Schaaf & Imperatore Blanche, 2012).

The role of SBOTs as EAs (Educational Assistants) in the Chilean context offered an additional element of complexity since their involvement is linked to transformations to seek inclusive practices at the school and classroom level (del Valle et al., 2015; Manghi et al., 2018). This means that educational reforms, new policies and technologies, and societal expectations that constantly transform school cultures impact the environment in which SBOTs deliver their services (Bourke & Loveridge, 2013). This complexity suggested the need for a pluralistic approach as the combination of methods would allow a deeper understanding of SBOTs' practice and the multiple aspects that influence it.

Therefore, I carried out a cross-sectional survey that acted as a quantitative instrument and focus groups that acted as qualitative following instruments, with data collected through both methods considered of equal importance (Morgan, 2017a). Figure 11 shows the sequence I followed within this design:

Figure 11: *Sequence of the mixed-methods design*



In the quantitative strand, a cross-sectional survey analysed the responses of the participants to a questionnaire replied in a specific time, detecting the characteristics and frequencies in which SBOTs provided certain services and whether UDL principles were involved in them (Wang & Cheng, 2020). This allowed me to understand the breadth of their practices and the services they commonly provide. However, the questionnaire was unable to assess the incidence of the factors in the characteristics and frequencies of the services provided. This was necessary to understand the practice of SBOTs in a deeper way that allowed for their experiences and opinions to be considered, which was part of my objectives in this project. The qualitative strand was therefore involved to move from a broad understanding of SBOTs practice towards deeper explanations (Klingner & Boardman, 2011; Mitchell, 2018). This because it allowed finding out the perspectives of the participants on the results obtained in the questionnaire and exploring influential factors.

I merged both methods considering the principles of Fetters et al.'s (2013), and therefore followed the next steps:

1) I collected quantitative data through a cross-sectional survey in the form of an online self-administered questionnaire. Then I analysed the data and reported it.
2) I integrated the quantitative results into the qualitative phase as the survey results informed the focus group discussions and I assembled a subsample of survey participants for these groups. This integration was aimed at deepening the acquired knowledge, which is one of the purposes of conducting mixed methods studies (Morgan, 2017a).
3) I collected qualitative data through online video recording focus groups. I then analysed the data and reported it.
4) I integrated quantitative and qualitative reports using a sequential data integration approach in which data was brought together through a visual medium to extract new insights from the combined information (Morse, 2015). Meaningful mixed methods research combines quantitative and qualitative results to offer more than the sum of each part, answering different aspects of the same or a similar RQ. I integrated the data to answer different aspects of the factors that influenced SBOTs' services, which was part of the RQs that guided my research.

How the elements of each method were combined are presented in Table 9**:**, as being clear about what and why certain elements were mixed enhances the rigor and credibility of a mixed methods design.

Table 9: *Elements mixed in this study (based on Teddlie and Tashakkori (2009b)*

What?	Mixed?	How?
Paradigms	Yes	Pragmatism allowed me to consider elements of both poles of the continuum of research paradigms.
Designs	No	I conducted a unique mixed-methods design, although its results were then integrated with the scoping review.
Research questions	Yes	My research questions were based on questions and sub-questions that call for using quantitative and qualitative data.
Populations and samples	No	My sampling framework considered an integrated approach in which a sub-sample of the survey participated in the focus groups.
Data types	Yes	Statistical data from the survey was mixed with the qualitative data from the focus groups through an integrated approach.
Data collection	Yes	A cross-sectional survey to gather quantitative data and focus groups to gather qualitative data were used.
Data analysis	Yes	The data from the survey were analysed with descriptive statistical methods, and written text was analysed with a summative content approach. Focus groups data were analysed with a thematic approach, and a summative content analysis was conducted after.
Reporting	No	The results of each of the methods used were reported separately.
Interpretation	Yes	The results of each method were interpreted together by comparing what was found in both, positioning this with the literature reviewed.
Types of legitimation strategies	Yes	Although each method was assessed on its own criteria for quality, their integration was assessed following mixed-methods criteria.

The reference in Table 9 to legitimation strategies requires further explanation to understand this project. The survey was evaluated based on quantitative criteria that included aspects such as validity and replicability. The focus groups were, instead, evaluated based on qualitative criteria, including aspects such as credibility and reflexivity (Bryman et al., 2008; Dellinger & Leech, 2007). Quantitative and qualitative data could be examined separately within a mixed methods study (Cohen et al., 2018). However, there are also specific approaches to assess the quality of mixed-methods designs (O'Cathain, 2015).

For me it was essential to consider each instrument individually because both methods were designed and conducted separately. When their results were integrated, I applied the criteria for mixed-methods, particularly in terms of integrative effectiveness

(Creswell & Plano Clark, 2017b; O'Cathain, 2015; Teddlie & Tashakkori, 2009b). The next sections present a detailed description of the two methods used, followed by how their results were integrated.

5.2.1. Cross-sectional survey: A Self-reporting Online Questionnaire

A questionnaire was used as a cross-sectional survey to identify frequencies and characteristics of services of Chilean SBOTs, their collaborative practices, and the use of UDL. In the literature, these topics have been explored through various instruments, including interviews and case reviews, although questionnaires have been the most frequent instrument (Beck et al., 2006; Benson, Breisinger, et al., 2019; Kardos & White, 2005; Leigers et al., 2016; S. Rodrigues & Seruya, 2019; Spencer et al., 2006). Consequently, Chilean SBOTs were invited to answer a questionnaire that explored different variables related to their services.

This survey was an online self-report questionnaire that allowed me to collect information that was able to be statistically examined and which was administered remotely (Cohen et al., 2018). This was critical as I conducted the survey during the Covid-19 pandemic, and its online nature allowed me to reduce the costs for its realisation and increase its efficiency regarding distribution time, completion, collection and data processing (Roberts & Allen, 2015). It also made it possible to reach a larger number of participants who were easily accessed as most have internet access. This was essential because SBOTs work in different regions in Chile, so accessing them in person would have been difficult.

However, the use of online questionnaires presents obstacles that I considered, such as reduced researcher control, comparatively low response rates, high levels of item non-response, and participant dropouts (Stieger & Reips, 2010). I addressed these challenges when planning and designing a recruiting strategy that would allow me to reach as many SBOTs as possible, as well as when analysing the results as I accounted for item non-response rates.

5.2.1.1. Questionnaire design

Creation, validation and piloting of the questionnaire

I created the questionnaire considering articles that explored practice patterns and perspectives of SBOTs (Benson et al., 2019; Bolton & Plattner, 2019; Rodrigues & Seruya, 2019; Spencer et al., 2006). I also used an article that surveyed the implementation and consideration of UDL principles by speech and language therapists in school settings (Campbell et al., 2016). These articles helped me to determine items and sections, which I adapted to the Chilean context and to the purpose of my research. Other articles were used to define some concepts, particularly in relation to teamwork and UDL (see Asher, 2006; CAST, 2018; Hernandez, 2013; Hutton et al., 2016; Kennedy et al., 2018; Missiuna et al., 2012; Schoonover & Norton-Darr, 2016). A Databook of this questionnaire is available in Appendix 4, where sections, items and variables, sources and field labels are presented.

I created the questionnaire in English and evaluated its internal validity through face and content validity in which experts answered the questionnaire and assessed whether it measured the trait of interest (Constantinou et al., 2017). For this, I contacted two experts through the AOTA's (American OT Association) children and youth discussion group (Tiffany Bolton and Cynthia Clough). They provided written feedback on the readability, clarity, and extensiveness of the items, which allowed me to verify the order and display of the questions and the questionnaire's layout. Based on their advice, some questions were added, and others were adapted.

I then piloted the questionnaire by sharing it on Twitter with the support of PENCRU (Peninsula Childhood Disability Research Unit) of the UE Medical School in January 2020. Via Twitter, Melanie Borough, the chair of the section of specialists for children, young people and families from the Royal College of OTs contacted me to help me to share my pilot with SBOTs from the UK. This pilot resulted in 37 SBOTs that responded to the full

questionnaire and provided written feedback, which allowed me to check the difficulty of some questions and the flow of the questionnaire.

I translated the questionnaire from English to Spanish using the feedback provided in this pilot. My translation was then back translated by a Chilean colleague from the School of Education of the UE. This Spanish version was then piloted with three Chilean SBOTs, whom I contacted by email in February 2020. These SBOTs answered the questionnaire and provided written comments based on questions that I attached. These questions were related to time used to reply to the entire questionnaire, unclear questions, flow and recommendations. Based in their feedback, questions were checked for clarity, and some were shortened, ranking questions were reordered, and instructions were redesigned.

Items and sections of the questionnaire

I included 51 items organised into three sections. Most of the items were closed questions: single responses (22 items), multiple responses (22 items), rating questions (4 items), and a ranking question. In one item, the participants were asked to indicate their caseload (number of students they support), and another was an open question where the participants indicated their training. In the rating questions, Likert scales of seven options were used, and in 22 of the closed questions the participants were allowed to write an alternative response. It was expected to complete the questionnaire in 25 to 30 minutes.

The first section of the questionnaire collected demographic information on employers, types of school, working hours, caseloads, teaching levels, SEN and difficulties supported (16 items). The second section collected information on the practices of SBOTs, asking about their assessment strategies, models and types of services (22 items). The third section asked about the UDL framework (13 items). Contact information was requested at the end for those who wanted to participate in the following focus groups.

Management of the questionnaire: Qualtrics software

I created and distributed the questionnaire through Qualtrics [Version February 2020], copyright © [2020]. Qualtrics service names are registered trademarks of Qualtrics, Provo, UT, USA (Qualtrics, 2005). Qualtrics is an online survey tool available for postgraduate students at the UE, so I managed my questionnaire using my student account. The questionnaire was presented in the participants language (Spanish), they were allowed to respond once each item, and their partial completion was recorded one month after their last activity. I verified partial questionnaires before adding them to the analysis. Additionally, participants could answer the first section only if they gave their consent; the second and third sections appeared only if they agreed to continue. Some items depended on previous answers, which is specified in the Databook available in Appendix 4.

Qualtrics is ISO 27001 certified, it is fully compliant with the EU Privacy Laws, and registered under the Data Protection Act (Qualtrics, 2022). I configured the questionnaire to not collect personally identifiable information, and internet protocol addresses and geolocation data were blocked. Only I could see participants files. These configurations ensured the anonymity and privacy of the respondents, which is crucial in educational research. These configurations, however, may not be sufficient because there is potential for anonymity and privacy violations in online questionnaires that are beyond the control of the researcher. This is because no online transaction can be guaranteed to be completely secure due to the possibility of hacking and other malicious activities (Roberts & Allen, 2015). To my knowledge, this questionnaire was unaffected by these issues.

5.2.1.2. Sampling, recruitment and distribution strategies used

My target participants were OTs working in school settings in Chile, i.e., Chilean SBOTs, which limited the sample to this specific group. Within this group, the accessible population, i.e., who I could realistically access under the limitations of this project, were

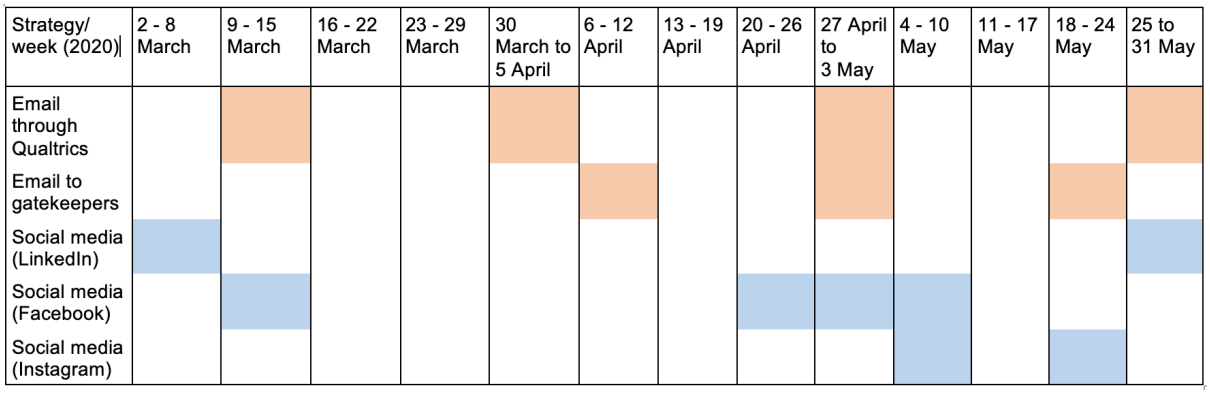
those SBOTs identified in the databases of the Chilean Ministry of Education, which were 1103 OTs. Therefore, it was a purposive sample as participants meet the criteria for SBOTs, and thus were not randomly selected (Tashakkori et al., 2015). However, within this group there were no limitations to participate. Hence, OTs who worked in schools in Chile were invited to answer this questionnaire, which was open from March to May 2020.

I used different recruitment strategies to reach as many Chilean SBOTs as possible. The main strategy was based on the accessible population, so I used the contact information provided in the databases of the Study Centre of the Chilean Ministry of Education (presented in Section 2.4). These data included a unique numerical code for each school where OTs worked in 2019, the most recent year from which data was available when designing this questionnaire. I searched the internet for these numerical codes to find the contact email addresses of the schools. Of the 1103 schools with an OT in 2019, I found 1000 email addresses. I emailed the questionnaire through Qualtrics to this group, in which I requested that the questionnaire be forwarded to the OTs of the corresponding schools. Three email reminders were sent to those from this group who have not opened the questionnaire.

As the SBOTs identified in the databases were mainly from public and subsidised private schools, I also used snowball sampling strategies to target those working in other types of schools. For this, I applied other strategies to distribute the questionnaire. The anonymous link provided on Qualtrics was distributed through emails sent to gatekeepers and through social media. The gatekeepers included ten directors of OT schools from different universities in Chile, the chair of the Chilean OT Network, and a Chilean OT researcher. The first two keepers were asked to forward the link to all their contacts, and the OT researcher provided me with 263 email addresses to which I forwarded the link. I also shared this link and the QR code provided on Qualtrics on my Facebook and Instagram profiles and posted it in Chilean OT groups in Facebook. I also shared the questionnaire twice on my LinkedIn profile through Qualtrics. Details of the channels used are provided in .

Figure *12*:. The orange colour represents emails sent by Qualtrics software or sent directly, and the blue colour represents what was done on social media.

Figure 12: *Recruitment strategies for survey participants*

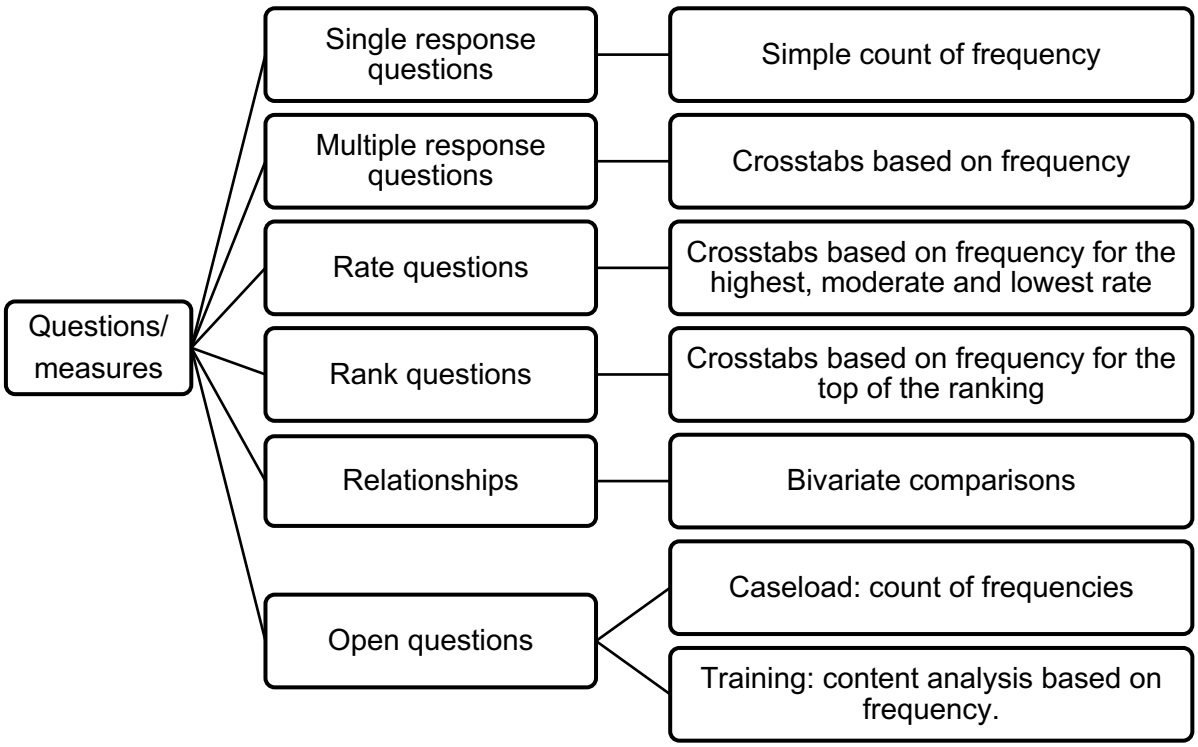


5.2.1.3. Data analysis method: Descriptive statistics

The questionnaire was constructed with closed questions to generate response frequencies susceptible to statistical treatment (Oppenheim, 2003). Its online form allowed for easy data export to software for processing and analysis. Data was extracted directly from Qualtrics to an IBM Statistical Package for the Social Sciences (SPSS) file (version 26).

In SPSS, I first swapped the variables to their English version since the data was collected in Spanish. After this, I cleaned the data by removing the questionnaires with total non-response and arranging multiple-choice questions and populating them accordingly (0 for not selected and 1 for selected). I then created three SPSS files, one for the cases included in each of the sections. In these files I performed descriptive analyses based on frequencies, according to the type of question analysed, and I conducted inferential testing to explore relationships between specific variables. To conduct this analysis, I followed a brief protocol that I developed in advance, presented in Figure 13.

Figure 13: Questionnaire analysis protocol



Single response and multiple response questions, which were predominantly nominal or ordinal variables were analysed using simple indexes, calculating the mode, i.e., the value that occurs most frequently in a data set. Although for some scholars the mode is the least accurate measure of central tendency (Salkind, 2017), the most frequent ways in which SBOTs provide their services were the objective of this project, which were identifiable using the mode.

In three of the rating questions, I transformed the seven-point rating scale. These items were related to the challenges faced to provide a range of services, and the competence and advantages of collaborative consultation. On the item about challenges, points 1- 2 became “a substantial challenge”, points 3-5 became “moderate challenge” and points 6-7 became “not at all a challenge”. For competencies in collaborative consultation, points 1-2 became “area of competence”, points 3-5 became “moderately competent” and points 6-7 became “area of growth”. For advantages in collaborative consultation, points 1-2

became “a substantial advantage”, points 3-5 became “a moderate advantage” and points 6-7 became “not at all an advantage”. The other rate question asked about the frequency of the services provided, in which a five-point rate scale was used. This scale was not transformed.

The ranking question asked participants to rank a list of 12 difficulties of the students they supported. Here, the number “1” indicated the difficulty most of their students have, the number “2” indicated the second most frequent difficulty, and so on up to the number “12”. They were allowed to repeat numbers if they wanted and to leave blank some difficulties that did not represent their students. For this question, I analysed the most frequent difficulties.

To determine whether there was a relationship between the demographics of the participants and the frequency with which they provided these services, I used bivariate comparisons to statistically test subgroups of participants based on their professional experience and on school characteristics. I did this to gain a deeper understanding of whether these frequencies were similar across subgroups. For this, I firstly tested the distribution of the data, considering a p value less than 0.05 (i.e., $p < 0.05$), and determine a test accordingly.

The open questions were analysed based on frequencies. For caseloads, I counted the most frequent numbers mentioned (mode) and consider a range that represented the most frequent responses. For the item regarding training, I also checked the most frequent training mentioned, based on a content analysis considering the mode.

5.2.1.4. Ethical considerations when using an online questionnaire

The use of an online self-report questionnaire requires not only addressing ethical procedures to ensure ethical approval, but also considering a variety of ethical issues related to their use.

Regarding ethical procedures, the use of the questionnaire was approved by the Ethics Committee of the Faculty of Faculty of Humanities, Arts and Social Sciences (HASS) from the UE (Ref. D1920-024, form available in Appendix 5). I attached an information sheet to

the first item, informing the purpose of the study, confidentiality, potential risks and benefits, and the voluntary nature of participation (Roberts & Allen, 2015). In the second item, the participants had to check a box to indicate their consent before accessing the questionnaire. Additionally, the data I extracted from Qualtrics into a SPSS file was stored on my university's GDPR-compliant, password-protected OneDrive cloud storage system. I developed the analysis on password-protected laptops and shared it only with my supervisors through the same OneDrive system or via email. The length of time I would keep this data corresponds to the duration of my PhD and the publication of papers, aspects that were communicated to participants.

Voluntary informed consent is crucial within educational research since it allows participants to make informed decisions about their participation (BERA, 2018). It is also crucial for the Chilean context since policy indicates that scientific studies must be carried out with prior and free informed consent (Chilean Ministry of Health, 2006).

These ethical procedures should also be in line with the ethical principles of my sponsor, the Chilean National Commission for Scientific and Technological Research (CONICYT). This commission requests that the risk-benefit ratio be determined in accordance with the principle of non-maleficence and that the absence of potential conflicts of interest be observed throughout the phases of selection, monitoring, and completion. However, this commission does not require researchers to request approval from an ethical committee in Chile, as each researcher must seek approval from their respective study institutions. Consequently, I adhered to the ethical principles and procedures stipulated by the British Ethical Guidelines for Educational Research (BERA, 2018) and the UE School of Education Ethics Policy. Both institutions indicate that the interests and rights of others must be respected and protected in all research activities.

Ethical considerations pertinent to this project included the possibility that respondents to questionnaires describing a person's own practice may not provide personal descriptions or may justify their practice, which could compromise the validity of their

responses (Lester et al., 1999). Indeed, this form of research would necessitate a significant commitment to the study of one's own professional practice. This, on the other hand, could lead to its enhancement for the benefit of others (Dadds & Hart, 2001). I introduced the questionnaire as an opportunity not only to assess the participants' own practice, but to reflect on it, which would be interesting for them. This does not, however, provide evidence of the veracity of the participants' claims. Although member verification strategies were used to confirm representativeness, participants' honesty was not assessed, which could be considered a shortcoming of this project (for more details please refer to Section 7.3).

5.2.2. Focus groups: An online video-recording method

I facilitated online focus groups as a qualitative follow-up tool to identify the factors influencing the services of SBOTs that responded to the questionnaire. These focus groups were conducted in Spanish, the native language of the participants and mine, and then the data was translated into English by me.

I decided to conduct focus groups because the discussions and interactions that occur in them offer multiple perspectives from collective and individual experiences (Gothberg et al., 2013; Massey, 2011). As I explored how SBOTs as a group deliver their services, I focused on shared meanings. To do this, I encouraged group discussions in which the participants were able to ponder, reflect and listen to the experiences and opinions of others. Additionally, focus groups allowed for direct interaction between the participants and me, as the facilitator, providing an opportunity to clarify ambiguous information and probe for further understanding (Liamputtong, 2015).

I originally planned to conduct these focus groups in person, which was adapted to be online due to the COVID-19 pandemic restrictions on face-to-face research. Therefore, I conducted them through real-time online interactions where participants were able to transmit and respond to verbal and non-verbal cues (Iacono et al., 2016; Matthews et al., 2018). For some scholars, these groups resemble face-to-face focus groups in that they

provoke qualitative group discussion (Brüggen & Willems, 2009; Gothberg et al., 2013). Indeed, some studies have found few differences in the richness of the data gathered in person and online (Abrams et al., 2015; Flynn et al., 2018; Kite & Phongsavan, 2017). Other scholars, however, have argued that virtual contexts hinder the ability to capture the essence of focus groups regarding group interactions and dynamics (Brüggen & Willems, 2009). Therefore, it cannot be assumed that online focus groups really reflect social reality (Daniels et al., 2019).

I reflected on these issues when adapting my research plan and noticed that, in fact, online focus groups allowed me to gather participants from diverse geographic backgrounds more efficiently and reduced the time and cost of a location to hold in-person focus groups. In addition, online methods could be more attractive to participants due to their convenience, efficiency, cost-effectiveness, and flexibility, aspects that were essential during the pandemic (Archibald et al., 2019). Therefore, this adaptation would improve the quality of my project, although some interactions and relationships that can only be developed in person were lost.

5.2.2.1. Focus group design

Software used

I carried out these groups via Zoom (Version: 5.4.7), which is a cloud-based collaborative videoconference service (Zoom (c), 2020b). I selected this service because Zoom was familiar to Chileans during the pandemic. Also, the security was improved in this version, and it can display multiple users on the screen across various types of devices (Abrams et al., 2015; Flynn et al., 2018). It also offered the ability to present PowerPoint slides, which can facilitate greater engagement and strengthen the relationship. Research has also described Zoom as a preferred method compared to other platforms due to its rapport, convenience, simplicity and user-friendliness (Archibald et al., 2019). Based on these considerations, I conducted the focus groups through Zoom.

Programme, trustworthiness and piloting

The focus groups were conducted in the participants' native language (Spanish) with the goal of collecting more authentic statements and building a better relationship, since it is more comfortable to speak in a shared native language (Gawlewicz, 2016).

In these groups, I presented PowerPoint slides with different graphs containing the results of the questionnaire, allowing participants to provide additional information that might not have been covered yet. To do this, I organised the items in such a way that 14 questions were asked on 16 slides, aligning with the ideal number of questions for online focus groups (Stewart et al., 2017). However, most of the slides had more than one chart to review, resulting in a large amount of information that took a long time to discuss.

The questions asked on each slide were designed to open discussions about the factors that influence the results presented. For this, the sources from which these factors can arise were visually available to the participants to guide and keep the dialogue focused. These sources included: personal, professional, systemic factors, and characteristics of students and schools (Stephenson, 2019).

I facilitated the focus groups based on a schedule I created. First, mutual introductions were made, followed by a reminder of participants' rights and objectives of the focus group. A brief instruction was then given, and the recording began. The topics discussed were presented in the following order: (1) SEN and difficulties, (2) assessment strategies, (3) theoretical and practical models, (4) types of services, (5) obstacles, (6) collaboration, (7) UDL, (8) training. The first two topics were discussed in general, following the recommendation to start a focus group with simple and direct questions (Stewart et al., 2017). The rest of the topics were covered in more detail.

To ensure the reliability of these focus groups, I conducted a full and a partial pilot, both in Spanish (Cooksey & McDonald, 2019). The complete pilot was carried out on August 20, 2020, with three critical colleagues, i.e., Chilean OTs that work with children in different

settings. From this pilot, instructions were modified to improve their clarity, language errors were resolved and the strategy of turning off my camera while the participants discussed was analysed. According to these OT colleagues, turning the camera off encouraged them to talk to each other instead of focusing on me. Therefore, I used this strategy when facilitating the focus groups. The partial pilot was carried out on August 22, 2020, with the same three OT colleagues but with the modifications and improvements.

Some aspects that emerged in the focus groups showed that only some of the critical elements of this method were addressed in these pilots. For example, the time to cover all topics differed significantly between the pilots and the focus groups. This could have been influenced by the number of participants as only three OTs participated in the pilots, or by the fact that the OT invited were not working in schools. This reduced the number and depth of discussions, making calculation of time challenging. Another problem was that Zoom on mobile devices only allows four faces on the screen, and one of the participants in the first focus group started his participation using his mobile. However, because the instructions were clear, this issue was resolved before discussions began. Therefore, the pilots helped to conduct better focus groups but did not address all the crucial aspects, which should be considered in future studies.

Regarding other validity aspects, scholars such as Creswell and Plano Clark (2017b) have recommend at least two validation procedures to improve the consistency of the data gathered, including taking field notes during focus groups. I did not take notes because I facilitated the focus groups alone and decided to focus on the ongoing discussions instead of taking notes. To compensate this, I sent a summary of the findings to questionnaire and focus group participants to check the accuracy and credibility of the results (Dellinger & Leech, 2007; Tong et al., 2007). Five participants replied by agreeing with the results. The low number of responses might be because I sent the summary long after the execution of the questionnaire. However, the nature of these focus groups as follow-up instruments within

this project allowed me to use the data collected as a validation procedure, which is relevant in mixed-methods studies such as this one.

5.2.2.2. Sampling strategy, recruitment, and sample size

A non-probabilistic sampling frame was used to select the participants of these focus groups, since the main objective was to recruit SBOTs who responded to the questionnaire and were willing to discuss its results. Therefore, a combination of purposive and convenience sampling strategies were used, as participants met the specific needs of this project and were available to participate (Morse, 2015; Robson & McCartan, 2016).

To recruit these participants, the questionnaire included a question to declare their willingness and to provide their contact information. A total of 72 people expressed their interest, and a generic email requesting their participation was sent on August 17, 2020, which included a preliminary report of the questionnaire results. Only seven people responded to this request, and therefore, a personalised email was sent to the remaining 65 on September 30, 2020. This strategy recruited another 14 SBOTs. Of 21 interested participants, 18 SBOTs participated in the focus groups as others had schedule constraints. These 18 SBOTs represented 7.4% of the total SBOTs that responded to the questionnaire.

What was described above means that the number of participants was known before conducting the focus groups, and therefore, I stopped collecting data when the 18 SBOTs have participated in one focus group. This decision was based on a pragmatic exercise in which the willingness of the participants and the time available played a key role (Braun & Clarke, 2021). This approach stands in contrast to what has been said to be the gold standard for high quality qualitative research: data saturation, where data collection ends when no new information is found (Constantinou et al., 2017; Hancock et al., 2016). However, data saturation may only be appropriate for some qualitative studies in which factors not controlled by the researcher do not play an important role (Braun & Clarke, 2021). This did not happen in this project, and therefore data saturation was impossible to conduct.

With the total number of participants established, I organised the groups considering recommendations regarding the number of participants per group and duration (Brüggen & Willems, 2009). I planned to have between three and five participants for 60 to 90 minutes in each group, although the length varied widely (Table 10). The number of participants per group was decided based on my skills as a novice researcher (Archibald et al., 2019; Kite & Phongsavan, 2017). For some scholars, a small number of participants could inhibit their contributions and participation (Matthews et al., 2018). I avoided this by implementing various strategies, including probes and requests for clarification.

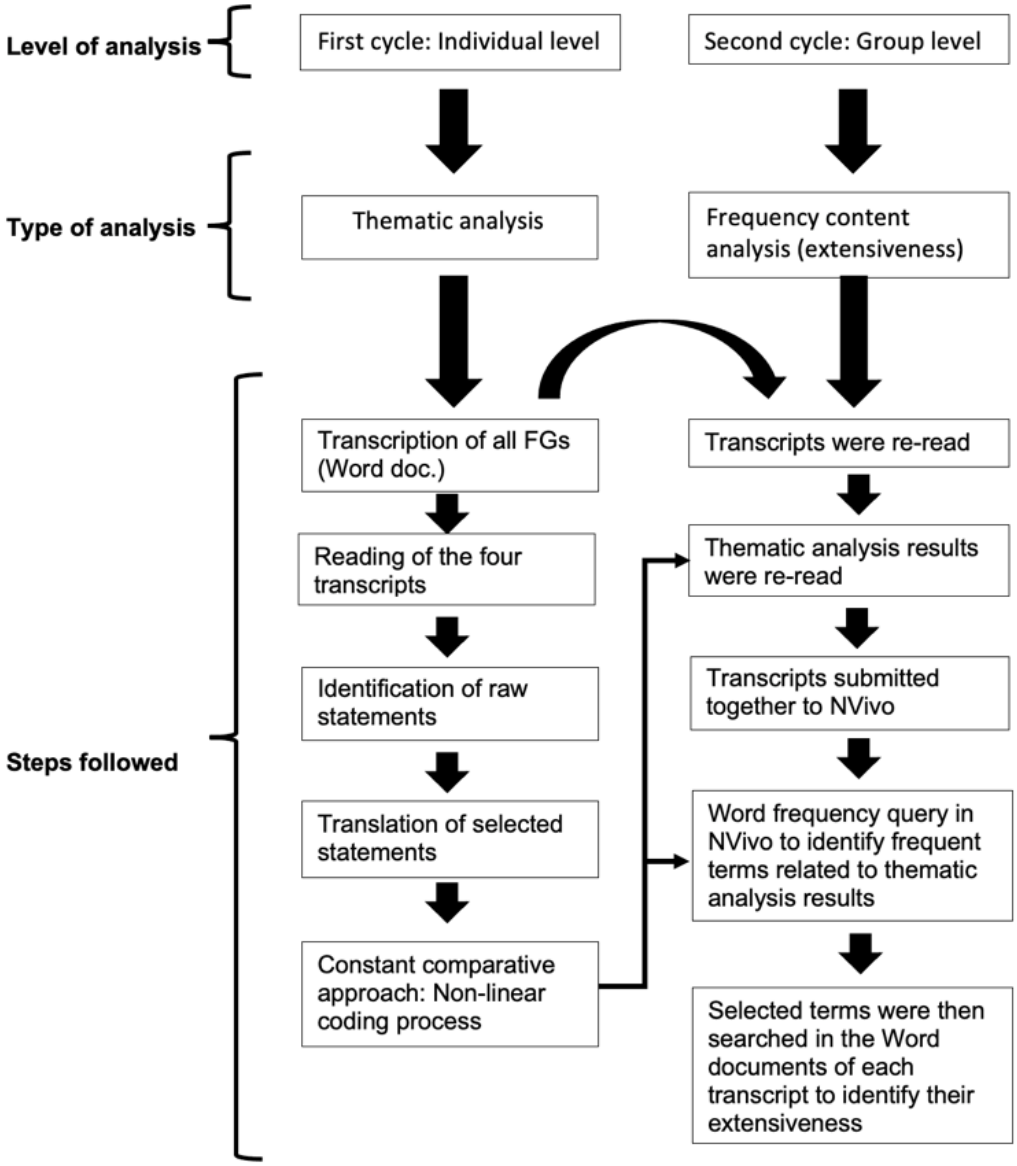
Table 10: *Focus group schedule*

Number	Date	Number of participants	Duration
1	August 29, 2020	5	120 minutes
2	October 6, 2020	5	96 minutes
3	October 7, 2020	5	91 minutes
4	October 13, 2020	3	75 minutes

5.2.2.3. Focus group data analysis

Data from focus groups were analysed in two levels considering the raw data (in Spanish). At an individual level I carried out a thematic analysis based on a constant comparative approach in which the units of analysis were what the individual participants declared. Then, at a group level, I carried out a content analysis in which the units of analysis were each group of participants, identifying the frequency of concepts and interrelating these concepts for further exploration (Bazeley, 2018; Renz et al., 2018). Figure 14 shows a summary of these two levels of analyses.

Figure 14: *Summary of focus group data analysis methods*



The thematic analysis I conducted in the first cycle included the identification of passages that, in some sense, exemplified the same theoretical idea regarding the factors influencing SBOTs services (Robson, 2016; Thomas, 2017). I started this process by transcribing the focus groups discussions, for which I considered the suggestions of Hammersley (2020) to carry out systematic transcriptions and reduce the possibility of errors. I transcribed all four video recordings as my goal was to bring together all the elements

discussed throughout the groups. I only transcribed the audio as not all the participants' faces were captured on video, and I also excluded sounds such as hums, and silences and pauses as only some had their microphones on all the time. These exclusions could result in the loss of some data (Kite & Phongsavan, 2017; Tuttas, 2015). However, their excluding was necessary to maintain the same criteria in all the focus groups, which helped me with the quality of my transcripts (Cyr, 2019). This means that I used a verbatim framework to transcribe the words spoken and who spoke them, a technique suitable for content-focused projects such as this one (Rapley, 2011).

Once the transcripts were completed, I read them all together. Then, I identified data that were relevant to reply to my research questions. For this, I selected passages (i.e., full statements made by the participants) that described factors influencing SBOTs services. I then translated these raw data by using the framework suggested by Abfalter et al. (2020), ensuring rigour and transparency in this process. I translated only the statements I selected due to the time required for translation, and to maintain their meaning (Al-Amer et al., 2015; Björk & Dahlberg, 2013). This was done while the participants and I were in Chile due to the Covid-19 pandemic, which preserved contextual information and meaning (Abfalter et al., 2020). Back translation was carried out by a Chilean English teacher.

Figure 15 shows an example of how the raw data that I gathered in Spanish was selected and translated within the transcripts.

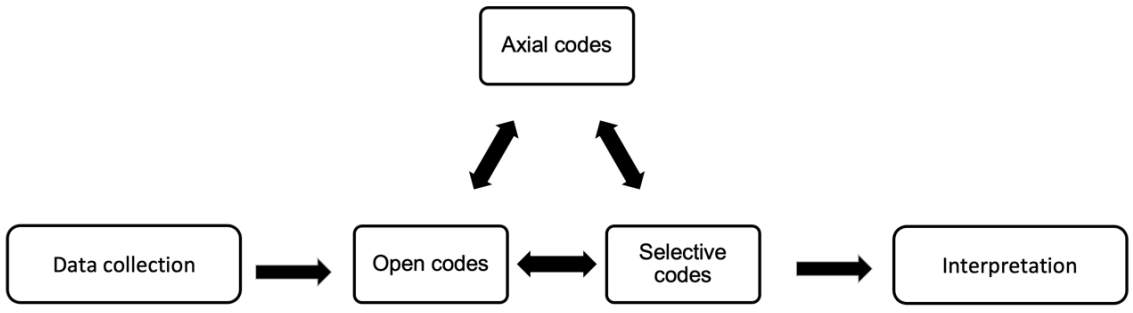
Figure 15: *Example of how raw data was selected and translated*

P2: *yo creo que también se vincula como directamente con el contexto de los niños, por ejemplo, no sé si les pasa a ustedes también al menos acá en mi colegio tiene una alta vulnerabilidad social, entonces generalmente estos tipos de diagnóstico se dan también bajo un contexto determinado de vulnerabilidad social, (generally, these type of diagnostics come from a determined context of social vulnerability) entonces la población siempre va a aumentar sobre todo en los establecimientos más vulnerables también.*

I examined the statements using a constant comparison method, broking down the data into manageable pieces, with each piece compared for similarities and differences (Flick, 2018). I then grouped data that seemed similar under the same conceptual heading, i.e., a code, and through further analysis codes were grouped together to form themes (Corbin & Strauss, 2015). In doing this, I followed the recommendations of Cyr (2019) regarding the need to be systematic to ensure a well-informed and self-explanatory analysis based on a well-defined set of rules. This allowed me to analyse the four focus groups I conducted more consistently.

I based my constant comparison method on a non-linear coding approach in which I carried out open, axial and selective coding in a cyclical and evolving manner (Williams & Moser, 2019). This approach is commonly associated with theory development, but can be used for other purposes as well (Corbin & Strauss, 2015; Flick, 2018; Fram, 2013). I used it as a means by which inductive and deductive reasoning cohabited, and in which my experience in the field could be recognised (i.e., abductive approach). This allowed me to connect the codes that emerged from the discussions around questionnaire's results (factors) with their possible sources (personal, professional, and systemic factors and characteristics of students and schools). This means that I used a non-linear approach to go back and forth between codes in a cyclical but systematic way to unwrap the themes discussed (Figure 16).

Figure 16: *Non-linear coding process*



As presented in Figure 16, my coding process started with open coding, which refers to a detailed and exploratory process that allows the detection of distinctive expressions that would be categorised into initial codes by attaching annotations and concepts (Williams & Moser, 2019). My reasoning at this level was inductive (i.e., data-driven approach) since the units of analysis were the statements selected from the data I collected. To conduct the open coding, I copied and pasted the selected statements into a table in a Word Document. In this table I then added exploratory comments to each statement to explain their meaning and relevance for my research questions and my interpretation, and then provided an initial code. This resulted in a list of codes supported by notes that explain my interpretation, which was fundamental in this qualitative stage, as interpretations would differ from one researcher to another (Flick, 2018; Williams & Moser, 2019).

After obtaining all of the open codes, I performed axial coding, which concentrates on refining, aligning, and categorising the open codes (Williams & Moser, 2019). To accomplish this, I engage in continuous analysis, cross-referencing, and refinement of theme categories. This was primarily based on an inductive technique, but a deductive strategy was also considered given that the identified codes were assigned based on each of the discussed questionnaire results. This process allowed me to analyse the relationships between codes and identify core codes that accurately reflect the collected evidence. Core codes (or categories) are the most pertinent topics to the research question, which are enriched by their compatibility with as many passages as feasible (Corbin & Strauss, 2015).

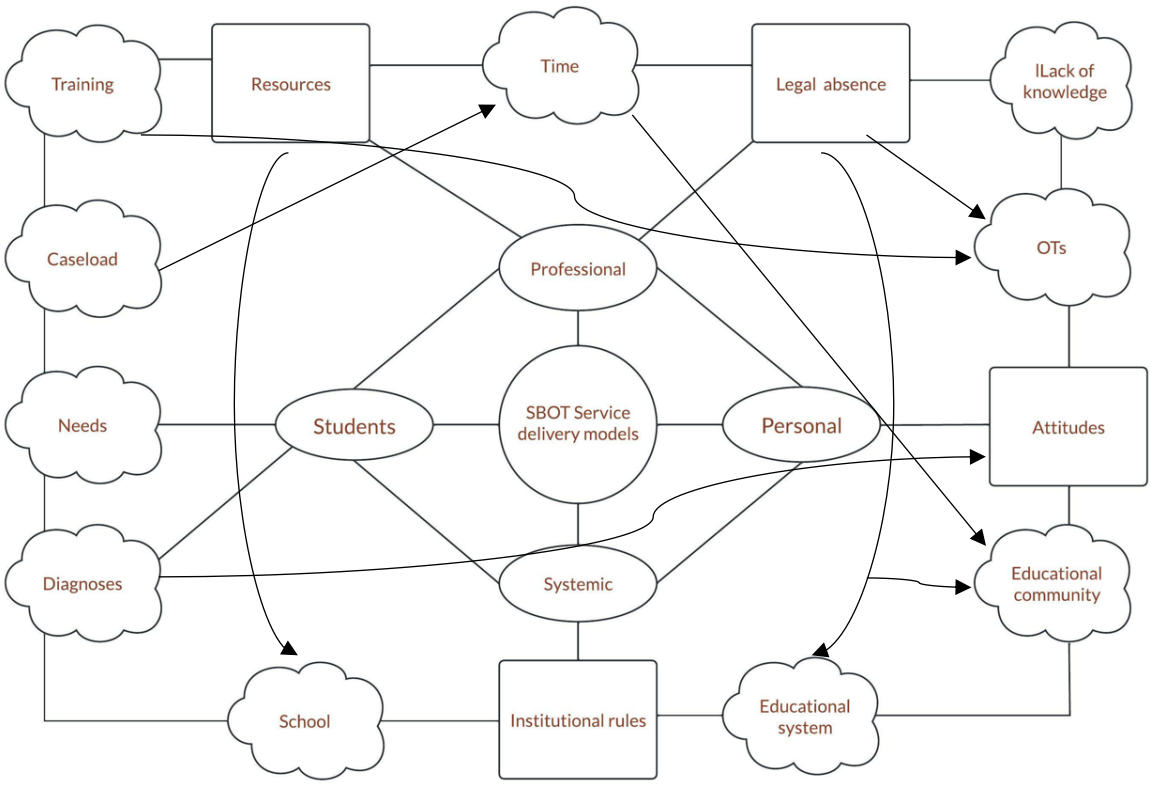
After this, I conducted a selective coding, which refers to the selection and integration of the axial codes in cohesive and meaning-filled expressions (Williams & Moser, 2019). This resulted in a theme, in this case a concept, that represented the theme discovered. I interpreted each theme based on the translated data, my exploratory comments, and the open, axial and selective codes. I conducted this for each of the questionnaire results discussed. Figure 17 shows an example of this process.

Figure 17: Example of the coding process conducted.

	INDIVIDUAL LEVEL OF ANALYSIS					
	SEN and Difficulties					
Translated data (raw data)	Exploratory comments	Open codes	Axial codes (categories)	Selective codes (themes)	Interpretation
1) *"I think there is a matter of the educational system that doesn't know what we do, who we are"*	Misinformation of the educational community regarding the role and function of SBOTs	Misinformation	(Lack of) knowledge	Unawareness	The lack of knowledge from the educational system and community plays a key role in the type of SEN and difficulties that these SBOTs support. This provokes feelings of frustration.
2) *"I joined PIE this year, they aren't aware or don't know what the OT's does in education"*	Unawareness of the team working in SIP regarding what SBOTs do	Unawareness			
3) *"The main problem of the area is the lack of information that educators and assistants have regarding our job"*	Lack of information from teachers and teaching assistants about the job of SBOTs	Lack of information			
4) *"There isn't a plan or at educational level there isn't a planning for OTs, what we can do, so that's why there's so much ignorance by teachers, we have to explain how our supporting role Is"*	Ignorance from a higher level regarding the role of SBOTs and a lack of planning for their functions	Ignorance			
5) *"We are not mentioned professionals on the decree but we are free of some things but there are also other things and ambiguities in many others, requirements that speech therapists and psychologists have, we don't"*	SBOTs are not mentioned on policies and educational legislation, and other professionals are	Uncontemplated on decrees	Unconsidered		
6) *"The professionals, special needs teachers or school members think that is what we do, that's the first thing coming to their heads when they talk about occupational therapists"*	School staff is mostly aware about the role that SBOTs have regarding the motor domain or sensory integration	School staff awareness			
7) *"it is frustrating to arrive to school and every day you have to validate yourself, earn your place"*	Frustration because they feel that they have to earn their place, validate themselves every day	Earn their place	Frustration		
8) *"…it bothers me that we are not considered for diagnosis, because for a kid to be considered within the spectre, the evaluation of the speech therapist and psychologist are required, but I am not considered because I'm not in the decree, so my evaluation isn't important"*	Unpleasant feeling of not being considered on processes of diagnosis while other professionals are	Unconsidered on diagnosis			

After this process was completed, I began to review what I found in each of the results discussed in the focus groups (Figure 18). For this, I compared and cross-referenced all the resulting selective codes and interpretations and identified those that described the same ideas. This allowed me to identify patterns that provide me with relevant information to understand the factors that affected SBOTs services. These were what counted as themes within this project. I then identified the possible sources (personal, professional, and systemic factors and characteristics of students and schools) of these themes and their connections, represented by the arrows in Figure 18. Throughout all this process, I remained flexible and responsive to the data, having in mind my research questions and the amount of time I had to devote to this analysis (Flick, 2018).

Figure 18: *Map of factors identified, their connections and sources.*



The themes identified in the thematic analysis were used to carry out the second cycle of analysis at a group level. I conducted this analysis responding to scholars who have argued that focusing only on the individual level tends to overlook the impact of the group context, resulting in a less reliable analysis (Duggleby, 2005; Kidd & Parshall, 2000). Cyr (2019) suggests using frequency, i.e., the number of times a topic or word was used, and extensiveness, i.e., the number of participants who used a particular word, to assess how essential the topics or words were to understand the situation among different groups. Therefore, I performed a frequency content analysis at this level.

Frequency content analysis identifies the frequency of concepts, summarises patterns, and interrelates concepts for further exploration (Bazeley, 2018). My analysis was based on frequencies and extensiveness. For frequencies, I counted the number of times a specific concept was mentioned, and for extensiveness, I counted how many times those concepts were mentioned in each group and in total. This clarified how significant the concept was for the entire group of participants.

To carry out this analysis, I first reread the transcripts and the results of the thematic analysis. I then submitted the four transcripts together to the NVivo software where I performed a word frequency query (in their original language-Spanish). Words with a minimum length of three letters and stemmed words were included. This query resulted in 390 terms, which were examined to identify those related to the results of the thematic analysis. This initially reduced the number to 113 terms. These terms were double-checked, cross-referenced, and merged, resulting in a total of 34 terms that were grouped based on the factors analysed in the focus groups. These 34 terms were then searched in each of the transcripts to verify their frequency, extensiveness, and the context in which they were used. I performed this analysis on each of the transcripts, searching for the specific terms and counting their frequency (in their original language) in each of the focus groups and then their totals. Table 11 shows an example of this stage.

Table 11: *Example of the frequency content analysis*

Sub-themes	Key elements	Original terms	Translation	No	Total
		Systemic factors			
Resources	Time	Tiempo	Time	88	88
	Infrastructure	Aula	Room	72	97
		Espacio	Space	25	
	Economic	Ingresos	Income	21	31
		Economico	Economic	10	
	Materials	Material	Materials	10	10

5.2.2.4. Ethical considerations when using online focus groups

Prior to the focus groups, information sheets were sent by email, which provided information such as the objectives of the project, the voluntary and confidential nature of the process, and the steps to follow next. As described in Section 5.2.1.4 these procedures were followed considering the British Ethical Guidelines for Educational Research, the UE School of Education Ethics Policy, and Chilean law regarding scientific studies that involve humans (BERA, 2018; Chilean Ministry of Health, 2006).

Informed consent was distributed through Qualtrics, where participants confirmed that they had read the information sheet and that concerns were resolved. The participants provided their names and some demographic data in these consents. The information sheet and informed consent were created in English, then translated into Spanish, and back translated by a Chilean colleague to verify accuracy.

To store this data, I followed the same rules as explained in Section 5.2.1.4, using my university's GDPR-compliant, password-protected OneDrive cloud storage system. For this analysis, I continued using password-protected laptops and shared the data only with my supervisors through the same system or via email. The time that I would keep these data corresponds to the duration of my doctorate and the publication of articles in academic

journals, and to be presented at Chilean educational or OT conferences. These aspects were communicated to the participants in the information sheet and recalled at the beginning of each focus group.

Although the procedures explained above ensured these focus groups were conducted under ethical conditions, their online nature imposed further ethical concerns. For example, Zoom complies with the ethical requirements of the HASS Faculty of the UE and is GDPR compliant (Zoom (c), 2020a). Although these qualities allowed for the focus groups to be securely recorded without resorting to third-party software, they were not enough since the audio-visual information reduces the visual anonymity of the participants (Abrams et al., 2015). In addition, Zoom requires that people be identified on the screen, so it was impossible to ensure anonymity among the participants. I, as a researcher did not consider the audio-visual information to be a significant threat, since only I accessed the recordings, and I did not track any personal data. However, I did not ensure that the participants did not track the data of others, which could have resulted in an unwieldy problem. In subsequent communications with the participants, they did not mention any problems of this nature.

For another role of the participants in the confidentiality of these focus groups, there was always the risk that they might misuse the information shared. To ensure that the participants kept the content of the discussions confidential after the focus groups were held, I asked them not to share the data with others. However, I did not include this requirement in the informed consent and therefore my request was informal.

The environment in which the participants chose to join these focus groups also raises some ethical concerns. All participants decided to join these groups from their homes in outside office hours. This allowed them the freedom to discuss the factors that affected their practices, but at the same time they were interrupted to attend to family matters. One participant, for example, was constantly disappearing from the screen because she had to care for her child. This could have caused data loss, interfered with the flow of discussions, and generated noise that could affect the audio recording. To avoid this, some scholars

suggest actively encouraging participants to mute when not speaking (Kite & Phongsavan, 2017; Tuttas, 2015). I did not encourage this because I wanted to boost a fluent conversation. However, this participant spontaneously muted her microphone every time she was off camera, but actively participated when present.

Another critical element to consider in these focus groups was the fact that I acted as facilitator. For some academics, the role of the facilitator in online focus groups is less interventionist and directive than in face-to-face groups, since participants learn and observe what happens online (Matthews et al., 2018). Conversely, others indicate that online focus group facilitators need to be more proactive and adept at using the online interface (Stewart et al., 2017; Tuttas, 2015). These academics put the weight of the success on the facilitator, depending on their skills and actions to produce a quality focus group. I took an active but less directive role in these focus groups. For this, I prepared myself with training provided by the Southwest Doctoral Training Partnership in August 2020 and participated in a digital preparation session for Zoom to ensure sufficient skills with this technology.

An examination of my role as facilitator was presented in Sections 1.2 and 2.5, where a reflexion on my relationship with the participants was provided to ensure methodological rigour. However, it is important to repeat that I was aware of my insider status when facilitating these focus groups and therefore made efforts to avoid influencing the participants with my beliefs, opinions, and perspectives. I used various strategies for this, such as turning off my camera to avoid providing non-verbal information that could affect discussions. I also tried to provide an environment where participants feel comfortable sharing what they want to share and to see me on the same level as them, which is discussed further in Section 6.2.4. However, the blurriness of an insider position makes it difficult to achieve complete impartiality.

5.2.3. Integration of questionnaire and focus group data: Joint display design

I integrated the two methods I used to understand in a better way the level of impact of the factors identified in the focus groups regarding the services of Chilean SBOTs. I developed this using a joint display analysis which involved merging the results from the two datasets through a side-by-side comparison to expand the results obtained (Haynes-Brown & Fetters, 2021). Haynes-Brown and Fetters (2021) state that integration through joint display forces the researcher to think simultaneously about both data types for related constructs. They describe this process as iterative, which helps researchers gain a comprehensive understanding of the data, allowing for more balanced and complete results.

To integrate questionnaire and focus group data, I used the joint display technique suggested by Johnson et al. (2019) as both datasets were on the same topic. This technique is called the *Pillar Integration Process*, a four-stage technique for systematically integrating quantitative and qualitative findings. This technique helps to minimise bias and maximise opportunities for synthesis (Johnson et al., 2019). I applied the four stages as follows:

1. Listen: At this stage, the raw data that I felt was essential for inclusion was listed on the joint display. I started with the quantitative data, selecting some elements based on the objectives of my project.
2. Matching: This stage required a list of qualitative data that matched the quantitative data. Here, I compared and reflected on patterns and identified similarities with quantitative items. Within this integration, I aimed for expansion, meaning that the focus group data expanded what was found in the questionnaire. Therefore, the factors influencing the quantitative data were compared with the results of the questionnaire.
3. Checking: I verified the data from the questionnaire and the focus groups, refining and detecting any discrepancies between both data sets. Here, I was able to modify the necessary gaps to ensure that the emerging elements were identified based on appropriate matches.

4. Pillar building: I related and verified the previous stages, and conceptualised the ideas identified. This involved identifying the types of factors that primarily impacted Chilean SBOT services.

This integration approach helped me to connect the different phases of my mixed-methods study, which allowed me to achieve more meaningful explanations (Creswell & Plano Clark, 2017a). It also addressed criticism that mixed methods research does not sufficiently integrate quantitative and qualitative data; therefore, the potential of mixing methods is not maximised (Klingner & Boardman, 2011). What mixed methods approaches do is build meta-inferences by integrating the inferences obtained from quantitative and qualitative studies (Teddlie & Tashakkori, 2009b). This increases the credibility of the research process.

5.3. Key points of this mixed-methods design

This was an exploratory mixed-methods design based on a pragmatic approach that considered my experience as a SBOT and in which the focus was on daily actions. An online questionnaire acted as a cross-sectional quantitative survey to identify SBOTs services. The data obtained was examined statistically using simple counts of frequencies, crosstabs based on frequencies and some bivariate comparisons. This was followed by online focus groups that acted as qualitative instruments that provided a deeper understanding of these services and the factors influencing them. A thematic analysis and a frequency content analysis were conducted with the data obtained from these focus groups. These two methods were mixed at different stages and integrated after the results of each of them were obtained. This was done through a joint display that identified which factors discussed in the focus groups impacted the most.

Chapter 6: Chilean SBOT service models and influencing factors

The results of the mixed-methods study I conducted are presented here. I firstly describe the findings of the questionnaire, which allowed me to reply to the questions *What service delivery models Chilean SBOTs provide and how do they do it? Are the UDL principles involved in these services?* The outcomes obtained from the focus groups are then presented, which allowed me to answer the question: *What are the factors influencing SBOTs to work in this way and how do they influence?* The integration of both methods is presented in the focus group section.

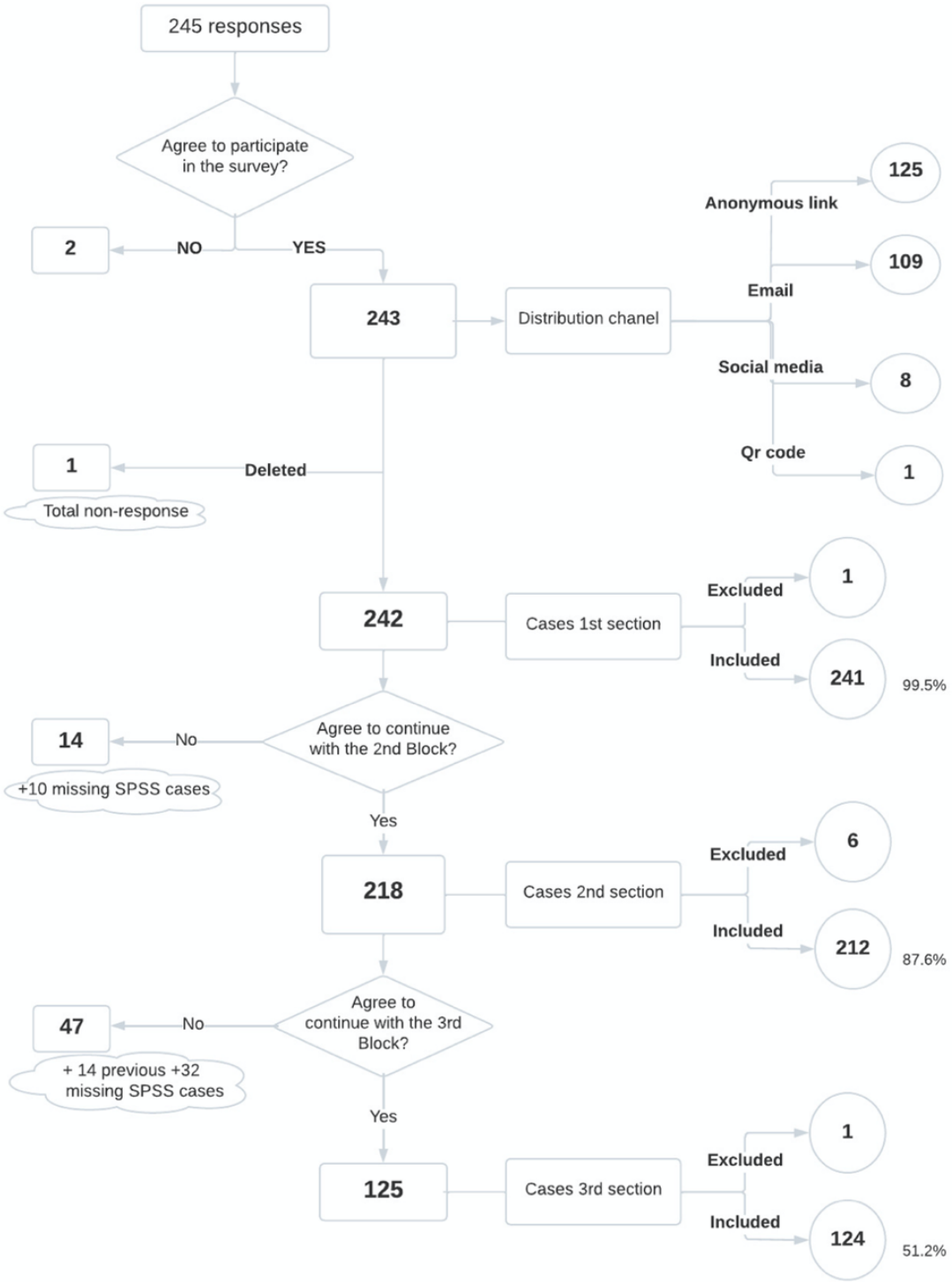
6.1. What service delivery models Chilean SBOTs provide and how do they do it? Are the UDL principles involved in these services?

To present the results from the online questionnaire I used the Consensus-Based Checklist for Reporting of Survey Studies (CROSS), which is a checklist that helps ensure surveys are sufficiently reliable, reproducible, and transparent (Sharma et al., 2021). This comprehensive reporting guide was created through a robust bibliographic review for its items, consultation with experts and three rounds of qualification by the Delphi method. This method consists of a series of rounds in which the opinion of experts is requested (Barrett & Heale, 2020). The use of these three strategies is recommended for the development of reliable research reporting guidelines (Moher et al., 2010). Therefore, I used the items of CROSS to structure this section, particularly those related to reporting results.

6.1.1. Respondent characteristics

There were 314 unique users who accessed the questionnaire, but 69 were excluded since no responses were recorded. This resulted in 245 questionnaires with complete and partial responses analysed (Figure 19).

Figure 19: *Flowchart of profile of questionnaire responses*

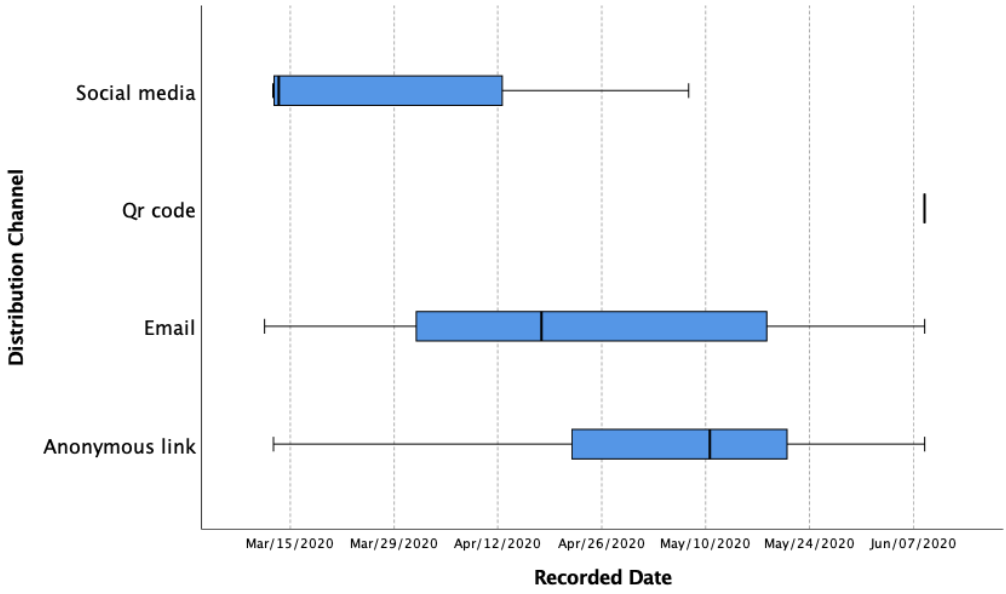


The 245 questionnaires collected represent 22.2% of the target population (the 1103 OTs described in Section 2.4). This percentage was calculated with the formula: (number of units included/number of eligible units) *100. This resulting percentage, however, must be carefully considered since recognising 1103 OTs as the target population could be problematic since efforts were made to recruit OTs beyond this group. Yet, it provides an estimation of representation.

Care must also be implemented when considering the number of responses per sections and items because complete and partial responses were included, resulting in different completion and response rates. Figure 19 shows the number of questionnaires included by section, in which the total non-responses and the lost cases identified by SPSS are shown. The number of responses per item is provided for each question based on the questionnaires considered in each section, which was calculated using the formula: (number of questionnaires included/number of eligible sample units) *100.

These 245 questionnaires were collected through diverse channels. Figure 20 shows the time periods in which each questionnaire distribution channel was used and the responses gathered through each of them.

Figure 20: *Distribution channels used in the questionnaire*



The participants used the anonymous link and the email sent through Qualtrics in similar periods. However, 50% of those who accessed the questionnaire via email did so for a longer period compared to 50% of those who used the anonymous link. This could be related to recruitment strategies, which I sent systematically over a longer period. The small proportion of those who accessed through the Qualtrics social media option (LinkedIn) could be because I promoted this channel less, although 50% of these responses were quickly picked up after the first call. Only one person used the QR Code at the end, as I promoted the code during the last few weeks the questionnaire was available. These results suggest that the recruitment and promotion strategies used in a survey are relevant to consider as they affect the number of responses collected.

Continuing with the number of questionnaires included (Figure 19), two questionnaires were excluded at the beginning because the participants did not give their consent. Another questionnaire was also excluded because although the participant provided consent, no answers were recorded. Hence, a total of 242 questionnaires were considered for the analysis. Of these, 241 were included in the analysis of section one since one participant did not answer this section, which resulted in a completion percentage of 99.5% (241/242). For section two, 14 participants did not agree to continue, and SPSS showed 10 missing cases. Of the remaining 218 questionnaires, six were excluded as no responses to this section were recorded, resulting in 212 questionnaires, with a completion percentage of 87.6% (212/242). For section three, 47 participants decided not to continue, in addition to the previous 14 of section two, and SPSS showed 32 missing cases. This resulted in 125 questionnaires, of which one was excluded because no responses were recorded. Therefore, 124 units were included in section three, with a completion percentage of 51.2% (124/242).

These results indicates that the number of questionnaires susceptible to analysis decreased in each section, with 50% of all participants contributing up to the final section.

This is an element to consider when discussing the design of this questionnaire, an issue that is further examined in Section 6.1.5.

6.1.2. Participants characteristics

Participants were asked about their characteristics in section one, including a list of personal characteristics (Table 12), descriptions of the schools in which they were working (Table 13), and types of students they supported (Table 14). These characteristics are presented here considering each section analysed to detect similarities and differences between the groups, displaying the number of participants (n) and its percentage of cases (%). To improve the clarity of this presentation, I have merged some of the options provided in specific questions and moved the items related to teamwork and collaboration to Section 6.1.3 due to their relevance to answering my research questions.

Table 12: *Questionnaire participant characteristics*

Item	Characteristics	Section One (n=241)		Section Two (n=212)		Section Three (n=124)	
		n	%	n	%	n	%
Years of experience in schools	Less than 1	30	12.4	26	12.3	16	12.8
	From 1 to 6	185	76.8	164	77.4	97	77.6
	From 7 to 12	20	8.3	18	8.5	9	7.2
	More than 13	6	2.5	4	1.9	2	1.6
Regions represented	Metropolitan	89	36.9	75	35.4	43	34.4
	Valparaiso	34	14.1	33	15.6	19	15.2
	Araucanía	33	13.7	31	14.6	16	12.8
	Biobío	29	12.0	27	12.7	20	16.0
	Los Lagos	12	5.0	9	4.2	6	4.8
	O'Higgins	11	4.6	9	4.2	7	5.6
	Other	33	13.7	28	21.3	13	10.4
Employers	Schools	117	48.5	103	48.6	57	45.6
	Ministry of Education	89	36.9	79	37.3	46	36.8
	Parents/carers	1	0.4	1	0.5	0	0.0

Table 12: *Questionnaire participant characteristics*

Item	Characteristics	Section One (n=241)		Section Two (n=212)		Section Three (n=124)	
		n	%	n	%	n	%
	Health service	0	0.0	0	0.0	0	0.0
	Other	33	13.7	28	13.2	20	16.0
Working hours per week	From 1 to 10	19	7.9	16	7.5	9	7.2
	From 11 to 20	40	16.6	34	16.0	25	20.0
	From 21 to 30	61	25.3	55	25.9	32	25.6
	From 31 to 40	67	27.8	58	27.4	31	24.8
	More than 41	54	22.4	49	23.1	27	21.6
Training	Yes	136	56.4	120	56.6	69	55.2
	No	99	41.1	92	43.4	56	44.8

Regarding training, the participants indicated mainly sensory integration and ASD workshops, followed by strategies to assess and intervene. Table 13 presents the characteristics of the schools in which these participants worked.

Table 13: Characteristics of schools of questionnaire participants

Item	Characteristics	Section One (n=241)		Section Two (n=212)		Section Three (n=124)	
		n	%	n	%	n	%
School type	Mainstream with SIPs	185	76.8	165	77.8	100	80.0
	Special school	40	16.6	34	16.0	18	14.4
	Mainstream no SIPs	13	5.4	11	5.2	5	4.0
School governance	Public	97	40.3	84	39.7	54	43.2
	Subsidised private	98	40.6	90	42.5	48	38.4
	Fully paid private	6	2.5	5	2.4	4	3.2
Rurality Index	Urban area	172	71.4	156	73.6	91	72.8
	Rural area	25	10.4	22	10.4	14	11.2
Teaching Levels	Nursery level	38	7.5	32	7.1	16	6.0
	Preschool level	166	32.9	149	33.3	88	33.2
	Primary level	182	36.1	164	36.6	97	36.6
	Secondary level	118	23.5	103	23.0	64	24.2

Notes: SIPs= School Integration Programmes.

Table 14 presents the characteristics of the students that questionnaire participants supported, including their class groups, SEN and their difficulties.

Table 14: *Characteristics of students supported by Chilean SBOTs*

Item	Characteristics	Section One (n=241)		Section Two (n=212)		Section Three (n=124)	
		n	%	n	%	n	%
Class Groups	Nursery group	20	8.3	14	6.6	10	8.1
	Preschool group	152	63.1	136	64.2	84	67.7
	Primary group (first cycle-6 to 9 years)	196	81.3	175	82.5	102	82.3
	Primary group (second cycle-10 to 13)	117	48.5	101	47.6	65	52.4
	Secondary group	60	24.9	50	23.6	31	25.0
	More than 18 years	23	9.5	19	9.0	12	9.7
SEN	ASD	230	95.4	202	95.3	120	96.8
	Intellectual/learning deficit	204	84.6	176	83.0	106	85.5
	ADH/D	189	78.4	166	78.3	99	79.8
	Intellectual functioning border	118	49.0	105	49.5	63	50.8
	Specific learning disorder	116	48.1	101	47.6	62	50.0
	Physical disability	116	48.1	97	45.8	55	44.4
	Specific language disorder	113	46.9	101	47.6	63	50.8
	Vision impairment	54	22.4	44	20.8	21	16.9
	Hearing impairment	43	17.8	36	17.0	15	12.1
	Multiple disabilities	85	35.3	72	34.0	43	34.7
	Severe dysphasia	18	7.5	13	6.1	7	5.6
	Other SEN	38	15.8	34	16.0	23	18.5
Difficulties	Executive functioning	76	32.1	67	31.9	35	28.2
	Fine motor skills	70	29.5	61	29.0	45	36.3
	Sensory modulation	62	26.2	53	25.2	38	30.6
	Behaviour	56	23.5	49	23.3	28	22.6
	Social interaction skills	42	17.7	35	16.7	19	15.3
	Handwriting	26	11.0	19	9.0	16	12.9
	Self-care activities	24	10.1	19	9.0	10	8.1
	Gross motor skills	16	6.8	13	6.2	8	6.5
	Navigation	3	1.3	1	0.5	0	0.0
	Mental health	7	3.0	5	2.4	4	3.2
	Assistive and communication tech.	3	1.3	2	1.0	1	0.8
	Others	5	2.1	13	4.0	7	3.4

Notes: SEN categories are based on the Chilean classification, available in Appendix 1: Chilean SEN classifications. *ASD= Autistic Spectrum Disorder; ADH/D= Attention Deficit Hyperactivity Disorder.*

Participants in all three section groups indicated supporting mainly primary and preschool students, who mostly had been diagnosticated with ASD, Intellectual/Learning Deficits and ADHD. Students with various difficulties were supported, but those with difficulties performing activities that require executive functioning and fine motor skills were prevalent, in addition to students with participation difficulties due to sensory modulation, behaviour, and social interaction issues.

Regarding the number of students they supported, the majority indicated between 20 and 40 students, with a mean of 42.1. This mean, however, should be viewed with caution as extreme responses were provided at both ends of the spectrum. For example, one participant claimed to support one student and another to support 1200 students.

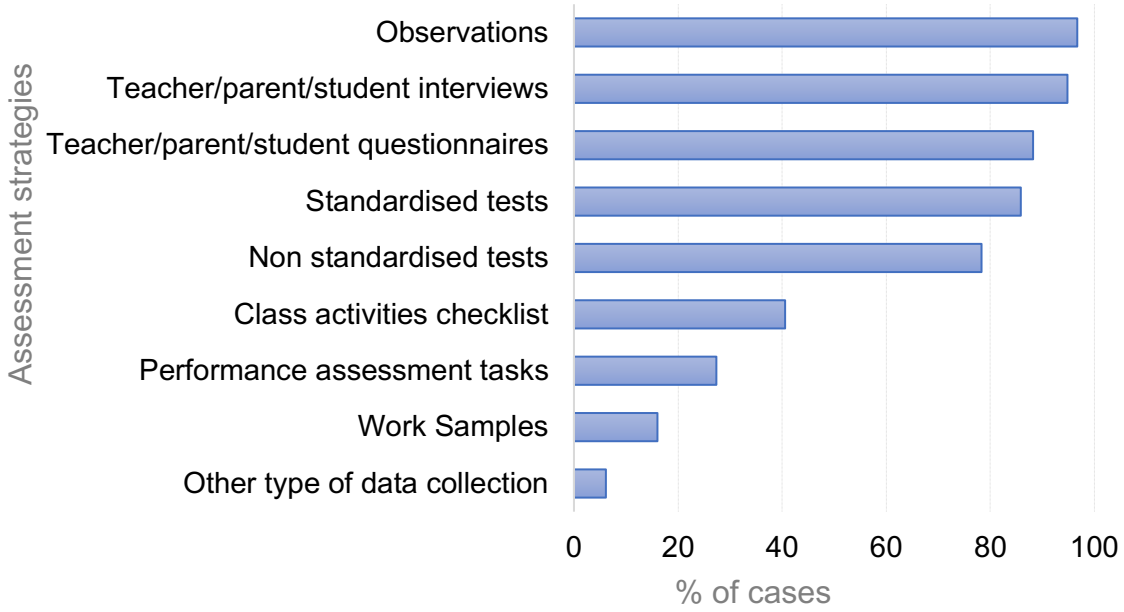
6.1.3. Main findings: Service delivery models of Chilean SBOTs (practice patterns)

In this section, I present different graphs and tables to illustrate the main findings of this questionnaire. These findings come primarily from items asked in sections two and three, but they also include four elements from section one: general challenges, membership and type of team, and people who refer students.

6.1.3.1. Data collection practices

Data collection practices describe the assessment stage within the OT service process (AOTA, 2020). Although I focused on the intervention stage, this is always influenced by the results of the assessment processes. Therefore, knowing how Chilean SBOTs were assessing their students was relevant to understand their services. In a multiple response item, participants indicated using various strategies to assess their students, most using four, five or six strategies (n=31, n=78, n=59, respectively) (Figure 21).

Figure 21: SBOTs assessment strategies (n= 212/212; 100%)



In another multiple response item (n=212; 100%), participants indicated how they report the assessment data. The majority indicated using four, three or two strategies (n=62, n=53 and n=44, respectively). Reports written by only by them (n= 200; 94.3%), meetings with parents (n= 143; 67.5%) and feedback to their teams (n=138; 65.1%) were the most common strategies. Meetings with school staff were selected by almost half of the participants (n=105; 49.5%), and team reports by 34.4% (n=73). Meetings with students (n=20; 9.4%) and clinical notes (n=8; 3.8%) were the least indicated strategies. Other strategies were indicated by 2.4% (n=5) and included the use of an online system, emails, and informal meetings.

On two single response items, participants indicated how often they record student progress in writing and how often they report others about this progress (n=212;100%). The majority indicated that they document the progress of the students daily (n=88, 41.5%), followed by those who do it every six months (n=57, 26.9%) and weekly (n=45, 21.2%). The majority also indicated informing other professionals or families about the progress of the

students every six months (n=85, 40.1%), followed by those who do so monthly (n=55, 25.9%) and weekly (n= 42, 19.8%).

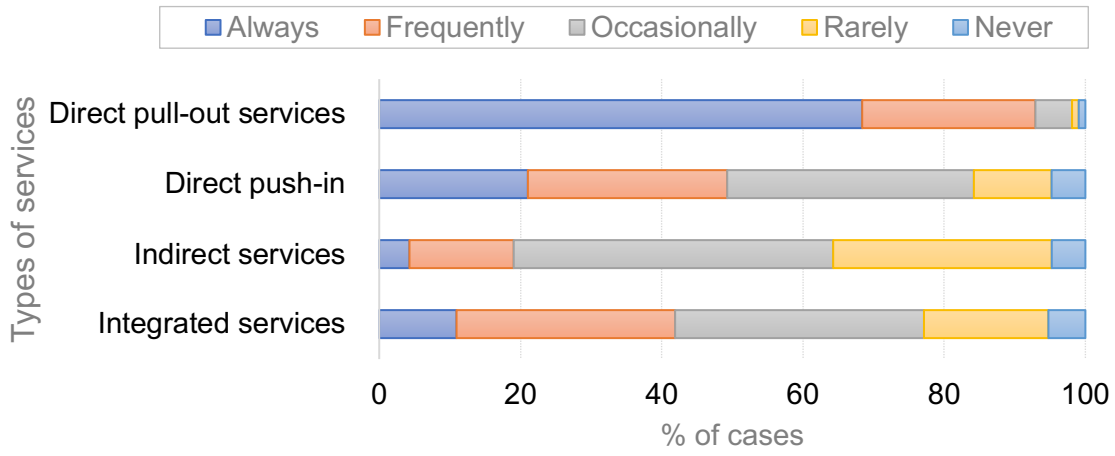
6.1.3.2. Services of Chilean SBOTs

This section is focused mainly on how SBOTs provide their services, which describes the intervention phase within the OT service delivery process (AOTA, 2020).

Firstly, participants were provided with a list of theoretical (occupation-based) and referential (practice-based) models to identify which guided their practice. Regarding theoretical models (207/212; 97.6%), most of the participants indicated that they base their practice on one, two or three models (n=47, n=69 and n=55, respectively). The most frequent was the human occupation model (n=153; 72.2%), which describes how humans generate and modify their occupations in interaction with the environment (Kielhofner, 2008). For referential models (203/212; 95.7%), the participants reported building their practice mainly based on three or four models (n=47 and n=60, respectively). The Ayres sensory integration approach was the most indicated (n = 191; 90.1%), which aims to help children by exposing them to sensory stimulation in a structured and repetitive way (Ayres, 2005). The P4C model was only indicated by 11.3% of the participants (n=22).

Participants were also asked to indicate how often they provide direct pull-out (i.e., one-to-one outside mainstream classrooms), push-in (i.e., one-to-one inside mainstream classrooms), indirect (i.e., on behalf of students) and integrated services (i.e., non-intrusive mainstream services). This was asked on a Likert scale item (Figure 22).

Figure 22: Frequency of service delivery models (209/212; 98.5%)



Most participants indicated that they always provide direct pull-out services (68.3%, n=145) and 24.5% (n=52) indicated that they frequently do. This was not as marked for direct push-in services, as 21.0% of participants reported that they always provide these services (n=44), 28.2% frequently (n=59), and 34 .9% indicated that they occasionally provide them (n=73). This was similar when integrated services were analysed. Participants indicated that they mostly provide these services occasionally (n= 74; 35.2%) or frequently (n= 65; 31.0%). For indirect services, this situation changes, with participants reporting that they provide these services occasionally (n=95, 45.2%) or rarely (n=65, 30.9%).

To explore if there was a relationship between participants' demographics and the frequency of services provided, I considered participants' professional experience and school characteristics. For the relationship between participants' professional experience and the types of services, I clustered the sample in four subgroups: those with less than one year of experience, with one to three years, with four to six years, and more than seven years of experience. The normality test (Kolmogorov-Smirnov) revealed that these data were not normally distributed ($p < 0.05$), so I applied the Kruskal Wallis test, a nonparametric analysis, considering a significance level of 0.05.

When direct pull-out services were tested, the results revealed no statistically significant differences between subgroups (n=212, H=4.839 (3), p=0.184). Direct push-in services (n=209, H=5.665 (3), p=0.129), indirect services (n=210, H=3.422 (3), p=0.331), and integrated services (n=210, H=2.106 (3), p=0.551) yielded the same results. Hence, the frequency with which Chilean SBOTs provide direct pull-out, direct push-in, indirect, and integrated services does not differ based on the number of years they have worked in school settings. This is consistent with a descriptive analysis I conducted to investigate how participants with less than one year of experience up to six years of experience (n=190) responded to the query regarding frequency of services. This analysis revealed that participants provided direct pull-out services more frequently regardless of their years of experience.

To examine the relationship of school characteristics with the frequency of service delivered, I analysed three variables: type of school, school's rurality index, and their governance. All these variables failed the normality test (Kolmogorov-Smirnov), indicating that these data were not normally distributed ($p < 0.05$), so I continued using the Kruskal Wallis test with a significance level set at 0.05.

The results showed non-significant differences between the subgroups of participants working in special schools and mainstream schools with and without SIPs for direct pull-out services (n=210, H=2.922 (1), p=0.087), direct push-in (n=207, H=0.346 (1), p=0.556), indirect (n=208, H=0.395 (1), p=0.530) and integrated services (n=208, H=3.218 (1), p=0.073). These results were similar to my descriptive exploration, in which I found that participants working in mainstream schools with SIPs and in special schools (n=199) indicated providing direct pull-out services more often. So, there were no differences in the frequency of services provided by the type of schools in which SBOTs were working. However, there was some indication that special schools were more likely to provide integrated services while mainstream schools used direct pull-out services more often, but this difference did not reach the threshold for statistical significance. This could have been

different with a larger sample size; therefore, these results should be interpreted with caution.

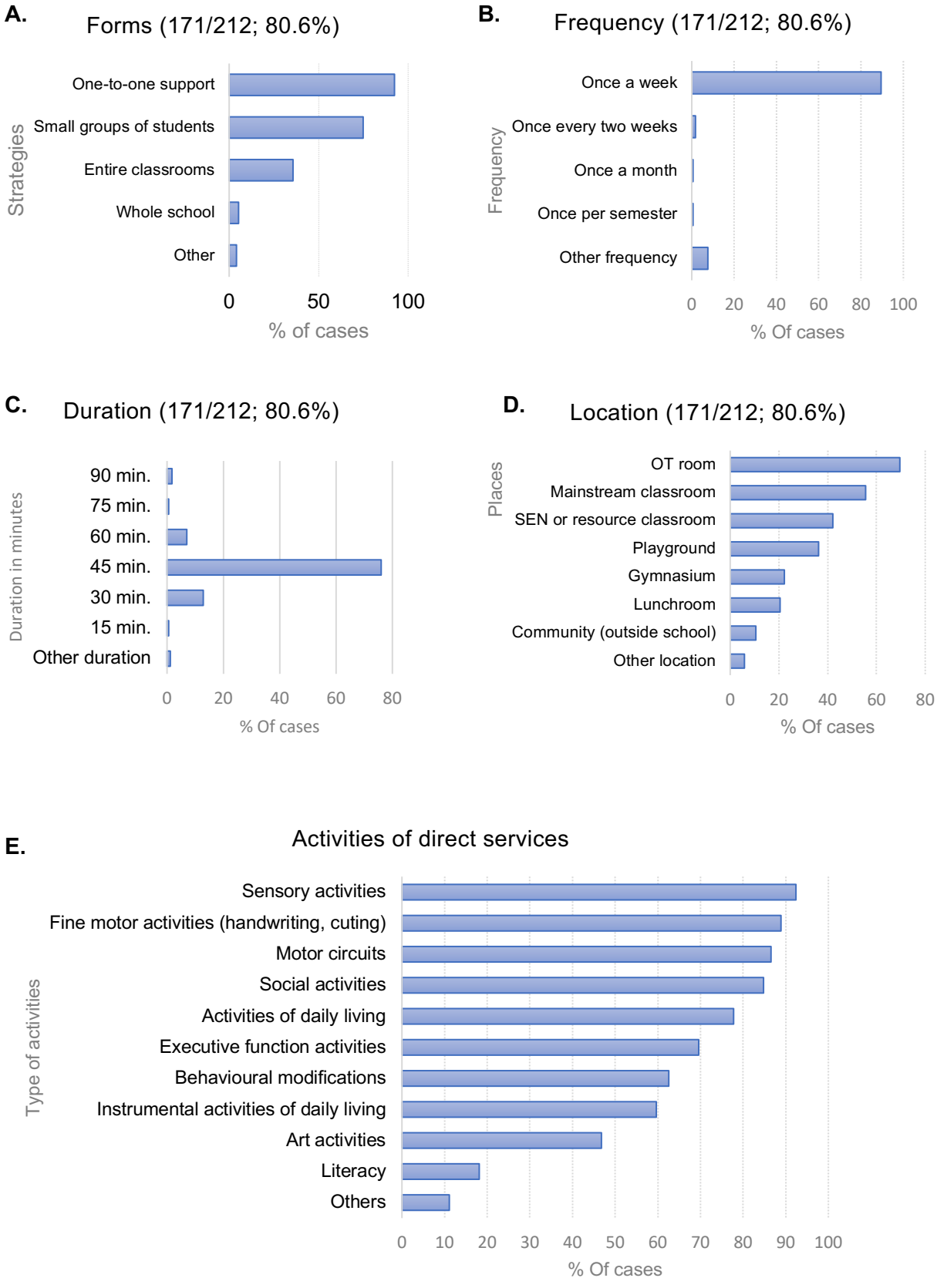
Comparing the responses of those employed in rural and urban schools, these yielded comparable outcomes. For direct pull-out services (n=178; H=0.431 (1), p=0.512), direct push-in services (n=176; H=3.218 (1), p=0.073), indirect services (n=177; H=1.234 (1), p=0.267), and integrated services (n=178; H=0.460 (1), p=0.497), there were no statistically significant differences between the subgroups. In this comparison, there was also some evidence that direct push-in services were delivered differently in urban and rural schools, although this difference did not reach statistical significance.

The results described above were also comparable for public school employees (municipal, delegated, and local services) and private school employees (subsidised private and paid private). Examining direct pull-out services (n=179, H=1.491 (1), p=0.222), direct push-in services (n=177, H=1.516 (1), p=0.218), indirect services (n=178, H=0.138 (1), p=0.710), and integrated services (n=178, H=0.209 (1), p=0.647) yielded non-significant differences between the subgroups. This final point was also consistent with my descriptive analysis, in which I discovered that those working in public and private subsidised schools (n=137) reported providing direct pull-out services more frequently than indirect or integrated services. These results indicate that participants reported providing direct pull-out services more frequently regardless of the institutions in which they were employed.

Direct services

Participants were asked to provide information on how they provide direct services (Figure 23). The forms in which direct services were provided were asked in a multiple response item (Figure 23-A). The frequency with which direct services were provided was asked in a single response item (Figure 23-B). Participants also indicated the duration of their direct sessions (Figure 23-C), and the locations where these services were provided (Figure 23-D). The range of activities was also asked (Figure 23-E).

Figure 23: *Direct services practice patterns: A) forms, B) frequency, C) duration, D) location and E) activities.*



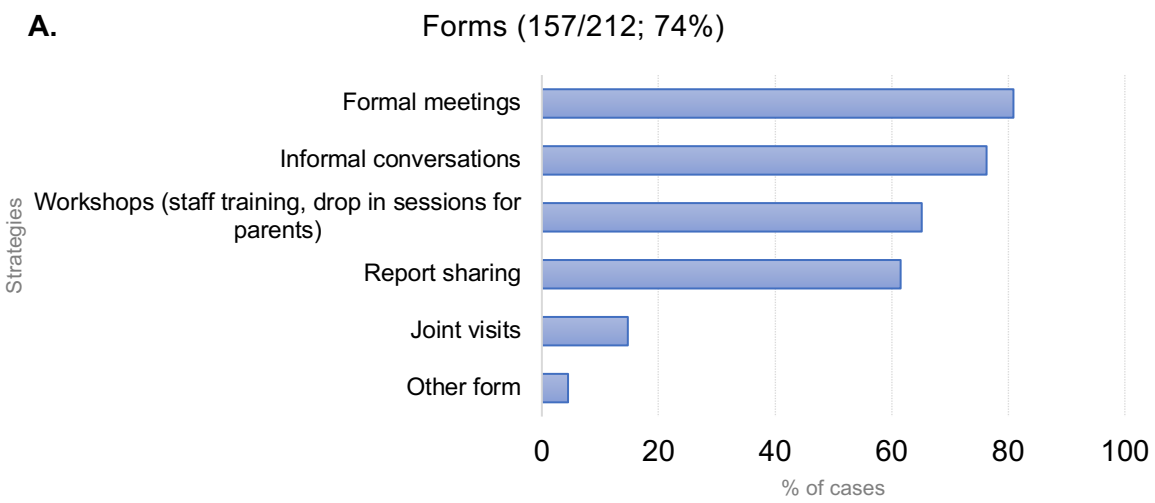
Direct services were provided mostly individually, with weekly sessions of 45 minutes, mainly conducted in an OT room or in a mainstream classroom, and doing sensory, fine motor activities, motor circuits or social activities.

Indirect services

Participants were asked in multiple response items to provide information about the form they deliver indirect services (Figure 24-A) the people involved (Figure 24-B), and who refers students to their services (Table 15).

Figure 24: *Indirect services A) forms and B) people involved*

A.



B.

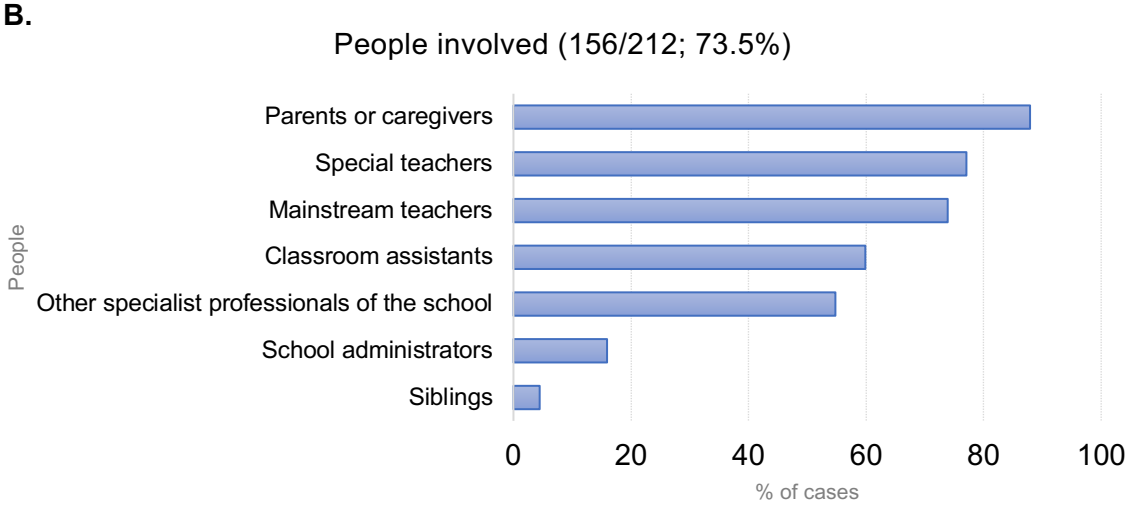


Table 15: *Who refers the students to SBOT services (241/241; 100%)*

People	N	%
Special education teachers	204	84.6
Mainstream teachers	109	45.2
Other professionals EAs of the school	103	42.7
SEN coordinators	79	32.8
External specialist professionals	65	27.0
School board	33	13.7
Parents or caregivers	21	8.7
Other people	20	8.3
Classroom assistants	10	4.1

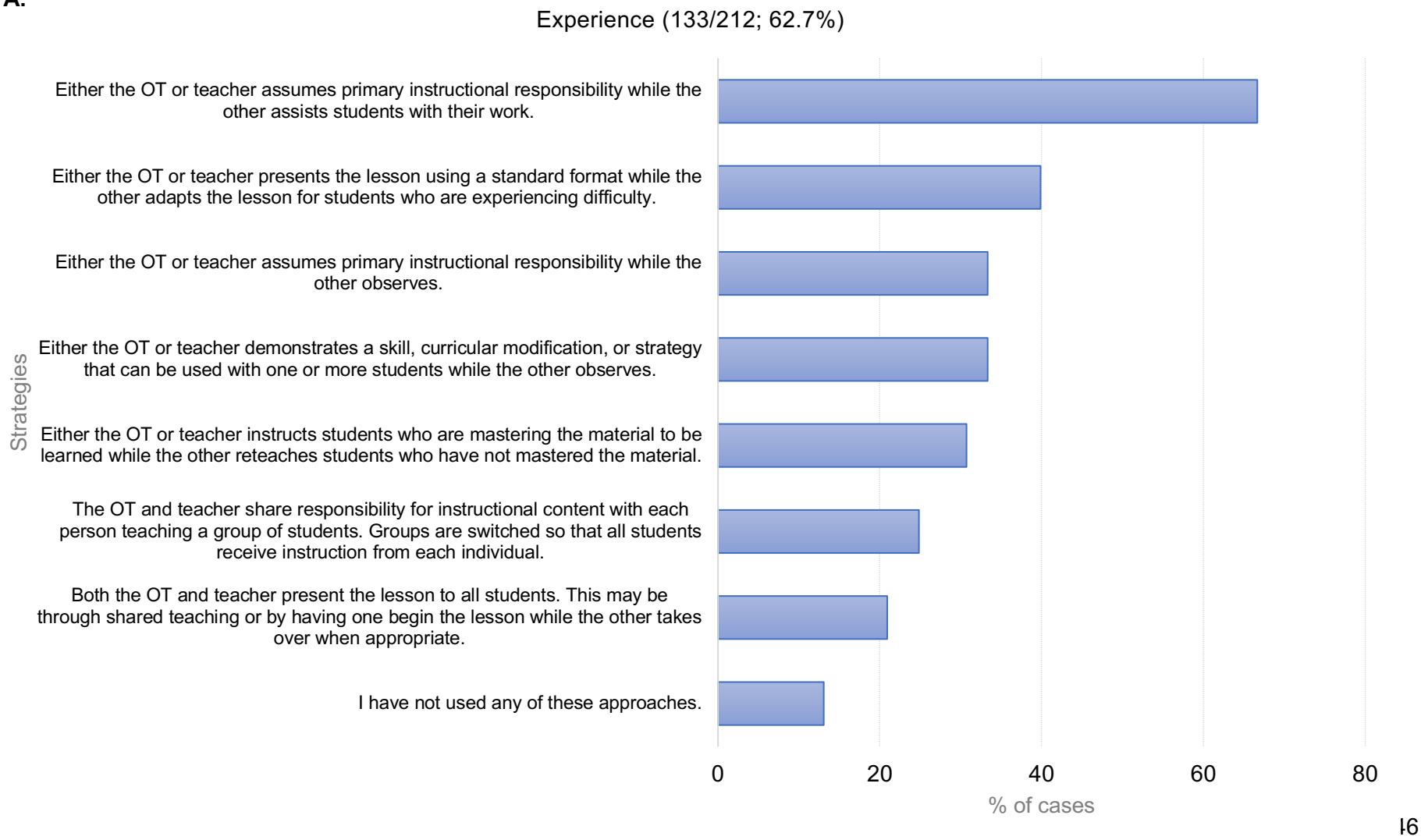
Indirect services were mainly carried out through formal meetings, informal conversations, workshops or exchange of reports, and conducted particularly with parents, special or mainstream teachers. The people who referred the students to SBOTs were mostly special education teachers, mainstream teachers and other professional EAs.

Integrated services

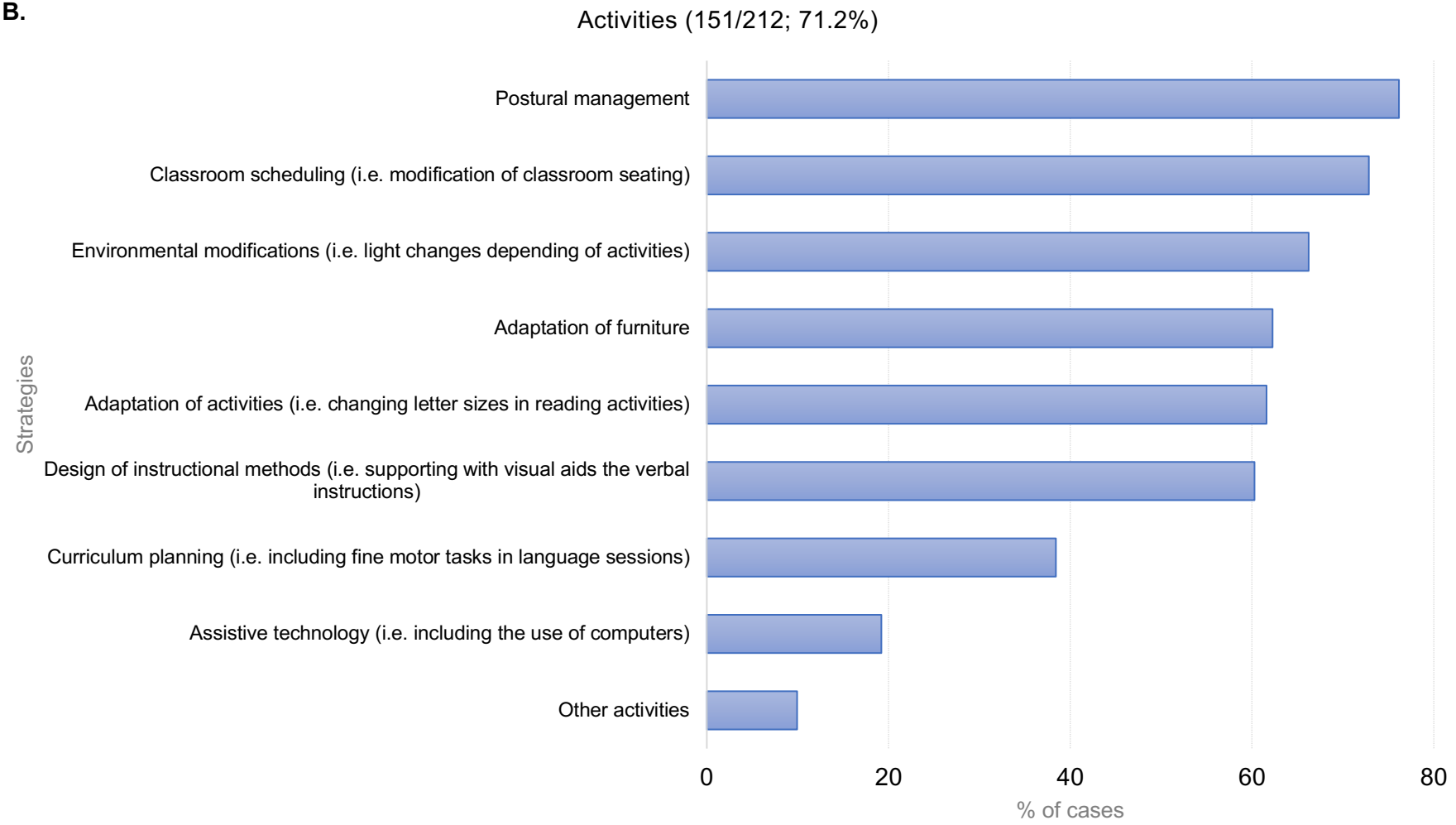
To gather information about integrated services, the experience of SBOTs in providing these services and the activities developed in them were asked in two multiple response items (Figure 25). Concerning the experience in delivering integrated services (Figure 25-A), most participants indicated experience in two or three strategies (n=33, n=38, respectively). Regarding activities (Figure 25-B), most of the participants specified four, five or six activities (n=34, n=39, n=24, respectively).

Figure 25: *Integrated service practices A) experience, and B) activities*

A.



B.


Activities (151/212; 71.2%)
Postural management
Classroom scheduling (i.e. modification of classroom seating)
Environmental modifications (i.e. light changes depending of activities)
Adaptation of furniture
Adaptation of activities (i.e. changing letter sizes in reading activities)
Design of instructional methods (i.e. supporting with visual aids the verbal instructions)
Curriculum planning (i.e. including fine motor tasks in language sessions)
Assistive technology (i.e. including the use of computers)
Other activities
Strategies
0
20
40
60
80
% of cases

The most frequent experiences (Figure 25-A) were the ones in which the OT and teacher assumes different roles such as when one oversees the instruction while the other assists students. The options in which both share the same responsibilities were selected in lower percentages. An example of this is when each teach a group of students and then they switch groups. Regarding activities (Figure 25-B), the most frequent were postural management and classroom scheduling, while other activities included the creation of rest spaces and accessibility equipment in playgrounds.

Other services

The participants were also asked to indicate in a multiple response item other types of services that they provided (n=164; 77.3%). Most participants reported providing two or three additional services (n=48 and n=47, respectively). The most frequent were documentation work (n=161; 98.2%) and preparation/set-up/cleaning of their intervention areas (n=131; 79.9%). Administration functions were also frequently selected (n= 80; 48.8%), as well as collaborating in making school policies (n= 64; 39.0%). Contributing to academic assessments was less indicated (n=26; 15.9%), and other services included preparation of technical aids, support in extracurricular activities, participation in breaks and coordination of medical evaluations (n=11; 6.7%).

Challenges in providing these services

In the first section of the questionnaire, participants were asked to rate a list of possible challenges they might have experienced in the last school year (Figure 26). In the second section, participants were also asked to select a variety of challenges they might face but when providing each of the services discussed: direct, indirect and integrated (Table 16**:**).

Figure 26: *Challenges SBOTs experienced the last school year (152/241; 63%)*

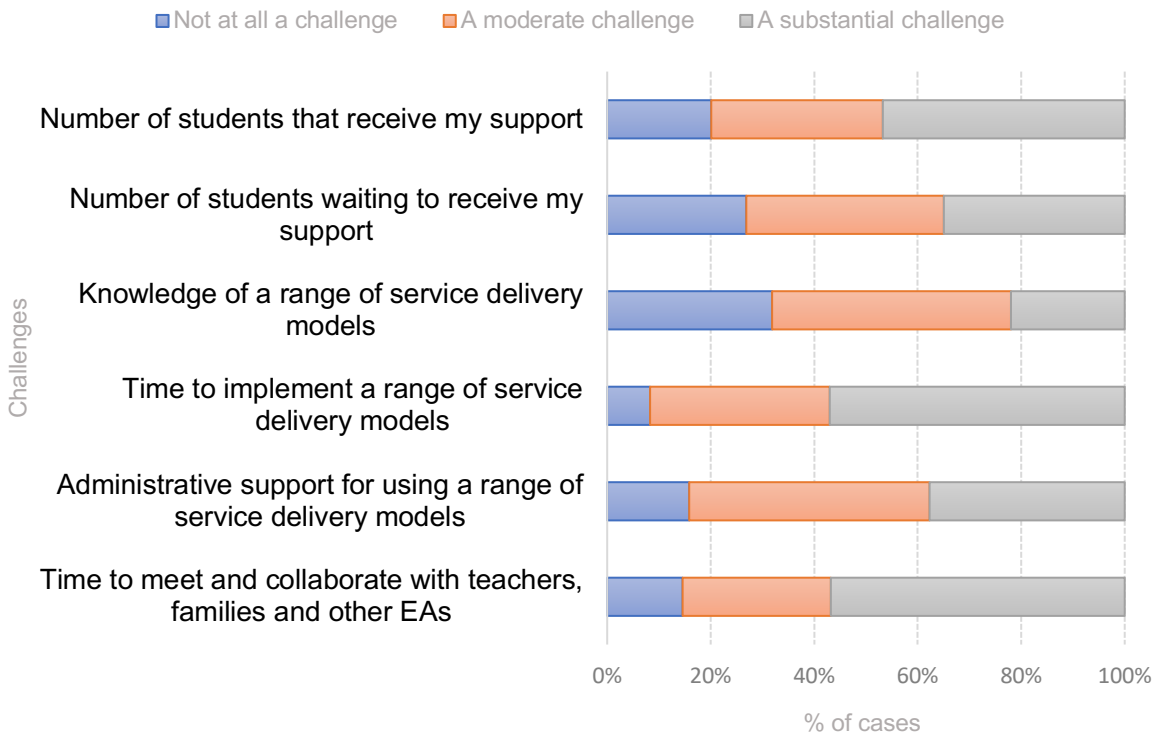


Table 16: *Challenges to provide direct, indirect and integrated services*

Barrier	Direct (171/212; 80,6%)		Indirect (156/212; 73,5%)		Integrated (153/212; 72.1%)	
	n	%	n	%	n	%
Availability of time	93	54.4	110	70.5	103	66.9
Teacher resistance	71	41.5	49	31.4	72	46.8
Financial problems	60	35.1	14	9.0	61	39.6
Administrative resistance	34	19.9	25	16.0	26	16.9
Employer policy does not match with these services	22	12.9	15	9.6	22	14.3
Personal preference	5	2.9	7	4.5	12	7.8
I have not experienced any of these obstacles	29	17.0	30	19.2	23	14.9
Other obstacles	22	12.9	7	4.5	4	2.6

Regarding challenges SBOTs experienced in the last school year (Figure 26), the participants' knowledge of a range of services was indicated as a moderate challenge or not at all a challenge (n=84 and n=58, respectively). The time to implement a range of services and to meet and collaborate with the educational community, in contrast, were selected by the majority as a substantial challenge (n=110 and 113, respectively).

Regarding the challenges to provide each service (Table 16:), most participants identified the availability of time as the most frequent problem for the provision of the three services, followed by resistance on the part of teachers. Financial problems were also a frequent obstacle in the provision of direct and integrated services, but less of a problem for indirect services. The personal preference of the OTs was the least frequent obstacle indicated for the three types of services. Other obstacles to provide direct services included lacking space and resources and having schedule issues. For indirect services, a resistance from parents or external professionals to attend meetings in schools were specified as other obstacles, in addition to a perceived lack of interest from teachers to the services offered and lack of space. Similar challenges were identified for integrated services. However, the number of students who require their support but were not part of the programmes they work in, was a main issue for them, mainly when working in SIPs (School Integration Programmes).

These findings suggest that the types of barriers experienced by the participants would not depend on the type of service provided, with lack of time as one of the significant issues.

6.1.3.3. Collaborative and UDL practices.

Teamwork

Within the questionnaire *teamwork* was defined considering the four categories described by Hernández (2013). A *multidisciplinary team* was one in which services were provided by a variety of professionals from different disciplines who acted independently. *Interdisciplinary teams* were those in which coordination and cooperation commitments between professionals during the assessment and planning of activities were made. This may still result in disciplines assessing students independently, but professionals interact with each other in a variety of ways. *Transdisciplinary teams* were defined as those in which there was an integrated team structure and provision of services, regular interdisciplinary deliberation and communication, and knowledge sharing. *Co-teaching teams* referred to academic interventions that were provided by at least two professionals in a classroom with students of typical ability as well as students with SEN (Hernández, 2013).

The participants were asked in two single response items if they were part of a team and what type of team it was (Table 17). The majority indicated being a member of a team, of diverse types of teams, but mainly an interdisciplinary team.

Table 17: *Characteristics of teamwork practices*

Options	n	%
Part of a school team? (241/241; 100%)		
Yes	229	95.0
No	9	3.7
I don't know	3	1.2
Type of team (223/241; 92.5%)		
Interdisciplinary team	120	49.8
Multidisciplinary team	61	25.3
Transdisciplinary team	34	14.1
Co-teaching team	6	2.5
Other	2	0.8

Collaborative consultation

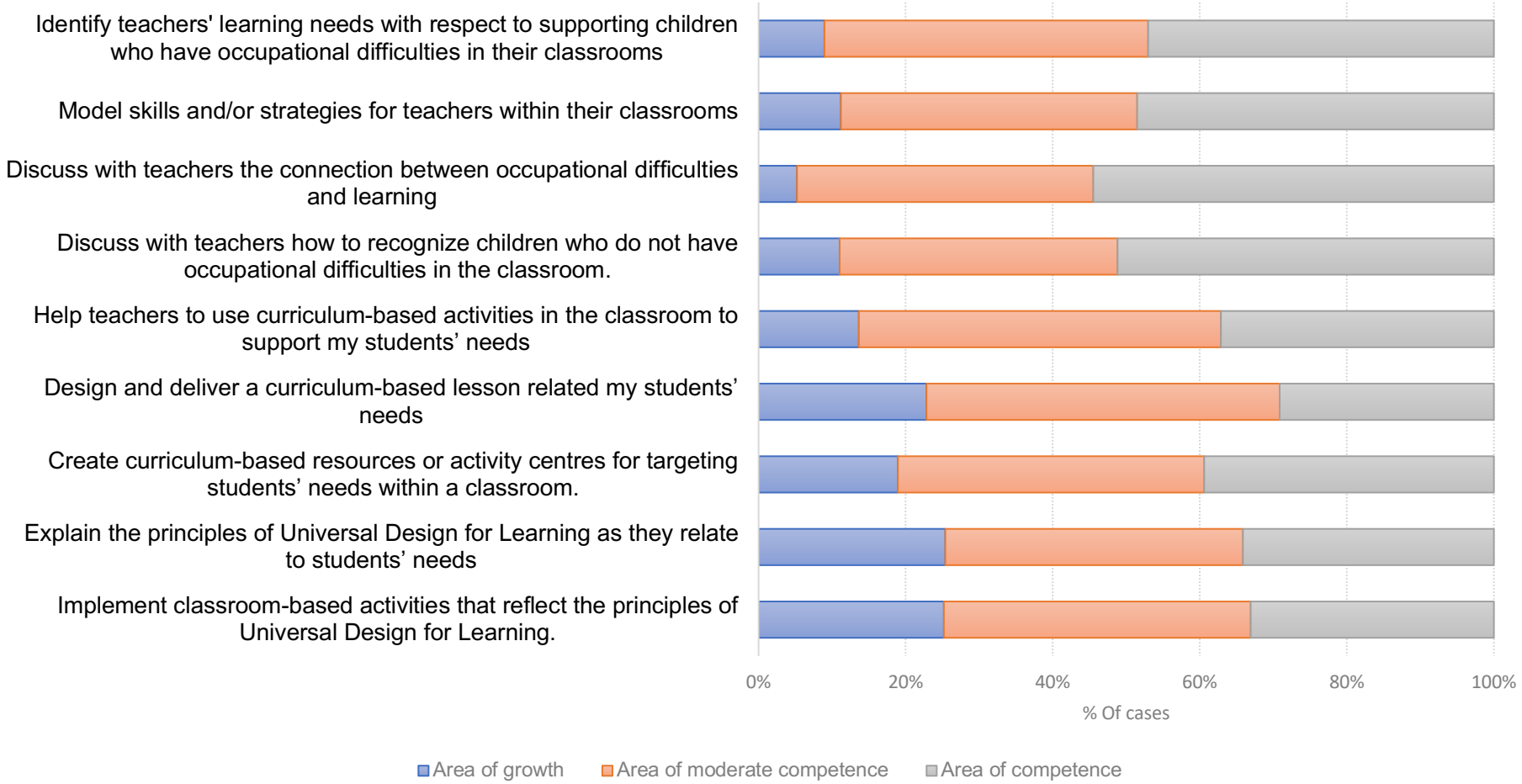
Participants were asked to rate their level of competence in providing collaborative consultation (Figure 27**:**-A) and its benefits (Figure 27**:**-B). Collaborative consultation was defined as a process in which a consultant (e.g., SBOTs), working in an equal relationship, assists a person (e.g., teachers) in their efforts to make decisions and carry out plans in the best educational interest of students (Kampwirth & Powers, 2016).

Participants indicated that four strategies were more an area of competence than an area in which growth was need it (Figure 27**:**-A): discussing with teachers the connection between occupational difficulties and learning, how to recognise children who do not have occupational difficulties, identifying teachers' learning needs regarding occupational difficulties, and modelling skills for teachers. UDL associated strategies, such as explaining its principles, how they relate to student needs, and implementing activities that reflect its principles, were considered areas of competence and growth in similar percentages.

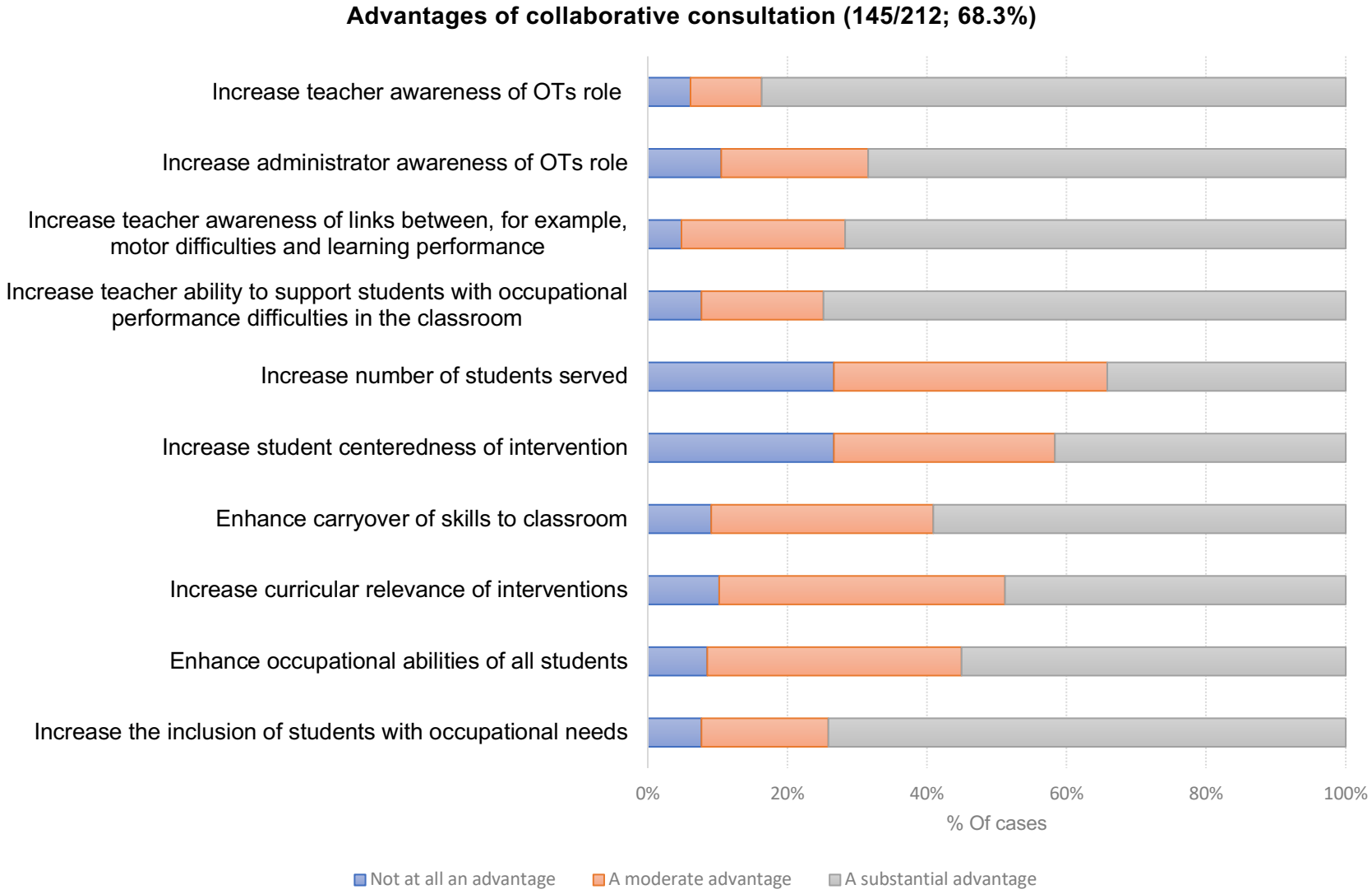
Regarding the advantages of collaborative consultation (Figure 27**:**-B), two were considered substantial advantages by most participants: increasing teachers' awareness of the role of OTs, and the inclusion of students with occupational needs. Three others were also considered substantial benefits, but by fewer participants: increasing administrator awareness of OTs role, teacher awareness of the links between certain areas, and teachers' ability to support struggling students in the classroom.

Figure 27: *Collaborative consultation competence and advantages A) competences, and B) advantages*

A. **Competences for collaborative consultation (111/212; 52.3%)**



B.


Advantages of collaborative consultation (145/212; 68.3%)
Increase teacher awareness of OTs role
Increase administrator awareness of OTs role
Increase teacher awareness of links between, for example, motor difficulties and learning performance
Increase teacher ability to support students with occupational performance difficulties in the classroom
Increase number of students served
Increase student centeredness of intervention
Enhance carryover of skills to classroom
Increase curricular relevance of interventions
Enhance occupational abilities of all students
Increase the inclusion of students with occupational needs
0%
20%
40%
60%
80%
100%
% Of cases
Not at all an advantage
A moderate advantage
A substantial advantage

UDL practices

In the third section of the questionnaire, participants provided information about their knowledge of UDL, its implementation and the consideration of its principles in their services.

Regarding their knowledge, most participants indicated that they were familiar with UDL concepts and had heard the term UDL before completing the survey, and that school staff commonly used the term *UDL* (Table 18:. About implementing UDL, more than half of participants reported the schools implemented the UDL framework (Table 19:.

Table 18: *Participant awareness of the UDL approach*

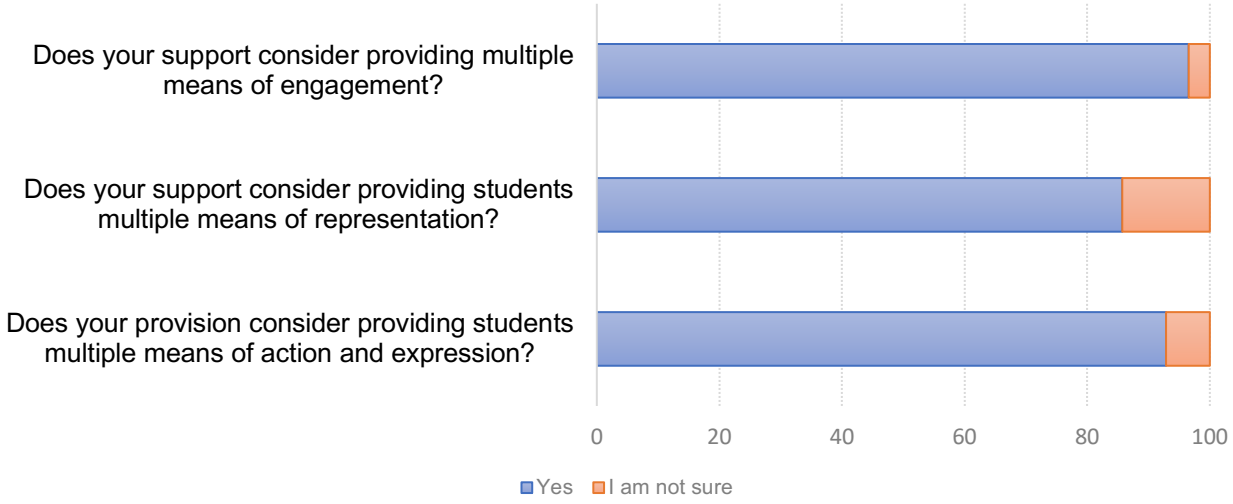
Items	Yes		No	
	n	%	n	%
Before completing this survey, were you familiar with the concepts described in the definition of UDL? (124/124; 100%)	104	83.2	20	16.0
Before completing this survey, had you heard the term "UDL"? (124/124; 100%)	119	95.2	5	4.0
Does the school staff where your work uses the term "UDL"? (121/124; 97.5%)	99	79.2	22	17.6

Table 19: *UDL implementation and the role of participants*

Items	Yes		No		I don't know/ not sure	
	n	%	n	%	n	%
Does the school where you currently work implement the UDL framework? (122/124; 98.3%)	76	60.8	21	16.8	25	20.0
Considering your role in the school where you currently work, do you have any function in the implementation of the UDL framework? (100/124; 80.6%)	29	23.2	44	35.2	27	21.6

When asked about their function, most of the participants stated that they do not have any function in implementing of the UDL approach. Those who indicated that they do (29/124) were invited to answer single-choice items about UDL principles (Figure 28).

Figure 28: SBOTs consideration of UDL principles (29/29; 100%, each)



To understand the involvement of these participants (n=29) in the implementation of these principles, they were asked about their implementation of the guidelines for each of them (Table 20). For the principle of engagement, providing options for self-regulation was the option selected more frequently. For the principle of representation, providing options for perception was more frequently indicated. For the principle of action and expression, providing options for executive functions was mostly selected.

Additionally, in a multiple response item, these 29 participants were asked about the challenges of implementing UDL. Time to implement UDL activities was the most frequently reported challenge (n=25; 86.2%), followed by opportunities to collaborate with teachers in providing UDL activities (n=16; 55.2 %) and the administrative support for this (n=15; 51.7%). The availability of professional development opportunities was selected to a lesser extent (n=13; 44.8%), and participants' knowledge of UDL was the least considered challenge (n=7; 24.1%).

Table 20: *SBOTs' consideration of UDL principles and guidelines*

	Not selected		Selected	
Provision of options for engagement (n=29)				
	n	%	n	%
To provide options for recruitment interest	6	20.7	23	79.3
To provide options for sustaining effort and persistence	7	24.1	22	75.9
To provide options for self-regulation	2	6.9	27	93.1
Provision of options for representation (n=28)				
Options for perception	2	7.1	26	92.9
Options for language, mathematical expressions, and symbols	19	67.9	9	32.1
Options for comprehension	16	57.1	12	42.9
Provision of options for action and expression (n=28)				
Physical actions	5	17.9	23	82.1
Expression and communication	9	32.1	19	67.9
Executive functions	2	7.1	26	92.9

All the participants that replied to section three, regardless of their role in implementing the UDL approach, were asked if it was important for them to implement their services considering this framework (122/124; 98.3%). Most indicated that it was important (n=105; 86.1%), and the rest indicated that it would be important (n=17, 13.9%).

6.1.4. What these results mean? Services of SBOTs

The questionnaire was answered by 241 Chilean SBOTs, most with fewer than six years of school experience. These schools were mostly mainstream public and private subsidised schools with SIPs (School Integration Programmes) located in urban areas and mainly teaching pre-school and primary levels. The students who these participants supported were mainly from primary levels who have been classified with ASD, Intellectual/Learning Deficit, or ADHD. These students needed support with executive functioning, fine motor skills, sensory, or behavioural issues. This implies the participants

supported children on school performance, but some participation issues were also addressed, particularly behaviour.

Although respondents to this questionnaire indicated to provide a variety of services, direct pull-out services were more frequently delivered. This suggests that the participants would be more focused on restoring individual function in an intense or focalised manner, in contrast to more inclusive services (i.e., indirect, integrated, and universal services). This situation contradicts Chilean educational laws that have a social perspective in which the impact of the environment is crucial to understand learning difficulties. This also reveals a tendency towards intense services as more individual and small group interventions delivered primarily in an OT room outside the mainstream classroom were reported. Indeed, the participants reported having difficulties working collaboratively, which is a critical element when analysing inclusive practices. Certainly, participants reported a paucity of experiences where they and the teachers shared the same responsibilities when working cooperatively, especially when collaborative consultation was examined.

The limited involvement of SBOTs in the UDL approach would play a crucial role in this scenario as it reflects a restriction in providing universal services. Indeed, although the participants indicated that they were familiar with UDL and that it was important for them to consider it in their services, only a small number reported having a role in its implementation (29/241). Most of the participants with a role in UDL implementation, however, considered all its principles, although representation was singled out by a smaller percentage. These tendencies suggest that the participants focused more on addressing the why (engagement) and how (action and expression) of learning and less on the what (representation). Finally, the advantages that these participants identified regarding UDL and collaborative consultation could be at risk since their participation in these practices was minimal.

6.1.5. Strengths and limitations of the questionnaire

Conducting an online self-reporting questionnaire allowed me to respond to my research questions: What service delivery models Chilean SBOTs provide and how do they do it? Are the UDL principles involved in these services? Indeed, this method aligns with the most frequent method used in research to explore SBOTs services (See Section 3.1). However, as a cross-sectional survey, it produced a glimpse at one point in time about Chilean SBOTs, lacking causal inferences and limiting the generalisation of its results. Since I did not aim for causal inferences and generalisation, this was not a major issue. Nevertheless, I acknowledge that it can be a concern for some scholars, particularly when trying to explore inclusive practices, as they commonly evolve with time. This might be relevant to consider in contexts where changes happen frequently, such as what happens in schools with educational reforms. This suggests that what I identified in 2020 could not reflect the reality of Chilean SBOTs today, as many changes have occurred since I collected the data, including the Covid-19 pandemic. However, it provides crucial knowledge that was missing until now.

For this new knowledge to be valid, it is important to examine the validity of the method I used, which can be done considering two stances (Cohen et al., 2018): whether participants who completed the questionnaire did it accurately, honestly and correctly, and whether those who did not reply would have given the same distribution of answers as did the respondents.

The first position raises the question of how I ensured that participants were telling the truth about themselves and the questions posed to them (Dadds & Hart, 2001). I presented the questionnaire to the participants as an opportunity to reflect on their professional practices, an exercise that could benefit them and others, as an effort to promote honesty. In addition, I ensured their anonymity and shared the results with those who provided contact information. No one who received the results made any comments

regarding issues of honesty. However, I did not verify their honesty, which I could have done, for example, in the focus groups, as follow-up instruments. I could have also encouraged greater honesty by reminding respondents that truthful responses would more accurately reflect their practice, that there were no right or incorrect responses, and that the purpose was not to criticise their practices. These aspects should be considered in future research.

The second stance turns the attention to external validity in which possible non-response bias may result in inaccurate estimates of population parameters (Peytchev, 2013). I did not intend to generalise the results obtained in this questionnaire, and therefore external validity was not a worry as I acknowledge that what I found represents those Chilean SBOTs that replied to my questionnaire. Nevertheless, if I compare the characteristics of them with the target population (those identified through governmental databases; see Section 2.4), there were similarities. Hence, it is likely that the SBOTs who replied to this questionnaire represent those who did not, but this cannot be confirmed.

In terms of the distribution of the questionnaire and the impact of the strategies I used to maximise the response number, I managed to reach participants of all the regions of Chile, which also supports its reliability. In addition, 241 participants overcome the sample sizes of most of the surveys conducted in the literature examined, which on average had 140 participants (see section 3.1). Indeed, only five articles that examined SBOTs service models included more than 200 participants, all of them conducted in the USA (Burtner et al., 2002; Case-Smith & Cable, 1996; Crowe & Kanny, 1990; Kaelin et al., 2019; Seruya & Garfinkel, 2020). This demonstrates that the non-restrictive approach within the group of Chilean SBPTs reached a substantial number of participants, although the sampling strategy was not random.

The number of responses in each section, however, progressively decreased, with 50% of the participants contributing until the final section. This could have happened because of the number of items and the time needed to respond to them, which could have impacted on participants' motivation to continue with the following sections. In addition, the

possibility I gave to them to not continuing with the next section could have affected since participants would have felt less committed to reply to the next sections. These issues should be considered for future studies, and include, for example, the possibility for participants to indicate why they decided not to continue with the next section.

From another perspective, I made numerous efforts to ensure the questionnaire's internal validity, which is a prevalent practice among researchers conducting cross-sectional studies (Cohen et al., 2018). These efforts included: consulting with experts in the field to determine whether the questionnaire measured the desired trait; and conducting two pilots to support its reliability and validity by refining the content, language, and length as necessary. Nonetheless, while analysing the results, I discovered design flaws in the queries that were impossible to resolve. This is one of the most significant drawbacks of cross-sectional studies (Bryman, 2015). One of these issues was the quantity of items I used to explore direct, indirect, and integrated services, as I included more direct service items. This distinction may generate additional data for this type of service, jeopardising the reliability of the results. I separately reported the data from these items to address this issue. However, greater balance would have enhanced the integrity of my questionnaire.

I also described several details of how I designed the questionnaire, including the articles I used for its creation, types of items, organisation, software used, ethical considerations, sampling strategies, and data analysis methods. By clearly providing these details, this questionnaire has the potential to be replicated, which is essential for a quantitative instrument (Bryman, 2015). Moreover, only the items related to statistical analyses in the CROSS checklist were not completely followed since my aim was descriptive, and hence I conducted simple frequency tests, which were explained in detail. The provision of all this information ensured that the questionnaire was sufficiently transparent and reproducible.

6.2. What are the factors influencing SBOTs to work in this way and how do they influence? Focus group results

After the questionnaire, I conducted online focus groups to understand its results in a deeper way and to identify the factors influencing SBOTs to work on certain manners. I followed the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist to report these results, which promotes full and transparent reporting considering the necessary steps to ensure rigor, comprehensiveness, and credibility (Tong et al., 2007).

6.2.1. Characteristics of focus group participants

Focus group participants were a subsample of questionnaire respondents, reaching up to 18 SBOTs, who were assigned to any of the four focus groups conducted (F1 to F4) depending on their availability of time and scheduling suitability (Table 21).

Table 21: *Focus group demographics*

Group	Characteristics		No. of participants (n)				
			F1	F2	F3	F4	Total
Participants' characteristics	Years of experience	From 1 to 3	4	2	2	2	10
		From 4 to 6	1	2	3	-	6
		From 7 to 9	-	-	-	1	1
		From 10 to12	-	1	-	-	1
	Region	Metropolitan	4	1	1	1	7
		Valparaiso	-	1	3	1	5
		Biobio	-	2	-	1	3
		Maule/Araucanía/Rios	1	1	1	-	3
Schools' characteristics	School type	Mainstream with SIPs	4	4	4	2	14
		Mainstream no SIPs	-	-	-	1	1
		Special school	1	1	1	-	3
	Governance	Public	3	3	4	1	11
		Subsidised private	2	2	1	1	6
		Fully paid private	-	-	-	1	1
	Rurality index	Urban	4	5	5	2	16

Table 21: *Focus group demographics*

Group	Characteristics		No. of participants (n)				
			F1	F2	F3	F4	Total
		Rural	1	-	-	1	2
Students' characteristics	Class groups	Preschool	2	-	2	1	5
		Primary	3	5	3	2	13
Total (n)			5	5	5	3	18

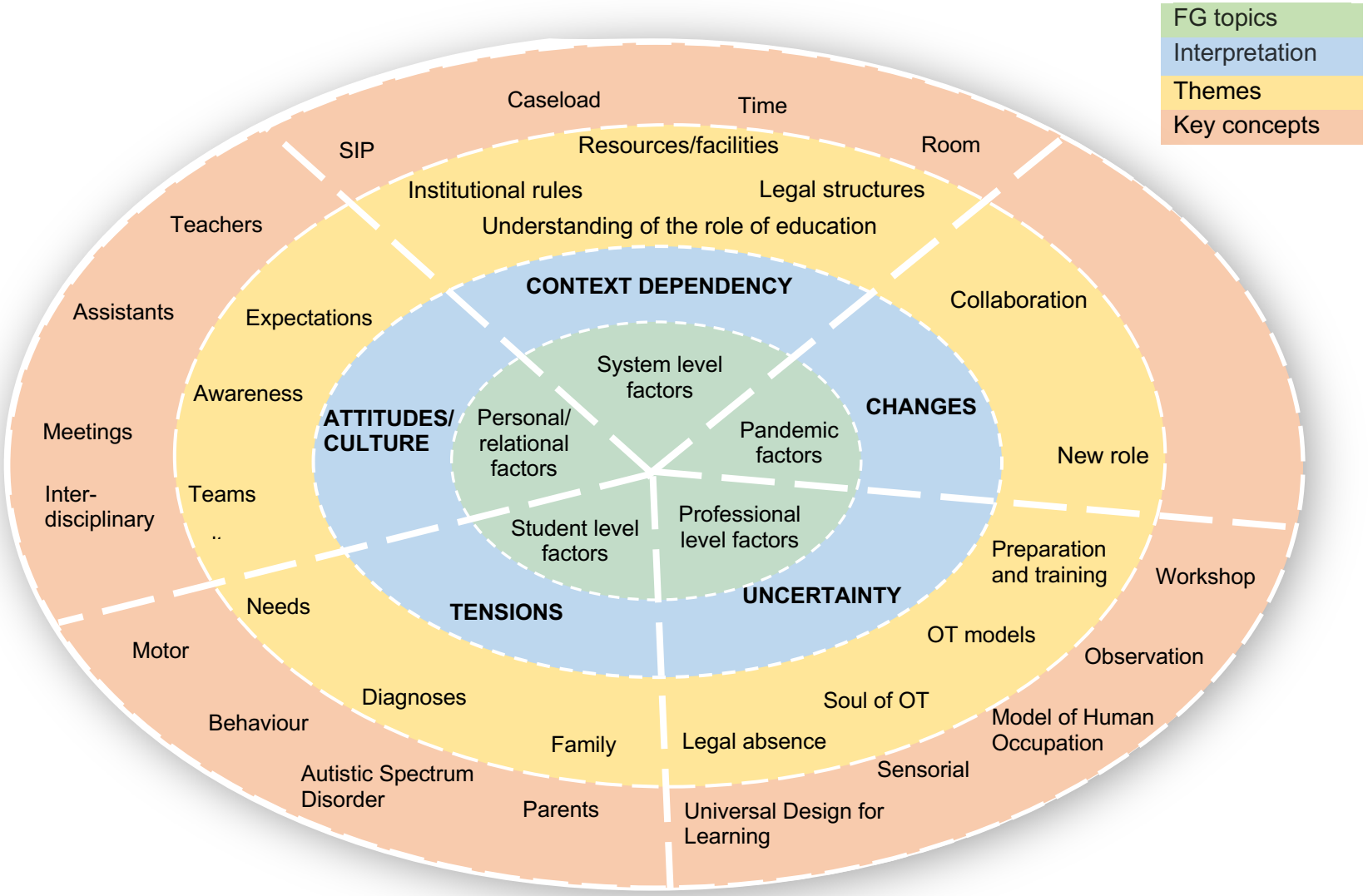
As Table 21 shows, focus groups participants had mainly one to six years of experience working in school settings, and most were working in the Metropolitan region (Santiago) and Valparaíso (central Chile). The schools were mainly public mainstream schools with SIPs (School Integration Programmes), predominantly located in urban areas, and the participants supported students mainly in their primary years.

6.2.2. Main findings: Factors influencing Chilean SBOTs services

I identified multiple factors influencing the services delivered by Chilean SBOTs. Five main sources were involved, each of them with themes and key elements detected through a thematic and content frequency analysis (available in Appendix 7 and 8).

Figure 29 presents these findings in the form of an oval that symbolises the levels of analysis, each one represented by a colour. The sources from which these factors arise are shown in the centre (green colour). This level is followed by a concept that represent the main element of my interpretation (light blue colour) and themes that I identified (yellow colour). The key elements identified are presented on the outer edge of the oval (orange colour). Themes and key elements are separated by dotted lines that represent their permeability and how they influence each other.

Figure 29: *Summary of focus group findings*



6.2.2.1. System level factors (centre-top of Figure *29*)

System level factors refer to the influences institutional sources, including schools, the ministry of education or any other institution involved in educational processes. I identified that the practice of the participants was context dependent as their services were influenced by various institutional factors. Four themes represented this dependency: (1) the role that education plays in Chile; (2) legal structures; (3) institutional norms; and (4) the availability of resources and facilities.

Regarding the role of education, participants argued that in the Chilean society, a traditional conception of education predominates, one that is heavily concentrated on the passive transmission of content, which affect the services they are permitted to offer:

> The teaching approach [in Chile] is overloaded with content... and is often limited by the way in which the teacher expresses [the content] to the students, and therefore, of course, the understanding of diversity as the basis of that… there we have a fragile base.
>
> (P1, 4 to 6 years of experience in a special school)

> The main factor is that the education system and the schools have strict systems; the teacher is inside [the classroom], and the professional [e.g., SBOTs] is outside, and if you need to work with a student, you take that student out.
>
> (P4, 1 to 3 years of experience in a mainstream school with SIP)

> It is difficult to provide services in the classroom because you walk in, the children immediately lose their attention, and that drives the teachers crazy, which is normal because under this [traditional] model the teacher is expected to be ahead… The system defines us; we get there [to the schools], and this is what the system allows us [to do].
>
> (P3, 1 to 3 years of experience in a mainstream school with SIP)

> This traditional and conventional vision is that the child must be there receiving the content that the teacher gives him, like a box that we must fill in with information. I think that's one of the factors that greatly affects the type of service that we can provide.
>
> (P16, 1 to 3 years of experience in a mainstream school with SIP)

Other participants claimed that the system makes difficult to provide integrated services, which are characterised by a collaborative relationship between SBOTs and teachers. P3 (1 to 3 years of experience in a mainstream school with SIP) stated that “the prevailing educational model [in Chile] is so strict that it takes away everything we could build”. Another participant shared that “when the context limits you so much, in this case, the educational system limits the type of intervention” (P4, 1 to 3 years of experience in a mainstream school with SIP). This was also argued when discussing about UDL. P12 (1 to 3 years of experience in a mainstream school with SIP) claimed that “we [OTs] have an important role [in UDL implementation] due to our nature, but the context in which we are working makes us less important”.

The influence of legal structures and institutional norms were closely related. Some participants stated that educational rules and school requirements influence the students they support. For example, P7 (4 to 6 years of experience in mainstream schools with SIP) indicated that “in my case, they [school administrators] told me: 'You have to deal with these children [students with ASD]’”. P6 (1 to 3 years of experience in a mainstream school with SIP) also declared that “In my school I can't choose who I support, they [school administrators] tell me ‘You have to cater for permanent and temporary SEN students’”. Another participant added that “the hours that the school hired me were to support children with ASD” (P16, 1 to 3 years of experience in a mainstream school with SIP).

Institutional rules and legal structures also affected the types of activities participants would provide and where to provide them:

> In the end, the system asks you for that; they [school administrators] say that OT supports students' motor skills, so if a child does not write, the first thing they do is say 'it is the OTs who support writing', and that determines what OTs support.
>
> (P5, 1 to 3 years of experience in mainstream schools with SIP)

> The decrees speak about support within the resource room… they [teachers] are used to us taking the child to the resource room so they have adequate intervention time; now, the new decree allows us to modify that a bit and have teachers come into our classroom and learn with us…
>
> (P15, 4 to 6 years of experience in mainstream schools with SIP)

Another participant argued about the freedom to be an OT in school settings: "… they [the school administrators] had rules that were difficult for me to understand because I felt that I was not allowed to be an OT" (P12, 1 to 3 years of experience in a mainstream school with SIP).

The availability of resources/facilities to provide their support was another factor frequently discussed. Participants argued that the availability of time and space, their caseload and scheduling influenced their services. P2 (1 to 3 years of experience in mainstream schools with SIP) mentioned that "the type of activity [we can do] is reduced to the time and space we have at a school". P6 (1 to 3 years of experience in a mainstream school with SIP) argued similar issues "It's about the number of students you have [to support] and the hours you're hired for this; My schedule is enough to do many individual sessions, but I also often have to support children in groups".

P9 (10 to 12 years of experience in special schools) and P10 (1 to 3 years of experience in a mainstream school with SIP) also discussed about time constraints and how these affect their provision. P9 stated that "time is given according to the number of individual services you provide and sometimes the quality of support is neglected"; P10

mentioned that “even me, being hired for 44 hours [maximum number of hours to be hired at a school], I can't see all the students who need support”. P16, for their part, argued that:

> The hours are assigned for individual attention and paperwork, so doing a few hours of workshop for the school means hiring me for more hours, which increases the amount of money that school administrators must invest, which is not an option.
>
> (1 to 3 years of experience in a mainstream school with SIP).

Adding up to these themes, I detected 12 key elements that were related to them (Table 22). These were assessed based on their extensiveness, resulting in four to be deemed essential and therefore included in Figure 29: time, room, caseload and SIP.

Table 22: *Extensiveness of key elements of system level factors*

No	Terms	F1	F2	F3	F4	Total
1.	**Time**	35	24	12	17	88
2.	**Room**	19	14	31	8	72
3.	Space	10	9	3	3	25
4.	Income	0	0	0	1	1
5.	Material	0	3	7	0	10
6.	**SIP**	15	17	21	2	55
7.	Programme/project	8	1	10	6	25
8.	Cases	7	3	3	6	19
9.	**Hours**	15	3	5	9	32
10.	Load	4	4	5	3	16
11.	Municipality	1	3	4	3	11
12.	Corporation	2	2	6	1	11

The most frequent elements discussed in these focus groups were related to resources/facilities and institutional rules.

Regarding resources/facilities (terms 1 to 5 in Table 22), *time* was the most mentioned concept among the four groups, particularly in F1, with participants discussing about the difficulties in allocating time to provide a variety of services. Another frequent concept was the term *room,* which was mentioned in all the focus groups but particularly in F3 when referring to the services provided in mainstream classrooms. However, when this concept was used to discuss infrastructure issues, participants indicated a lack of a designated room to provide their services. In F3 and F2, the discussions were mainly related to how schools want OTs to provide sensory integration interventions, but there are no appropriate spaces for this. The concept *room* was closely related to the term *space*, which was used less frequently but mentioned in all the groups. Participants argued that activities and assessments were confined by the space in which they take place.

Other elements were related to institutional rules (from 6 to 12 in Table 22). The most used term among these elements was *SIPs (*Scholar Integration Programmes). This term was used among all groups when describing the rules imposed by these programmes to their support as SIP's rules indicate aspects including which students should be supported, how should be supported, the dates to assess them, the hours allotted for meetings and interventions, and where the interventions take place. These elements were, therefore, also involved in the discussions about caseloads, which is represented in this table by the concept *hours*.

When discussing about SIPs and caseloads, differences between working in SIPs and special schools were discussed, including: more freedom in special schools regarding assessments, a better understanding of UDL, and higher levels of communication. Other differences discussed when talking about SIPs were related to those OTs who work in several schools under a unique employer and the effectiveness of this. This is commonly known as an itinerant employment framework in which OTs are allocated to several schools and they visit schools one day or half a day per week. One participant in F1 was employed

in this way, and there were discussions about the difficulties to, for example, feeling an outsider as they were not considered part of the educational community.

6.2.2.2. Personal/relational factors (top left of Figure 29)

Regarding personal/relational factors, I identified that the attitudes of the educational community and the school culture have a significant role in shaping the provision of SBOTs. The attitudes and relational culture within schools were shaped by diverse themes, including: (1) the community's expectations and attitudes towards the support provided by SBOTs, (2) the awareness of the community of SBOTs role, and (3) how teams work together.

Regarding the influence of expectations and attitudes, a participant claimed that:

> The [type of] support depends a lot on expectations… teachers often have lower expectations [for students with SEN] than for other students. So, the demands of the teachers for these students are usually lower, which shapes our support.
>
> (P4, 1 to 3 years of experience in a mainstream school with SIP)

Other expectations that according to the participants influence how they usually work were related to how previous SBOTs have provided their services. Within these discussions, one participant shared her experience in two different schools:

> The previous OT's job was limited to working with one child at a time because their schedule wasn't capable of more, so when I came in, I felt like the teachers were averse to other ways because that's what they've [had] throughout the time. … At the other school, the colleague who came before me implemented some excellent work based on an integrated framework, it wasn't just one-on-one with a child; so [teachers] were open to the possibility of doing other things.
>
> (P5, 1 to 3 years of experience in mainstream schools with SIP)

Another participant, when discussing the relevance of integrated services argued that the attitudes of teachers were shaped by their age, with a difference between younger and senior teachers:

> What happens to me is that the teachers are quite senior; there are some young teachers; they [young teachers] are the ones trying to apply that [integrated services] strategy, but senior teachers don't like it as much; they feel that we are invading their classrooms, so they are not willing to apply these types of [integrated] strategies in their classrooms.
>
> (P10, 1 to 3 years of experience in a mainstream school with SIP)

In view of this claim, the unwillingness was based on educational services provided in a traditional manner; therefore, traditional services, such as direct services, were expected from SBOTs. This was also mentioned by the participants who admitted that it was more comfortable for them to work in their own space because they were trained in this way, and they were used to providing services in a traditional way. A participant discussed how the provision of services in other settings impacted their support in schools, in which a biomedical perspective was ascribed:

> OT for children comes from the clinical field... I feel that what has been tried is to bring the clinic to the school, and that is why I feel that there are so many direct services outside the classroom, so that the child can increase their abilities or overcome barriers, or everything we do as actions has to be taken from the environment where the child has problems, so I get the feeling that there is a biomedical model associated with this idea... if the clinic works like this, let's apply the same at school, and is not the same. I, at least, have the vision that when working in a school you are part of a system, and that the child has difficulties that are manifested in the child's interaction with the environment, then taking him out of

> the system to work on his skills that allow him to return to a system that unbalances him, for me, that does not solve the origin [of the problem].
>
> (P18, 7 to 9 years of experience in a mainstream school without SIP)

Regarding the awareness of the education community about SBOTs, it was argued that the community lacks this knowledge. This was considered an obstacle to the provision of their services, which also influenced the attitudes towards them. P16 (1 to 3 years of experience in a mainstream school with SIP) indicated that “the educational community does not know what we do, who we are”. P12 (1 to 3 years of experience in a mainstream school with SIP) also stated that “the main problem in the area is the lack of information that teachers and assistants have regarding our work”. P13 (4 to 6 years of experience in mainstream schools with SIP) took the discussion to a ministerial level, arguing that “there is no plan at the Ministry of Education level for OTs, what can we do, so that is why there is so much ignorance among teachers; we must explain our role”.

Participants also mentioned that this unawareness impacted the willingness of teachers to welcome them in their classrooms. Problems regarding the interruption and distraction that their entrance to the classroom entails, and teachers feeling threatened impacted teachers’ attitudes and the work environment:

> Perhaps the issue is that there is no connection between the two parties, the teacher and the OT who are in the class. Teachers view as a threat when another person comes into their classroom and works with a group that distracts the other students… so you bring the student into that little room and work alone in a different place.
>
> (P8, 4 to 6 years of experience in mainstream schools with SIP)
>
> [our support] depends a lot on each context and the work environment... and if they [teachers] let you do your work or not because if they don't want you in their classroom, you can't go in, so you must ask for permission; is not easy.
>
> (P12, 1 to 3 years of experience in a mainstream school with SIP)

> In my case, I did many of those [integrated] activities, organizing the classroom, adapting activities, adapting furniture, modifying the environment, but I could only do it with exceptional teachers who allowed me to be in the classroom; that my inclusion [in] the classroom was not a problem for them. Those teachers saw it as a benefit; depended on the interest of the teachers.
>
> (P4, 1 to 3 years of experience in a mainstream school with SIP)

> There are teachers who don't care if the school is open to new experiences. If the teacher is not willing to get new information and help, your help stops there, even if it consists of suggestions for simple things to apply.
>
> (P5, 1 to 3 years of experience in mainstream schools with SIP)

The above gives a role to teams and how this culture shapes the attitudes of the educational community towards OTs. In the focus groups, it was argued that there were diverse issues regarding this matter. For example, participants claimed that the system does not provide enough time to collaborate because the interest is on performance and content. This was stated by P3 (1 to 3 years of experience in a mainstream school with SIP), who claimed that “the system does not give us time for that [collaborate], they give us time to carry out direct interventions”. Moreover, some participants indicated that although time to collaborate was available, there was a lack of team culture that impacted their role and the levels of collaboration. P12 shared that “It is frustrating to arrive at a school and have to validate yourself every day, earn your place, validate yourself against teams that have been working for years” (P12, 1 to 3 years of experience in a mainstream school with SIP). P17 stated similar issues when discussing about the role of interdisciplinary teams:

> The most difficult thing for me, for example, is developing interdisciplinary work with teachers who feel overwhelmed by the constant lack of time to do their work... sometimes, there are no opportunities to collaborate due to time and resources, but

sometimes there is time, but there is no teamwork, so you must ask yourself if the problem is the lack of time or the way of working.

(P17, 1 to 3 years of experience in a mainstream school with SIP)

The relevance of teamwork became evident when some participants, who acknowledged working with an established team culture explained that collaborative work influenced their work with teachers and families positively. Within this idea, the characteristics of team members were crucial:

I was lucky because this team was very flexible and permeable. The interdisciplinary work was [perceived] as a significant benefit for the entire team. [Although] they all had their students who were supported individually, the spaces [to collaborate] were preserved and valued.

(P4, 1 to 3 years of experience in a mainstream school with SIP)

The most important thing is to find co-workers who pursue the same common objective because it is one thing to work in an interdisciplinary team and for each one to have their objectives, but when a shared objective is achieved between two or three disciplines it is outstanding. But I feel like that doesn't happen a lot; It is beneficial when this happens, and this has to do with the personal factors of the professionals, your praxis, because not all our work goes at the same pace, so this also affects how we work as a team.

(P5, 1 to 3 years of experience in mainstream schools with SIP)

In relation to the key elements found regarding personal/relational factors (Table 23), nine elements were identified, and four were selected as being critical: teachers, assistants, meetings and interdisciplinary (included in Figure 29).

Table 23: *Extensiveness of key elements of personal factors*

No	Terms	F1	F2	F3	F4	Total
1.	**Teachers**	122	85	82	59	348
2.	Special education teachers	6	20	8	6	40
3.	Speech and language therapist	3	10	21	2	36
4.	Psychologist	6	6	12	2	26
5.	**Assistants**	14	9	14	5	42
6.	Transdisciplinary	2	7	2	2	13
7.	Multidisciplinary	7	4	1	3	15
8.	**Interdisciplinary**	11	3	0	9	23
9.	**Meetings**	20	7	17	11	55

These elements were mainly related to the themes of community's expectations and how teams work together.

The most used term regarding community's expectations (terms 1 to 5 in Table 23) was *teachers*, which supports what was described previously, particularly regarding teachers' expectations and their role within teams. This suggests that the discussions among these focus groups were primarily related to the relationship between OTs and teachers. However, a new element within this group of people was identified, which was the concept of *special education teachers*. This term was utilised in all the focus groups, suggesting that OTs have experience working with special education teachers. However, it was more frequent in F2, in which aspects such as the role of special education teachers in increasing collaborative practices were discussed. Indeed, special education teachers were described as those with whom participants worked more collaboratively, in contrast to what was described for mainstream teachers.

The term *assistants* was used to refer to teaching assistants and to the participants themselves as EAs (Educational Assistants). The discussions around teaching assistants were based on the people involved in indirect services. Some of the participants, particularly in F1 and F3, indicated that teaching assistants have an essential role in the immediate context of students since they accompany the children throughout the day and, therefore,

can detect any difficulties. This was considered relevant for practical aspects of the SBOTs' interventions. However, there were discussions around the lack of involvement of assistants in indirect services, which was related to time constraints and a lack of knowledge from the assistants regarding the work of OTs. Another concern expressed was that when the participants (SBOTs) entered the classrooms, they found themselves doing the work of the teaching assistants, describing this as a constant struggle.

Other terms that were also used in the focus groups and relate the term *assistants* were *speech and language therapists* and *psychologists* as they act as EAs within Chilean schools. In fact, these professionals are required by law to be hired in schools with SIPs (School Integration Programmes), and this was the main discussion: the difference between what the law establishes for them and for SBOTs. In fact, some participants called for the need to be appointed by law, as this influences what schools do to support students with SENs or disabilities.

Regarding the topic of teams (terms 6 to 9 in Table 23), the term *interdisciplinary* was used more frequently, although it was not discussed in F3. In the other three groups, this concept was used to refer to the type of team that are formed in SIPs and special schools. It was also used to discuss differences between working as part of an interdisciplinary and a multidisciplinary team, including issues such as a shortage of time to truly work under an interdisciplinary perspective. The term *meetings* was also related to teams in reference to the strategies the schools use to gather the educational community and through which many aspects of the SIP are discussed. Time was, again, an issue for meetings, and although for participants working in SIPs there were specific hours to meet, these were considered insufficient. Other participants argued that spending time in meetings resulted in less time supporting children, which was an issue for the quality of their interventions.

6.2.2.3. Student level factors (bottom left of Figure 29)

Participants indicated that the characteristics of students also guided their services. P10 (1 to 3 years of experience in a mainstream school with SIP) indicated that "[SBOT support] depends on the characteristics of the student". P4 (1 to 3 years of experience in a mainstream school with SIP) regarding assessments stated that "…one chooses the type of assessment to apply according to the characteristics of the students". P11 (4 to 6 years of experience in special schools) stated that "It is more for the characteristics of the student than for other things, according to their needs".

The provision of services based on students' characteristics, however, was characterised by tensions that affected the services provided. Three themes interconnected described these tensions: (1) the true needs of students; (2) the diagnoses of students; and (3) the family dynamics of students.

Tensions between needs and diagnoses were discussed at different levels. For example, institutional rules played a key role in providing services based on the diagnoses of students, aspects described in system level factors above. However, this was also discussed at a student level, with participants indicating that although formal requirements steer them to work with specific children based on their diagnoses, their support considered a needs-based approach. The clash between these two approaches generated tensions that were described by participants. P6 (1 to 3 years of experience in a mainstream school with SIP) stated that "you [SBOTs] embrace what is more suitable to the child's needs, and along the way you carry out the intervention". P9 (10 to 12 years of experience in special schools), indicated:

> Personally, the characteristics of the child define how I assess. I do it through observation, without a standardized instrument because most of the students have a psychometric side and an ophthalmological diagnosis, it may be inappropriate to apply a test, or it may yield results that are not accurate.

A needs-based approach, however, was described as difficult to implement because of the focus on diagnoses and on academic performance within school settings in Chile. Participants described that this approach influences which students they can support and that they have neglected some students because they did not have a diagnosis. Therefore, their needs would not be met. This situation was also described as a problem to implement the support considering the OT perspective, neglecting aspects such as daily life skills since these do not impact the academic results of the students:

> Since he or she [children] don't have a diagnosis, he or she can't be included [in SBOT services] ...it's hard to support a child [without a diagnosis] because there are legal issues, consent, evaluations. Some needs, for example, behavioural needs or someone who has limited skills for daily living are not considered part of the SIP because they need to have a diagnosis to be included.
>
> (P7, 4 to 6 years of experience in mainstream schools with SIP)

The students' characteristics and needs also influenced the activities provided. Group activities were described as beneficial since they provided opportunities to, for example, support social interaction skills. However, they were difficult to arrange due to scheduling issues between the students.

Regarding family dynamics, the participants reported that the students' families were the immediate context in which the children develop, and therefore they have a major impact in their learning processes. Tensions between the current family dynamics and educational requirements were discussed. For instance, P3 (1 to 3 years of experience in a mainstream school with SIP) indicated that "in the social context, children no longer play; four-year-olds are on the phone, on a screen all day. [There is] a lack of early stimulation". Tensions were also described when families were asked to accept OT provision. In this regard, P18 (7 to 9 years of experience in a mainstream school without SIP) indicated that "the obstacles are related to the characteristics of the students... and also due to family issues, because

sometimes they decide not to accept the services". Issues about the engagement of families in the support provided by SBOTs were also mentioned. P13 (4 to 6 years of experience in mainstream schools with SIP) differentiated their work in clinical settings with school settings, claiming that "I also work privately [in a clinic], and there I obtain better results than in a municipal [public] educational context because the parents do not commit themselves [in the latter]".

Participants also discussed the reasons for working primarily with parents than other people in their indirect services, stating that "parents or caregivers need a lot of support in the educational stages in terms of diagnoses, promotion of independence and autonomy" (P9, 10 to 12 years of experience in special schools). P13 (4 to 6 years of experience in mainstream schools with SIP) reported that "parents…need support to work on specific aspects and understand the demands of their children".

In relation to the key elements discovered around student level factors, nine were examined (Table 24), and four resulted as being the most relevant: ASD, motor, behaviour and parents.

Table 24: *Extensiveness of key elements of student level factors*

No	Terms	F1	F2	F3	F4	Total
1.	**ASD**	16	19	11	8	54
2.	**Motor**	19	16	17	7	59
3.	Cognitive	4	3	2	1	10
4.	**Behaviour**	10	8	10	2	30
5.	Social	10	7	6	5	28
6.	Executive	7	5	1	3	28
7.	Language	7	2	6	1	16
8.	Families	8	6	3	6	23
9.	**Parents**	12	8	15	4	39
10.	Caregivers	4	14	7	1	26

The diagnosis most frequently mentioned in these groups was ASD. For some participants, there were requirements in their contracts that indicated to support only

students with ASD, which influenced the difficulties they supported. They stated this because ASD is closely related to difficulties in executive functioning skills and to sensory integration disorders, two of the difficulties mainly supported. They also mentioned a large amount of potential training in ASD and sensory integration in the Chilean market, which also aligned with their interests in preparing to support students with ASD.

Although the questionnaire indicated a tendency to support students with difficulties (terms 2 to 6 in Table 24) in executive and motor skills, due to sensory and behavioural issues, the concept *motor* was mentioned more frequently. This might indicate a tendency to focus the discussions on the motor issues that students may face. However, the terms *behaviour, social* and *executive* were mentioned in similar frequencies. The term less mentioned was *language* difficulties.

Regarding family dynamics (terms 8 to 10 in Table 24), the concept *parents* was the most frequent, indicating that the participants discussed their role in working with parents more than with other family members. This is a marked element within school settings in which the focus is on how parents deal with their children's educational and learning processes. However, this may also indicate a disregard in terms of the role that other family members have in these processes. The discussions around parents were related to SBOTs' role in providing information about children, particularly in F3. In this group, however, discussions around the language used by SBOTs to provide information to parents and others were made. Claims about how parents truly understand specific terms of OT, which are commonly used in the reports were made, in addition to the need to clarify or modify them to provide more comprehensible information. There were also discussions about gathering information from parents to assess students. These elements influenced how SBOTs provide their services to students' families.

6.2.2.4. Professional level factors (bottom right of Figure 29)

Regarding professional factors, I identified an uncertainty from the participants that influenced their practice. These factors were discussed around four themes: (1) the role of undergraduate preparation and training opportunities for SBOTs; (2) the models they use to base their practice; (3) what counts for them as the soul of an OT; and (4) their absence in legal educational documentation.

Participants indicated a lack of undergraduate instruction for their school practice. Accordingly, P12 (1 to 3 years of experience in a mainstream school with SIP) claimed that one of the factors influencing their services was “our training as an OT”. Others argued that what they had learnt did not match the professional practice demands. P17 (1 to 3 years of experience in a mainstream school with SIP) mentioned that “the training with which you graduate, the content you learn along the way is a lot but entering the labour field is a completely different reality; there is a lot to keep learning and training to do”. Their undergraduate training also influenced their assessment strategies. P4 (1 to 3 years of experience in a mainstream school with SIP) explained that “one tends to observe [as part of the assessment process] because we have learned to observe and analyse the conduct and behaviour of students, and how it affects their occupational performance”.

From another perspective, a lack of training was identified in view of professional development opportunities. P1 (1 to 3 years of experience in a mainstream school with SIP) claimed that “what affects us the most is the professional factor; the possibilities or opportunities that one has had to develop as a professional”. Other participants reported a lack of professional development opportunities related to school practice and a narrow scope and high prices of those available. P16 (1 to 3 years of experience in a mainstream school with SIP) shared their thoughts around this, claiming that “I think that the lack of offer in terms of training, plus the economic factor of the cost of the few that exist, I think is one of the biggest disadvantages”. Two participants analysed these issues in a deeper way claiming that:

> The availability of training in Chile, we usually do face-to-face courses, mostly in Santiago [Metropolitan Region] … It's expensive, and private institutions do almost everything; In other words, small centres, people who bring others from abroad, and it is critical, really, the universities do have a few trainings offers for those who work in education.
>
> (P3, 1 to 3 years of experience in a mainstream school with SIP)

> I feel that 40 percent of people are not trained [results from the questionnaire], it is not because they do not want to [be trained] or cannot. It's an economic [finance] issue or because they don't like sensory integration, but also, I wonder, what else is there to study?
>
> (P18, 7 to 9 years of experience in a mainstream school without SIP)

In addition, it was reported that the educational system and schools commonly do not designate resources to train SBOTs. P4 (1 to 3 years of experience in a mainstream school with SIP) stated that “all the training I've done has been private [paid for by myself]; everything we do has to be [paid] by us”. P17 (1 to 3 years of experience in a mainstream school with SIP) compared their situation with other EAs within schools claiming that “…the educational system…does not provide opportunities to facilitate the training of OTs, unlike other professionals who belong to the team [and are trained]”. P5 described for what types of training the school designate their resources to, which did not include OT training:

> The resources [in schools] are not used to train professionals. The resources used are for sets of assessments to include children in the [SIP] programme, but not to train you to intervene or for something that contributes from another perspective.
>
> (P5, 1 to 3 years of experience in mainstream schools with SIP)

Regarding the influence of models, participants indicated to be accustomed to use some models as part of their practice processes. P7 (4 to 6 years of experience in

mainstream schools with SIP) stated that “the theoretical model [chosen in the questionnaire] is where we feel most secure; for example, at my university, MOHO [Model of Human Occupation] was very popular”. Others discussed the differences in their undergraduate training based on their university and how this could impact the way they provide their services. For instance, P9 (10 to 12 years of experience in special schools) explained that “If you studied at the University of Chile or at the University of Los Lagos or at others, it depends on how you were formed, who in that process promoted that 'click' so that you create the intervention based on a particular model”. P6 drew a comparison between their experience in their undergraduate training in terms of the models adhered to:

> In my case it is different from your universities. They always told me ‘Don’t marry a model', and that stuck in my head because when you start your professional practice you realise that none of the theoretical models is possible to carry out.
>
> (P6, 1 to 3 years of experience in a mainstream school with SIP)

The participants also expressed uncertainty regarding the opportunities or limitations to implement services considering what for them is the soul of OT. They argued that the OT profession has a holistic lens to analyse problems and provide services, considering all the occupational areas as crucial for the well-being and health of students:

> I think it has to do with professional skills and from understanding the person, their context, the factors that affect participation every day. I believe that the perspective of OT, our profession, allows us to see things from other perspectives. I think our professional capital is there, being able to understand a situation from different points of view.
>
> (P1, 1 to 3 years of experience in a mainstream school with SIP)

> We use many models and guidelines that guide our work, I think that's good because later when you want to make a difference and highlight the OT profession, we can say that we have a wide range to see and decide which path to take.
>
> (P8, 4 to 6 years of experience in mainstream schools with SIP)

However, the possibilities to leave this mark were limited due to diverse factors:

> I think that OTs are very holistic and have a unique personality where he or she is always willing to do group work, to contribute, because they know that [it will have] a better result, but here comes the matter of the teacher resistance.
>
> (P7, 4 to 6 years of experience in mainstream schools with SIP)

Another element that impacted the uncertainty regarding professional level factors was the absence of OTs in legal decrees and laws. This element was already discussed at a system level, however, it also influenced participants identity as professionals:

> It bothers me that we are not considered for the diagnosis because for a child to be considered within the spectrum [ASD] the assessment of the speech therapist and the psychologist is required, but they do not consider me because I am not in the decree, so my assessment is not important.
>
> (P12, 1 to 3 years of experience in a mainstream school with SIP)
>
> Schools are governed by decrees required by the ministry; if they [community] do not see on paper that OTs can work with teachers directly or indirectly, they simply do not consider it. Unlike other professionals such as psychologists and speech therapists since the decrees mention that they must complete a certain number of hours providing certain services.
>
> (P16, 1 to 3 years of experience in a mainstream school with SIP)

The participants also indicated that the lack of guidelines and absence on laws and decrees are issues that impact positively and negatively how they assess and intervene. For

some, this absence resulted in a lack of knowledge from the educational community and of guidance for them regarding their role. For others, it provided them more freedom:

> We are not mentioned in the decrees, which gives us freedom in some respects, but there are also ambiguities in many others that speech therapists and psychologists do not have to deal with, as there is an orientation for them, and not for us".
>
> (P14, 1 to 3 years of experience in a mainstream school with SIP)

> No one has framed the way I have to assess my students; this is very positive for those who work in SIP [School Integration Programme] because there are no laws or decrees that say how we have to assess or intervene. So, for example, [some decrees establish that] speech therapists have to evaluate in certain ways and detect if children meet the criteria for a diagnosis, so it is more structured; the benefitof not being mentioned in the decrees is that we have more freedom to decide the most efficient way to carry out a comprehensive assessment of the children.
>
> (P6, 1 to 3 years of experience in a mainstream school with SIP)

> The good thing is that no one has outlined how I have to do things. Also, in the school where I am, there was no OT [before], so I came to raise awareness and describe the therapy, how it works and what will work.
>
> (P7, 4 to 6 years of experience in mainstream schools with SIP)

> Perhaps it would not be useful for us to have a protocol of standardised guidelines for diagnosis that we could use, as has been validated by speech therapists and psychologists. But, for educational reasons, it would be a contribution to see which are the most appropriate for each case.
>
> (P13, 4 to 6 years of experience in mainstream schools with SIP)

Table 25 shows the key elements I found regarding professional level factors that impact SBOTs' services. There were seven elements assessed, of which five were included in Figure 29: UDL, MOHO, sensorial, workshops and observation.

Table 25: *Extensiveness of key elements of professional level factors*

No	Terms	F1	F2	F3	F4	Total
1.	**UDL**	21	15	17	8	61
2.	**MOHO**	19	9	7	3	38
3.	**Sensorial**	15	7	12	7	41
4.	Play	6	8	7	2	23
5.	**Workshops**	5	20	12	6	43
6.	**Observation**	9	23	14	4	50
7.	Standardised	9	9	10	8	36

These elements were related to the models most frequently discussed (from 1 to 3 in Table 25). As expected, one of the topics mostly discussed was the UDL framework, which was the model most frequently mentioned in all the focus groups. The discussions about this approach were mainly related to the lack of training and consideration from the school community to include OTs in its implementation. The participants mentioned that UDL was not a model taught at their undergraduate level, and that some were excluded from its training in the schools. Therefore, they argued for more training experiences in the natural context about the implementation of UDL, which means in the schools in which they work. The lack of consideration from the educational community to include OTs in implementing this model was discussed as related to a lack of awareness of what OTs do in schools. However, it was also related to SBOTs lack of agency as they also do not have the required knowledge of UDL to understand how they can contribute to it.

Issues about how to identify and communicate OT strategies using UDL language were also identified. Some participants realised during these focus groups that they were already using UDL strategies without knowing it. On the contrary, those who have not had training about UDL alluded to an inability to recognise this. To avoid these issues, one

participant argued for a system strategy that would include them in the implementation of UDL.

Participants also discussed about their efforts to be part of the planning processes of teachers considering UDL principles and strategies since their levels of confidence varied between those that had received professional development opportunities, and those that had not. Moreover, they discussed a disconnection between the theory of the model and its practice, and that only a small number of teachers implement UDL strategies, although the majority were aware of the concept. This also impacts SBOTs' use of the model.

The *MOHO* (Model of Human Occupation) was the most frequently mentioned among the occupation-based models, aligning with the questionnaire's results. This term was used in all the focus groups, but less so in F4. In the rest of the groups, participants indicated their preference to use this model based on their undergraduate preparation, on the increased access to professional development opportunities about it and because it has more guidelines and assessment tools that they can use. They also described it as an integral, dynamic and crosscutting model that can be adapted in different ways to fit the students' needs, regardless of their diagnoses. It was also conceived as a model that is part of the soul of OT, which allows them to leave a mark and to be distinctive from other services. However, issues about the language used in MOHO were shared since this was unknown among the educational community. Also, it was difficult to completely base their interventions on this model, and an interest in exploring other models was also mentioned.

Two participants questioned the use of theoretical models on which to base their services. One explained that the students' needs were more diverse and complex than what theoretical models could explain. The other defended their decision of not using any model as part of their practice foundation, arguing that only when supervising undergraduate students was it necessary, but not for their professional practice. They felt their clinical "eye" was indicated as more critical than a model. A clinical "eye" refers to the professional reasoning behind the decisions made in practice. Within the OT profession, this reasoning

commonly includes an analysis of the relationship between the student, the school environment and the occupations developed in it.

The term *sensorial*, referring to the sensory integration model, was the most often discussed in terms of the referential models among the four focus groups. A strong link between this model and students with ASD was stated, which according to the discussions directly impacted how participants provide their services, as ASD was the most selected SEN supported. However, an emphasis from the educational community to link SBOTs with this model was conceived as a problem for participants since it reduced their scope of practice only to sensory modulation problems. Phrases such as the “sensorial boom” or “sensorial market” were used to describe the popularity of this model among school staff.

However, the participants indicated that sometimes students have problems that can be seen from a sensory integration perspective but also from others that may be more relevant to their needs and the educational context. Therefore, they indicated a desire to broaden their scope of intervention to embrace other perspectives. The use of this model was also described as a possible distortion of occupational-based interventions, and that it might lead the educational community to see children only from a sensory lens. Despite these issues, positive aspects of using this model were shared, including assessing and intervening in sensorial aspects of a classroom, such as the light, noise and other sensory elements that may affect students’ performance and participation.

The term *play* was less frequently employed, particularly in F4, in which only I used it to introduce the results of referential models. In the rest of the groups, this term was used to describe the one of the main occupations of children, which for OTs is playing. This concept was also used to describe some intervention strategies, in addition to the term *workshops* that was used more frequently. This latter concept indicated the indirect work with parents and teachers and group workshops to improve social skills.

In terms of assessment strategies (6 and 7 in Table 25) , participants discussed around the terms *observations* and *standardised tests*, which aligns with the questionnaire

results. Observation strategies were discussed more frequently in F2 and F3, and elements such as the freedom to use them in different environments within schools and the chance to assess children in their natural environment were stated to explain their preferences towards this strategy. Additionally, it was stated that because many children were referred to SBOTs because of certain behavioural issues, observations in the classroom were crucial. The chance to assess diverse skills at once was also a positive element of using observation strategies. Based on all these aspects, observation strategies were described as an essential tool for SBOTs.

Regarding the use of standardised tests, participants also indicated using them but less frequently because there were difficulties in, for example, accessing the original tests and the manuals to conduct them correctly. There were also issues with using these tests with children who have difficulties following instructions or students with hearing or vision problems. Participants also indicated a lack of knowledge of tests for school practice, and problems for teachers and parents in understanding the results of these tests.

6.2.2.5. Pandemic factors (top right of Figure 29)

According to the time and context in which I conducted these focus groups, participants discussed about how the COVID-19 pandemic influenced their services. In Chile, schools were completely closed due to COVID-19 from March 3, 2020, a closure that lasted 77 weeks (i.e., more than one year and half). During this period, students were schooled at home with virtual classes, and when this was not possible, teachers sent materials to students' homes.

Therefore, I conducted these focus groups while schools were closed. This situation resulted in spontaneous discussions among the participants about the changes that this closure imposed on them, describing a difference between the support provided before and after the closure. These discussions swung around two themes: (1) an unexpected

increment in collaborative practices; and (2) a new role for families in the interventions for their children.

Regarding the increment in collaboration, the participants indicated having more meetings with teachers by using technology, and the participants were also more involved in the interventions of other EAs (Educational Assistants) and in the execution of mainstream classes. Several participants discussed about these aspects. For example, P1 (1 to 3 years of experience in a mainstream school with SIP), who argued about the use of time to meet, stated that "… today the meetings have been separated, those of school management from those of analysis of specific situations of children; that has been most beneficial in the context of the pandemic". Others have claimed:

> …with this new methodology due to the pandemic, for me it has been the other way around. There are more meetings and students have been supported in all areas because they [school administrators] feel that there is a little more time.
>
> (P5, 1 to 3 years of experience in mainstream schools with SIP)

> In the pandemic... we have tried to unite the sessions, so that has been very positive, so I know the work of the speech therapist, the work of the special education teacher, how the tutor, the social worker, and the psychologist support students. In this sense, it has been very important to know the role of each colleague.
>
> (P13, 4 to 6 years of experience in mainstream schools with SIP)

> Due to the pandemic, I had to work with the speech and language therapist, the special education teacher, and a few other teachers. Before the pandemic, I did my job; we had brief meetings to talk about a particular child, and that was it, and now the change has been amazing.
>
> (P16, 1 to 3 years of experience in a mainstream school with SIP)

How the UDL approach was implemented in some schools perceived as positive since the online environment has given diverse opportunities to implement UDL more broadly:

> Everything changed in the pandemic; [before] special education teachers had a vital role in the classroom. However, it was not [under a] co-teaching model; it was more like, 'you [general teacher] do this, and you [special education teacher] do that. That was the teacher's attitude. So special education teachers have always been trying to apply UDL. The problem is they haven't totally accomplished it, but now in the pandemic, as [general] teachers are overloaded with online classes, a lot of work has been delegated to special ed teachers, so now it's all about UDL and [general teachers] are happy with it so they realised it was much more effective.
>
> (P6, 1 to 3 years of experience in a mainstream school with SIP)

> Here in [my] school something similar happened with the students because the [mainstream] teachers [before] oversaw the school's students, and the special education teachers were in charge of the SIP students [students with SEN]. But in the online classes, all the students did UDL, exchanged notes with each other, and found that they learned more and that was easier in this way.
>
> (P7, 4 to 6 years of experience in mainstream schools with SIP)

Another relevant aspect discussed around the impacts of the pandemic was the family involvement in their children's interventions, with parents acting as co-therapists. This, in most the cases, resulted in more engagement from parents in their children processes, but issues also emerged, particularly in terms of the availability of devices and the suitability of the online approach:

> The positive aspect of the pandemic is that parents have been much better involved in the sessions; have assumed the role of a co-therapist. Even [when they were] working from home, I've made progress with the children, but it's because of parental engagement, which is higher than last year. However, some children have not

> progressed because they have connectivity problems. [For these issues] we gave them devices or brought them the material...
>
> (P12, 1 to 3 years of experience in a mainstream school with SIP)

> What has been very useful to me is the contact with the parents; the evaluations are made through questionnaires, through the screen, you can give all the information to the parents without a report. It is more personalised; it gives you more time, which I think has helped. It opened a door… [But] now [performing] observations is much more complex because observing a child in an online class, how they perform, is complex because now they start with their cameras off, and many schools have different ways.
>
> (P7, 4 to 6 years of experience in mainstream schools with SIP)

> Now, in the pandemic, they asked us to close the semester without evaluations. I asked myself, how are we going to do this? The SIP coordinator told us: "We are going to try to evaluate certain objectives; Of all the objectives that you propose, mark the urgent ones, and in what you can really evaluate the child". During the pandemic, I asked the children to brush their teeth; we do a workshop on brushing teeth, a workshop on washing hands, everything related to hygiene, and all these activities were playful; I evaluate them on this and a semi-structured report.
>
> (P8, 4 to 6 years of experience in mainstream schools with SIP)

Another topic discussed was related to professional development opportunities during the pandemic, which resulted in fewer opportunities for some participants due to budget problems. P10 (1 to 3 years of experience in a mainstream school with SIP) stated that "training is out of sight at the school due to the budget and the pandemic; they all reduced their budgets; the training has been paid for by me". For others, in contrast, the implementation of educational community strategies to arrange training resulted in SBOTs incorporation into school staff training. P12 mentioned the following in this matter:

> Just this year, and due to the pandemic, the headteacher [financiers of the schools] has begun to include me into teacher training. They incorporate the speech pathologist, special education teacher, psychologists and me as SBOT because they implement the educational community, so we must all participate in the training and share knowledge with a logic that was not supported before.
>
> (P12, 1 to 3 years of experience in a mainstream school with SIP)

The above suggests that the changes due to the pandemic embraced a distinct cluster of factors. Through the frequency content analysis, I did not identify additional elements that were not already found in the other factors through the thematic or content analysis. This explains why in Figure 29, there are not key elements attached to pandemic factors.

6.2.3. What these results mean? Influencing factors

These focus groups aimed to explore what factors influence the services provided by Chilean SBOTs and how they influence them. Based on a thematic and content frequency analysis of the discussions from four focus groups with 18 Chilean SBOTs, I detected that five main sources of factors influence SBOTs services: system, student, professional and personal/relational level factors, and the pandemic. I characterised each of these factors by a primary concept based on my interpretation of the discussions around the themes and key elements identified.

Regarding system level factors, the support provided by SBOTs was dependent on aspects of the structure, processes and legislation of the educational system and schools. The traditional perspective of education was stated as a limitation to what SBOTs can offer, particularly regarding inclusive practices. The availability of resources seems to play a crucial role in this issue as well, with the lack of time to provide a range of services and to collaborate acting as a barrier for inclusive practices. Concerning legislation, the requirements and processes of SIPs impacted the Chilean SBOT practice. Focus group participants argued, on the one hand, to be included in the current legislation and, on the

other, to avoid the limitations imposed by this, particularly regarding the students they can support. There seems to be a need, therefore, to balance what the legislation describes, and the freedom of the guidance provided.

The above turns the attention towards student level factors, in which diagnoses were stated as a strong influence that challenged the implementation of a needs-based approach among Chilean SBOTs. This resulted in the neglect of some students since they did not have a diagnosis to be included in SIP and therefore were unable to access SBOT support.

Regarding personal/relational level factors, teachers' attitudes toward SBOTs influenced the support they would provide, which depended on teachers' willingness to accept inclusive services as indirect, integrated, or universal interventions. Indeed, teacher resistance was pointed out as one of the main challenges faced by Chilean SBOTs, which was related to the expectations associated with the traditional service model to which the educational community is accustomed. This suggests that the transition from a direct pull service to a more inclusive collaborative model would be difficult.

In Chile, the above could be a major issue since preferences and attitudes of the educational community towards SBOTs were shaped by diverse aspects, including a lack of knowledge about their work. This difference impacts the professional identity of all educational community members, their social and work environment, and therefore SBOTs practices. The social and work environment are crucial elements when examining inclusive practices in school settings since they are a door that would easily open or close depending on the relationships built.

Regarding professional level factors, the lack of undergraduate preparation pushed SBOTs to apply what they found effective in clinical settings into schools. This has resulted in a lack of clarity about their role among Chilean SBOTs. What I found shows that there is a clear need at an undergraduate level in Chile to address the role and functions of OTs in school settings. This is particularly relevant for the Chilean context since most SBOTs are recent graduates with limited years of experience working in schools.

Finally, the role that the online format played during the Covid-19 pandemic in increasing collaborative levels is an element that would be considered for the implementation of more inclusive practices.

6.2.4. Strengths and limitations of the focus groups

The factors influencing the practice patterns and services of SBOTs have been explored mainly by conducting interviews and focus groups (Sonday et al., 2012; Benson, 2013; Clough, 2019). This suggests that the use of focus groups as a follow-up instrument was an appropriate decision in my project. Within this idea, I carefully planned the focus groups regarding their size and number, and explained clearly how I addressed confidentiality and informed consent. I also facilitated discussions cautiously, with a balance between giving direction and shifting off the point, ensuring that participants felt comfortable to say what they wanted, and assessing the group's dynamics constantly to avoid non-participation or dominance (Cohen et al., 2018). These considerations helped me to improve the focus groups' rigour, comprehensiveness, and credibility, and to increase their validity and reliability, aspects that I assessed under the prism of qualitative research. Therefore, I considered principles such as dependability and reflexivity (Lincoln & Guba, 1985). According to Morse (2018), these principles provide a new language for qualitative rigour under the term *trustworthiness*, i.e., the degree of confidence in data and interpretation to ensure quality.

Dependability refers to the clarity and transparency of the methods presented and the chance for them to be audited (Creswell & Plano Clark, 2017b). I provided details of how I planned and conducted these focus groups, particularly regarding the platform I used, focus groups' programme, pilots, ethical procedures, sampling and recruitment strategies and data analysis. In data analysis, details about the frameworks used to transcribe and translate the data were shared, and the two methods of analysis were thoroughly described. By detailing all these elements there would be possibilities for another researcher to

reproduce these focus groups, as rich and thick descriptions were provided (Flick, 2018). Moreover, the documents provided as appendices support auditing the data, allowing to assess if the results I presented were based on participants' narratives and words rather than potential researcher biases. This issue is particularly relevant in this project since I, as the researcher and facilitator of these groups, shared characteristics with the participants that would impact the data (these elements were described in Section 2.5).

Indeed, I used diverse strategies to minimise bias, which require further deliberation since in this project I acknowledged that who I am, who I have been, and how I think and feel impact my research. This recognition reflects my pragmatic perspective, which resulted in a constant, conscious and deliberate effort from me to be attuned to my reactions throughout the execution of these focus groups (Berger, 2015). This effort is explained here based on three of the five lenses that Finlay (2014) suggests researchers can reflexively evaluate interview methods, including online focus groups. I selected three lenses due to my awareness of the co-construction of knowledge based on the interactions within these focus groups: contextual-discursive reflexivity, relational reflexivity and ethical reflexivity.

Contextual-discursive reflexivity acknowledges the co-construction and collaborative nature of the data, recognising that participants have total control over what they want to be known about themselves and their experiences. This might implicate some omissions that could result in loss of data. To avoid this, I encouraged participants to share different aspects of their experience in my role as facilitator, while avoiding influencing them. This was difficult at some points because of the nature of the focus groups. For example, I spontaneously shared in F1 that I found interesting one of the outcomes of the questionnaire based on my experience. I identified this issue when transcribing the recording of F1 and avoided it for the other focus groups.

This situation leads the attention to relational reflexivity in which the dynamics between the researcher and participants and the multiple interacting selves that are brought into these dynamics are examined. This means that I not only brought my role as facilitator

to these groups, but I also brought my researcher role, my OT role and many other roles that could have emerged throughout the discussions. The same counts for the participants. Hence, there was a diversity of roles playing together within these focus groups. This was manifested when, for instance, I shared with one participant of F1 that he went to the same university as I did. Recognising the diverse roles involved in the discussions allowed me to acknowledge the histories behind the participants and how these might influence the discussions.

The two strongly interconnected reflections of above provide a broad understanding of how I could have influenced the results obtained from these focus groups, and my efforts to avoid this. Within this idea, ethical reflexivity monitors processual aspects and power dynamics, which enables the reflection of possible ethical implications. During the execution of these focus groups, I respected the histories and experiences of the participants in an egalitarian position and try to reflect this to the participants. For this, I tried to provide a non-formal environment in which I positioned verbally and visually in an informal manner by using familiar language and wearing casual clothes. All these efforts were made to maintain an egalitarian position between the participants and me. However, within these dynamics, participants also have power, and even though some dominant participants were not evident at the beginning, they became clear during the dialogues. I managed these situations by directing questions to other participants, although changing some focus groups' dynamics was complicated. Awareness of all these issues encourages critical reflexivity in the sense of an auto-analysis of my role as a facilitator, which is necessary when conducting qualitative methods such as focus groups (Flick, 2018).

This reflexion and what was described regarding dependability tackle several qualitative findings' critiques (Bryman, 2015). It could be assumed then that these focus groups meet the criteria used here for qualitative methods (Lincoln & Guba, 1985). However, more efforts could have been made to improve the quality of these groups. For example, better recruitment strategies, such as vouchers to motivate people to participate, might have

increased the number of participants so data collection did not end because there were no more people interested and willing to participate. This means that the principle of data saturation was not followed, which may impact the findings of these focus groups, risking their validity and reliability. Better member checking strategies could have also been done, ensuring they were done timely and motivated the receivers' response since a small number of people provided feedback. Finally, a peer debriefing exercise could have ensured that what was found was unbiased, which would be particularly relevant when the reflections provided above are considered. However, these exercises are challenging to conduct in PhD projects.

Chapter 7: Discussing services and inclusive practices of SBOTs

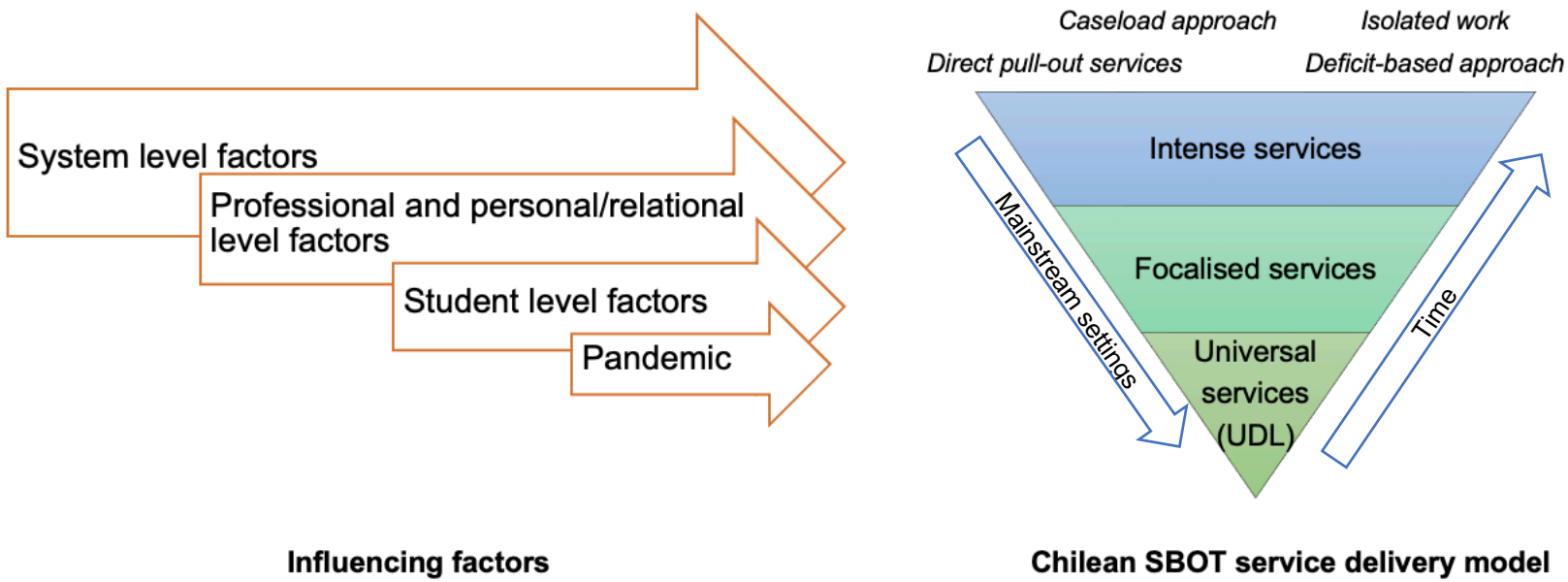
This research examined Chilean SBOTs services and their influences, focusing on their inclusive practices—i.e., the daily acts and activities that define inclusion. Thus, I focused on SBOTs and how their services supported inclusion within school settings. This chapter integrates the questionnaire and focus group results with the literature examined in Chapter 3 and the scoping review results from Chapter 4. I then address its significance for SBOTs and the educational community.

7.1. Multiple factors impacting an individualised service.

Figure 30 provides a summary of the research findings in response to the questions: What services do Chilean SBOTs provide and how do they do it? Are the UDL principles involved in these services? What are the factors and how do they influence SBOT services?

Based on the RtI model diagram, the right side of Figure 30 depicts the typical frequency with which SBOT services are offered in Chile. An inverted pyramid suggests that SBOTs in Chile spent more time providing individualised services, with direct pull-out services being provided more frequently and universal services in mainstream contexts being provided less frequently. This is indicated by the arrows on the pyramid's sides. This service is influenced by a variety of factors (left side of Figure 30), with the magnitude of the arrows indicating that educational system-related factors were the most influential. I arrived at these conclusions through an integrated analysis of my two data sets (see Appendix 6).

Figure 30: *Service delivery model of Chilean SBOTs*



As presented at the top of the inverted pyramid in Figure 30, I discovered that although Chilean SBOTs offer a variety of services, they spend most of their time supporting students on an individual basis and primarily in an OT room away from mainstream spaces. They also support students with certain diagnoses, strongly associated with a deficit-based approach, with their service being evaluated based on the number of students they assist (i.e., caseload approach). Within this notion, their work schedules, which are organised to accommodate individual requirements throughout the day, played a crucial role. There was also a tendency to work alone, evidencing low levels of collaboration.

Regarding factors, the practice of SBOTs was context-dependent across all the areas integrated at this stage, with participants' discussions focusing primarily on the limitations imposed by the educational system. This indicates that SEN and supported difficulties, data collection practices, service patterns, and collaborative and UDL practices depended heavily on system-level factors, including: institutional norms, resources/facilities, legal structures, and the educational communities' perception of education's purpose. In the Chilean context, therefore. systemic factors had the greatest influence on the services provided by SBOTs. This meta-inference is consistent with some evidence that services may vary depending on the type of school in which SBOTs operate (see Section 6.1.3.2), especially when comparing special and mainstream schools and rural and urban schools. Even though these differences did not meet the statistical significance threshold, they provide some insight into the substantial impact of the system and context in which SBOTs operate.

Personal and relational factors, as well as professional factors, also have a significant impact on the services provided by SBOTs. Personal and relational factors influenced SEN and supported difficulties, provided services, and collaborative practices. This suggests that the educational community's attitudes towards SBOTs, expectations regarding SBOTs' contributions, awareness of SBOTs' function, and teamwork culture had a substantial effect on these areas. These factors were not mentioned when discussing data

collection practices; rather, these strategies were determined primarily by professional factors. Among these were the ambiguity surrounding SBOTs due to their absence from legal documents, the extent to which they could implement a service considering the essence of the OT profession, and their training, or lack thereof. Services, collaborative practices, and UDL involvement were also discussed. This indicates that the professional preparation of SBOTs influences their assessment, service delivery, and collaboration.

The characteristics of the students (factors at the student level) and their impact on the type of SEN and difficulty supported, data collection practices, and categories and frequency of services occupied the third position of influence. This suggests that tensions between diagnoses, student requirements, and family dynamics have an impact on how SBOTs in Chile assess and support students. In contrast, the pandemic's influence was not identified until collaborative practices and UDL were discussed, making it the least influential factor. In conclusion, variables at the level of the student influenced SEN and supported difficulties, assessments, and services, whereas the pandemic affected collaborative practices and UDL.

7.1.1. A model based on a medical, individualised approach

The tendency of SBOTs in Chile towards direct pull-out intensive services reveals the complexity of the context in which they operate: one in which multiple factors exert influence and social perspectives of disability appear to be submerged within a medical paradigm. This becomes problematic when services are viewed through the lens of inclusion, as the current literature suggests a shift towards more universal service provided in natural settings such as mainstream classrooms, particularly when multi-tiered models are taken into account (Basham et al., 2010; Fuchs & Fuchs, 2006; Murawski & Hughes, 2009). Spending less time in mainstream classrooms results in SBOTs missing opportunities to recognise areas in which they can contribute (Cronin, 2018). They can also miss opportunities in

incrementing teacher's use of the strategies they recommend and improve relationships and communication skills (Browder et al., 2008; Dalton et al., 2012; Friedman et al., 2022).

My research reveals a praxis in Chile that is heavily based on a medical approach, even though close to 85% of the questionnaire respondents indicated they were employed primarily by educational institutions, such as schools or the Ministry of Education (see Section 6.1.2). As SBOTs were neither employed nor immersed in a clinical/medical setting, the social context of schools may influence the way they provide their services, allowing them to embrace their biopsychosocial roots and inclusive background. This seems not to be the case, as SBOTs services, however, were founded on a medical approach that hinders the implementation of more inclusive practices, focusing on restoring individual functions so that students can participate and perform in school. This trend is consistent with the history of the education of students with SEN and disabilities in Chile, where they have been viewed as those who require remediation to succeed in school (Estay et al., 2015; Ramos, 2013). This gives relevance of the role that the context and system play in the provision of services from professionals such as SBOTs.

The medical approach is indeed profoundly ingrained in Chilean educational communities, with teachers, for example, using medical language when referring to students with SEN or disabilities (Iturra, 2019; Muñoz et al., 2015). This influences the provision of SBOTs, as they also discussed their services for students with SEN or disabilities using terms such as *cases* and *diagnoses* (see Table 22). Therefore, it appears challenging for them to avoid repeating the discourse and actions founded on historical medical ideas and concepts. Moreover, it appears challenging for Chilean SBOTs to account for the complex, reciprocal, and nonlinear relationship between the student's innate characteristics, environmental factors, and activity demands. Case-Smith (2015) identifies this as one of the most important areas in which SBOTs can contribute with their specialised knowledge to school settings. The relevance of this dynamic interaction is also considered in the WHO's definition of disability and function (WHO, 2001; 2007). Therefore, inability to contemplate

this relationship is problematic, especially when inclusive practices are in mind. For SBOTs, ignoring this relationship reduces the likelihood that they will influence the performance and participation of students, which is their primary purpose in schools (Bonnard & Anaby, 2016; Coster et al., 2013).

The trend towards direct pull-out services can also be examined using models such as RtI (Response to Intervention) and P4C (Partnership for Change). Within these models, students who cannot meet mainstream learning and curriculum requirements and who have not responded to targeted and universal interventions receive intense services (AOTA, 2012; Basham et al., 2010; Bissell & Cermak, 2015; Fuchs & Fuchs, 2006; Missiuna et al.; 2012; Murawski & Hughes, 2009). My research revealed that the majority of Chilean SBOTs provide differentiated support, such as intense services, prior to providing support at other tiers. This pertains to debates concerning the role of an individualised approach in the education of students with SEN and disabilities (Estay et al., 2015; Muñoz et al., 2015).

As it turns out, the provision of additional services through SIPs (School Integration Programmes) in Chile requires that students be supported according to individualised plans (Supreme Decree 170/2009, Chilean Ministry of Education, 2009). This signifies that all SIP-involved professionals, including SBOTs, take an individualised approach to provide support. This matches what I discovered in this project. My argument here, however, is not that differentiated individual strategies should not be provided; rather, the primary issue is that they are provided first, focusing on individual characteristics rather than contextual or universal issues. This jeopardises the Supreme Decree 83, which mandates the implementation of inclusive strategies based on UDL as the primary option (Chilean Ministry of Education, 2015). As part of a universal tier, UDL considers the educational environment to be the source of a student's difficulties and therefore the environment is the object of differentiation (Galkienė & Monkevičienė, 2021). I argued that this emphasis should be placed from the start, and considered by all those involved in educational processes.

The absence of participation in universal services also disregards the Ministry of Education's request for professional EAs, including SBOTs, to avoid the normal/abnormal dichotomy and support the student and the school (Chilean Ministry of Education, 2019). It also disregards evidence that universal interventions increase collaboration and capacity building among educational communities, which are necessary for inclusive practices (Bellows et al., 2013; Dreiling & Bundy, 2003; Lust & Donica, 2011; Sayers, 2008). Indeed, Lopes et al. (2014) found that an individualised approach creates barriers to inclusion because it tends to individualise, segregate, and reduce the participation of students with SEN. This runs counter to the goals of Chilean legislation, a claim that is supported by the findings of my research.

However, focusing on intense interventions and providing direct pull-out services is consistent with Chile's entire system, one that seeks to provide additional support to students who have already academically failed (Supreme Decree 170, Chilean Ministry of Education, 2009). This indicates that most resources, including SBOTs, are made available only after problems have already occurred, and that prevention and promotion strategies, which are typically provided universally, are limited. According to my research, the RtI and P4C approaches are models that promote prevention strategies, which are lacking in the Chilean context. Consequently, SBOTs tend to adhere to the same system that asserts the objective is to remove barriers to learning and participation for all students, but in practice, the focus is on the readily evident individual problem (Chambers, 2015). This situation was discussed in the focus groups, with participants indicating that “time is given according to the number of individual services you provide…” (P9, 10 to 12 years of experience in special schools).

The prevalence of pull-out services among Chilean SBOTs made it difficult to distinguish their school-based practice from clinical-based practice. Several scholars have characterised this distinction as essential to the development of SBOTs practice (Bolton & Plattner, 2019; Silverman & Bourke-Taylor, 2009; Spencer et al., 2006). In fact, one of the

primary responsibilities of SBOTs is to differentiate school-related needs from those that do not have a direct impact on a child's education, and to enable families to access other resources for issues that fall outside the school's scope (Hinder & Ashburner, 2017). I discovered that there was a lack of guidance for SBOTs in Chile regarding their responsibilities in schools, making it difficult for them to accomplish this mission.

In other contexts, the trend towards individualised and targeted services has also been observed. Intense pull-out services have been observed in studies conducted in the last three decades in the USA (Bolton & Plattner, 2019; Crowe & Kanny, 1990; Rodrigues & Seruya, 2019; Seruya & Garfinkel, 2020b; Spencer et al., 2006b; Watt et al., 2021), Israel (Weintraub & Kovshi, 2004), Ireland (O'Donoghue et al., 2021), Portugal (Maia et al., 2016) and Canada (Jasmin et al., 2019). A study comprising 18 OTs in the Brazilian state of Paraná found that they provided more services outside the classroom (Da Fonseca et al., 2018). This demonstrates a global context in favour of intense services, with a few exceptions, such as Switzerland, where a greater commitment to universal services has been identified (Kaelin et al., 2019).

The above positions Chile within a worldwide trend that was also observed in the scoping review of school interventions administered by OTs, in which we found a trend of studies examining targeted interventions in most contexts (Salazar Rivera et. al., 2023; see Chapter 4). However, we also observed SBOTs to be involved at each tier, with procedures becoming more inclusive over time. For some scholars, the movement of inclusion in education has resulted in more inclusive practices in contexts such as the USA, with SBOTs providing services along a continuum from pull-out to universal strategies (Bock & Borders, 2015).

In other contexts, such as Canada, scholars assert that SBOTs shifted from a medical to a biopsychosocial paradigm in the early 2000s, aligning their services with a universal approach (Missiuna et al. (2012). The significant tendency towards pull-out services I identified in Chile casts doubt on these conclusions. Furthermore, there is no

evidence to support these claims, as no longitudinal studies demonstrating changes in practice over time have been published. In fact, regardless of when cross-sectional studies were conducted, comparable findings have been obtained, indicating that the movements towards inclusive education have had a limited impact on the services provided by SBOTs. This is what I discovered in Chile.

7.1.2. Students supported by SBOTs: A deficit-based approach

Upon exploring the services of Chilean SBOTs, I discovered that student diagnoses were crucial, which reflects a model in which support is provided considering a deficit-based approach. For some participants, this framework limited their services to certain groups of students, asserting that "some needs, such as behavioural needs or limited daily living skills, are not considered part of the SIP because they require a diagnosis to be included" (P7, 4 to 6 years of experience with SIP in mainstream schools). This finding aligns with what Apablaza et al., (2021) stated, who interviewed 10 Chilean SBOTs and found that diagnoses were viewed as a tool that allowed them to provide their services. In this regard, some of focus group participants stated that they devoted their entire workday to assisting students with, for example, ASD. This suggests that this group of students would have the greatest access to services from SBOTs in Chilean contexts, as well as those with learning disabilities or ADHD, as indicated by questionnaire participants (see Section 6.1.2).

The above might be explained by the fact that SBOTs in Chile have historically been regarded as an additional special education service provided to a subset of students; consequently, their function is associated with certain SEN. This association has been observed in other contexts as well, including the USA (Bolton & Plattner, 2019; Jasmin et al., 2019; Leigers et al., 2016; Maia et al., 2016; Rodrigues & Seruya, 2019). Indeed, A qualitative study found that access to OT services in mainstream schools of the USA and Australia was dependent on an established medical qualification system where diagnoses were crucial (Silverman & Bourke-Taylor, 2009).

Other researchers have also found that SBOTs tend to support students with SEN or disabilities more often than students without disabilities (Beck et al., 2006; Benson et al., 2016; Cahill & Lopez-Reyna, 2013; Nye & Sood, 2018; Piller & Torrez, 2019; Spencer et al., 2006). This evidence also aligns with the characteristics of the students that were part of the samples of the studies that the review team and I identified in the scoping review, where ASD was the most common diagnosis, followed by ADHD (Salazar Rivera et al., 2023; see Chapter 4).

These associations indicate that SBOTs from diverse contexts, including Chile, are prone to support students with similar diagnoses. This may be a problem, especially when inclusive practices are considered, as the focus remains on targeted students and the needs of other students who may require support for other reasons may not be met. If inclusive practises are desired, as stated in Chilean policy, then the issue of limiting support to specific diagnoses must be addressed. However, these associations could also be an opportunity to develop niches of expertise. In fact, scholars such as Hinder and Ashburner (2017) have cited these patterns as evidence that children with disabilities could benefit from the incorporation of SBOTs into their education. This is an element that requires further consideration in the Chilean context, particularly now that a recently published law gives further support and recognition of the needs to include students with ASD in mainstream schools. This aspect requires further consideration in the Chilean context, especially in light of a recently published law that provides additional support and recognition of the needs of students with ASD (Chilean Ministry of Health, 2023).

Regarding specific difficulties SBOTs of Chile support with the most were the difficulties in performing activities that required executive functioning and fine motor skills (32.1% and 29.5% of questionnaire participants, respectively). The tendency towards these difficulties was also evident in the scoping review conducted as part of this thesis, as interventions focused on motor skills issues, handwriting and visual-motor skills were the most frequent (Salazar Rivera et al., 2023; see Chapter 4). I also detected this tendency in

research regarding services of SBOTs from other contexts, such as the USA and the UK (Bolton & Plattner, 2019; Cahill & Lopez-Reyna, 2013; Cronin, 2018; Jasmin et al., 2019; Long, 2003; Salazar Rivera & Boyle, 2020).

In the literature, there is evidence that executive functioning and fine motor skills impact school performance in mathematics and literacy and serve as facilitators of learning across domains (Begolli et al., 2018; Colomer et al., 2017; Dinehart & Manfra, 2013; Grissmer et al., 2010; Ribner, 2020). Scholars such as Rosenberg et al. (2017) and Zingerevich and LaVesser (2009) have argued that addressing difficulties with executive functioning is advantageous for expanding the scope of SBOT. My focus group data revealed, however, that Chilean SBOTs' emphasis on these issues was primarily a result of their support for students with ASD, who are frequently identified with these problems. This suggests that the consideration of executive challenges may not be in response to a deliberate expansion of SBOTs' scope or an acknowledgment of their relevance to school performance, but rather to the significance of ASD as a diagnosis. This further supports the significance of diagnoses in Chile, though additional research is required to corroborate this.

Supporting students who struggle to participate in school due to difficulties with sensory modulation, behavioural, and social interaction issues were also frequently indicated in the questionnaire. A mature sensory processing system has also been shown to influence school performance, as well as behaviour during the school day (Butera et al., 2020; Jirikowic et al., 2008). This suggests that there is a recognition among Chilean SBOTs of the relevance of sensory processing issues in the processes of teaching and learning, although these difficulties are also strongly linked with ASD as a diagnosis.

Despite the above, the mix of challenges supported by Chilean SBOTs is consistent with what scholars have suggested as necessary for the creation of inclusive educational contexts: support for students' skill acquisition and social experiences that influence social participation (Bonnard & Anaby, 2016). This is especially pertinent when examining the support for students with SEN or disabilities, as research indicates that their participation is

typically lower than that of their peers (Adair et al., 2015; Eriksson et al., 2007; Feldman et al., 2016; Mukherjee et al., 2002; Simeonsson et al., 2001). However, I also detected some omissions regarding challenges supported that require further consideration.

For instance, Chilean SBOTs indicated to address mental health issues the least. In fact, only 3% of questionnaire participants reported to address these difficulties. In the literature, SBOTs are defined as uniquely qualified to support mental health concerns, yet their involvement in these matters has been identified as low in diverse contexts, including the USA (Hoffmann et al., 2014; Salamat et al., 2021). One of the reasons behind this issue might be because mental health support is an emerging area for the school practice (AOTA, 2014; Leifler et al., 2021). However, it could also imply the loss of crucial opportunities to promote life changes in healthy school activities. This is part of SBOTs function in school settings, as they are in a prime position to advocate for all students and staff, including populations at risk for mental health concerns (Candler, 2019).

Another example of omissions that calls attention is that literacy was the least activity supported by questionnaire participants. While SBOTs are not responsible for developing reading abilities, they are responsible for addressing literacy skills that promote school participation (AOTA, 2020; Grajo & Candler, 2016). Chilean SBOTs reported to address literacy issues in a small proportion, even though researchers say it is a big part of their role (Grajo, 2019; Swinth & Bell, 2005). This situation may be the result of educational communities' misunderstanding SBOTs' function or could be related to the lack of training among SBOTs in areas where they can contribute, including literacy. This is relevant because SBOTs support students to engage in the range of activities required for their role as students and to participate in learning environments, including reading (Case-Smith, 2015).

To support students in this way, SBOTs need to be integrated into a variety of school activities (Hanft & Shepherd, 2016; Stephenson, 2019). Therefore, focusing on only a few areas and disregarding others such as literacy would reflect a limited support for

performing and participating in all student activities (Hinder & Ashburner, 2017). It could also limit SBOT's contribution in providing high-quality educational opportunities to students with diverse needs by facilitating their participation and progression through the curriculum (Chilean Ministry of Education, 2005).

Another relevant aspect regarding students is that although Chilean SBOTs indicated that they support students from any year, the majority were in preschool and primary school. This trend is supported by data from diverse contexts, including Brazil, Portugal, Ireland, and the USA (Da Fonseca et al., 2018; Jasmin et al., 2019; Maia et al., 2016; O'Donoghue et al., 2021; Spencer et al., 2006). In the scoping review, we also determined that the most common age range across studies was five to eight years old (Salazar Rivera et al., 2023; see Chapter 4). Consequently, SBOT support is limited to specific years, despite calls for in the literature to expand its scope.

Scholars such as Kardos and White (2005) have advocated for an increased involvement of SBOTs during the secondary years, particularly as students transition into employment services. This call was made nearly two decades ago, but it appears to be timely, especially for the participants of this study and the extent to which they offer secondary school services. My research indicates that the system plays a significant role in this phenomenon, and that while SBOTs would support the entire student population, they are caught up in the day-to-day priorities of children in their primary years.

7.1.3. Isolated work: collaboration as an area to develop

Participants of this study reported that they were part of a team in the schools where they were working (95% of questionnaire participants). However, focus group participants stated that teamwork and collaboration were a daily struggle due to a lack of time and experience regarding how to collaborate effectively. Indeed, questionnaire participants indicated the lack of time and training for school practice as part of the substantial challenges they faced daily. The availability of time has been described in the literature as

one of the main factors influencing the practice of SBOTs, and the lack of it as one of the main barriers SBOTs face worldwide (Bose & Hinojosa, 2008; Burtner et al., 2002; Cronin, 2018; Huang et al., 2011; O'Donoghue et al., 2021; Rodrigues & Ossa, 2014; Salamat et al., 2021; Spencer et al., 2006).

SBOTs from Chile encounter difficulties at diverse levels to operate effectively as members of educational communities, which according to the literature is essential when considering inclusive practices (Barnes & Turner, 2001; Hanft & Shepherd, 2016; Kurth et al., 2015; Laverdure et al., 2017; Rodger & Kennedy-Behr, 2017; Stephenson, 2019). What I discovered, therefore, positions collaboration and teamwork as areas that require further development in a Chilean praxis that advances towards inclusion since the use of these strategies promote inclusive practices (Giangreco et al., 2000, 2010).

For some scholars, effective collaborative strategies must be fostered to enhance students' school performance, participation, and health and well-being, which in order would positively influence educational outcomes (Barnes & Turner, 2001). This suggests a need of changes in Chilean educational communities that requires an inter-professional collaborative approach in which collaboration is the key to achieve shared objectives (Suc et al., 2017). Evidence suggests that when collaboration is perceived as an engine for productive collaborative instances, teachers diversify their teaching, which leads to higher levels of motivation and development in their students (Moreno et al., 2021). Indeed, multiple studies have demonstrated the importance of collaborative relationships in the practice of SBOTs and their contributions in this field (Benson et al., 2015, 2016; Gallagher & Richards, 2020; Huang et al., 2011; Phoenix et al., 2021; Wintle et al., 2021).

Having difficulties to establish a collaborative approach, however, appears to be a global phenomenon, which would explain why pull-out services are increasingly offered in various contexts. Literature from the USA indicates, for instance, that SBOTs do not perceive themselves as capable of carrying out their collaborative duties (Semple-Dormer, 2013). Others have reported that the participation of OTs in collaboration is one of the most

significant issues in the USA (Beck et al., 2006; Benson et al., 2016; Cahill & Lopez-Reyna, 2013; Huang et al., 2011b; Leigers et al., 2016). In Australia, a shortage of collaborative practices has also been identified (Rens & Joosten, 2014). In Chile, SBOTs are supposed to support the work of management and teaching teams by exploring options and providing new perspectives that favour problem solving (Chilean Ministry of Education, 2019). Nevertheless, according to my research, SBOTs frequently face communication-related obstacles when attempting to improve the educational community's capacity.

The difference between OTs' knowledge base, which is primarily based on health and medicine, and teachers' knowledge base, which is based on education, influences their interactions (Hutton, 2009; Kennedy & Stewart, 2011). This difference affects the professional identities of the members of educational communities, their social and work environments, and thus the practices of SBOTs. Consequently, the contributions of SBOTs to an inclusive learning environment based on a collaborative practice are constrained. This issue has been identified in diverse contexts such as Pakistan, England and Australia as well (Hutton, 2008; Kramer-Roy et al., 2020; Rens & Joosten, 2014).

7.1.3.1. A limited involvement of SBOTs to the UDL approach

The participants of this study reported diminished participation in the implementation of the UDL approach (23.2% of questionnaire participants), although they were familiar with the concept, the approach was implemented in their schools, and it was essential for them to consider it. This finding suggests low participation of SBOTs in universal services and integrated services, two components that reflect inclusive practices within this project. It also suggests a contradiction with what Chilean law identifies as a clear duty of professionals EAs (Educational Assistants), which includes SBOTs: implement UDL and oversee the actions required to do so (Supreme Decree 83/2015, Chilean Ministry of Education, 2015).

According to my findings, this low participation could be influenced by a lack of time to provide UDL-based services and lack of opportunities to collaborate with teachers in

providing UDL activities as these were part of the primary challenges indicated by questionnaire participants (51.7% and 55.2 %, respectively). These issues impact how Chilean SBOTs contribute to the objective of UDL: to develop expert learners who are resourceful, strategic, goal-directed, motivated, and able to sustain the effort necessary to succeed (Meyer et al., 2014). As described previously, these characteristics align with what SBOTs also seek to accomplish: independent students capable of selecting strategies to address performance problems and managing their motivation to engage in school occupations (or activities). As their involvement with the UDL strategy is minimal, Chilean SBOTs contribute to this endeavour in a marginal degree.

An example of this marginal involvement is that although participants indicated to collaborate in diverse UDL-based activities, such as classroom scheduling and instructional method design, they were less engaged in curriculum planning (38.4% of questionnaire participants). Participation in curriculum planning is essential for an inclusive practice, particularly when this is conceived considering UDL, as one of the responsibilities of SBOTs is to support diverse teaching and learning processes (Cahill & Lopez-Reyna, 2013; Coster et al., 2013). Indeed, research from Chile indicates that redesigning curriculum activities with UDL in mind can result in more inclusive learning experiences, the elimination of explicit learning barriers, and an increase in professional collaboration (Caceres & Caceres, 2015).

The UDL framework encourages teachers to focus on their objectives, materials, methods, and types of assessment (Meyer et al., 2014). SBOTs have much to offer in these areas with their expertise in analysing activities, the impact of the physical, sensorial, and social environment on learning, the accessibility of the materials, and the use of technology to facilitate learning (Campbell et al., 2016; Hanft & Shepherd, 2016; Schoonover, 2019). This suggests that significant opportunities are lost when SBOTs are less involved in curriculum design. This is in contrast to findings in contexts such as the USA, where curriculum planning was identified as one of the activities in which SBOTs were most involved (Bolton & Plattner, 2019).

The preceding indicates that the SBOTs inclusive practices require further development, especially when analysed in relation to the UDL approach. Nevertheless, questionnaire respondents who indicated a role in implementing this framework (n=29) reported considering its three principles, although the principle of representation was indicated by a smaller proportion (82.7% of who responded this question). These tendencies are consistent with what Kennedy et al. (2018) discovered in their review of health professionals' involvement with this approach. They discovered that OTs frequently helped considering the principle of multiple means of engagement, especially providing diverse means for attracting interest, and the principle of multiple means of action and expression, focusing mainly on the provision of diverse means for physical action. Regarding the principle of representation, Chilean SBOTs were least involved in providing options for language, mathematical expressions, and symbols, which is consistent with the findings of Kennedy et al. (2018).

These findings suggest that SBOTs may place a greater emphasis on gaining and sustaining student interest in learning, as well as on how students plan and execute tasks, and organise and express their ideas (Meyer et al., 2014). These tendencies may demonstrate the capacity of SBOTs in these areas, which highlights niches where their contribution may be indispensable, as described in Section 7.1.2. The issue, however, is their diminished involvement in making materials accessible to the largest number of students, thereby missing opportunities to share their expertise in activity analysis and scaffolding (Schoonover, 2019).

The research on UDL in Chile reveals some limitations that may influence the situation described previously. These included a lack of preparation of teachers for its implementation, limited planning time for classroom teams, and reliance on the willingness of professionals to collaborate (Caceres & Caceres, 2015; Sánchez et al., 2016; Valencia & Hernandez, 2017). These factors demonstrated the connection between a shortage of collaboration in the Chilean context and the absence of SBOTs involvement with UDL.

Considering the above, it is possible that the benefits of incorporating UDL principles in Chilean schools could be lost. These may include: supporting the participation and progress of a greater number of students and designing flexible learning environments and accessible content (Al-Azawei et al., 2016; Edyburn, 2010; Kurth et al., 2015; Ok et al., 2017). The advantages that Chilean SBOTs identified because of their participation in collaborative consultation may be at jeopardy as well. These included increasing teachers' awareness of their role, including students with occupational requirements, and increasing teachers' awareness of links between motor difficulties and learning performance (see Figure 27).

The advantages for the educational community to support students under the same framework may also be lost. These advantages include: a simplicity that is appealing to teachers, using the same language, and collaborating with a shared understanding (Dalton et al., 2012). Furthermore, Kennedy et al. (2018) argued that SBOTs may miss out on novel opportunities if they do not advocate for UDL and educate the educational community about their role in supporting students of all abilities. This appears to be an essential duty for SBOTs in Chile.

The preceding demonstrates that is necessary to train SBOTs to provide UDL-aligned services in settings where it is utilised, such as Chile. This is a relevant aspect since the evidence suggests that Chilean teachers require more preparation to implement UDL (Sánchez et al., 2016; Valencia & Hernandez, 2017). My findings extend this for SBOTs. This, however, requires additional research, as there is limited empirical evidence involving pre/post-test methodology to justify the application of UDL as a national educational model (AlRawi & AlKahtani, 2021; Capp, 2017; Rao et al., 2014; Smith & Lowrey, 2017). In addition, some challenges when focusing solely on environmental barriers have been found, including an ongoing need for teachers to gain experience with UDL and their reluctance to implement it because it would generate additional work and overwhelming stress (Kurtts, 2006; Rappolt-Schlichtmann et al., 2013; Zerbato & Mendes, 2021). My findings corroborate

this, as SBOTs indicated to depend on teachers' willingness to work together, which include UDL-aligned services. As a result, scholars argue that is necessary to provide a more balanced and integrative view on specific needs versus the universal implementation of UDL guidelines (Griful-Freixenet et al., 2017).

What I argue here is that the lack of clarity about the role of members of the educational community could contribute to these difficulties. Chilean schools are characterised by a solitary work culture, and roles are unclear. Hence, I advocate for addressing these issues by ensuring that all members of the educational community implement inclusive practices within a clear service model that specify their roles.

7.2. All members of educational communities to foster inclusion

Inclusion in education, especially for students with SEN and disabilities, is a complex process in which the diversity of the people involved play a role. Indeed, being inclusive is not an easy task as there is no clear set of actions that can guide community members to move in a more inclusive direction, as the field is plagued with uncertainty and confusion (Azorín & Ainscow, 2020). This uncertainty and confusion can be further exacerbated when there is a lack of knowledge about the role of all those involved (Friedman et al., 2022).

I researched SBOTs as allied health professionals who may add more complexity to this process and from whom there is minimal information. Indeed, recent evidence from Chile suggests that health professionals have been less thoroughly studied in educational contexts (Dinamarca-Aravena, 2023a). Therefore, my research broadens the scope of educational research to members that have been overlooked in Chile, even though they have worked in nearly 9% of the schools over the previous five years (see Section 2.4).

My research shows that educational researchers need to involve all stakeholders in their research, especially when studying inclusion as the support provided by, for example SBOTs, has been described as critical to the inclusion of diverse students (Arbesman et al., 2013; Beck et al., 2006; Cahill & Lopez-Reyna, 2013; Christner, 2015; Collins & Crabb,

2010; Handley-More et al., 2013; Laverdure, 2014; Nye & Sood, 2018; Piller & Torrez, 2019; Rosenberg et al., 2017; Spencer et al., 2006; Szucs et al., 2016; Zingerevich, 2009).

Overlooking certain members of the community who play a role in supporting inclusion contradicts what UNESCO has stated regarding the necessity of involving the entire educational community in addressing this challenge (UNESCO, 2020). Furthermore, Messiou (2017) argues that it is time to re-evaluate the research conducted in the field of inclusive education so that it can contribute to field developments. My research indicates that this re-evaluation is essential, as professionals such as SBOTs may inadvertently hinder inclusion processes due to a variety of factors, exposed in this thesis.

The role of all members of educational communities towards inclusion have been recognised in a recent global education monitoring report of the Sustainable Development Goals (SDGs), specifically SDG4 which seeks to ensure quality education for all (UNESCO, 2020b). This report shows the involvement of SBOTs, behavioural therapists, and others to accompany the opening of mainstream schools for students with SEN, as a strategy to promote inclusion. However, this report indicates that their provision is severely deficient in diverse contexts, and that training and clearly defined roles and responsibilities are required. This is consistent with the findings of my research.

In Latin America, and specifically in Chile, the challenge of being inclusive has been addressed by concentrating the efforts into access issues (Marchesi, 2019; Prieto, 2015). In research, however, the focus has shifted from where to what and how to educate students from diverse backgrounds. This shift has revealed that what has been achieved in terms of access has not yet been scaled up to guarantee successful students' participation and performance (Iturra, 2019; Marchesi & Hernández, 2019). This situation has been impacted by the difficulties in establishing a framework that incorporates various professionals with complementary roles within educational communities (Blanco & Duk, 2019; Hernández, 2017; Marfan et al., 2013). My research shows the challenges impacting this and

demonstrates that although inclusion efforts have been made, the relevance of the complementary roles of professionals such as SBOTs have been overlooked.

From the point of view of SBOTs, my findings suggest that despite their strong background in the inclusive approach, SBOTs have encounter difficulties to play a situated role in students' participation and performance. One of the factors influencing this is that SBOTs professional instruction does not equip them with the necessary knowledge to put their expertise into practice. This was discussed in the focus groups, with participants indicating that “the training with which you graduate, the content you learn along the way is a lot but entering the labour field is a completely different reality” (P17, 1 to 3 years of experience in a mainstream school with SIP). It has also been evidenced in research that have explored the role that undergraduate preparation of professionals such as SBOTs has played on their practice in schools (Dinamarca-Aravena, 2023b).

What my results allow me to argue is that while there is a role for individual assessment and intense services within the support SBOTs provide, efforts need to be focused on inclusive practices to avoid internal segregation and stigmatisation (Kauffman et al., 2018; Kauffman & Badar, 2014) Indeed, the potential academic benefits of an individualised pull-out service have been recognised in research (Hannes et al., 2012). However, scholars have argued for a more balanced and integrative approach that combines highly specific requirements with universal implementation (Griful-Freixenet et al., 2017).

To develop an approach that seeks universal strategies that reflect inclusive practices, it is necessary to understand the work of professionals such as SBOTs. This is what my research contributes, enabling for a true understanding of how the involved actors, especially SBOTs, contribute to inclusive learning spaces. According to a number of scholars, when professionals are confronted with evidence about their practice, as was the purpose of this study, spaces are opened for them to recognise its non-inclusive aspects, and they would seek methods to make them more inclusive (Ainscow et al., 2012; Ainscow

& Howes, 2007). This information is crucial for SBOTs in Chile, as their services typically do not reflect inclusive practices and would therefore be modified. These transformations are presented in Chapter 8.

7.3. Methodological discussion: a mixed-methods study

While carrying out this project, I made several methodological decisions, and it is necessary to do an analysis of the advantages and disadvantages associated with these choices. The scoping review, the questionnaire and the focus groups had their own section in which they were discussed and rated according to their own criteria (Sections 4.4, 6.1.5 and 6.2.4, respectively). This section, on the other hand, includes a discussion of the quality standards for mixed-methods studies applied to the integration of the questionnaire and the focus groups as part of a single research. Therefore, this discussion is focused on aspects such as interpretive rigor, which is the extent to which credible interpretations have been made based on the results obtained (Bryman et al., 2008; Creswell & Plano Clark, 2017b; Dellinger & Leech, 2007; Morse, 2015; O'Cathain, 2015; Teddlie & Tashakkori, 2009c).

As described in Section 5.2, the elements I combined when conducting the questionnaire and focus groups were diverse since my research problem required multiple approaches to understand in a deeper manner how and why Chilean SBOTs provide their services in certain ways (LaRusso et al., 2009; Teddlie & Tashakkori, 2009a). Consequently, the integration of these two methods helped me in comprehending the numerous facets of SBOTs practice, given the unique perspectives that their combination provides. This means that a mixed-methods approach was appropriate for addressing my research questions. In addition, their use was based on a clear logic, and I provided a detailed and transparent description of how the two methods were related (see Section 5.2.3) (Bryman, 2015).

This partially meets the requirements for mixed-methods research. However, the way in which the samples were combined is also significant, as it affects how the interpretations or inferences represent both samples (Onwuegbuzie & Johnson, 2006). As described in

Section 6.2, 7.4% of the SBOTs who responded to the questionnaire were represented in the focus group. This low percentage suggests that the inferences derived from the joint display analysis, which asserted that the most influential factors were educational system-related, may be difficult to sustain. However, the focus group data better illustrated the daily challenges encountered by SBOTs due to the richer and more in-depth discussions that were held. In addition, while I acknowledge that the results may represent focus group participants more accurately, none of the questionnaire respondents to whom I sent a summary of the focus group results mentioned anything that contradicts them. Indeed, the few individuals who responded to what I sent expressed complete agreement with the results.

A further criterion requiring discussion relates to the findings of both methodologies and how they were integrated at the stage of interpretation, given that although the questionnaire and focus groups were mixed at various levels, they were integrated predominantly at this stage. As described in Section 5.2.3, I incorporated the quantitative results into the qualitative phase using a sequential data integration strategy in which I interpreted the quantitative and qualitative data separately prior to combining them (Morse, 2015). This integrated approach is evaluated based on its interpretive rigour, within which five factors are considered (Creswell & Plano Clark, 2017a; Dellinger & Leech, 2007; O'Cathain, 2015):

- Interpretative consistency, which assesses if the conclusions closely follow the findings and if they agree with each other.
- Theoretical consistency, which assesses if each conclusion is consistent with current theories and empirical findings of other researchers.
- Interpretative agreement, which assesses if other scholars reach the same conclusions based on their particular results.
- Interpretative distinctiveness, which assesses if the conclusion is clearly different and more defensible than other plausible conclusions.

- Integrative efficacy, which assesses the degree to which conclusions made in each strand are effectively integrated into a theoretically consistent meta-inference.

Interpretative consistency was obtained in this project by interpreting the results of both methods in conjunction, allowing the similarities and differences between them to become apparent. Utilising a systematic model such as the joint display analysis of Johnson et al. (2019) and comparing it to what I discovered in the literature and the scoping review made its integration simple. As meta inferences were captured, this suggests that integrative efficacy was also attained. This also indicates that the results were compared to current empirical findings, indicating that my interpretations were consistent with those of others. In turn, this suggests that theoretical consistency criteria and interpretive agreement criteria were also met. This approach of integration, therefore, enabled me to comprehend more meaningful explanations and maximise the strengths of both instruments, while minimising their shortcomings if I used only one (Mitchell, 2018).

My interpretations, therefore, may be more defensible than other plausible conclusions, but further discussion is required on this subject. Although my evidence demonstrates how and why I arrived at the conclusion that Chilean SBOTs provide services that are less aligned with inclusive practices and that several factors contribute to this, other possible conclusions could have been reached. For instance, other researchers may argue that SBOTs should provide intense services because they typically assist students with complex requirements. Considering SEN and the most supported difficulties (ASD, cognitive difficulties, ADHD and executive functioning, fine motor skills, and sensory modulation issues), this scenario is plausible in the Chilean context. However, supporting challenging requirements does not necessitate providing intense or individualised support only, as their complexity may require more.

Others may argue that because models such as RtI are not implemented in Chilean contexts, it can be challenging to locate multiple tiers of support within schools. This argument may be valid because Chilean educational documents do not describe multi-tiered

models, and therefore educational communities are not expected to implement them. Nevertheless, as described in Section 7.1.3, the UDL approach is a first step in addressing difficulties in Chilean schools. However, what my research shows is that this instruction should probably be an explicitly mandated for the entire educational community, with greater precision and direction, especially for EAs (Educational Assistants) such as SBOTs, whose knowledge base may differ from that of the teaching staff and therefore require additional direction.

Another element to consider is the fact that I explored the services of SBOTs based on two frameworks: the AOTA Framework of Practice (AOTA, 2020) and the RtI (Response to Intervention) approach (Basham et al., 2010; Murawski & Hughes, 2009), considering what the P4C (Partnering for Change) model suggests for OTs (Missiuna et al., 2012). This conceptualization influenced my findings, which is significant because researchers utilising different conceptual frameworks may reach different conclusions. Although I acknowledged that this project provides solid evidence that the conclusions reached were based on the collected evidence, these conclusions were coloured by the frameworks I employed. My philosophical and theoretical foundations also influence them, so researchers who interpret inclusive practices in different ways may also reach different conclusions. Consequently, it is essential to comprehend these findings in their own context. However, scrutinising these findings through the lens of other frameworks or perspectives is an intriguing exercise that could be conducted in the future.

In conclusion, even though I rigorously employed scientific methods and obtained answers to my research questions, what I discovered constitute one of the earliest endeavours to produce knowledge regarding the inclusion-related practices of Chilean SBOTs. Nevertheless, there is still a great deal of work to be done, particularly regarding SBOTs' use of inclusive strategies and what the rest of the community thinks of their practice. These subjects are covered in greater detail in the following chapter.

7.3.1. Methodological limitations

I analysed methodological limitations for each of the methods I used in this research. Regarding the scoping review, although it was a method that allowed me to answer part of my research questions, certain limitations must be considered when scrutinising the obtained results. Due to funding limitations, a subject-specific database (OTDbase) was not utilised, which could have affected the number of identified studies. In addition, not all the items on the TIDIER (Template for Intervention Description and Replication) Checklist were utilised, as some were not reported in the selected studies, indicating that not all the required elements of an intervention study were included. Other limitation was the fact that the classification of interventions according to the multitiered model was a massive undertaking that, at times, was extremely perplexing, which reflects the dynamic nature of these tiers but also their complexity. Therefore, caution should be exercised when evaluating these results, particularly between interventions of tiers 1 (intense) and 2 (targeted), as similarities between these tiers and the way interventions were described made it difficult to distinguish between them. In addition, as the review was limited to scientific journals, there may have been relevant interventions published in grey literature that were not included in the analysis. In the future, this scoping would be expanded to include this literature, especially doctoral and master's theses, as several were not included in this review due to their length.

Regarding the questionnaire, several validity and reliability criteria for quantitative methods were met, but the fact that it provided a snapshot of Chilean SBOTs at a single point in time could be considered a methodological limitation. This is because what I discovered in 2020 may differ from what is occurring, for instance, in the present day. In periods of radical change, such as during and after a pandemic, this may be a crucial factor to consider. Therefore, it may be essential to continue this research in the future so that it can be compared to what I discovered. Another limitation of this method was the non-randomness of the sample and the response rate, especially in terms of representation. In this regard, the questionnaire

distribution could have been improved, yet, these concerns should be considered within the framework of the project, which was a non-generalisation-focused initiative.

In accordance with this logic, although the focus groups that followed the questionnaire satisfy the criteria for qualitative methods, their sample size was limited because only a small proportion of the questionnaire respondents participated. This could influence the quality of the meta-inferences I reached (See section 7.1). Therefore, caution is advised when interpreting the focus group results as representative of the questionnaire sample. In addition, even though combining these two methods enabled me to answer my research questions, utilising other methods such as observations would have yielded vital information regarding the daily activities of Chilean SBOTs. This because what people describe in focus groups and questionnaires may differ to what they truly do in their daily practice. During the time I conducted this research, restrictions were imposed due to the pandemic, which influenced the use of alternative methods. For future research, I encourage to use observational methods that would provide richer data about the daily actions of SBOTs in Chile.

All the above demonstrates that even though my findings allow to put Chile on the map in terms of SBOTs research, it is merely the steppingstone for a much larger area of research that must be pursued in the future. Consequently, I extend an invitation to continue examining SBOTs services and to develop opportunities and knowledge to assist these professionals in aligning their practices with the goal of inclusion.

Chapter 8: Conclusion

The worldwide response to the inclusion challenge in education has varied according to local contexts and communities. I explored what SBOTs do to address this challenge as members of educational communities and how their daily actions correspond to the inclusion objective, given that they have a firm foundation to respond to this appeal (Bissell & Cermak, 2015; Cahill & Lopez-Reyna, 2013; Garfinkel & Seruya, 2018; Stephenson, 2019).

To achieve this objective, I began my thesis by situating my research within the Chilean educational context and examining the concept of inclusion within this setting (see Chapter 2). The significance of educational community members in addressing the inclusion challenge and the incorporation of SBOTs into these communities in Chile were also discussed. It was shown that the number of SBOTs employed in Chile has increased significantly over the past decade. Indeed, SBOTs have supported students in over 8% of Chilean schools as of 2019. These SBOTs account for approximately 3% of all professional EAs (Educational Assistants) employed during these years, which equates to over 1000 members of Chile's educational communities. This hidden fact underscores the importance of this investigation, as limited data from those who support students with SEN or disabilities suggests that educational communities lack the comprehensive knowledge necessary for inclusive practices.

I also examined the research conducted on SBOTs services and practices, which I described as a research conundrum symbolising the contradiction between researchers' demands to align SBOTs services with inclusive practices and contrary empirical study findings (see Chapter 3). I extended the research review to examine the interventions provided by SBOTs in school contexts and discovered the same discrepancy in terms of OT outcomes addressed and the support tiers frequently adopted (see Chapter 4). Consequently, there is empirical evidence that places SBOTs in a precarious position when it comes to providing services that reflect inclusion, and my research supports this claim.

As a result of the above, I conducted a mixed-methods study to investigate the services of Chilean SBOTs and their alignment with inclusive practices, combining an online questionnaire with focus groups as follow-up methods (see Chapter 5). This study revealed that although the participating Chilean SBOTs offered a variety of services, they spent most of their time supporting students individually and predominantly outside of mainstream classrooms (i.e., pull-out direct services). They also support students with certain diagnoses, particularly those identified with ASD, primarily in preschool and primary years, with a tendency among the participants to work alone, indicating a shortage of collaboration.

This scenario was most influenced by the educational system, its rules, resources/facilities, legal structures, and the educational communities' perception of education's purpose. Personal and interpersonal factors, as well as professional factors, also played an important role. These factors included the educational community's attitudes, expectations, and awareness of the function of SBOTs, as well as their culture of collaboration. The uncertainty surrounding SBOTs because of their absence from legal documents, their capacity to provide services in light of the OT profession, and their training, or lack thereof, were also significant. Individual student characteristics, particularly conflicts between diagnoses, student requirements, and family dynamics, also influence how SBOTs in Chile evaluate and support students. Additionally, the pandemic affected their services, most notably their collaborative practices and UDL implementation, introducing previously unexplored opportunities.

After integrating my results with the research I reviewed, I was able to outline the current model of SBOTs provision in Chile (see Chapter 7). This model is a continuation of the enigma revealed by the research I examined, since inclusive practices have been reflected in a limited way in daily actions in the Chilean context, despite having been revealed in the most recent literature. This indicates that Chilean SBOTs have difficulty developing an inclusive praxis, making it difficult for them to play an active role in promoting inclusion. This would contribute to the Chilean education community's continued practice of

segregating students for support as a first option, contrary to the law's mandate that universal strategies, especially UDL strategies, be used first (Supreme Decree 83/2015, Chilean Ministry of Education, 2015).

In addition, I was able to determine that the trend towards direct pull-out services that I observed in Chile was prevalent in a variety of contexts. This suggests that SBOTs provide comparable services regardless of location; however, as most of the research I reviewed was conducted in the USA, this may not be applicable in all contexts. Indeed, American academics have played a significant role in SBOTs research, and their influence on this subject has been recognised not only by me but also by other scholars (De Oliveira Borba et al., 2020). This highlights the need for studies such as this one in other regions of the world, notably Latin America, where research on this topic is scarce.

Additionally, when the following consideration is considered, the disparity described thus far becomes even more pronounced: When SBOTs employ multi-tiered models, the propensity to provide more direct pull-out services than others is diminished (Campbell et al., 2012; Hutton, 2008, 2009; Missiuna et al., 2012; Missiuna et al., 2006, 2017; Pollock et al., 2017; Wilson & Harris, 2018). Therefore, the lack of participation of Chilean SBOTs in universal services and the implementation of the UDL approach positions Chile at a critical juncture in terms of its efforts to align with inclusive practices. However, since factors influencing SBOTs' service delivery models were comparable across contexts, especially between the USA, Canada, and Chile, there may be reason to consider the use of multi-tiered approaches in the Chilean context. This consideration necessitates the examination of several changes in Chile that are discussed next.

8.1. Transforming Chilean SBOT into an inclusive practice.

What I have discovered and analysed in this research demonstrate the necessity of transforming the services of Chilean SBOTs if an inclusive practice is desired, particularly when considering models such as P4C and UDL. This transformation may appear irrelevant

to professionals with a strong foundation in inclusion such as OTs, whose goal in schools is to promote inclusion as a means of transforming education systems to reach all students (WFOT, 2016b). Nonetheless, I observed that the Chilean SBOTs that participated in my study have had difficulty fulfilling this role. Hence, incorporating models such as RtI, P4C and UDL would allow them to transition from an individualised to a universal approach (Ainscow & Sandill, 2010; Azorín & Ainscow, 2020). This transition is necessary because a practice based primarily on direct pull-out services could not promote participation in natural environments like mainstream classrooms and playgrounds (Cahill et al., 2014; Truong & Hodgetts, 2017). Indeed, being outside of natural settings may influence how SBOTs perceive their provision, as time spent in classrooms forces them to evaluate their recommendations (Campbell et al., 2012).

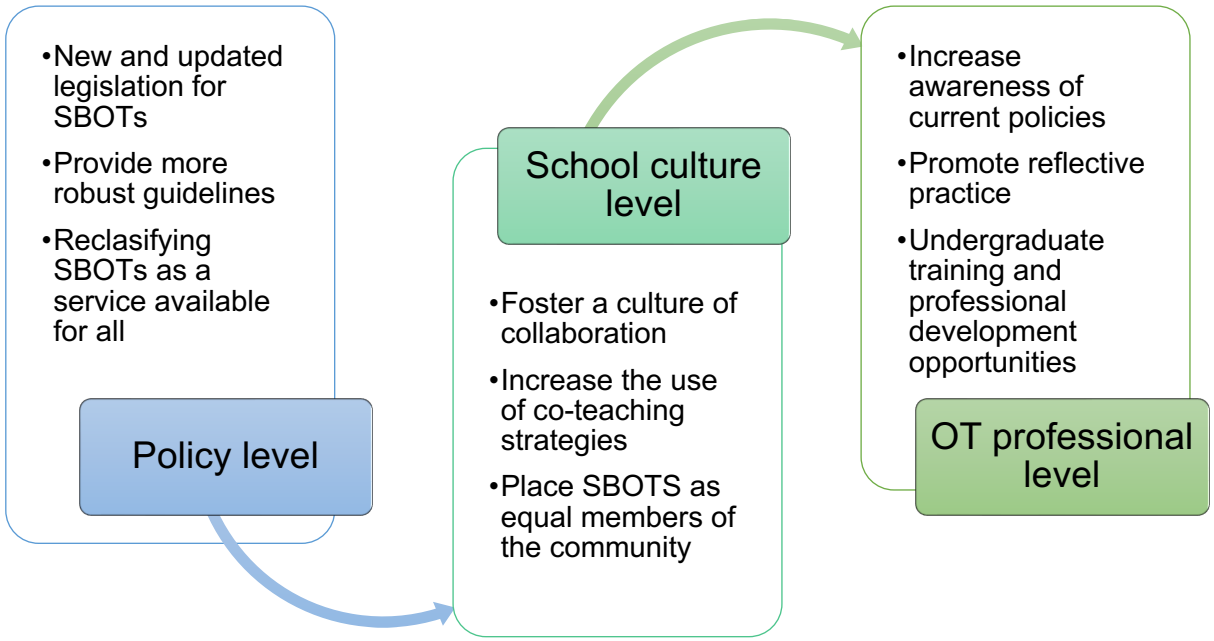
A practice that is largely individualised may also overlook empirical research that demonstrates the advantages of whole-class or whole-school services, particularly in terms of enhancing the knowledge and capacity of educational communities (Bellows et al., 2013; Dreiling & Bundy, 2003; Lust & Donica, 2011; Missiuna et al., 2017; Sayers, 2008; Wilson & Harris, 2018). Indeed, Giangreco et al. (2010) and Giangreco and Suter (2015) characterise transformations towards a universal whole school approach as a means of enabling students to learn in non-segregated settings and framing education as a system of equitable resource distribution. Consequently, situating SBOTs in a system that prioritises universal, indirect, and integrated services could be advantageous for improving the social and academic outcomes of all students. It would also enable SBOTs to support students before they fail by proactively providing high-quality interventions, monitoring progress, and applying response data to critical educational decisions (Murawski & Hughes, 2009).

Transformations is a prevalent topic on the global educational agenda. In fact, when it comes to inclusion, the objective is frequently restructuring, which refers to long-term improvements in how schools serve students (OECD, 2021; UNESCO, 2017; United Nations, 2022). In the health sector, to which SBOTs pertain, the requirement for transformation has

also been identified. To prevent students with disabilities from being excluded from mainstream education opportunities, the WHO has stated that systemic changes are necessary to eliminate barriers and provide reasonable accommodations and support (WHO, 2007). However, educational systems vary in their adaptability; consequently, change strategies must be contextualised considering local conditions.

I identified in this research three fundamental levels in which diverse modifications to impact the way Chilean SBOTs provide their services are necessary: (1) policy level, (2) school culture level, and (3) OT professional level (Figure 31). I separate these areas for educational purposes only, as they are interdependent.

Figure 31*: Transformations required for a Chilean SBOT inclusive practice*



8.1.1. Policy transformations and recommendations

The changes required at a policy level refers to legislation and guidelines provided by the Ministry of Education to all those that are involved in the challenge of inclusive education, with a focus on what is missed for SBOTs. Updated and new policy that encourages an inclusive practice would enable SBOTs to align their support with their primary role in schools: to contribute to an inclusive education by enabling all students to participate in the occupations of their choice (WFOT, 2016). This is crucial within the Chilean context since recent research involving professionals who work in Chilean schools with SIPs, including SBOTs, has demonstrated that policies are not consistent with school requirements and the inclusive approach's goals (Dinamarca-Aravena, 2023a). Therefore, updating or creating new policy could be necessary since SBOTs determine which services to offer based on what they perceive to be feasible, which is commonly guided by policies (Clough, 2019).

My research indicates that a robust policy is required to provide SBOTs with more information on their responsibilities and how to assess and intervene. Considering the role of SBOTs as professional EAs (Educational Assistants) in the Chilean context, this policy could be geared towards creating the groundwork and establishing the conditions for collaborative practice. My research also indicates a need to raise the SBOT's awareness of current policies. Participants mentioned decrees that govern EAs, such as Supreme Decree 170, but none mentioned the policy that describes the function of SBOTs: the guidance on the role and functions of professional educational assistants in School Integration Programmes (SIP) (Chilean Ministry of Education, 2019). They also did not mention the WFOT's 2016 statement on the practice of SBOTs.

A review of Supreme Decree 170 would be required since it dictates who and how many students SBOTs can support, as well as the services that can be offered. This review may concentrate on the conditions the decree imposes, as according to my research would be limiting the potential contributions of professionals such as SBOTs, particularly when

viewed through an inclusion lens. As this decree also details assessment procedures for professionals such as psychologists and speech and language therapists, similar information would be provided to SBOTs.

The guidance on the role and responsibilities of professional EAs in SIPs is a relevant document as it is the first in Chile that informs the role of SBOTs in assisting students with SEN or disabilities (Chilean Ministry of Education, 2019). I consider, however, that this role continues to be based on a deficit-based approach that associates SBOTs with certain students according to their diagnoses, particularly those with permanent SEN (i.e., diagnoses that affect students throughout their school years) (Supreme Decree 170, Chilean Ministry of Education, 2009). In addition, there is an emphasis on the function of SBOTs in supporting students with motor skills, issues which, according to research, can limit their scope (Bonnard & Anaby, 2016). Furthermore, neither the mechanisms that support the work of the SBOTs nor the evaluation criteria for their contributions are described, which could lead to an incomplete understanding of the SBOTs.

The possibility of reclassifying SBOTs as a service available to all students, as opposed to a special educational service, is a further relevant factor that could be considered when analysing the potential changes in educational policy. This aspect was important among focus group participants because they felt limited in their ability to support certain students and therefore shared a desire to support students despite their diagnoses. This is a fundamental aspect of the OT profession, especially in schools, where SBOTs are obligated to support the participation and performance of all students who have been identified as having difficulties, regardless of the cause (WFOT, 2016a).

To develop all of this, it appears necessary to create alliances between the Ministry of Education and SBOTs to increase knowledge of SBOTs profiles and to develop guidelines. Alliances between education and health services are crucial when transformations are required, and my research demonstrates the difficulty of integrating two fields with distinct knowledge bases. In truth, my research demonstrates how challenging it is to integrate

health professionals, such as OTs, into school settings, the variety of factors influencing and therefore the need to be aware of these complexities. I recommend additional collaborative actions between these two sectors. An example of this would be collaborating on a more robust guideline for SBOTs that combines what the Ministry of Education has already provided (Chilean Ministry of Education, 2019) and what the College of Chilean OTs has created (http://www.coltochile.cl/academico/documentos).

8.1.2. School culture transformations and recommendations

Regarding school culture transformations, it appears crucial to promote a system that articulates the diverse members of each educational community in terms of the values of trust and cooperation, as these values facilitate the formation and maintenance of strong relationships (Cohen et al., 2009). Indeed, academic achievement and school success have been linked to a positive school climate, which refers to the quality and character of school life (Cohen et al., 2009). However, Cohen et al. found a significant disconnection between these findings and what education departments, school climate policies, practice guidelines, and teacher education departments do in the USA. My data supports these claims. Consequently, there must be cohesion between policy and what school culture and practice reflect, especially in terms of inclusion and a social perspective through which learning difficulties are understood (Espinoza, 2019; Iturra, 2019; Infante & Matus, 2009; Muñoz et al., 2015; Peña, 2013; Valencia & Hernandez, 2017).

In Chile, the Superintendency of Education oversees the cohesion between school culture and educational regulations (Law 20.529, Chilean Ministry of Education, 2011). This institution categorises schools according to a performance metric that considers academic outcomes, indicators of self-esteem, academic motivation, healthy lifestyle routines, school climate, and school attendance and retention. Based on these indicators, schools are categorised as having high, medium, medium-low, or insufficient performance, allowing for the identification of schools that require additional support (Chilean Ministry of Education,

2020). In 2022, over 8000 schools in Chile were categorised as having medium-low or insufficient performance (https://localizar.agenciaeducacion.cl/). This indicates that a significant number of schools lack a connection between policy and what their culture and practice reflect.

Creating a culture based on trustworthy relationships is not an easy task, particularly in countries like Chile where members tend to work in isolation. This difficult task may be exacerbated when allied health professionals, such as SBOTs, are involved, as research indicates that they are commonly perceived as experts within educational settings (Barnes & Turner, 2001; Benson et al., 2016; Bose & Hinojosa, 2008; Edick et al., 2022; Huang et al., 2011; Suc et al., 2017). This can make the task more challenging as they are not regarded as equal community members. In fact, research indicates that institutions with low levels of collaboration struggle to manage additional resources, such as SBOTs, and are more likely to decline external expertise (Payne et al., 2011). My research corroborates these findings.

Therefore, my research indicates that it is necessary to cultivate a culture of collaboration among educational community members. In fact, teamwork and collaboration were frequently discussed in the focus group, with one of the participants' primary concerns being the administration of resources, especially human resources, and how to make use of their time. What I advocate is to increase the use of o-teaching strategies involving SBOTs and teachers as they are essential for inclusive practices (Browder et al., 2008; Meyer et al., 2014; Rao & Meo, 2016). Indeed, research has demonstrated the significance of developing a co-teaching model for SBOTs and teachers, as it provides a framework for collaboration and consultation (Blackwell & Dunn, 2016; Case-Smith et al., 2012; Case-Smith et al., 2011). Co-teaching strategies refer to interventions administered to students from disparate backgrounds by at least two professionals in the same classroom (Murawski & Hughes, 2009).

Research suggests a variety of strategies could be implemented to increase collaboration. In the USA, for instance, the development of formal meetings and informal

conversations reflects a more collaborative culture (Barnes & Turner, 2001; Bose & Hinojosa, 2008; Bucey & Provident, 2018; Huang et al., 2011). The use of telerehabilitation technologies and virtual meetings is a further strategy that could be implemented and which, according to the discussions of the focus group participants, may be effective. Indeed, the role that the online format has played in enhancing the level of collaboration between Chilean SBOTs and the educational community during the Covid-19 pandemic should be considered for the future of this practice. This would require educational communities to be open to new strategies and ways of communicating and collaborate.

The essential changes at this level would also be supported by the widespread adoption of an inter-professional collaboration strategy that emphasises collaboration across disciplines. This transformation is crucial to the growth of SBOT practice (Bolton & Plattner, 2019). However, working and providing educational services within a shared framework such as this one is challenging and requires that the entire educational community seek a common agenda to establish methods of working that allow them to find meaning in different types of information (Ainscow & Sandill, 2010; Carlsson et al., 2007; Giangreco et al., 2010). In addition, as collaboration is not a natural occurrence, conditions and resources must be provided to teach and encourage it (Main, 2016). In Chile, therefore, it is necessary to develop a system structure that increases the opportunities for genuine collaboration. This could be accomplished by recognising the importance of indirect services and allowing more time for their delivery.

8.1.3. OT practice transformations and recommendations

SBOTs play a crucial role in implementing the necessary changes to establish an inclusive practice. As a matter of fact, research on best practices suggests that they play a crucial role in advocating for and communicating their diverse contributions to school teams, as well as in raising awareness of the value of their profession (Anaby et al., 2019; Laverdure, McCann, et al., 2019; Schefkind, 2019; Silverman & Bourke-Taylor, 2009).

However, advocacy was not a topic discussed in the focus groups. Evidence in emerging areas, such as mental health and transition to employment services, suggests that advocacy from SBOTs to address these issues is lacking (Bazyk et al., 2015, 2018; Njelesani et al., 2020; Rodrigues & Seruya, 2019). My research indicates that SBOTs in Chile need to advocate for their role not only in these emerging areas, but also in fundamental endeavours like school participation and performance.

The absence of these discussions among focus group participants may be attributable to several factors, including the absence of prerequisites for SBOTs to comprehend their role and, consequently, advocate for it. One of these factors was the participants' inadequate preparation for school practice. Research indicates that SBOTs could contribute to the success of inclusion if they understood their role and the school's context, culture, routines, philosophies, and policies (Hinder & Ashburner, 2017). This could be accomplished by providing strong opportunities for professional development to boost their confidence in their positions as SBOTs, as well as more collaborative time to enhance this understanding with the rest of the educational community.

There was also a lack of discussions among focus group participants regarding the role that research played in their practice. Despite the fact that Chilean law mandates the use of evidence to find solutions to a variety of problems, none of the participants indicated that the use of evidence had a bearing on how they deliver their services (Chilean Ministry of Education, 2019). The implementation of the UDL approach requires the use of evidence-based interventions (AlRawi & AlKahtani, 2021; Capp, 2017; Meyer et al., 2014; Ok et al., 2017; Rao et al., 2014). It is also the foundation for RtI approaches like P4C (AOTA, 2012; Campbell et al., 2016; Giangreco & Suter, 2015; Missiuna et al., 2012, 2017; Murawski & Hughes, 2009). Hence, not identifying the use of evidence as a factor influencing their services is a source of concern.

According to researchers, SBOTs need to incorporate evidence into their practice because the set of knowledge and skills necessary for effective SBOT practice is dynamic

and changes as new laws, standards, and evidence are introduced (Hollenbeck, 2010). According to Aravena et al. (2016) OTs operating in a variety of settings in Chile have limited ability to evaluate and apply evidence. They also have limited access to professional knowledge due to language barriers and obstacles to accessing research databases and textbooks (Garcia et al., 2016). A further issue may be that there is no organisation in Chile dedicated to disseminating research to professionals such as OTs, resulting in a lack of awareness of available evidence. This combination of problems suggests that it is difficult for Chilean SBOTs to gain access to research, as they lack the time and resources to do so. These are essential factors that should be considered by researchers, policymakers, school administrators, and others at various levels.

Changing from an isolated model to one with a collaborative approach as its foundation also requires SBOTs services to be educationally relevant (Bissell & Cermak, 2015; Blanco & Duk, 2019; Cahill & Lopez-Reyna, 2013; Garfinkel & Seruya, 2018; Stephenson, 2019). It also requires redefining the expectations educational community members who may have been accustomed to a more medical and individualised approach (Hinder & Ashburner, 2017). For this reason, it is essential to allocate time to reflect on their practices in a jointed manner and to comprehend the roles and expectations of others. This is crucial in contexts such as Chile, as evidence suggests that in Latin American nations, the formation of partnerships is essential when governments seek inclusion (UNESCO, 2020).

In addition to the above, my findings suggest that institutions such as the Chilean College of OTs (COLTO) and universities have neglected the requirements of SBOTs and neglected to provide them with adequate training. This has led to many unsupported and unguided OTs in Chile working in crucial contexts such as schools. Indeed, a recent study regarding the professional training of health professionals who work in schools with SIPs (School Integration Programmes) that include SBOTs, revealed that their professional training was insufficient for their work in schools (Dinamarca-Aravena, 2023b). Other scholars, such as De Oliveira Borba et al. (2020), have argued that initial and ongoing

training would equip SBOTs with the understanding required to comprehend the demands of educational contexts. Participants in my study reported a lack of professional development opportunities and an overemphasis on sensory integration. In fact, the majority reported engaging in training for sensory integration more frequently than any other area of development. This was perceived as an impediment to their development and a challenge for educational communities to comprehend SBOTs role.

Training opportunities in Chile can consider the experiences of other contexts where a support system has been established to prepare OTs for school practise. To operate in schools in the USA, OTSs are required to undergo specific training. This training is provided by AOTA (American Occupational Therapy Association), which also provides guidelines, mentorships, and has recently made a professional certificate available to acquire the knowledge and skills necessary for working in the public school system (https://myaota.aota.org/shop_aota/product/CEBDG51?_ga=2.96870367.1732494623.1684356631-1478736544.1682676725). In England, the Royal College of OTs has a specialist section for those working with children, young people and families that promotes high standards of professional practice among children's OTs, including SBOTs This is accomplished by providing training and access to a national network of OTs, as well as access to practice-based clinical forums and opportunities for ongoing professional development (https://www.rcot.co.uk/about-us/specialist-sections/children-young-people-and-families-rcot-ss). The Argentinian Association of OTs has recently developed a postgraduate training programme for SBOTs that equips them with the knowledge and abilities necessary to develop their role (https://www.terapia-ocupacional.org.ar/to-en-ambito-escolar/). Similar initiatives may soon be more feasible in the context of Chile.

8.2. Implications and research recommendations

The transformations suggested in the previous sections should be considered with care as transitioning from direct pull-out services to a collaborative and universal model creates considerable tension between SBOTs and teachers (Clough, 2019). However, I identified diverse elements that would prompt them. For example, in the scoping review the team and I identified that intense and focalised interventions delivered by SBOTs were of similar duration, schedule, and session duration. There was also no need for unique infrastructure to develop them, as commonly available school materials were required. In the Chilean context, financial problems were identified as a challenge in providing integrated services, reflecting the national problem of resource management within schools (Estay et al., 2015; Iturra, 2019; Prieto, 2015). Hence, Chilean SBOTs could consider the implementation of interventions that do not require additional resources, such as universal interventions.

In this regard, the scoping review my colleagues and I conducted identified studies on SBOTs interventions using a systematic methodology. We therefore identified the outcomes addressed, which interventions were evaluated, how they were devised, and the support tiers. This information could be used by SBOTs to reflect on their own practices and current claims regarding their support, as well as by researchers to plan projects involving OTs. This is because the review raises concerns about trends in research to concentrate primarily on school performance and the academic domain, as well as on targeted and intense interventions.

My exploration of Chilean SBOTs services provides crucial information for a group of OTs that researchers, OT institutions, and the Ministry of Education had previously neglected. The knowledge I produced regarding trends in data collection practices, service patterns, collaboration and UDL practices, as well as the factors influencing these trends, introduces this group of professionals in Chilean school contexts and among researchers. SBOTs would use this information to compare their practises with the national

trends presented, as it reveals how other counterparts operate and what daily obstacles or challenges they encounter. This is important in environments where a lack of community and collaboration is prevalent.

This examination also provides vital information for the Chilean educational community to better comprehend SBOTs' everyday actions. This is relevant for policymakers because it suggests what resources and conditions should be provided when OTs are employed in schools. In addition, clear information regarding SBOTs would allow for a greater comprehension of the structure of the educational support system, thereby highlighting the areas where additional efforts are required, especially in terms of daily inclusive practices. This is crucial when a health profession, such as OT, is introduced into the educational sector, illustrating the challenges that this relation poses.

Comparing what I discovered in this research to what the literature suggests provides vital information not only to SBOTs in Chile, but also for SBOTs worldwide. It could also be used by OT institutions to develop strategies to influence SBOTs' participation in inclusive practices. For instance, the WFOT would investigate what else could be done to ensure that SBOTs provide services consistent with their mission to promote inclusion in schools. Additionally, national and international networks that facilitate community efforts to resolve the mentioned problems could be established.

In this regard, and from a professional development standpoint, this research has prompted me as a researcher and SBOT to collaborate with SBOTs from around the world and participate in international networks. I joined the SBOT International Network, which consists of SBOTs from various nations, primarily North America and Europe, as the first Latin American member of this esteemed group, with whom we conducted a workshop on SBOT at the 18th WFOT Congress held in August 2022 in Paris. I also founded a Latin American Community of Practice for SBOTs, which includes OTs from more than 10 Latin American and Caribbean countries. This community is discussed in greater detail in the article “Occupational therapists in education? Routes and possibilities for/in Latin America

and the Caribbean from a Community of Practice" (Farias, Salazar Rivera, et al., 2022). I also encouraged the Chilean College of OTs to organise a group for SBOTs, with whom we developed a technical guideline for OTs in educational contexts in 2021, providing a much-needed resource for Chilean SBOTs (http://www.coltochile.cl/academico/documentos).

Based on these experiences and my research findings, the following section provides researchers with recommendations for addressing the primary issues discussed in this thesis. Even though these recommendations are developed for the Chilean context, many of them could be considered in other contexts as a result of the international discovery of analogous problems.

8.2.1. Research recommendations

Researchers play a crucial role in supporting the necessary policy, school culture, and OT practice transformation (see Section 8.1), and since SBOT practice in Chile has been neglected, they can act in a variety of ways. The following are a few examples of potential future research areas:

- Assess the requirements to incorporate models based on the RtI strategy, such as the P4C approach, would serve to expand research about these models in other contexts, especially in Latin America, where this research is lacking. In Chile, this model could be tested in diverse schools, considering the experience of SBOTs and the rest of the educational community when applying this model. This would allow to consider local factors when implementing models such as these ones.
- Examine current undergraduate programmes and assess what is genuinely necessary for prepare OTs to school practice. For this it would be useful to compare the curriculum of diverse undergraduate programmes of OT and explore how students feel for their development in this area of practice.
- Explore and develop training based on research findings and the Chilean context. Professional development opportunities for Chilean SBOTs are crucial, and research

would provide guidelines to create and develop these strategies considering relevant evidence. Within this point it may also be useful to test what Chilean SBOTs need to learn to feel more prepared to their practice in schools.

- Examine the perspectives of the education community towards SBOTs services, taking into consideration what the education community expects from them, to comprehend their effects in full. Here, the perceptions and opinions of the teaching staff are essential, particularly if the goal is to view schools and teaching staff as indirect recipients of SBOTs services.
- Evaluate collaborative practices among SBOTs and other members of the community. Even though my study determined that collaborative practices were one of the primary factors influencing SBOT services, it is still necessary to verify and empirically evaluate these practices.
- Evaluate the evidence of the efficacy of the entire spectrum of interventions and domains in which SBOTs are engaged in school settings. This would provide OTs with more accurate data to reflect on their practises, a fundamental element of school practice.

The areas in which researchers can contribute to the development of a more inclusive practice of SBOTs in Chile are long, and the examples provided here are just that, examples. The important thing here is that researchers, SBORs, policymakers and all involved in the education of students with SEN or disabilities in the Chilean context have a lot to do. My findings suggest three main areas to begin: policy transformations, transformations of school culture and transformations of the SBOT profession. However, these transformations need to be accompanied by an investigation that examines and evaluates its relevance and applicability. This offers more areas of development to researchers as if these problems are substantially addressed, only then Chilean SBOTs may have greater opportunities to provide services that reflect inclusive practice.

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Appendices

Appendix 1: Chilean SEN classifications

SEN in Chile are classified as permanent or temporary, based on the type of barriers encountered. Permanent SEN are related to the barriers to learning and participating that students can experience throughout their school life. Temporary SEN are related to the barriers that students face at some point during their schooling and to those who need additional support for a certain period. These definitions suggest that SEN are situated within a social perspective since they concern environmental barriers. However, they are in fact related to a list of diagnostics.

Permanent SEN are associated with the following diagnostics (Supreme Decree 170/2009, Chilean Ministry of Education, 2009):

- Hearing impairment: the loss of hearing above 40 decibels causing limitations in the reception and handling of auditory information.
- Visual disability: the alteration of vision resulting in limitations in the reception, integration and management of visual information fundamental for the achievement of harmonious development and adaptation to the environment.
- Intellectual/learning disability: Substantial limitations in the functioning of the person, characterised by significantly below-average intellectual performance, and thus with limitations in adaptive behaviour.
- Autism: qualitative alteration of a set of abilities related to social interaction, communication and mental flexibility, which may vary depending on the stage of development, age and intellectual level of the person who presents with such symptoms.

- Dysphasia: atypical development of the comprehension or expression of spoken or written language and problems in language processing and/or abstraction of significant information for short and long-term storage.
- Multiple disabilities and deaf blindness: a combination of physical, medical, educational and social/emotional needs, sensory, neurological and movement difficulty and behavioural problems.

Transitory SEN are associated with the following diagnostics:

- Attention deficit disorder (commonly known as ADHD): generalised behaviour with an attention deficit, impulsiveness and/or hyperactivity. This behaviour is evident in more than one context and produces clinically significant discomfort or an alteration in social or academic performance.
- Specific language disorder: significant limitations in the level of oral language development manifested by a late-onset or slow language development.
- Specific learning disorder: severe or significant difficulty in learning to read, write and/or learn maths. They are repetitive and chronic.
- Intellectual functioning border: performance on intelligence quotient (IQ) tests in the borderline range, with significant limitations in adaptive behaviour.

Appendix 2: Literature review procedures

This literature was explored by performing advanced searches in academic Google Scholar and the University of Exeter (UE) library search catalogue. For this, concepts such as *occupational therapy*, *school*, *service* and *practice* were searched as key terms. Advanced searches were also performed in ten OT journals that, according to SCOPUS, have the best CiteScores for 2020 (https://www.scopus.com/sources.uri). The journal positioned eleventh, the Journal of OT, Schools and Early Intervention, was also searched because of its relevancy for research carried out in schools. A search with the terms translated into Spanish was also conducted in Google Scholar, the UE Library catalogue, and four OT journals from Latin America.

General literature review search results:

Source		Number of hits		
	English		Spanish	
Google Scholar		1290		57
UE Library catalogue		630		12
OT Journals	Physical and OT in Pediatrics	10	Cadernos Brasileiros de Terapia Ocupacional (Brasilian Cadernos of OT)	25
	Scandinavian Journal of OT	2		
	American Journal of OT	40	Revista Chilena de TO (Chilean Journal of OT)	13
	Australian Journal of OT	6		
	Canadian Journal of OT	14	Revista Argentina de TO (Argentine Journal of OT)	0
	British Journal of OT	29		
	OT in Mental Health	4	Revista Ocupación Humana-Colombia (Human Occupation Journal)	30
	OT in Health Care	9		
	Hong Kong Journal of OT	6		
	OT International	9		
	Journal of OT, Schools and Early Intervention	41		

Appendix 3: Draft MEDLINE search of the scoping review

1 (((school* or class*) adj3 (regular or mainstream or special*)) or "school base*").ti,ab. (20035)

2 Schools/ (36899)

3 (education* adj3 (integrat* or inclusiv* or special*)).ti,ab. (9542)

4 1 or 2 or 3 (61250)

5 ("occupational therap*" or OT).ti,ab. (26735)

6 Occupational Therapy/ (13018)

7 School Health Services/ (16946)

8 Rehabilitation/ (18083)

9 5 or 6 or 7 or 8 (66775)

10 (disabil* or difficult* or "developmental disease" or disorder* or "disabled child*" or "at risk").ti,ab. (1933851)

11 (("SEN" or "special* or additional*") adj2 (need* or support*)).ti,ab. (65)

12 10 or 11 (1933881)

13 4 and 9 and 12 (876)

limit 13 to yr="1975 -Current" (869)

Appendix 4: Questionnaire Databook

#	Item/Variable	Sources	Field Label/Survey Questions	Field attributes (field type, choices, branching logic, etc.)	
Instrument: Chilean School-based OTs questionnaire					
1.	Progress	----------	Progress	Numeric	
2.	Duration	----------	Duration (in seconds)	Numeric	
3.	RecordedDate	----------		Date (dd-mm-yyyy)	
4.	Response_ID	----------	Record ID	Text (String)	
5.	DistributionChannel	----------	Distribution Channel	Text (String)	
6.	Consent	Own creation	As part of my PhD project, I am conducting a 25-30 minutes survey of Chilean Occupational Therapists (OTs) who are working in education. You are invited to answer this survey if you are or have worked as an OT in schools in Chile. If you do not currently work in education, please answer this survey considering your most recent work in schools. By completing this survey, you are helping to gather critical information about your role as an OT, including who receives your services, what services do you provide, what service delivery models do you use and how do you collaborate with teachers. The main goal of collecting this information is to address the current absence of knowledge about the professional practice of OT in schools in Chile. Your participation is voluntary, and you can choose to exit the survey at any time. Your responses will be anonymous, so each survey will be identified through a numerical record. However, at the end of the survey you will find a question asking your contact information if you want to receive a summary of the results and if you would like to take part in focus groups that will analyse further the results of this survey. You are free to provide this information, and this decision does not affect your participation in this survey. If you decide to provide your contact information, only your email will be requested, which will not be shared with anyone and will be used only to send the report and/or arrange your possible participation in	Descriptive

<table>
<tr><td></td><td></td><td></td><td colspan="2">these focus groups. A last question has been attached to see if you would like to be part of a list of contacts of TOs who work in education in Chile. The purpose of this list is to inform about events or studies carried out with international institutions and/or experts and has no relation to the information provided in this survey, so it does not affect your participation in it.
All data will be stored on a secure computer network. Information gathered in this survey will be shared in aggregate form only with the supervisors of my PhD, and through reports and research publications, if it is possible.
This study has been approved by the University of Exeter Ethics Committee (D1920-024).
For more information of this survey, including associated risks, how confidentiality and anonymity will be handled, etc., please read the accompanying letter of information.</td></tr>
<tr><td>7.</td><td>Consent_form</td><td>Own creation</td><td>Having read the above, I understand that by clicking the “Yes” button below I agree to take part in this study under the terms and conditions outlined in the accompanying letter of information.</td><td>Numeric/Single response/Nominal/Required
<table><tr><td>1</td><td>Yes, I agree to participate.</td></tr><tr><td>0</td><td>No thanks.</td></tr></table>[force response]</td></tr>
<tr><td></td><td colspan="4">General information</td></tr>
<tr><td>8.</td><td>Years_exp_EducTystem
Show the field ONLY if [Consent]=”1”</td><td rowspan="2">Rodrigues & Seruya (2019); Bolton & Plattner (2019), Spence et al. (2006); Benson et al. (2019)</td><td>How many years of experience do you have working as an OT in schools in Chile?
Please, tick the corresponding box</td><td>[1] Numeric/Single response/Ordinal/Required
<table><tr><td>1</td><td>Less than 1 year</td></tr><tr><td>2</td><td>From 1 to 3 years</td></tr><tr><td>3</td><td>From 4 to 6 years</td></tr><tr><td>4</td><td>From 7 to 9 years</td></tr><tr><td>5</td><td>From 10 to 12 years</td></tr><tr><td>6</td><td>From 13 to 15 years</td></tr><tr><td>7</td><td>More than 16 years</td></tr></table></td></tr>
<tr><td>9.</td><td>Years_exp_School
Show the field ONLY if [Consent]=”1”</td><td>How many years have you been working as an OT in your current school? Please, tick the corresponding box.
If you are not working currently in any school, please skip this question and continue with the next one.</td><td>[1]Numeric/Single response/Ordinal/Required
<table><tr><td>1</td><td>Less than 1 year</td></tr><tr><td>2</td><td>From 1 to 3 years</td></tr><tr><td>3</td><td>From 4 to 6 years</td></tr><tr><td>4</td><td>From 7 to 9 years</td></tr><tr><td>5</td><td>From 10 to 12 years</td></tr><tr><td>6</td><td>From 13 to 15 years</td></tr><tr><td>7</td><td>More than 16 years</td></tr></table></td></tr>
</table>

<table>
<tr>
<td>10.</td>
<td>Region
Show the field ONLY if [Consent]=”1”</td>
<td>Bolton & Plattner (2019); Benson et al. (2019)</td>
<td>In what region of Chile do you currently work?
Please, tick the corresponding box</td>
<td>[1]Numeric/Single response/Nominal
<table>
<tr><td>1</td><td>I Region of Tarapacá (Iquique)</td></tr>
<tr><td>2</td><td>II Region of Antofagasta (Antofagasta)</td></tr>
<tr><td>3</td><td>III Region of Atacama (Copiapó)</td></tr>
<tr><td>4</td><td>IV Region of Coquimbo (Coquimbo)</td></tr>
<tr><td>5</td><td>V Region of Valparaíso (Valparaíso)</td></tr>
<tr><td>6</td><td>VI Region Liberator General Bernardo O'Higgins (Rancagua)</td></tr>
<tr><td>7</td><td>VII Region of Maule (Talca)</td></tr>
<tr><td>8</td><td>VIII Region of Concepción (Concepción)</td></tr>
<tr><td>9</td><td>IX Region of the Araucanía (Temuco)</td></tr>
<tr><td>10</td><td>X Region Los Lagos(Puerto Montt)</td></tr>
<tr><td>11</td><td>XI Region Aysén: General Carlos Ibañez del Campo (Coyhaique)</td></tr>
<tr><td>12</td><td>XII Region of Magallanes and Chilean Antarctica (Punta Arenas)</td></tr>
<tr><td>13</td><td>Region Metropolitan (Santiago)</td></tr>
<tr><td>14</td><td>XIV Region of Los Ríos (Valdivia)</td></tr>
<tr><td>15</td><td>XV Region of Arica and Parinacota (Arica)</td></tr>
<tr><td>16</td><td>XVI Region of Ñuble (Chillan)</td></tr>
</table>
</td>
</tr>
<tr>
<td>11.</td>
<td>Enployer
Show the field ONLY if [Consent]=”1”</td>
<td>Spencer et al. (2006); Benson et al. (2019)</td>
<td>Who is your employer for your school position?
Please, tick the corresponding box</td>
<td>Numeric/Single response/Nominal
<table>
<tr><td>1</td><td>The school (or the institution to which it belongs)</td></tr>
<tr><td>2</td><td>The parents or caregivers of specific students</td></tr>
<tr><td>3</td><td>The Health service</td></tr>
<tr><td>4</td><td>The Educational Ministry (public schools)</td></tr>
<tr><td>5</td><td>Other [Allow entry text]</td></tr>
</table>
</td>
</tr>
</table>

<table>
<tr><td>12.</td><td>Employer_TEXT</td><td>----------</td><td>Entry text of [Employer]=5</td><td colspan="3">String/Nominal</td></tr>
<tr><td>13.</td><td>School_type
Show the field ONLY if [Consent]=”1”</td><td>Rodrigues & Seruya (2019); Benson et al. (2019)</td><td>In what type of school do you work?
Please, tick the boxes that correspond for each of the following columns. In the teaching level column, please tick all the teaching levels that are imparted by the school in which you work. If is necessary, please swipe to the left to see all the columns.</td><td colspan="3">[1]Numeric/Single responses/Nominal
<table><tr><td>1</td><td>School_type_Special</td><td>Special School</td></tr><tr><td>2</td><td>School_type_MainstreamSIP</td><td>Mainstream School with SIP</td></tr><tr><td>3</td><td>School_type_Mainstream</td><td>Mainstream School without SIP</td></tr><tr><td>1</td><td>Teaching_level_Nursery</td><td>Nursery years</td></tr><tr><td>2</td><td>Teaching_level_Preschool</td><td>Preschool years</td></tr><tr><td>3</td><td>Teaching_level_Primary</td><td>Primary years</td></tr><tr><td>4</td><td>Teaching_level_SecondaryScH</td><td>Scientific Humanist High school years</td></tr><tr><td>5</td><td>Teaching_level_SecondaryTP</td><td>Professional Technical High school years</td></tr><tr><td>1</td><td>School_governance_Municipal</td><td>Municipal schools</td></tr><tr><td>2</td><td>School_governance_Subsidised Private</td><td>Subsidised private schools</td></tr><tr><td>3</td><td>School_governance_PaidPrivate</td><td>Paid private schools</td></tr><tr><td>4</td><td>School_governance_Delegated</td><td>Delegated administration corporations</td></tr><tr><td>5</td><td>School_governance_LocalService</td><td>Local services of education</td></tr><tr><td>1</td><td>Rurality_Index_Rural</td><td>Rural school</td></tr><tr><td>2</td><td>Rurality_Index_Urban</td><td>Urban school</td></tr></table></td></tr>
</table>

<table>
<tr>
<td>14.</td>
<td>Working_hours
Show the field ONLY if [Consent]=”1”</td>
<td>Benson et al. (2019)</td>
<td>How many hours do you work in schools during the week? (if you work in more than one school, please indicate what is requested for the school where you work more hours)
Please, tick the corresponding box</td>
<td>[1]Numeric/Single response/Ordinal
<table><tr><td>1</td><td>From 1 to 5 hours</td></tr><tr><td>2</td><td>From 6 to 10 hours</td></tr><tr><td>3</td><td>From 11 to 15 hours</td></tr><tr><td>4</td><td>From 16 to 20 hours</td></tr><tr><td>5</td><td>From 21 to 25 hours</td></tr><tr><td>6</td><td>From 26 to 30 hours</td></tr><tr><td>7</td><td>From 31 to 35 hours</td></tr><tr><td>8</td><td>From 36 to 40 hours</td></tr><tr><td>9</td><td>From 41 to 45 hours</td></tr></table></td>
</tr>
<tr>
<td>15.</td>
<td>Caseload
Show the field ONLY if [Consent]=”1”</td>
<td>Rodrigues & Seruya (2019); Benson et al. (2019)</td>
<td>What is the approximate size of your caseload counting each student only once? (If you work in more than one school. please consider the one where you work the most hours)
Please indicate the number</td>
<td>Numeric/Descriptive/Scale
☐
[Content validation=number]</td>
</tr>
</table>

[1] The responses included in these questions have been created based on the alternatives used in the Chilean Public Base of Education Assistants working in educational establishments (click here).

<table>
<tr>
<td>16.</td>
<td>Class_years
Show the field ONLY if [Consent]=”1”</td>
<td>Rodrigues & Seruya (2019); Spencer et al. (2006); Benson et al. (2019)</td>
<td>What grade levels do you work with most often? (If you work in more than one school. please consider the one where you work the most hours)
Please, tick all the boxes that correspond</td>
<td>Numeric/Multiple responses/Nominal
<table>
<tr><td>1</td><td>Nursery (0 to 3 years old)</td></tr>
<tr><td>2</td><td>Pre-school Education (4-5 years old)</td></tr>
<tr><td>3</td><td>First cycle of Primary education (6 to 9 years old)</td></tr>
<tr><td>4</td><td>Second cycle of Primary education (10 to 13 years old)</td></tr>
<tr><td>5</td><td>Secondary education (14 to 18 years old)</td></tr>
<tr><td>6</td><td>Beyond 18 years old (normally for special schools)</td></tr>
</table>
Values:
<table>
<tr><td>1</td><td>Included</td></tr>
<tr><td>0</td><td>Not included</td></tr>
</table>
</td>
</tr>
</table>

<table>
<tr>
<td>17.</td>
<td>SEN
Show the field ONLY if [Consent]=”1”</td>
<td></td>
<td>Whit what type of SEN the students with who you work have been classified? (If you work in more than one school. please consider the one where you work the most hours)
Please, tick all the boxes that correspond</td>
<td>Numeric/Multiple responses/Nominal
<table>
<tr><td>1</td><td>Vision disability</td></tr>
<tr><td>2</td><td>Hearing disability</td></tr>
<tr><td>3</td><td>Autistic Spectrum Disorder</td></tr>
<tr><td>4</td><td>Severe dysphasia</td></tr>
<tr><td>5</td><td>Intellectual deficit</td></tr>
<tr><td>6</td><td>Physical disability</td></tr>
<tr><td>7</td><td>Multiples disabilities</td></tr>
<tr><td>8</td><td>Specific Language Disorder</td></tr>
<tr><td>9</td><td>Specific Learning disorder</td></tr>
<tr><td>10</td><td>Attention deficit disorder</td></tr>
<tr><td>11</td><td>Intellectual functioning border</td></tr>
<tr><td>12</td><td>Other SEN</td></tr>
</table>
Values:
<table>
<tr><td>1</td><td>Included</td></tr>
<tr><td>0</td><td>Not included</td></tr>
</table>
</td>
</tr>
<tr>
<td>18.</td>
<td>SEN_otherTEXT</td>
<td></td>
<td>Entry text of [Other_SEN] = 12 → 1 (included)</td>
<td>String/Nominal</td>
</tr>
</table>

<table>
<tr><td>19.</td><td>Referrals
Show the field ONLY if [Consent]=”1”</td><td>Campbell et al. (2016)</td><td>Who makes the referral for the students that you have to assess, who eventually will receive your services? (If you work in more than one school. please consider the one where you work the most hours)
Please, tick all the boxes that correspond</td><td colspan="3">Numeric/Multiple responses/Nominal
<table><tr><td>1</td><td>Mainstream teachers</td></tr><tr><td>2</td><td>Special Education teachers</td></tr><tr><td>3</td><td>Other specialist professionals of the school</td></tr><tr><td>4</td><td>External specialist professionals</td></tr><tr><td>5</td><td>Parents or caregivers</td></tr><tr><td>6</td><td>School board</td></tr><tr><td>7</td><td>Classroom assistants</td></tr><tr><td>8</td><td>SEN coordinators</td></tr><tr><td>9</td><td>Other people [allow entry text]</td></tr></table>Values:<table><tr><td>1</td><td>Included</td></tr><tr><td>0</td><td>Not included</td></tr></table></td></tr>
<tr><td>20.</td><td>Referrals_other
TEXT</td><td>----------</td><td>Entry text of [Referrals_people] = 9 → 1 (included)</td><td colspan="3">String/Nominal</td></tr>
<tr><td>21.</td><td>Difficulty
Show the field ONLY if [Consent]=”1”</td><td>Bolton & Plattner (2019)</td><td>What type of difficulties do the students you work with have?
To answer this question, please rate the following options starting with a "1" for the difficulty with the most students you work with, then with a "2" for the option that continues, and so on. You have the possibility to rate the 12 options presented here, where you can repeat any</td><td colspan="3">Numeric/Rate//Ordinal<table><tr><td>1</td><td>Difficulty_FineMotor</td><td>Difficulties in the execution of tasks that require fine motor skills</td></tr><tr><td>2</td><td>Difficulty_Handwriting</td><td>Difficulties to execute specific handwriting skills</td></tr><tr><td>3</td><td>Difficulty_Gross Motor</td><td>Difficulties in the execution of activities that require gross motor skills</td></tr><tr><td>4</td><td>Difficulty_ExecutiveFunctioning</td><td>Difficulties in the performance of activities that require executive functioning skills</td></tr><tr><td>5</td><td>Difficulty_Sensory</td><td>Difficulties in school participation and performance due to sensory modulation problems</td></tr><tr><td>6</td><td>Difficulty_Behaviour</td><td>Difficulties in school participation and performance due to behavioural problems</td></tr></table></td></tr>
</table>

			number if you consider it necessary and you can also leave blank those difficulties that your students do not present.	

7	Difficulty_Mental_Health	Difficulties in school participation and performance due to mental health issues (such as depression)
8	Difficulty_Social	Difficulties in school participation and performance due to social interactions skills problems
9	Difficulty_AICT	Difficulties in school participation and performance due to Assistive Information and Communication Technology issues
10	Difficulty_Navigation	Difficulties in school participation and performance due to problems in lunchroom, bus and general school environmental navigation.
11	Difficulty_SelfCare	Difficulties in the execution of self-care activities that are necessary for school performance and participation
12	Difficulty_Other	Other [allow entry text]

Values:

1	Type of difficulty they support the most
2	(2)
3	(3)
4	(4)
5	(5)
6	(6)
7	(7)
8	(8)
9	(9)
10	(10)
11	(11)
12	Type of difficulty they support the less
0	Not selected

<table>
<tr><td>22.</td><td>Difficulty_Other TEXT</td><td>----------</td><td>Entry text of [Difficulty] = 11</td><td>String/Nominal</td></tr>
<tr><td>23.</td><td>Teamwork
Show the field ONLY if [Consent]=”1”</td><td rowspan="2">Own creation. Definitions and categories based on Hernandez (2013).</td><td>Do you work as part of a school team?
The term "team" is defined here as at least 3 professionals who meet regularly and share the same goals and their respective knowledge. Examples of these teams are classroom teams, support teams, SIP teams, among others (If you work in more than one school, please consider the one where you work the most hours).
Please, tick the corresponding box</td><td>Numeric/Single response/Nominal
<table><tr><td>1</td><td>Yes</td></tr><tr><td>0</td><td>No</td></tr><tr><td>2</td><td>I don’ know</td></tr></table></td></tr>
<tr><td>24.</td><td>Teamwork_type
Show the field ONLY if [Consent]=”1” and [Teamwork]=”1”</td><td>You indicated "yes" to be part of a team. What kind of team is this?
Please, tick the corresponding box</td><td>Numeric/Single response/Nominal
<table><tr><td>1</td><td>Multidisciplinary team (Application of services by a variety of different disciplines acting independently)</td></tr><tr><td>2</td><td>Interdisciplinary team (Enhanced coordination and cooperative engagements amongst disciplines during assessment and activity planning. It may still result in the disciplines assessing students independently from one another, but professionals can engage one another in a variety of ways)</td></tr><tr><td>3</td><td>Transdisciplinary team (Creation of an integrated team structure and service delivery, deliberate and regular cross discipline communications, knowledge exchange across disciplines and its strong student focus)</td></tr><tr><td>4</td><td>Co-teaching (Joint academic intervention by at least two professionals in a classroom setting populated, in natural proportions, with students of typical ability, as well as students with SEN)</td></tr><tr><td>5</td><td>Other [allow entry text]</td></tr></table></td></tr>
</table>

<table>
<tr><td>25.</td><td>Teamwork_type
Show the field ONLY if [Consent]=”1” and [Teamwork]=”1”</td><td></td><td colspan="2">Entry text of [Teamwork_type] = 5</td><td>String/Nominal</td></tr>
<tr><td>26.</td><td>Challenges
Show the field ONLY if [Consent]=”1” AND [Years_experience] = ‘2” OR “3” OR “4” OR “5”</td><td>Campbell et al. (2016)</td><td>In the last school year, did you experience any of the following problems?
To answer this question, please rate each of the following options from 1 to 7, bearing in mind that "1" will indicate that you experienced this problem consistently and permanently, and "7" will indicate that you did not experience this problem. You can repeat any number if you consider this necessary.</td><td colspan="2">Numeric/Radio (Matrix)/Ordinal
<table>
<tr><td>1</td><td>Challenges_Caseload</td><td>Number of students that receive my support</td></tr>
<tr><td>2</td><td>Challenges_Waitlist</td><td>Number of students waiting to receive my support</td></tr>
<tr><td>3</td><td>Challenges_Knowledge</td><td>Knowledge of a range of service delivery models that I can implement</td></tr>
<tr><td>4</td><td>Challenges_Time_implement</td><td>Time to implement a range of service delivery models</td></tr>
<tr><td>5</td><td>Challenges_Support</td><td>Administrative support for using a range of service delivery models</td></tr>
<tr><td>6</td><td>Challenges_Time_collaborate</td><td>Time to meet and collaborate with teachers, families, or other specialist professionals</td></tr>
</table>
Values:
<table>
<tr><td>1</td><td>(1) A substantial challenge</td></tr>
<tr><td>2</td><td>(2)</td></tr>
<tr><td>3</td><td>(3)</td></tr>
<tr><td>4</td><td>(4) A moderate challenge</td></tr>
<tr><td>5</td><td>(5)</td></tr>
<tr><td>6</td><td>(6)</td></tr>
<tr><td>7</td><td>(7) Not at all a challenge</td></tr>
<tr><td>0</td><td>Not included</td></tr>
</table></td></tr>
</table>

27.	Training Show the field ONLY if [Consent]=”1”	Own creation	Have you participated in any training to carry out your work as a school-based OT? Please check the appropriate option.	Numeric/Single response/Nominal 1 Yes 2 No
28.	Training_type Show the field ONLY if [Consent]=”1” AND [Training]= “1”		You indicated that you have participated in a training to carry out your work as a school-based OT. Please indicate what type of training it was.	String/Nominal
29.	Final_General Show the field ONLY if [Consent]=”1”		You have now completed Part 1 of this survey. The next part asks you questions related to your practice patterns. Please review the following statements and select one of the responses	Numeric/Single response/Nominal/Required 1 I would like to continue with part 2 of this survey 2 I do not wish to continue this survey [force response]
	Practice patterns			
30.	Practice_patterns Show the field ONLY if [Consent]=”1” AND [Final_General] = “1”	Own creation	Thank you for continuing with the survey. Now we would like more information about how you provide your services in schools. To do so, answer the following questions taking into account the support you provide for the difficulty you work with or support the most.	Descriptive

<table>
<tr>
<td>31.</td>
<td>Data_collection
Show the field ONLY if [Consent]=”1” AND [Final_General] = “1”</td>
<td>Rodrigues & Seruya (2019)
Benson et al. (2019)
----------</td>
<td>How do you assess the students that have been referred to your service? Please, tick all the boxes that correspond</td>
<td>Numeric/Multiple responses/Nominal
<table>
<tr><td>1</td><td>Observations</td></tr>
<tr><td>2</td><td>Work samples</td></tr>
<tr><td>3</td><td>Performance assessment tasks</td></tr>
<tr><td>4</td><td>Standardised tests</td></tr>
<tr><td>5</td><td>Non standardised tests</td></tr>
<tr><td>6</td><td>Class activities checklist</td></tr>
<tr><td>7</td><td>Teacher/parent/student questionnaires</td></tr>
<tr><td>8</td><td>Teacher/parent/student interviews</td></tr>
<tr><td>9</td><td>Other [allow entry text]</td></tr>
</table>
Values:
<table>
<tr><td>1</td><td>Included</td></tr>
<tr><td>0</td><td>Not included</td></tr>
</table>
</td>
</tr>
<tr>
<td>32.</td>
<td>Data_collection_OtherTEXT</td>
<td></td>
<td>Entry text of [Data_collection] = 9</td>
<td>String/Nominal</td>
</tr>
</table>

<table>
<tr><td>33.</td><td>Data_report
Show the field ONLY if [Consent]=”1” AND [Final_General] = “1”</td><td></td><td>How do you report the results of your assessments?
Please, tick all the boxes that correspond</td><td>Numeric/Multiple responses/Nominal
<table><tr><td>1</td><td>Your own written report</td></tr><tr><td>2</td><td>Team’s written report (report created with the whole team that works with a student)</td></tr><tr><td>3</td><td>Meetings with school staff</td></tr><tr><td>4</td><td>Meetings with parents</td></tr><tr><td>5</td><td>Meetings with students</td></tr><tr><td>6</td><td>Clinical notes</td></tr><tr><td>7</td><td>Feedback to the team</td></tr><tr><td>8</td><td>I do not report the data</td></tr><tr><td>9</td><td>Other way [allow entry text]</td></tr></table>Values:<table><tr><td>1</td><td>Included</td></tr><tr><td>0</td><td>Not included</td></tr></table></td></tr>
<tr><td>34.</td><td>Data_report_OtherTEXT</td><td></td><td>Entry text of [Data_report] = 9</td><td>String/Nominal</td></tr>
<tr><td>35.</td><td>Progress_record
Show the field ONLY if [Consent]=”1” AND [Final_General] = “1”</td><td></td><td>How often do you record the progress of the students you work with?
Please, tick the corresponding box</td><td>Numeric/Single response/Nominal
<table><tr><td>1</td><td>Daily</td></tr><tr><td>2</td><td>Weekly</td></tr><tr><td>3</td><td>Monthly</td></tr><tr><td>4</td><td>Quarterly basis</td></tr><tr><td>5</td><td>Semi-annually</td></tr><tr><td>6</td><td>Annually</td></tr><tr><td>7</td><td>I do not record students’ progress</td></tr></table></td></tr>
</table>

<table>
<tr>
<td>36.</td>
<td>Progress_report
Show the field ONLY if [Consent]=”1” AND [Final_General] = “1”</td>
<td></td>
<td>With what frequency do you inform other professionals or families about the progress of students you work with?
Please, tick the corresponding box</td>
<td colspan="2">Numeric/Single response/Nominal
<table>
<tr><td>1</td><td>Daily</td></tr>
<tr><td>2</td><td>Weekly</td></tr>
<tr><td>3</td><td>Monthly</td></tr>
<tr><td>4</td><td>Quarterly basis</td></tr>
<tr><td>5</td><td>Semi-annually</td></tr>
<tr><td>6</td><td>Annually</td></tr>
<tr><td>7</td><td>I do not report students’ progress</td></tr>
</table>
</td>
</tr>
<tr>
<td>37.</td>
<td>OccupationBased_models
Show the field ONLY if [Consent]=”1” AND [Final_General] = “1”</td>
<td>Benson et al. (2019)</td>
<td>In which theoretical models (occupation-based model) do you base your service? Remember, for the type of difficulty you support most.
Please, tick all the boxes that correspond</td>
<td colspan="2">Numeric/Multiple responses/Nominal
<table>
<tr><td>1</td><td>Model of Human Occupation (model that describes how humans generate and modify their occupations in interaction with environment)</td></tr>
<tr><td>2</td><td>Ecology of Human Performance (model that focuses on the relationship between the person, context, task, performance, and therapeutic intervention, in order to get a throughout understand of human occupation)</td></tr>
<tr><td>3</td><td>Occupational Adaptation Model (model that aims to integrate occupation and adaptation. It defines occupation as self-perceived meaningful activities that require active participation and lead to a product. Adaptation is one’s adaptive response to meet an occupational challenge)</td></tr>
<tr><td>4</td><td>Model of Co-Occupation (suggests that co-occupation is characterized by shared physicality, emotionality, and intentionality in an occupation with another person(s))</td></tr>
<tr><td>5</td><td>Children’s play model (views play as necessary and the main occupation of children. Healthy play functions to children as the sense of mastery, development in domains including physical, cognitive, social, problem solving, creativity, concentration, organization, etc.)</td></tr>
</table>
</td>
</tr>
</table>

				6 Person-Environment-Occupation-Performance (PEOP) model (system model that views the function in the systems a whole and considers the interaction among its components) 7 Occupational Performance Model (model that proposes that people fulfil their occupational performance roles by engaging in routines, tasks and activities, in the domains of self-maintenance, productivity, leisure and rest, in the process that responds to internal demands and / or external environment) 8 Canadian Model of Occupational Performance and Engagement (an occupational performance model that evolved from the Canadian Model of Occupational Performance, and includes three main components: person, environment, and occupation) 9 Kawa model (model that uses the metaphor of a river with different contextual elements to represent human life) 10 I do not base my services in any theoretical model 11 Other [allow entry text] Values: 1 Included 0 Not included
38.	OccupationBased_models_OtherTEXT		Entry text of [OccupationBased_models] = 10	String/Nominal

<table>
<tr>
<td>39.</td>
<td>PracticeBased_models
Show the field ONLY if [Consent]=”1” AND [Final_General] = “1”</td>
<td></td>
<td>What practice-based model do you use to deliver your service? Please, tick all the boxes that correspond</td>
<td>Numeric/Multiple responses/Nominal
<table>
<tr><td>1</td><td>Ayres sensory integration approach (Sensory integration therapy aims to help children with sensory processing problems by exposing them to sensory stimulation in a structured and repetitive manner)</td></tr>
<tr><td>2</td><td>Bobath/Neurodevelopmental treatment approach (Neurodevelopment treatment is a practical treatment approach in which repeated experience in movement ensures that a particular pattern is easily accessible for motor performance)</td></tr>
<tr><td>3</td><td>Biomechanical Model (a remediation or restoration approach in which the intervention is designed to restore or establish factors at the client level, in order to grant structural stability, tissue integrity, range of motion, strength and resistance)</td></tr>
<tr><td>4</td><td>Motor control/motor learning/ motor skill acquisition approach (This frame of reference emphasizes the use of the teaching-learning process and the analysis of activities, to achieve the objective that is the acquisition of specific skills or appropriate behaviour required for optimal performance within an environment)</td></tr>
<tr><td>5</td><td>Development model (frame of reference based on normal human development. In general, an occupational therapist uses this model for children with gross motor skills or delays in fine motor skills)</td></tr>
<tr><td>6</td><td>Social Participation Model (frame of reference that emphasizes the power of emotion to motivate and compromise children's social participation)</td></tr>
<tr><td>7</td><td>Occupational Therapy Intervention Process Model (model that guides therapists to use top-down, client-centred, and occupational-based approaches to assessment and intervention)</td></tr>
</table>
</td>
</tr>
</table>

<table>
<tr><td></td><td></td><td></td><td></td><td>
<table>
<tr><td>8</td><td>Partnering for Change Model (model that emphasizes the therapists' partnership with the teachers and parents to change the life and environment of a child. The partnership focuses on the collaboration of building capacities for the teachers and parents in enhancing daily environment for the child)</td></tr>
<tr><td>9</td><td>Cognitive behavioural approach (based on learning theories, from which human behaviour is explained in addition with its acquisition, maintenance and modification)</td></tr>
<tr><td>10</td><td>I do not use any practical model in providing my services</td></tr>
<tr><td>11</td><td>Other [allow entry text]</td></tr>
</table>
Values:
<table>
<tr><td>1</td><td>Included</td></tr>
<tr><td>0</td><td>Not included</td></tr>
</table>
</td></tr>
<tr><td>40.</td><td>PracticeBased_models_OtherTEXT</td><td></td><td>Entry text of [PracticeBased_models] = 13</td><td>String/Nominal</td></tr>
</table>

<table>
<tr>
<td>41.</td>
<td>Service_model
Show the field ONLY if [Consent]=”1” AND [Final_General] = “1”</td>
<td>Rodrigues & Seruya (2019); Benson et al. (2019)</td>
<td>Considering your weekly work hours, with what frequency do you deliver the following services?
Please, select the frequency for each of these services
Remember, for that difficulty with which you work or support more.</td>
<td>Numeric/Radio (matrix)/Ordinal
<table>
<tr><td>1</td><td>Direct pull-out services (one-to-one or group intervention outside the classroom)</td></tr>
<tr><td>2</td><td>Direct push-in (one-to-one or group intervention inside the classroom)</td></tr>
<tr><td>3</td><td>Indirect services (provided on behalf of the child, including providing information/resources to teachers, other school staff, or families about how to support students in the classroom and at home)</td></tr>
<tr><td>4</td><td>Integrated services (actively working and problem-solving with teachers to support students during class time, prioritising nonintrusive methods and shared goals)</td></tr>
</table>
Values:
<table>
<tr><td>1</td><td>Always</td></tr>
<tr><td>2</td><td>Frequently</td></tr>
<tr><td>3</td><td>Occasionally</td></tr>
<tr><td>4</td><td>Rarely</td></tr>
<tr><td>5</td><td>Never</td></tr>
</table>
</td>
</tr>
</table>

Appendix 5: Ethics Application Form

UNIVERSITY OF EXETER

Ref (for office use only)

D1920-024

COLLEGE OF SOCIAL SCIENCES AND INTERNATIONAL STUDIES

All staff and students within SSIS should use this form; those in Egenis, the Institute for Arab and Islamic Studies, Law, Politics, the Strategy & Security Institute, and Sociology, Philosophy, Anthropology should return it to ssis-ethics@exeter.ac.uk. Staff and students in the **Graduate School of Education** should use ssis-gseethics@exeter.ac.uk.

Before completing this form please read the Guidance document
which can be found at http://intranet.exeter.ac.uk/socialsciences/ethics/

Applicant details		
Name	**Javiera Nicole Salazar Rivera**	
Department	**Graduate School of Education**	
UoE email address	**Js1003@exeter.ac.uk**	
Duration for which permission is required		
Please check the meeting dates and decision information online before completing this form; your start date should be at least one month after the Committee meeting date at which your application will be considered. You should request approval for the entire period of your research activity. Students should use the anticipated date of completion of their course as the end date of their work. Please note that retrospective ethical approval will never be given.		
Start date:06/01/2020	**End date:24/09/2022**	**Date submitted:**Click here to enter a date
Students only		
All students must discuss (face to face or via email) their research intentions with their supervisor/tutor prior to submitting an application for ethical approval. **Your application must be approved by your first or second supervisor (or dissertation supervisor/tutor) prior to submission and you MUST submit evidence of their approval with your application, e.g. a copy of an email stating their approval.**		
Student number	**660060011**	
Programme of study	**Doctor of Philosophy (PhD)**	
Name of Supervisor(s) or Dissertation Tutor	**Dr. Christopher Boyle and Dr. Chris Morris**	
Have you attended any ethics training that is available to students?	Yes, I have taken part in ethics training at the University of Exeter EG the Research Integrity Ethics and Governance: http://as.exeter.ac.uk/rdp/postgraduateresearchers OR Ethics training received on Masters courses. If yes, please specify and give the date of the training: **MA SEN and MSc in Education** **Research Integrity, Information Governance and Security (mandatory courses)** 2017-2018-2019	
Certification for all submissions		
I hereby certify that I will abide by the details given in this application and that I undertake in my research to respect the dignity and privacy of those participating in this research. I confirm that if my research should change significantly I will seek advice, request approval of an amendment or complete a new ethics proposal. Any document translations used have been provided by a competent person with no significant changes to the original meaning. **Javiera Nicole Salazar Rivera** Double click this box to confirm certification ☐ ☒**I confirm that if I travel outside the UK to conduct research I will:** **(a) Obtain International Travel Insurance from the University of Exeter. (b) Monitor Travel Advice from Worldaware and the Foreign & Commonwealth Office (FCO) and (c) Complete an International Travel Risk Assessment** *Submission of this ethics proposal form confirms your acceptance of the above.*		

TITLE OF YOUR PROJECT

The role and contribution of Occupational Therapists in the implementation of the Universal Design for Learning in Chile.

ETHICAL REVIEW BY AN EXTERNAL COMMITTEE

No, my research is not funded by, or doesn't use data from, either the NHS or Ministry of Defence.

MENTAL CAPACITY ACT 2005

No, my project does not involve participants aged 16 or over who are unable to give informed consent (e.g. people with learning disabilities

If you selected yes from the list above you should apply for ethics approval from the NHS Health Research Authority. You do not need to complete this form, but you must inform the Ethics Secretary of your project and your submission to an external committee.

SYNOPSIS OF THE RESEARCH PROJECT

Maximum of 750 words.

This project will analyse how Occupational Therapists (OTs) from Chile are contributing to offer the best school environment possible to all students, especially to those with Special Educational Needs (SEN) or disabilities, and will consider the Universal Design for Learning (UDL) as the inclusive education framework since the Chilean educational system is currently based on this approach.

With regards to the educational system of Chile, a crucial change described in the literature is the jump from an integrational perspective of education to an inclusive approach, which can be seen in the document Regional Preparatory Workshop on Inclusive Education (IBE-UNESCO, 2007). This document described the commitment of Chile to an education for all, emphasising the right of equity and quality in education, and aiming to eliminate learning and participating barriers. This ambition was made concrete in two decrees: Decree 170 (Ministry of Education, 2009a) that stated that special education teachers and multidisciplinary teams, which includes specialist professionals, were in charge of addressing these barriers; and Decree 83 (Ministry of Education, 2015) that extended this duty to the entire educational community. These decrees put into effect the implementation of UDL, a model that seeks to promote inclusive practices in order to respond to the individual differences that students show in their learning (Meyer, Rose, & Gordon, 2014).

This research proposal is focused on the role of multidisciplinary teams in the improvement of inclusive practices, particularly regarding OTs as specialist professionals. These professionals, in general, are described as those who contribute to the development of new capacities of the school staff in order to support students (Ministry of Education, 2009a, 2009c). OTs, in particular, are allied health professionals who in schools facilitate the participation of children in academic, social, extracurricular, independent living and vocational activities, contributing to the improvement of their academic and functional school performance (Hinder & Ashburner, 2017). Specific definitions or guidelines about OTs in Chilean educational documents, however, are absent. This results in a lack of consideration of empirical evidence that has demonstrated the crucial role that OTs play when the participation of students with SEN or disabilities is at risk (Coster et al., 2013; Eriksson, Welander, & Granlund, 2007). It also disregards international guidelines that can be further adapted for the Chilean context (Hanft & Shepherd, 2016; Hinder & Ashburner, 2017; Spencer, Turkett, Vaughan, & Koenig, 2006; Villeneuve, 2009; WFOT, 2016) and overlooks different models that have been developed to implement OT services in schools (AOTA, 2012;

Bissell & Cermak, 2015; Chu, 2015; Hutton, Tuppeny, & Hasselbusch, 2016; Missiuna, Pollock, Levac, Campbell, Sahagian, et al., 2012).

In addition, the lack of information regarding OTs in educational settings in Chile overlooks the incremental rise of more than 230% between 2011 and 2016 of the number of school-based specialist professionals in Chile, which includes OTs (Ministry of Education, 2011; 2016). This issue is demonstrated in the research, which ignores OTs' work in schools. For instance, an analysis of the implementation of SIPs at a national level analysed the rates and work of professionals such as Psychologists and Physiotherapists (Marfan, Paulina, Gonzalez, & Ferreira, 2013). Yet, no mention of OTs was made, even though the rate for "other professionals" which includes OTs, reached 35.4% (p. 185). The absence of information of more than 30% of people working in education in Chile highlights the need for projects such as this one, mainly because a considerable amount of money is spent on them, and from whom there is no information about their work and contribution to education. Another study examined the situation of OTs in Chile and declared that only the health area has information about OTs' work (Hernandez, 2017). Therefore, the findings did not include school-based OTs, probably because educational institutions, particularly the Ministry of Education, until now, have paid no attention to the fact that OTs are present in Chilean schools. OT's professional bodies have equally ignored OTs' presence in schools.

In consideration of all the above, the following questions will be addressed in this project:

1) **What are the current patterns of the service-delivery provision of school-based Occupational Therapists in Chile, particularly in terms of Universal Design for Learning principles?**
2) How the implementation of a particular Occupational Therapy service delivery model can influence the level of collaboration between OTs and teachers, teachers' implementation of Universal Design for Learning principles, and the perception of the extended educational community?

This ethical form is focused on the research steps that this project will follow to answer the first question, acknowledging that to continue with the second phase of the project the researcher will have to apply for another ethics approval.

INTERNATIONAL RESEARCH

This project will be conducted in Chile, where the exercise of scientific investigation in humans is based on the Law 20.120 (Ministry of Health, 2006), in which is stated that scientific studies must be carried out with previous and free informed consent. For the purposes of this law, informed consent is given when the person involved knows the essential aspects of the investigation, particularly in terms of aims, benefits and risks. In addition, the person must know their right to no authorise the investigation or revoke their consent at any moment and by any means, regardless of responsibility, penalty or loss of profit.

In addition to the legal aspects associated with the scientific investigation with humans in Chile, which is mainly associated with bioethics regarding clinical health trials, this project must also be in line with the ethical principles of CONICYT, which is the National Commission for Scientific and Technological Research of Chile, and which is the sponsor of the researcher of this project. This commission states different ethical principles in terms of conducting research in Chile, and in particular, for social and educational research (Caceres, 2008). In this sense, any research must be judged by its social and scientific value, in which the resources and private and social benefits must be considered in addition to the scientific validity of its execution and the knowledge originated in terms of the consistency and relevance raised. The selection of

participants must be according to scientific questions and objectives, and the risk-benefit ratio determined by the principles of non-maleficence. The independent assessment to ensure the absence of possible conflicts of interest exercised in the phases of selection, monitoring and end of execution must also be guaranteed.

The two paragraphs above describe the general aspects that any research conducted in the context of Chile must follow. However, there is no requirement of applying for a research ethics committee within Chile. This because CONICYT considers that each researcher must apply for ethical approval in the institution where their studies are taken place. In response to this, the approval of the ethical committee of the University of Exeter will provide the certification to conduct this study. In this sense, the ethical procedures and principles to get ethical approval will be guided by the British Ethical Guidelines for Educational Research (BERA, 2018) and by the Ethics Policy of the Graduate School of Education of the University of Exeter, in which is stated that the ethical position of this institution is based on the principle that in all research activities the interests and rights of others must be respected and protected.

The following sections require an assessment of possible ethical consideration in your research project. If particular sections do not seem relevant to your project please indicate this and clarify why.

RESEARCH METHODS

In order to address the first research question of this project, a survey study will be conducted, in which an online questionnaire followed by focus groups will be developed.

1. **Self-reporting online questionnaire**:
   The aim of this stage is to map how school-based OTs in Chile are delivering their services, and how their work patterns adhere to UDL principles. Thus, school-based OTs will be invited to answer a survey that will explore different variables of interest and their relationships. A self-reporting online questionnaire is a useful technique to gather survey information that can be statistically examined, and which is able to be administered without the presence of the researcher (Cohen, Manion & Morrison, 2018). This is very advantageous for this project because it reduces costs and increases efficiency in terms of time to distribute, complete, gather and process data. It also allows the inclusion of a wider and much larger sample that can be accessed easily, which is crucial because OTs work in different schools around Chile, so reach them in person is difficult, and most of them have internet access. The tool Smart Survey will be used in this phase, which is ISO 27001 Certified, all data is stored and backed up on UK/EU-based servers and is fully compliant with the EU Privacy Laws and registered under the Data Protection Act.

   Regarding the items that will be included in the questionnaire, these will be created by the researcher under the principles of avoiding harm, detriment or unreasonable stress for the participants, which will ensure their ethical rights and that non-response rate will not be due to such aspects (Black, 2003). In addition, there will be a statement about the freedom of participants not to respond items that they do not want. By providing this statement, participants will not be forced to respond all the items to finish the survey. Yet, a reminder that alerts them to missing answers will show up before finishing the survey. A pilot of the questionnaire will support the researcher to deliver clear questions and statements, which must be consistent throughout the study (Punch, 2003).

This information will be analysed by descriptive and inferential statistics, orientated towards measuring causal, correlational and predictable hypotheses (Oppenheim, 2003). This means that, firstly, the information will describe and present the current patterns of the support provided by school-based OTs from Chile. The inferential statistics will strive to make inferences and correlations, to reach conclusions about the sample based on probability and hypothesis testing (Field, 2009).

2. **Focus groups:**
   To further explain the ways in which OTs deliver their services, the survey will be followed by focus groups with some of the OTs that previously answer the questionnaire. These focus groups aim to identify the factors that might influence OTs' patterns of work, including personal, professional, institutional and local aspects. In order to analyse these aspects, the researcher will present the general trends founded in the surveys, analysing the results in conjunction with the participants.

   The data gathered through these focus groups will be audio-recorded, using the free tool RecordPad Sound Recording Software installed in a password-protected laptop. These records then will be transcribed and analysed using the Nvivo software to manage and analyse qualitative data. This analysis will be based on a thematic approach, which is perceived by some as a foundational method for qualitative analysis (Braun & Clarke, 2006). This approach involves identifying and recording passages of a text that, in some sense, exemplify the same theoretical idea (Robson, 2016). These passages will then be grouped into a smaller number of themes, using a constant comparative method, which allows the identification of different elements in the data collected (Thomas, 2017).

Regarding the use of the findings of this phase, In addition to the PhD dissertation, it is expected that they will also be amenable to publish in academic journals, and to be presented in Chilean Educational or OT conferences.

PARTICIPANTS

At this point in this project, the participants will be OTs that work in different schools in Chile. This includes those that are hired by the schools themselves or those that support children in schools but who are hired by the parents.

Since there is no information regarding the amount of OTs working in schools in Chile, an approximate number of participants cannot be estimated. However, a minimum of 25 participants is expected.

THE VOLUNTARY NATURE OF PARTICIPATION

The online questionnaire will be spread out to school-based OTs by gatekeepers that will help the researcher to distribute the survey. These persons include university directors of OT who will send the survey by email using their databases and personal contacts of the researcher that know OTs from Chile who are working in schools. The gatekeepers will be instructed to send the survey link to all their contacts, with a statement that all those that work in schools and freely and voluntarily will like to take part in the survey can click on that link, which will take them to the first page of the survey where the information sheet will be provided. In addition, the survey will be sent through different social media groups of OTs in Chile, with the same statement clarifying the voluntary nature of participation of this survey.

In terms of a consent form, this will be used in the focus groups, in which the aims of the study and participants' rights regarding voluntary participation, confidentiality and anonymity will be shared and signed before conducting the interviews. For the survey, an information letter will be shared at the beginning of the questionnaire, in which participants will need to check a box to indicate consent before accessing the questionnaire, which is in line with recommendations of scholars such as Mahon (2013) and Roberts & Allen (2013). This will grant voluntary informed consent. In addition, the IP addresses of the respondents will not be tracked, restricting access to this before conducting the survey.

These steps will allow the investigation to be in line with Chilean ethical principles, and with the requirements of the University of Exeter in terms of the informed consents that must be guaranteed, which have to ensure the compatibility of the study with the values and interests of the participants, respecting them in terms of voluntariness, confidentiality, complete information and recognition.

SPECIAL ARRANGEMENTS

N/A

THE INFORMED NATURE OF PARTICIPATION

The online survey and the focus groups will count with information sheets, in which a description of the whole project and this phase in particular will be given. In addition, the actions required by the participants and the amount of time that these will require will be described in these letters. How the data will be stored will also be described.

ASSESSMENT OF POSSIBLE HARM

Due to the nature of the study it is not anticipated that any participants will come to harm. The study will ask various questions about practice as an occupational therapist. In the unlikely event that a participant becomes upset then a break or suspension of the interview will be offered.

DATA PROTECTION AND STORAGE

The data gathered in the surveys will be exported from the Smart Survey tool to Excel, and the audio records from focus groups will be eliminated immediately after their transcription into Word documents. These raw data will then be stored in the university's password protected and GDPR compliant OneDrive cloud-based storage system, in which data will be coded to maintain anonymity, giving participants a letter and a number to differentiate them in the transcriptions.

The analysis of the data will be developed in password-protected laptops and it will be shared only with the supervisors through the same One Drive system. All the data used in Nvivo is stored on Microsoft Azure public cloud hosted in the EU. This is fully GDPR compliant (https://www.qsrinternational.com/nvivo/support-overview/faqs/nvivo-transcription-data-storage).The amount of time that these data will be stored will be according to the time that the researcher has to complete her PhD studies, which is until September of 2023.

Personal data such as personal names, age and school's name will not be asked.

DECLARATION OF INTERESTS

There is no conflict of interest

USER ENGAGEMENT AND FEEDBACK

The participants of this project will be invited to participate in focus groups in which the results of the survey will be analysed in conjunction with the researcher. This is an important stance to engage and provide feedback for the data that they provided, participating directly in the project.

INFORMATION SHEET

UNIVERSITY OF EXETER

Participant Information Sheet

School-based Occupational Therapists Questionnaire

Title of Project: The role and contribution of Occupational Therapists in the implementation of the Universal Design for Learning in Chile.

Researcher name: Javiera Salazar Rivera

Dear participant, you are invited to take part in this study that investigates how Occupational Therapists (OTs) are delivering their support in school settings, and to what extent this support is linked with the Universal Design for Learning. For this stage, in particular, you are invited to answer a questionnaire about your own practice and how the support that you provide in schools is shaped. This is an online questionnaire that will take you approximately 15 minutes to answer it.
Please take time to consider the information carefully and to discuss it with family or friends if you wish, or to ask the researcher questions.

Purpose of the research:
This project is focused on the role of OTs as specialist health professionals in the improvement of inclusive practices, for whom specific guidelines in Chilean educational documents are not provided until now. This absence results in a lack of consideration of empirical evidence that has demonstrated the crucial role that OTs play when the participation of students with Special Educational Needs (SEN) or disabilities is at risk. It also disregards international guidelines that can be further adapted for the Chilean context and overlooks different models that have been developed to implement OT services in schools. This lack of information also overlooks the incremental rise of more than 230% between 2011 and 2016 of the number of school-based specialist professionals in Chile, which includes OTs. This issue is demonstrated in the research, in which the work of OTs in schools have been ignored. For instance, an analysis of the implementation of School Integration Projects at a national level analysed the rates and work of professionals such as Psychologists and Speech and Language Therapists. Yet, no mention of OTs was made, even though the rate for "other professionals" reached 35.4%. Within this percentage, several OTs could be included, but this assumption needs to be empirically corroborated. Another study that demonstrates the gap mentioned above examined the situation of OT in Chile and declared that only the health area has information about OTs' work. Therefore, the study's findings did not include school-based OTs, probably because educational institutions, particularly the Ministry of Education, until now, have paid no attention to the fact that OTs are present in Chilean schools. OT's professional bodies from Chile have equally ignored OTs' presence in schools.

Why have I been approached?
You have been approached because you are providing support to students with SEN or disabilities in schools of Chile, either hired by the schools or by the parents of these children.

What would taking part involve?
Your participation at this stage of the study requires to follow the next steps:

1. Read this document carefully and, if you agree, accept to answer the questionnaire.
2. Answer each of the questions of the questionnaire with complete honesty (approx. 15 min).

3. Provide your contact address (email), if you want to participate in focus groups that will discuss the results obtained in these questionnaires.

All the responses that you provide will be collected online and used to statistically analyse the practice patterns of OTs in schools of Chile, in which personal data will not be asked and each questionnaire will be identifiable with a letter and a number, to keep anonymity. This means that neither your name nor the name of the school or students with whom you work will be asked. Your contact email address will be used only to contact you for the following focus groups and will not be used to compare responses or to pursue you to participate in following stages.

What are the possible benefits of taking part?
Answering this questionnaire will provide vital evidence that will increase the amount of information about school-based OTs of Chile. This would benefit how the work of these OTs is known by the educational community and society.

What are the possible disadvantages and risks of taking part?
There are not directly risks in answering this questionnaire. However, there is evidence that when people describe their work, they could fail to provide justifications for their own practice, which could impact on their psychological state and on how you see yourself as a practitioner. Please, be aware that this is not the project's intention, and that your responses will not be shared with others. Instead, you are encouraged to consider this project as an opportunity to study your own professional practice.

What will happen if I don't want to carry on with the study?
You can stop answering the questionnaire at any time. In addition, if you provide your email address to be contacted for focus groups and then you decide not to be contacted, please communicate this in the first email that you will receive from the researcher. You will be deleted from the contact list.

How will my information be kept confidential?
The University of Exeter processes personal data for the purposes of carrying out research in the public interest. The University will endeavour to be transparent about its processing of your personal data and this information sheet should provide a clear explanation of this. If you do have any queries about the University's processing of your personal data that cannot be resolved by the research team, further information may be obtained from the University's Data Protection Officer by emailing dataprotection@exeter.ac.uk or at www.exeter.ac.uk/dataprotection.
The university's password protected and GDPR compliant OneDrive cloud-based storage system will be used to store the data collected, which will be coded to maintain anonymity, giving participants a letter and a number to differentiate them. The analysis of the data will be developed in password-protected laptops and it will be shared only with the supervisors through the same OneDrive system. The amount of time that these data will be stored will be according to the time that the researcher has to complete her PhD studies, which is until September of 2023.
For those providing their email address, this information will be used only for the purposes of contacting them to arrange their participation in focus groups and will be destroyed after these are conducted.

Will I receive any payment for taking part?
You will not receive any payment for answering this questionnaire.

What will happen to the results of this study?
The data collected in these questionnaires will be disseminating on academic publications and possible OT or educational conferences

Who is organising and funding this study?
The researcher is in charge of the organisation of this project, who is part of the University of Exeter, and who is sponsored by CONICYT (National Commission for Scientific and Technological Research of Chile).

Who has reviewed this study?
This project has been reviewed by the supervisors of the researcher and by the Research Ethics Committee at the University of Exeter (Reference Number….).

Further information and contact details
If you want to contact the research team for further information, please write to js1003@exeter.ac.uk.

If you want to complain of any aspect of the project or you are not happy with something about this project, please write to Christopher.Morris@exeter.ac.uk or C.Boyle2@exeter.ac.uk
You can also contact Gail Seymour, Research Ethics and Governance Manager
g.m.seymour@exeter.ac.uk, 01392 726621

Thank you for your interest in this project



Participant Information Sheet

School-based Occupational Therapists Focus Groups

Title of Project: The role and contribution of Occupational Therapists in the implementation of the Universal Design for Learning in Chile.

Researcher name: Javiera Salazar Rivera

Dear participant, you are invited to take part in this study that investigates how Occupational Therapists (OTs) are delivering their support in school settings, and to what extent this support is linked with the Universal Design for Learning. For this stage, you are invited to take part in focus groups that will analyse the findings from the *School-based Occupational Therapists Questionnaire,* which you answered. Please take time to consider the information carefully and to discuss it with family or friends if you wish, or to ask the researcher questions.

Purpose of the research:
This project is focused on the role of OTs as specialist health professionals in the improvement of inclusive practices, for whom specific guidelines in Chilean educational documents are not provided until now. This absence results in a lack of consideration of empirical evidence that has demonstrated the crucial role that OTs play when the participation of students with Special Educational Needs (SEN) or disabilities is at risk. It also disregards international guidelines that can be further adapted for the Chilean context and overlooks different models that have been developed to implement OT services in schools. This lack of information also overlooks the incremental rise of more than 230% between 2011 and 2016 of the number of school-based specialist professionals in Chile, which includes OTs. This issue is demonstrated in the research, in which the work of OTs in schools have been ignored. For instance, an analysis of the implementation of School Integration Projects at a national level analysed the rates and work of professionals such as Psychologists and Speech and Language Therapists. Yet, no mention of OTs was made, even though the rate for "other professionals" reached 35.4%. Within this percentage, several OTs could be included, but this assumption needs to be empirically corroborated. Another study that demonstrates the gap mentioned above examined the situation of OT in Chile and declared that only the health area has information about OTs' work. Therefore, the study's findings did not include school-based OTs, probably because educational institutions, particularly the Ministry of Education, until now, have paid no attention to the fact that OTs are present in Chilean schools. OT's professional bodies from Chile have equally ignored OTs' presence in schools.

Why have I been approached?
You have been approached because you provided your email address to be contacted by the researcher in the *School-based Occupational Therapists Questionnaire*.

What would taking part involve?
Your participation at this stage of the study requires to follow the next steps:

1. Read this document carefully.
2. Select a slot in the alternatives focus groups in which you want to participate.
3. Confirm your participation.
4. Show up to the selected and confirmed setting for the focus group.
5. Sign the Informed consent.

6. Discuss and respond to the questions, which will last about an hour and a half.

All the responses that you provide during the focus group will be audio-recorded and will be used to complement the information gathered in the online questionnaires. The transcriptions of these audio-records will be anonymised and no OTs will be identifiable. No names will be transcribed either. You will be asked if you want to continue participating in the following stages of this project, for which you must enter your name and email in a new contact list.

What are the possible benefits of taking part?

Participating in this focus group will allow you to discuss the general patterns of the work that you do, providing relevant information about the factors that influence these patterns. It might also be an excellent opportunity for networking with other school-based OTs.

What are the possible disadvantages and risks of taking part?

Taking part in this focus group requires time and effort from you. Please consider this before accepting to participate.

What will happen if I don't want to carry on with the study?

You can stop answering the questions during the focus group at any time, without giving a reason for that. You can also leave the setting if you decide to. However, since the focus groups will be group interviews and no identification will be made, there is no chance to delete the responses that you provided after the conduction of the focus groups. However, please remember that no names will be transcribed.

How will my information be kept confidential?

The University of Exeter processes personal data for the purposes of carrying out research in the public interest. The University will endeavour to be transparent about its processing of your personal data and this information sheet should provide a clear explanation of this. If you do have any queries about the University's processing of your personal data that cannot be resolved by the research team, further information may be obtained from the University's Data Protection Officer by emailing dataprotection@exeter.ac.uk or at www.exeter.ac.uk/dataprotection.

The university's password protected and GDPR compliant OneDrive cloud-based storage system will be used to store the data collected. The analysis of the data will be developed in password-protected laptops and it will be shared only with the supervisors through the same OneDrive system. The amount of time that these data will be stored will be according to the time that the researcher has to complete her PhD studies, which is until September of 2023.

For those providing their names to the new contact list, this information will be used only for the purposes of contacting them to arrange their participation in later steps of the project, and the list will be destroyed after these are conducted.

Will I receive any payment for taking part?

You will not receive any payment from participating in this focus group.

What will happen to the results of this study?

The data collected in these focus groups will be disseminating on academic publications and possible OT or educational conferences

Who is organising and funding this study?

The researcher is in charge of the organisation of this project, who is part of the University of Exeter, and who is sponsored by CONICYT (National Commission for Scientific and Technological Research of Chile).

Who has reviewed this study?

This project has been reviewed by the supervisors of the researcher and by the Research Ethics Committee at the University of Exeter (Reference Number….).

Further information and contact details

If you want to contact the research team for further information, please write to js1003@exeter.ac.uk
If you want to complain of any aspect of the project or you are not happy with something about this project, please write to Christopher.Morris@exeter.ac.uk or C.Boyle2@exeter.ac.uk
You can also contact Gail Seymour, Research Ethics and Governance Manager g.m.seymour@exeter.ac.uk, 01392 726621

Thank you for your interest in this project

CONSENT FORM

Participant Identification Number:

CONSENT FORM FOCUS GROUP

Title of Project: **The role and contribution of Occupational Therapists in the implementation of the Universal Design for Learning in Chile.**

Name of Researcher: **Javiera Salazar Rivera**

Please initial box

1. I confirm that I have read the information sheet dated..... (version no.....) for the above project. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without my legal rights being affected. ☐
3. I understand that relevant sections of the data collected during the study may be looked at by members of the research team from the University of Exeter. I give permission for these individuals to have access to my records. ☐
4. I understand that taking part involves anonymised interview transcripts to be used for the purposes of sharing it with the research team and for reports to be published in an academic publication. ☐
5. I understand that taking part involves anonymised audio recordings of this interview for the purposes of transcription and analysis. ☐
6. I agree that my contact details can be kept securely and used by researchers from the University of Exeter to contact me about future research projects ☐
7. I agree to take part in the above project. ☐

Name of Participant	Date	Signature

Name of researcher taking consent	Date	Signature
Name of supervisor taking consent	Date	Signature

When completed: 1 copy for the participant; 1 copy for project file

SUBMISSION PROCEDURE

Staff and students should follow the procedure below.

Post Graduate Taught Students (Graduate School of Education): Please submit your completed application to your first supervisor.

All other students should discuss their application with their supervisor(s) / dissertation tutor / tutor and gain their approval prior to submission. Students should submit evidence of approval with their application, e.g. a copy of the supervisors email approval.

All staff should submit their application to the appropriate email address below.

This application form and examples of your consent form, information sheet and translations of any documents which are not written in English should be submitted by email to the SSIS Ethics Secretary via one of the following email addresses:

ssis-ethics@exeter.ac.uk This email should be used by staff and students in Egenis, the Institute for Arab and Islamic Studies, Law, Politics, the Strategy & Security Institute, and Sociology, Philosophy, Anthropology.

ssis-gseethics@exeter.ac.uk This email should be used by staff and students in the Graduate School of Education.

Please note that applicants will be required to submit a new application if ethics approval has not been granted within 1 year of first submission.

Appendix 6: Joint display based on the Pillar Integration process

<table>
<tr><th>QUANT DATA</th><th>QUANT CATEGORIES</th><th>PILLAR BUILDING THEMES</th><th>QUAL CATEGORIES</th><th>QUAL CODES</th></tr>
<tr>
<td>
<table>
<tr><th>SEN supported</th><th>Count</th><th>%</th></tr>
<tr><td>Other SEN</td><td>38</td><td>15.8%</td></tr>
<tr><td>Intellectual functioning border</td><td>118</td><td>49.2%</td></tr>
<tr><td>Attention deficit disorder</td><td>189</td><td>78.4%</td></tr>
<tr><td>Specific Learning disorder</td><td>116</td><td>48.1%</td></tr>
<tr><td>Specific Language Disorder</td><td>113</td><td>46.9%</td></tr>
<tr><td>Multiples disabilities</td><td>85</td><td>35.3%</td></tr>
<tr><td>Physical disability</td><td>116</td><td>48.1%</td></tr>
<tr><td>Intellectual deficit</td><td>204</td><td>84.6%</td></tr>
<tr><td>Severe dysphasia</td><td>18</td><td>7.5%</td></tr>
<tr><td>Autistic Spectrum Disorder</td><td>230</td><td>95.4%</td></tr>
<tr><td>Hearing disability</td><td>43</td><td>17.8%</td></tr>
<tr><td>Vision disability</td><td>54</td><td>22.4%</td></tr>
</table>
</td>
<td>Diversity of SEN: ASD, Intellectual/learning deficit, and ADHD were primarily selected. Other SEN were selected in similar percentages, including specific language disorder, intellectual functioning border, specific learning disorder and physical disability. Multiple disabilities, vision and hearing disability and severe dysphasia were selected by a lower percentage</td>
<td>The rules and requirements of the educational system and students' characteristics impact the types of SEN and difficulties that these Chilean SBOTs support. This means that their support is context-dependent and influenced by the tensions between the diagnoses they are allowed to support and the difficulties that might align with those diagnoses. Personal factors also influence the SEN and difficulties supported, in which the lack or limited awareness of the education</td>
<td>A range of factors might influence these trends hours for which they were hired were to work specifically with students with ASD the lack of knowledge and awareness of the role of SBOTs from the educational community, which might play a key role in the type of SEN supported</td>
<td>In my school I can’t choose the diagnostics to attend, they tell me “Maca you have to attend the permanent and transitory students”
In my case when thoy told me “you have to deal with these children” even though I was set in a good place, I feel like the whole community was not included, because needs go beyond the diagnostic
…As he/she doesn’t have a diagnostic he/she can’t be included and it is very hard to attend a kid, because there are legal matters, consent, evaluation
I want to mention that the hours the school</td>
</tr>
</table>

		community play a key role.		required me, just as Guisela, were mainly to work with TEA kids Now with 18 hours, the most of students I attend can be 14, more than half are TEA, a DI and that's it, there the diagnostics are overrated "The main problem of the area is the lack of information that educators and assistants have regarding our job

Type of difficulty they support the most	Count	%
Other types of diff.	5	2.1%
Self-care activities	24	10.1%
School environmental navigation	3	1.3%
Assistive Information and Communication Technology	3	1.3%
Social interactions skills	42	17.7%
Mental health	7	3.0%
Behaviour	56	23.5%
Sensory modulation	62	26.2%
Executive functioning skills	76	32.1%
Gross motor skills	16	6.8%
Handwriting skills	26	11.0%
Fine motor skills	70	29.5%

Various difficulties: struggles in performing activities that require executive functioning and fine motor skills were ranked higher, and participation difficulties due to sensory modulation and behavioural issues. Problems because of social interaction skills issues were also ranked in a relevant percentage.

The rules of the educational system and school's requirements have influenced SBOTs to work mainly based on specific diagnostics, which might leave out students that could require their support but who do not have a diagnostic. The SIP works based on diagnostics, some of the schools allow them to only support students with specific diagnostics, although other students might also need their support.

Some children's needs, for example, behavioural needs or someone who has limited AVD, but are not considered part of PIE because they don't have the need to be classified into that group.
The professionals, special needs teachers or school members think that is what we do, that's the first thing coming to their heads when they talk about occupational therapists
…As he/she doesn't have a diagnostic he/she can't be included and it is very hard to attend a kid, because there are legal matters, consent, evaluation.
You realise the kid has some AVD, but you say "this is not educational" I don't know, you have to

				associate it more to the educational matter and as an example, AVD, more or less hygiene, it is not well seen. "…sometimes in the end, the system asks you for that, they say that the OT works the motor system, so this kid doesn't write, the first they do is [ask for] the OT [because the child] has to write and that conditions that you must do fine motor skills, for example"

Data collection practices	Count	%
Other type of data collection	13	6.1%
Teacher/parent/ student interviews	201	94.8%
Teacher/parent/ student questionnaires	187	88.2%
Class activities checklist	86	40.6%
Non standardised tests	166	78.3%
Standardised tests	182	85.8%
Performance assessment tasks	58	27.4%
Work Samples	34	16.0%
Observations	205	97.2%

Diverse strategies to assess: Most indicated five, six and four strategies. SBOTs indicated using observations and interviews with teachers/parents/students as their primary assessment tools.

Systemic, student and professional factors influence the practice patterns in assessment and data collection strategies. For systemic factors, the requirements of SIP play a crucial role.
The characteristics of students influence what type of assessment SBOTs develop.
There is uncertainty concerning professional factors because of the legal absence of OTs in educational laws and decrees.
The strategies most used were those which SBOTs have learnt, with which they feel confident and have the resources to conduct them.

The lack of time and a high demand for assessments impacts on what types of strategies are used. For example, they explained that access to assess in the classroom, particularly when the class staff is unaware about the role of OTs in school settings play a key role in deciding what tools to use. In addition, some argued that the lack of guidance in official decrees and documents from the Ministry of Education in relation to the expected assessment from OTs is an element that is crucial in this matter. On the contrary, others claimed that this

Regarding the PIE, there are certain ministerial deadlines that require the programme to have the evaluations done, so that is also an important determining and that depends also on the number of hours and children that you have
I think that the main factors for the evaluation are the professional characteristics, from the first or early childhood evaluation of a child, one tends to observation, because we have learnt to observe/analyse conduct and behaviour of the students and how that affects the occupational performance
For me, the observation is a very important evaluation method, we can see

			absence provides the freedom that they needed to assess in diverse ways. Hence, this absence impacted positively for some but negatively for others. When mentioning these terms, the participants deliberated about how the official mandates from the educational system of Chile impacts in using mostly written reports to provide the results of their assessments. In this sense, legal, systematic, and contextual factors play a key role	the kid's natural performance. Demanded to evaluate a large number of kids in a couple of hours and within a deadline. Within the high demand of kids that are included clearly because of the need of OT in schools, sometimes because of the time issue, it is a little hard to apply everything standardized as we wanted to. To me this is totally related with resources, mostly, because I know that we, OTs, have the training, experience, ability to learn from standardized evaluations and not standardized ones that are not available in Chile, I mean, getting a Bayley, the original tests and not the copies is very difficult

Service delivery model practices Row N %	Integrated services	Indirect services	Direct push-in	Direct pull-out
Always	11.0 %	4.3%	21.1%	68.4%
Frequently	31.0 %	14.8 %	28.2%	24.5%
Occasionally	35.2 %	45.2 %	34.9%	5.2 %
Rarely	17.6 %	31.0 %	11.0%	0.9 %
Never	5.2%	4.8%	4.8 %	0.9 %

Direct pull-out services were mostly rated as always and frequently provided. This tendency is not that sharp for direct push-in services, although most participants indicated they always, frequently and occasionally provided them. For indirect services participants indicated providing them occasionally or rarely, leaving behind the option of always or frequently. For integrated services, participants mainly indicated providing them frequently and occasionally.

There are systemic, personal, professional and student factors that influence the frequency in which the diversity of SBOT services are provided.
The variety of these factors suggests that the service delivery models implemented by Chilean SBOTs are context-dependent, the attitudes of the education community influence them, and different elements from SBOT's professional background.
These frequencies are also influenced by elements from students' families, emphasising parents, particularly for providing indirect services.

A diversity of factors might influence these results. For example, the absence of OTs in legal decrees of Chile does not support the provision of a diversity of services and influences how OTs are welcome (or not) in regular classrooms. Other factors debated were their caseload and the time they have to provide their services. How schools understand the role of education and the role of OTs, with a constant biomedical idea also impacts in the range of services provided. Schools' characteristics also affects in how their services are

…schools are ruled by decrees demanded by the ministry, if they don't see on the paper that OTs can perform a job with teachers directly or indirectly on other services, they just don't consider it.
I think it has to do with the educational system, because the decree talks about work in the resources classroom.
it's a matter of time and the more kids we have, the harder it gets to do the activities, the bigger the group, more teachers, the harder it is to organize, etc.
time is a key point to do this type of services.
this traditional and conventional vision that the kid has to be there receiving the content given by the teacher, like a box we have to fill in with

			delivered, particularly regarding the resources available, the vision and context of the schools and the work environment. They also argued that how and what they learnt in their undergraduate level have a major impact in how they provide their support.	information, I think that is one of the factors that affect a lot on the type of service we can provide. Occupational therapy kids comes from the clinical side, the first approaches and I feel that what has been tried with the type of services is to bring the clinic to school … I get the feeling that there is a biomedical model associated to this idea "I feel that the personal characteristics of a therapist who attended a university are very moulded… it depends how you were formed…"

<table><tr><th>Challenges</th><th>Substantial challenge</th><th>Moderate challenge</th><th>Not a challenge</th></tr><tr><td>Time to meet and collaborate with teachers, families, or other specialist professionals</td><td>74</td><td>20</td><td>14</td></tr><tr><td>Administrative support for using a range of service delivery models</td><td>34</td><td>27</td><td>17</td></tr><tr><td>Time to implement a range of service delivery models</td><td>66</td><td>18</td><td>9</td></tr></table>	Lack of time to collaborate and to implement a range of service delivery models were the most substantial challenges, followed by the number of students referred for them. The availability of time and teachers' resistance were the barriers most frequently selected for the three types of services examined in this project. In addition, personal preferences were the option less selected regardless of the type of service.	Both datasets corroborate the findings about challenges. This does not align with the aim of expanding the results obtained.	These participants mentioned that there are different contextual (family, schools, time, caseload) and individual (students) characteristics that limit the provision of their services.	In my case, obstacles are related to students' characteristics, to do the actions I have to perform, the student doesn't want to participate sometimes, or go, etc and also because of family issues, because sometimes they decide to not get or accept the services. Even me, having 44 hours can't see all the students who need support, I also think that it has a lot to do with the school's characteristics. But the matter of time is crucial, as for the attentions and reports, for interdisciplinary work, etc. … the student doesn't want to participate sometimes, and also because of family issues, because sometimes they

	Knowledge of a range of service delivery models that I can implement	23	26	28				decide to not get or accept the services. … what the school says is so directed and they haven't given me the chance to get more involved with teachers. Even me, having 44 hours, can't see all the students who need support, I also think that it has a lot to do with the school's characteristics. … but the matter of time is crucial, as for the attentions and reports, for interdisciplinary work…
	Number of students waiting to receive my support	38	21	28				
	Number of students that receive my support	62	21	23				

<table><tr><th>Do you work as part of a school team?</th><th>Count</th><th>%</th></tr><tr><td>Yes</td><td>229</td><td>95.0%</td></tr><tr><td>No</td><td>9</td><td>3.7%</td></tr><tr><td>I don" know</td><td>3</td><td>1.2%</td></tr><tr><td>Total</td><td>241</td><td>100%</td></tr><tr><td colspan="3">What type of team is this?</td></tr><tr><td>Multidisciplinary team</td><td>61</td><td>25.3%</td></tr><tr><td>Interdisciplinary team</td><td>120</td><td>49.8%</td></tr><tr><td>Transdisciplinary team</td><td>34</td><td>14.1%</td></tr><tr><td>Co-teaching</td><td>6</td><td>2.5%</td></tr><tr><td>Other</td><td>2</td><td>.8%</td></tr></table>	The vast majority of these SBOTs indicated being a member of a school team. Close to half of them declared an interdisciplinary team. Multidisciplinary and transdisciplinary teams were also selected, and a small proportion indicated working as part of a co-teaching system. About the competence level to implement collaborative consultation strategies: four strategies to be more an area of competence than an area of growth: Discuss with teachers the connection between occupational difficulties and learning highlights between these strategies. The other three strategies included discussing with teachers how to recognize children who do not have occupational difficulties	There are systemic, personal and professional factors that influence how SBOT collaborate in Chilean educational settings. These aspects are related to resources, particularly time to collaborate, the willingness of the education community to collaborate, including OTs, and the trend s in terms of collaborative consultation. Pandemic factors were discussed mainly when collaborative practices were examined. All these elements mean that collaborative practices were context-dependent, were influenced by the community's	The willingness and permeability from teachers to accept these services, an apparent disconnection between teachers and OTs, and that a person entering the classroom provokes distractions among students, difficulties form some interventions to be implemented in classrooms The soul of OT has an impact on providing integrated services The lack of resources, particularly time and instances to collaborate impacts in the type of teamwork in which these SBOTs work. The characteristics of team members is crucial for	I’ve got the perspective that the OTs is very holistic and has a unique personality where he/she is always willing to group work, wants to contribute because he/she knows that it is a better result, but there comes the matter of the pause with the teacher. I think it has to do with professional abilities and from the understanding of the person of his/her context, the factors that affect to participate every day If I have many students of a level, on 5th grade I have 5 permanent students, it is easier and I can do it because the teacher allows me work in the class, so there I can be with them in the classroom or physical education or in a more

	in the classroom, identifying teachers' learning needs concerning children who have occupational difficulties in their classrooms, and modelling skills and/or strategies for teachers in their classrooms. Regarding advantages collaborative consultation, two of the alternatives were considered substantial gains: increased teacher awareness of OTs' role and increased the inclusion of students with occupational needs, Increasing the curricular relevance of the intervention was the option less selected by the participants.	attitudes and by OTs' essence, and because of a change in response to the pandemic situation.	teamwork, particularly their interest in working together and how they validate each other	collaborative activity within the teacher. Maybe the matter that there isn't a connection between both parts, the teacher and the OT who is in the class, the teachers see as a threat that other person comes to their classroom and work with a group who will distract the other students, many times that personal matter happens so you bring the student to that little room and work just with a small group in a different place. This collaborative work is so necessary to finally respond effectively to the needs and difficulties kids may have within real contexts

UDL Implementation and functions	Yes	No	I don't know/ not sure
Does the school where you currently work implement the UDL framework?	60.8%	16.8%	20.0%
Considering your role in the school where you currently work, do you have any function in the implementation of the UDL framework?	23.2%	35.2%	21.6%

UDL Principles	Yes	I am not sure	No
Does your provision consider providing students multiple means	92.9 %	7.1%	0%

Regarding school level, more than half of the participants indicated that the school where they provide services implemented this model. 23.2% declared that they have functions in implementing UDL. The majority declared that they consider providing students multiple means of engagement, multiple means of representation and multiple means of action and expression, against 7.1% who were All the participants of section three were asked if they thought it was important for OTs to implement their support considering the UDL approach. They mainly indicated it is important for OTs to implement support considering the UDL framework.

Crucial systemic factors were stated as elements that influence the lack of involvement of OTs in this implementation. Their professional background, particularly their lack of knowledge of this model, was also considered one of the main factors influencing their involvement. Some personal and pandemic factors were also indicated, in which some participants did not feel that they have to be involved with UDL, and others mentioned that the online nature of classes during the pandemic encouraged the implementation of UDL. Although no specific involvement

The lack of knowledge impacts on SBOTs' UDL implementation. There seems to be an absence of SBOTs in the implementation of UDL in schools because of lack of time and also because of contract types. Other professionals are the responsible of implementing this model. How OTs manage themselves in schools is another factor. The system do not provide the appropriate relevance to the role of SBOTs, which impacts their functions in UDL. There are different obstacles that imped the role of SBOTs in the implementation of

I think it has to do with knowledge about the meaning of UDL, because you could understand the concept, but not the implications it has and how it must be implemented and developed and clearly us, OTs, the whole school has to be involved for UDL's implementation. As this universal design, it is inevitable to the OT, so there are many things we do, so then you see and read UDL and we say "we do it", we do it because we are OTs and the training we have… It has happened to me and I see a lot, at least here in the institution where I work, that only the special needs teacher is in charge of UDL, and the rest of the team is not considered

of action and expression?			
Does your support consider providing students multiple means of representation?	85.7 %	14.3 %	0%
Does your support consider providing multiple means of engagement?	96.6 %	3.4%	0%

Do you think is important for Occupational Therapists to implement support considering the UDL framework?	Yes	Maybe	No
	86.1%	13.9%	0%

of OTs was mentioned. These factors suggest that the UDL practices were context-dependent, coloured by uncertainty and the community's attitude.

UDL (time, teachers and schools' characteristics, lack of training opportunities)

Because of time that's against us in general, few of us can be alone in an institution, in general we are distributed, you lose a lot of what happens during the week, so you have to be alert to mark/highlight your territory and say "I'm important on this, consider me"
I think it has to do with something bigger, where we are given the space to have a purpose within DUA.
In my case I don't feel it as my own responsibility as OT, I think it is a global matter, I am not being pointed out, from the institution I think it has fostered from my own interest.

Appendix 7: Thematic analysis of focus group data.

INDIVIDUAL LEVEL OF ANALYSIS				
SEN and Difficulties				
Statements	Open coding	Axial coding	Selective coding	Meaning construction
I think there is a matter of the educational system that doesn't know what we do, who we are	Misinformation	Lack of awareness from the educational community and system about SBOTs' role	Unawareness	The lack of knowledge from the educational community plays a key role in the type of SEN and difficulties that these SBOTs support
I joined PIE this year, they aren't aware or don't know what the OT's does in education	Unawareness			
The main problem of the area is the lack of information that educators and assistants have regarding our job	Lack of information			
There isn't a plan or at educational level there isn't a planning for OTs, what we can do, so that's why there's so much ignorance by teachers, we have to explain how our supporting role is	Ignorance			
We are not mentioned professionals on the decree but we are free of some things but there are also other things and ambiguities in many others, requirements that speech therapists and psychologists have, we don't	Uncontemplated on decrees			
…it bothers me that we are not considered for diagnosis, because for a kid to be considered within the spectre, the evaluation of the speech therapist and psychologist are required, but I am not considered because I'm not in the decree, so my evaluation isn't important	Unconsidered on diagnosis			
it is frustrating to arrive to school and every day you have to validate yourself, earn your place	Earn their place			

The professionals, special needs teachers or school members think that is what we do, that's the first thing coming to their heads when they talk about occupational therapists	School staff awareness			
In my school I can't choose the diagnostics to attend, they tell me "Maca you have to attend the permanent and transitory students"	School's rules	Legal requirements and school's rules based mostly on diagnostic	System's way of work	The educational system's rules and schools' requirements have influence SBOTs to work mostly based on diagnostics
In my case when thoy told me "you have to deal with these children" even though I was set in a good place, I feel like the whole community was not included, because needs go beyond the diagnostic				
…As he/she doesn't have a diagnostic he/she can't be included and it is very hard to attend a kid, because there are legal matters, consent, evaluation.	Diagnostic-based Legal requirements			
Some children's needs, for example, behavioural needs or someone who has limited AVD, but are not considered part of PIE because they don't have the need to be classified into that group.				
You realise the kid has some AVD, but you say "this is not educational" I don't know, you have to associate it more to the educational matter and as an example, AVD, more or less hygiene, it is not well seen.	Education-based			
Macro perspective of the educational area and how it fosters opportunities of intervention that lead to inclusion, but they actually create educational opportunities and sometimes, this is a personal opinion, a segregation based in needs or the kid's characteristics.	Segregation based on characteristics			
The characteristics of the school sets the form how interventions take place	Schools' characteristics			
I had to work 45 minutes mandatory with the kid in the resources classroom and they had rules that were hard for me to understand because I felt they didn't allow me to be an OT	Schools' rules			

the training you graduate with, the content you learn along time is a lot, but entering the labour field is a completely different reality, there's much to keep learning and trainings to do	Undergraduate training	Lack of training	Training	The lack of undergraduate training about how to work in a school setting
…that lead me to inform myself more about the educational environment, because as an OT you don't manage DUA or decrees	Lack of knowledge management			
The context expectations and I believe that is also very related to the difficulties supported, because there are, as an example, talking about the educational context, it depends a lot from the support it gets which is the teacher's expectation on that student	Context's expectations	Environmental expectations	Expectations	The expectations from the educational context, particularly teachers have an influence on what SBOTs support
Today, the teacher, whether in school or higher education, frequently has lower expectations than the other students, therefore the requirements of the teachers within these students tends to be lower, which means in our job, that is what we are going to support,	Teachers' requirements			
I want to mention that the hours the school required me, just as Guisela, were mainly to work with TEA kids	Contract's hours	Contract hours	Hours contracted	Some SBOTs are hired to work with specific diagnostics
Now with 18 hours, the most of students I attend can be 14, more than half are TEA, a DI and that's it, there the diagnostics are overrated	Diagnostics overrated			
Assessments and results				
I think results is a matter of the educational system that does everything under a conventional form that everything has to be written and in deep there is no result on the team's written report, which I consider ok, it's a good methodology, but I think it is related to this old school conventional system in Chile	Old conventional school system (written report)	Legal, systemic and contextual mandates	Official mandates	The official mandates from all contextual levels affects how SBOTs assess students and provide the **results** of it
I think that it also happens a lot on this are the school's characteristics and this is totally from my experience	School characteristics			
regarding the PIE, there are certain ministerial deadlines that require the programme to have the evaluations done, so that is also an important determining and that depends also on the number of hours and children that you have	Legal requirements and hours			

From the programme itself created by the municipal corporation, we work based on that, I do clinical observation and in the classroom the report is mandatory,	Based on specifications of programmes			
this is the team's coordinator report, she has written one so that we know what to include and not to, in that matter there isn't much flexibility, and it has happened to me many times that little children don't apply for these tests	Based on the coordinator's structure			
It depends a lot on each context, direction and it also affects a lot the labour environment, how the teachers are and if they allow you to do your job or not, because if they don't want you in their classroom, you just can't get in, so you have to ask for permission, it's very complicated.	Depending on context and teacher's permission	Teachers' openness	Attitudes	How teachers receive OTs in classrooms impact how much they are involved
I think that the main factors for the evaluation are the professional characteristics, from the first or early childhood evaluation of a child, one tends to observation, because we have learnt to observe/analyse conduct and behaviour of the students and how that affects the occupational performance	Undergraduate training for observation	Multiplicity of factors leads to observation	Observation's relevance	There are many factors that lead to use observation as the main assessment tool (training, relevance, characteristics, usefulness, validation)
For me, the observation is a very important evaluation method, we can see the kid's natural performance	Relevance of natural observation			
Personally, the user's characteristics defines how I evaluate, I do it through observation, without a standardized instrument, because most of them have a psychometric side, and as my population of attention has an ophthalmologic diagnosis, it may be inappropriate to apply a guideline, or it could show results that are not acquainted	Students' characteristics lead to use observation			
I also think that one chooses the type of evaluation to apply, according to the characteristics of the students				
…the observations matter maybe is increased, according to the graphic, because it is very useful for us to determine what our clinical eye says about the environment in the classroom, where the kid we are evaluating is located, different sensorial	Usefulness of the observation based on clinical eye			

factors, as light, noises that may affect the student's participation or aspects on how he/she behaves in the classroom everyday or how he/she participates in physical education class, music, art or how he/she is in our classroom				
For us it is more validated the matter of observation and clinical eye	Validation of the observation			
Demanded to evaluate a large number of kids in a couple of hours and within a deadline	Workload and deadlines	Impacts of the lack of time to assess and provide results	Time impacts	The lack of time impacts in a multiplicity of aspects of the assessment and the provision of results
Within the high demand of kids that are included clearly because of the need of OT in schools, sometimes because of the time issue, it is a little hard to apply everything standardized as we wanted to	Time issues with a high demand			
I've seen that for all of us is hard to do a multi professional report and in the end it is because of time, because on our own reports we manage our time, to coordinate all the professionals is complex.	Time problems for a multi-report			
…time is aimed to the number of attentions and sometimes the quality of attentions is neglected, as it is with everything…	Impact of time in quality			
To me this is totally related with resources, mostly, because I know that we, OTs, have the training, experience, ability to learn from standardized evaluations and not standardized ones that are not available in Chile, I mean, getting a Bayley, the original tests and not the copies is very difficult	Hard to access resources	Accessibility, cost and training issues for resources	Inaccessible assessment tools	Factors such as access, cost and training affect the use of standardised tools
The explanation of the evaluation side has a lot to do with resources, because buying standardized tests or not standardized tests are very expensive and many times are over the budget of a therapist	Expensive cost of assessments tools			
We know that there are certain school's aspects, such as time, resources, so I feel that, according to what has happened to me, it's been difficult to use guidelines, because I don't know what guideline is more suitable, that's why I feel it is something from my personal development	Training in assessment tools			
it affects a lot the personal aspect of our training as an OT				

each evaluation will be according to personal matters, as training, but also regarding the requirements of each institution				
It is like a struggle, saying I did this, we have results, we lack of this and that, being able to connect the information that we gather with other professionals as well	Difficulties to share information gathered with school staff	Issues with school staff affects the OT assessment	School staff dependent	Access to assess in the classroom, share this information with school staff and that this information is understood affects how SBOTs decide to assess.
They asked for a grade in vocational area sol had to give them a more standardized guideline created by me, so that was a bit more mediated by the professional, but I think it also depends on ignorance, because if they don't really know what an OT is, we have to do a double effort	Ignorance from school staff regarding OT assessment			
You do a standardized guideline, proper of the OT and will deliver it to everyone, they probably don't understand why we are doing that or the results, that's my personal appreciation	Misunderstandin g of the results from school staff			
I think that at some point there are professional factors, because as the role of therapists at schools has never been determined, I can imagine that there should be a guideline to run our evaluation, and as it doesn't exist, one tends to not know what guideline to use, because you think in occupation and this holistic person and I could evaluate everything I can	Lack of guidelines to conduct assessment	The pros and cons of having a guideline to assess in school settings	Guideline's use	The lack of guidelines and absence in decrees are issues that impact how SBOTs assess in a positive and negative manner (ignorance v/s freedom)
…so that's the other "but", that maybe it wouldn't be useful at a national standardized level that by diagnostic we would have a protocol of standardized guidelines we could evaluate, just as speech therapists and psychologists have them validated. In general, for educational matter it would be a contribution to see which ones are the most suitable for each case, because I think we all apply them according to the context	Benefits and issues around a national guideline based on diagnostics			
The good thing in that matter is that no one has framed how I have to do things, besides, the school where I am, there wasn't an OT, so I came to raise awareness and describe therapy, how it works and what will work.	Freedom to work based on previous OT absence			

No one has framed the form I have to evaluate either, on that case is very positive for us who work in PIE, because we aren't in the decree, so, for example, those who are, like the speech therapist, has to check TEL if the kids have to do with something like that, so it is a little bit more structured, the benefit of us of not being in the decree is that we have more liberty to decide the most efficient way to do an integral evaluation to kids.	Freedom to assess because of our absence in the decrees			
Within the standardized tests that I apply, I like VMI, even if it is to measure visual motor integration and the other two as well to measure coordination and visual perception, I feel that you can observe so many things on the kid, something as simple as following instructions, frustration tolerance, because they cannot erase it, so it is like daring them, that's like the only standardized test that I apply	VMI	Tools and models used	Methods for assessment	Some SBOTs shared what instruments they use to assess. This was done with the idea of sharing tools that can be benefitial for the whole group
I discovered the SCOPE used in my school in a platform called "join PIE" and "join PIE" for OTs has the SCOPE	SCOPE			
I try to base myself in a model, I generally based in MOHO, but the language is sometimes unknown and there I switch to ecological for the language to be more comprehensible for teachers and parents, but I try to frame myself in a model to do the report.	MOHO			
Models				
It happens to me that the theoretical part of the model was difficult for me to answer because I felt that all these models on the list were created based on adults who were conceptualized from an adult centred/centric/focused perspective and the instruments proposed by these models, in exception of the games models for kids, they don't show results that can help me to to do the link between the cause of the consultation or the user's problem, so in that sense I feel that sometimes theoretical models can help us do a reference guideline model and help us to see the areas I have to observe, pay attention,	Adult centred/centric/focused construction of models Students' characteristics determine the model to choose			

what analyze and not, etc, the holistic aspect to me “with these glasses I have to look at this kid”, however, I feel that the reference models, many of which are there as results, determine where the intervention goes with the student, I feel that many times the students characteristics determine the model to choose				
In my case ir os related to the professional tools, what we can access more or what we most learnt at university or the most popular I may say, from the access to guidelines there are models which access is very restricted or the setting of a guideline, I think what affects the most is the professional factor, from the possibility or opportunities one has had to develop as a professional.	Undergraduate knowledge Professional development	Undergraduate knowledge that provides confidence	Multifactors influencing models’ implementation	There are multiple factors that impact on the models in which SBTOs based their work (knowldege and confidence, training, resources, children’s needs, OTs’ preferences and schools’ characteristics). These might limit or improve the use of either theoretical or practical models.
I believe that kids needs more than theoretical models, I think the theoretical model is where we feel the most confident, for example, in my university the MOHO topic was very popular, but when you experience more and teachers tell you categorically to have a set of models, but emphasizing to the reference frameworks, we analyze it according to the kids needs, for example in a sensory level or bobath	Confidence that theoretical models give Children’s needs based			
We use many models and guidelines that will lead our job, so I think that is good, because later on when you want to leave an OT’s stamp in education, we can say that have a wide range to see and decide what road to take.	OT stamp	Professional development		
in the end, you embrace aspects from every place you are confident with or what is more suitable to the kid’s needs and along you do the intervention and the reference models are very focused as well to the diagnostic or to what the kid requires, and there within the 5 dimensions, the educational system, doesn’t interfere on what we decide to do with our children, how we intervene, neither in the school’s characteristics, I feel it has to do with our own preferences and the kids characteristics	Confidence Children’s needs based Own preferences			

I also believe that within the 5 factors, the professional factors are the ones that lead you tu make decisions	Own preferences	Children's needs based		
I think that no doubt the professional factors lead you to make the decision on what theoretical model to use, but I think the referential models are certainly given by the students' characteristics, their needs and it obviousely helps the school characteristics to be carried out.	Own preferences Children's needs School characteristics			
The place matter has been a dilemma for me, to do some activities and therapies that I would like to do, because of the school's context, where everything has to be focused on religion, because it is an adventist school, besides, the atmosphere limits a lot, because we share the PIE room with special needs teachers, I don't have my own room, but I have managed to do some things out in the playground, so framing this to models and frameworks is very limited.	Limitations to use models based on school characteristics	Own preferences		
the cognitive behavioral approach, because we are actually being related with the motor matter, but also with behavior, when the kid misbehaves I send him/her to you, so, bring him/her back stable so he/she doesn't misbehave in the classroom again, so I think it's a bit more on that side	How school staff links difficulties to OT			
to me at least is a mix of personal decisions, and on that, context has nothing to do, it is more because of the student's characteristics than other thing, according to the needs they have is what I have to work on, at least I do it that way, the institution allows me to do so.	Own preferences School characteristics?	School characteristics		
From there you may be trained or not, but having the knowledge, but if you don't have an equipped classroom that allows you to intervene from the model, there isn't much sense either.	Training Resources	Resources		
There weren't places or resources to create spaces and resources to make a classroom and do IS, so in the end with that context the IS approach is very difficult and limited to	Resources			

perform and specifically in that situations I use MOHO, so there is the need, it is obvious that there is a lot of need in some students and they are related to a work done by the IS approach, but when the context limits you that much, in this case the educational system limits the type of intervention, in my case I use MOHO and game model, those could guide the intervention more.				
In my case, it is different to your universities, they always said to me “don’t marry a model” and it stayed in my head, because when you start your professional practice, you realize that non model of the theory is that possible to carry on.	Undergraduate knowledge			
About MOHO, considering the factors previously mentioned, personally it suits a lot to work under that model because I like the integral and holistic look it offers, and I feel it suits me pretty well from a personal point of view	Holistic and integral look	Characteristics that influence the use of MOHO	MOHO’s suitability	There are a diverse of characteristics of the MOHO that makes it suitable for the school context, the undergraduate training in this model is one of the most discussed topics, in addition with the resources available to be able to use this model in the practice
The MOHO is such an integrated model that embraces so many things in people, it is a dynamic model that allows us also to get adapted not only to the diagnostic, but to the child and his impairments,	Integrated, dynamic			
The MOHO has been a fundamental model to evaluate and intervene and systematize the intervention process, personally I relate it a lot to my personal characteristics, to me it is a comfortable and easy model to apply, I feel it has the necessary theoretical basis that we, OTs need, therefore it has been easy to use in different cases, students, ages, diagnostics, so it is a very versatile model.	Comfortable and easy to apply, theoretically robust, versatile			
it is a model that allows us to systematise therapy from the evaluation to the intervention.	Allows to systematise			
In my opinion, I like MOHO and I apply it a lot because it is very crosscutting and integrated, it is what I look for within the intervention that I’m giving to the kid, no matter what the diagnostic is	Crosscutting and integrated			

I try to base myself in a model, I generally based in MOHO, but the language is sometimes unknown and there I switch to ecological for the language to be more comprehensible for teachers and parents, but I try to frame myself in a model to do the report.	Language difficulties to share it			
I think it is common because they always teach us that from professional skills, one of the occupational therapy's model and from the OTs, our job has to be under a model that is developed mainly from our area and human occupation embraces widely the human being completely.	Embraces the human as a whole			
that gives me confidence and it is how we have been trained from the basis of MOHO, so I feel it is part of OTs, despite other models.	Undergraduate training bases	Training in MOHO	Training in MOHO	
the university where you studied used to tell you a lot about MOHO, you have to focus on that one because the therapist is that model and if you don't focus on that one you won't have any other model to work with, but reality is different	Undergraduate training bases (and issues)			
I think it depends on the professional training you have and maybe MOHO is the best known and the game model for kids	Undergraduate training bases			
In my case, I don't use models, however, I have had to use MOHO, because last year I had first year students from La Frontera University, they managed models better than I remember I was taught at university.	Used by practice students			
MOHO is like the battle horse of everyone, bt there are more studies and access to training in the model in Chile, it's closer to be able to work, it has more guidelines, and it is easier to get results, it is closer to what you can get to know here, like training, there are courses always,	Research, guidelines, training availability	Resources available from MOHO	Resources from MOHO	
I feel that IS has a boom today, this modell, I don't know what happened that now is so mentioned and required, maybe there are new researches	Boom on its requirement	Boom in its use	Boom of the IS model	There is a boom on the use of the IS model in the school context based on a
but out of practice, it's like "wow, when did this approach or work model get so much importance?" and as it is one of the	Boom in its importance			

characteristics of the OT is the little he/she knows all the other population				diversity of elements (updated evidence, links with children's characteristics, derivation from teachers, referrals from health professionals). However, issues for its implementation comes up (Professional development requirements and costs, Resources and environmental issues). For manu, the use of this model provokes a specification of OT's role
I get the feeling that, as I call it "the sensorial market", I don't know if sensorial sells or not, but it is popular, us therapists see kids as sensorial, what is that?, we could discuss it in another focus group, but in that sense is the most known and most required, but sometimes it is not what the kid needs	Sensorial market, popularity			
From the model IS I think and analyse it is a model that is being updated constantly and has scientific evidence that it is updated, it comes from neuroscience and that now there is a boom in Chile, in schools and all the ATES are doing neuroscience and base on that and also it is remarkable and mandatory. Unfortunately, we are limited by the institutions that certify this knowledge, most of us can't specialize on that, it is expensive and also when you sign up there aren't vacancies available.	Updated evidence Training cost issues Boom in schools	Professional development requirements and costs		
I think that the reference models, I would have hoped the graphic to be more balanced, but when you focus on educational matters, most of it point to IS, I'm not saying it is not important and relevant, because it is, but sometimes at schools, the professional's request goes by the hand with having courses and certifications and pushes a circle, which is not bad, but sometimes many kids are required by older age ranges or other framework references of the psychomotor, use of space, body, objects and I think that reference models and mostly IS has been positioned but also has affected other approaches that could be as important and sometimes from that knowledge of the specialty, they start to categorize and grow.	Boom in education Professional development requirements Specification of OT's role	Specification of the OT's role		
IS causes me something, because I've seen colleagues work or say they work this approach without the approach principles sometimes and even if in some occasions I don't work it	Resources and environmental issues to apply it	Resources and environmental		

properly, because I don't have a proper environment for it, sometimes I feel like everything is taken on that direction or everything is observed form there without knowing how to use the approach itself, maybe at times it is overused and it is according to personal factors, to the boom, more than therapy and the students characteristics, above all if the result is kids with ASD and most of them have sensorial integrated disorder, so the relation is given by coincidence	Overused Links with ASD	issues to apply it		
they require it and don't even have the environment to work it	Environmental issues to apply it			
they think the OT has to work only IS and I feel like it has been set on a pedestal and job requires you to have courses and they do that kind of filter	Specification of OT's role			
…but I also feel that from there the programme is not properly focused, I say "children aren't just sensorial, every person is many things" so, working from only one model is not enough for an intervention,	Specification of OT's role			
I think that is why it is the most applied programme from where we can get more strategies, just like the IS system, it's basically related to ASD people/colleagues, I think most of us use that programme at children's early stage and as he/she grows up and becomes a little independent and the kid's sensorial system becomes more self-regulated, moreover in ASD's.	Characteristics of children (ASD)	Characteristics of children (ASD)		
the other thing that happens is that doctors, children neurologists or neuropsychiatrist that say OT attention with specialty in IS	Referrals from health professionals	Referrals		
based on if we work in education and work with kids and the main occupation and the most significant from them it's a bit logical that it can be more used and I think that the reference model of IS of ayres is like the most used IS model and generally in schools where other professionals derive students to you, as the colleagues said "the kid is restless, he is	Derivations from teachers			

misbehaving, I think something sensorial happened to him/her" and they derive him/her to you				
Type of services (in general)				
…schools are ruled by decrees demanded by the ministry, if they don't see on the paper that OTs can perform a job with teachers directly or indirectly on other services, they just don't consider it, opposite to other professionals as psychologists and speech therapists, the decrees mentions that they have to accomplish a certain number of hours providing the service	Absence in decrees and the issues around this to provide more than direct services	Absence in legal documents	Legal absence	The absence in decrees does not support the diversity of services, in general they mandate to work outside the classroom, which leads to a direct support. This absence also influnce how OTs are received in regular classrooms
I think it has to do with the educational system, because the decree talks about work in the resources classroom, I think the first part has to do with that, they are used to us taking the kid to the resources classroom for him/her to have the proper time of intervention, now the new decree allows us to modify that a bit and make teachers get in our classroom and learn with us what to do in their classroom, because when you are in the classroom you can't only see one kid, you distribute and support different children, that is also something different, because one thing is that I enter the classroom to do an intervention, but that doesn't mean that I'm becoming the teacher's assistant, which is what happened to my at first, I would enter the classroom and they said "Monse, do this, Monse, do that"	The decrees generaly mandate to work in resource classroooms Problems when entering regular classrooms (considered as a TA)			
it's a matter of time and the more kids we have, the harder it gets to do the activities, the bigger the group, more teachers, the harder it is to organize, etc. time is a key point to do this type of services	Number of students needing support and time available	Caseload and time available	Caseload and time issues	A caseload approach (number of students) and the time to provide support affects the type of services provided
the number of students you have regarding the hours, my schedule is enough to do many individual attentions, but also many times I have to attend kids in another group, I can't attend them individually				

another thing that affects, in my case, is the number of children, if I have many, they want me to attend groups on schedule, as they are groups and belong to different levels I can't divide in classrooms because time wouldn't be enough, so I have to take them to the playground or other context or the classroom, that also affects the number of students they put per hour				
this traditional and conventional vision that the kid has to be there receiving the content given by the teacher, like a box we have to fill in with information, I think that is one of the factors that affect a lot on the type of service we can provide	Traditional perspective of education	Traditional perspective of education	Traditional perspective of education	How education is understood, and the role of TAs impacts on how schools could mold services
it strokes me because the classroom assistant or other professionals are not very considered and they are the ones who spent the most time with kids in an educational context, that has always impressed me, and I've tried to change that but it hasn't been successful	Not inclusion of Teacher assistants	Teachers' dominant role		
occupational therapy in kids comes from the clinical side, the first approaches and I feel that what has been tried with the type of services is to bring the clinic to school and because of that I feel that there are so many direct services outside the classroom, so the kid can increase abilities or overcome barriers or everything we do as actions has to be removed from the environment where the kid is having problems, so I get the feeling that there is a biomedical model associated to this idea	Biomedical perspective of OT provision	Clinical and biomedical support provided in a school context	Biomedical perspective	There is the idea that SBOTs tend to do what they do in the clinic in the school setting, based on a biomedical support. This affects how they provide services.
if the clinic works this way, let's apply the same at school and it is not the same, I, at least, have the vision that working at school you are part of a system and that the kid has difficulties or barriers or has the problem that is shown by the kid's interaction and that environment and system, so removing him/her from a system to work abilities that enable him/her again in a system that unbalances him/her, to me, that doesn't solve the origin	Bring the clinic to the educational context			

I feel that the personal characteristics of a therapist who attended a university are very shaped, if you studied at Chile University or Los Lagos University or other ones, it depends how you were formed, who with, in that process, who fostered that “click” for you to create the intervention form	SBOT’s decisions based on their undergraduate training	Undergraduate training	Undergraduate training	How SBOTs learnt in their undergraduate level affects how they provide services
the educational system goes with the school’s characteristics and also with personal resources	School’s characteristics (resources)	School characteristics	School characteristics	Diverse school characteristices impact on the type of services provided (resources, vision, context, knowledge about OT, work environment)
regarding what decree 88 claims today and that I don’t have a classroom, I’ve had to get in the classroom more to work but it depends a lot on the school’s vision	School’s vision			
it depends on the context, the kids, the school	Context			
I also work private and there I get better results than in a municipal educational context, because of that, because parents are unconnected or because the teacher says he/she didn’t attend the session and don’t know what we work on as professionals, very few times when we have a team meeting they say “did you really do that? could you send me the material?”	Unawareness of OT’s role			
I think the work environment affects a lot	Work environment (teacher’s aptitudes)			
I think it changes according to the objectives you have within the kid and the teacher’s aptitude,				
Direct services				
I think the educational system is the main factor that frames the work in and out of the classroom	Educational system	Educational system and school’s characteristics	Macro and micro context influences	There are some macro and micro context elements that affect SBOTs providing direct services
it’s something suitable, I don’t know if it happens to you, but sometimes I go to the classroom, take a sneak peak and they tell me “take them all, do you want more kids? take all you want” is the educational system	Comfortablenes s within the system			

I think the main factor is the educational system or the school's characteristics that sometimes has stricter systems, the teacher is inside and the professional is outside and if you need to work with the student, you take him/her out of the classroom to another place, which personally I have mixed feelings with, I think the intervention one to one is necessary but an intervention in the classroom is also necessary, because what we can see outside the classroom is not the same that teachers see inside the classroom	Educational system School's characteristics			(educational system, school characteristics, teachers aptitudes)
I agree 100% on what you've said, and I think it answers to the ignorance about OT and on that about what decrees establish, that we are not included but we are embraced within those descriptions	Ignorance about OTs' role	Attitudes within school		
maybe the fact of other factor that makes you do personalize or individual attention with some students is the teacher factor as well	Teacher's attitudes			
Professionals see kids as an obstacle, they hand them you and sometimes is more comfortable to work in your space, sometimes kids feel more comfortable there, it depends on the case, but as a whole, one thing leads to another	Comfortability for teachers, OTs and students			
I agree with the colleague because it depends on the student's characteristics	Student's characteristics	Student's characteristics	Student's characteristics	The students' characteristics have an impact to provide direct services
Indirect services				
at least in my case it is because of the students characteristics the workshops for parents and mostly because of the school's characteristics, the educational model we had some years ago	Educational model	Educational system preferences	Educational system preferences	How the educational system models indirect services, people involved.
the educational system, the meetings, the boards give us the space to do the inspector's or other members' jobs but they are not integrated and manage important information that is not appreciated.	Educational system (people left behind)			

Parents or carers need a lot of support on educational stages regarding diagnostics, on the stage of fostering independence and autonomy, stages dealing with jobs and daily life instrumental activities, like a job an offer, that is wider than within educators and assistants,	Parents' need more support than others, based on students characteristics	Relevance of parents	Parents	Different aspects affects the fact that parents are mnostly supported in indirect services (needs, knowldegde, children's characteristics)
The matter of knowledge so they know what we are doing, the reason and what for, I think that is a consideration to do a workshop and also to say that not only we are OTs, we are the experts on your children, but the parents are the ones who know their children, they need support to work on certain aspects and know their children demands				
the students characteristics				
I agree with the other colleagues, but I also think that all the factors may be involved, but the student's characteristics will make a bigger percentage of parents and carers, maybe educators and teachers, who are a big number on this graphic, but I feel that when you incorporate them in your job, you do psycho-educational experiences, the contents are delivered and they own it, so the job they do is not so repeated, maybe once a year and that would be it,				
Integrated services (collaborative consultation)				
I consider as an advantage to be able to change and show the transformation of the model by working side by side with teachers and all the school's assistants	Transformational model	Positive characteristics of the model makes its advantages	Positive features	Providing integrated services has different advantages that are relevant to consider (transformational, flexible, teamwork). Linked with OT
Very flexible, you can be in the classroom, work in groups, do activities with the school's community gathered, so that has been very positive, I have felt appreciated and integrated in the team in general, as in the teacher's team like in the interdisciplinary PIE team	Flexible and teamwork			
I've got the perspective that the OTs is very holistic and has a unique personality where he/she is always willing to group work, wants to contribute because he/she knows that it is a	Matches with OTs' personality (holistic, teamwork)			

better result, but there comes the matter of the pause with the teacher.				
I think it has to do with professional abilities and from the understanding of the person of his/her context, the factors that affect to participate everyday, I think the OT's look, our professions enables us to see things from other perspectives, I think our labor's wealth is there, being able to understand a situation from different points of vie	OT's been able to see other perspectives	OT perspectives	OT perspectives	The soul of OT has an impact on providing integrated services
Integrated services is to work with the teachers, personally I have tried to include a little in the working spaces and they are very tight (teachers union) the group of teachers is not very permeable or I have met teachers in all of this different contexts who are not very permeable, in exception some teachers who have been very interested in therapy and have allowed an OT in the classroom, the entire hour, intervene the class, etc.	Teachers not very permeable	Teachers' permeability issues	Problems and negative aspects Interventions' issues	When discussing about the negative aspects of integrated services, issues such as the willingness and permeability from teachers to accept these services, an apparent disconnection between teachers and OTs, and that a person entering the classroom provokes distractions among students, difficulties form some interventions to be implemented in classrooms
if I have many students of a level, on 5th grade I have 5 permanent students, it is easier and I can do it because the teacher allows me work in the class, so there I can be with them in the classroom or physical education or in a more collaborative activity within the teacher	Depending on teachers' willingness			
I questioned myself and I realized that the same was happening with everyone in the PIE group, the teacher felt questioned.	Shared perspective			
maybe the matter that there isn't a connection between both parts, the teacher and the OT who is in the class, the teachers see as a threat that other person comes to their classroom and work with a group who will distract the other students, many times that personal matter happens so you bring the student to that little room and work just with a small group in a different place.	Disconnection between teachers and OTs (threats and comfortability)	Disconnection between teachers and OTs, and provokes distraction		
for the teacher is hard to understand what occupational therapy includes				

In the immediate services within the classroom, it is complicated to provide those services in the classroom because you enter because the kids lose attention immediately and that makes teachers go mad, which is normal, because under this behavioural model, ir is expected the teacher to be ahead, starting from there is difficult	Distraction from students (behavioural educational model)			
There are other type of interventions that are hard to apply in the classroom, so you have to work with those in another classroom and is determined by the amount of hours that you are hired for	Difficulties to apply interventions	Interventions' issues		
the big protagonists of those first two points are the kids characteristics and if the school allows that method at some point and if so, how can they be carried out.	Children's characteristics and school model's adoption	Contextual and individual features	Dependence	The provision of these services is dependent of contextual and individual characteristics
this collaborative work is so necessary to finally respond effectively to the needs and difficulties kids may have within real contexts	Real contexts	Real contexts	Real contexts	There is the conception that adopting this model will allow for SBOTs to work within real contexts
That OT was not capable of so many school tasks, so her job's burden was limited to work only with the kid, because her schedule wasn't capable of more, so when you get there, it makes me feel like the teacher's union or the school in general are tight because it's what they have within time, everything is model, very objective, measurable, so obviously having someone extra in the classroom, someone who invades their space, because the teacher is the one in charge of the whole class.	Previous experiences of the school staff with SBOTs	Previous experiences	Experience	How previous SBOTs have provided their services have also an impact on what the school expects from SBOTs and their willingness for

I think it is also because of the job the previous OTs did at the school, I think they are guided by the prior experience, the colleague who was before carried on a very good or integral job, it was not only individual work with the kid, it was open to the possibility to do other things, for example, to work with physical education teachers				integrated services
I think it is a mixture of the educational system that doesn't include us, obviously there is ignorance, so, by doing these integral support services they will benefit teachers to know what we do, therefore it will depend on that and the knowledge the professional has or not about an OT, as an example, if you start to work in a school that is several years old and has had OTs before, probably they won't realize that they didn't know what OTs were, because someone did the work already, but when you start in a school where you are the first OT, they don't know what you do and by these integral support they realize it and therefore inclusion increases				
Obstacles to provide a range of services				
In my case, obstacles are related to students' characteristics, to do the actions I have to perform, the student doesn't want to participate sometimes, or go, etc and also because of family issues, because sometimes they decide to not get or accept the services	Students' characteristics	Contextual and individual characteristics	Contextual and individual characteristics	There are different contextual (family, schools, time, caseload) and individual (student) characteristics that limits the provision of a full range of services
	Family don't accept services			
It has happened to me that I haven't had the opportunity, it is so established that you have a number of hours or in such number of hours you have to do a set of things, what the school says is so directed and they haven't given me the chance to get more involved than within teachers	School's characteristics (no opportunities)			
I think it has a lot to do with the school's characteristics				
even me, having 44 hours can't see all the students who need support, I also think that it has a lot to do with the school's characteristics.	Time issues with caseload			

but the matter of time is crucial, as for the attentions and reports, for interdisciplinary work, etc.				
ACTIVITIES				
I agree on the same, the factor is repeated and mostly in my case, I think an important factor within that are resources, because as I am designated an hour for individual attentions and paperwork, doing some workshop hours for the school means increasing hours and that would be increasing resources, which is not an option	Time and money resorces	Resources to provide different activities	Resources	The type of activity provided has plenty to do with the resources that SBOTs have (time, space, schedule). Also, money has something to do with it.
The type of activity is reduced to the time and space we have at school, the hours, those factors, the flexibility the school provides to work.	Time and space resources			
Since the time you have on the contract hours is valuable, besides they give you a certain time to intervene with every kid.	Contract hours			
Besides, that period is there by structure and functioning, maybe it is the same every week, so it is like a drip and other kind of contact with that professional	Schedule			
Direct activities				
personally, because of time I had to do group sessions on many occasions and sometimes the students weren't related according to their needs	Time issues and group activities	Group activities and its benefits and issues	Group activities	There were discussions around the use of group activities within direct services, in which time issues plays a key role, the students' characteristics and its benefits as well. Schedule
but we had to gather many times, according to the student's characteristics, use time well and the number of students in the PIE is very complex,				
Now it is also important to work with groups from the social aspect, but the context limits you a little bit, because taking out a kid from the classroom, you go to the teacher because he has an appointment with the OT and it is like "ok, take him", but you are taking three, four from the same class, that is determining, you are taking away his/her kids, another professional is invading the space and is preventing children	Context issues around the schedule of direct services			

from an educational matter to work on something that they may not even know.				problems also arose.
I think the previous characteristics are repeated and I would also add the student's characteristics as an important factor to do group activities.	Students' characteristics and group activities			
also, from the benefit of group work in the educational context where I work, the language disorder affects communication aspects of social interaction and from there it is a bonus to work in small groups, even though it is much more personalized the one-to-one work, sharing with peers is also beneficial.	Benefits of group activities			
the social context, children don't play anymore, 4 years old children are on the phone, on a screen all day	Social context	Deprivation	Stimulus deprivation	The lack of stimulus impacts on the need for certain types of direct activities
the lack of early stimulation that children get here with	Early stimulation			
sometimes in the end, the system asks you for that, they say that the OT works the motor system, so this kid doesn't write, the first they do is, the OT has to write and that conditions that you must do fine motor skills abilities, for example	System mandates to work the motor area	Molding system	Molding educational system	The educational system models OTs to work mostly sensori-motor areas, which is supported by the IS Boom
I don't limit myself to only work fine motor skills, because I'm in a school, but I feel it as a conditioning, that happens to me in the educational context, but it obviously depends on the professional's practice, everything we do is a benefit and how it embraces different areas.	Educational context conditions to work motor area			
this direct services on motor sensorial activities are also associated to the boom of therapists specialized in IS and that I think it has distorted the intervention of an OT with an occupational approach	IS Boom	IS Boom	IS Boom	
Indirect activities				
I think in that point comes first the kid's direct context, so the direct context in this case is the family and his/her classroom,	Relevance of direct contexts	Relevance of family context	Family context	The workshops and indirect

so that gives us the possibility to go to those contexts first than other ones.				activities with families is the main way of work becasuse of the relevance of this direct context
I agree with Consuelo, on my experience, I used to work in meetings with teachers but into the practice itself with the classroom's assistant, she was the one sitting next to the kid with TEA or down syndrome, she was the one helping the student all the time, trying to include him in the break, so I think because of that I totally agree that the direct work is with parents, carers and the family, because without working with the family it is like if we were limping.				
It has a lot to do with the structures of the system that is related to time assigned to this indirect service, up to date the OT is known as the one to one intervention and everything else is a second job	Time issues	Time issues	Time issues	Indirect services seen as second jobs, so no time is schedule for it
But in the educational context, I think the classroom assistant has an important role regarding the practical matter of the intervention, than the regular teacher, who is more like a channel, because I get to the student because of that teacher, who claims that the student won't be quiet, interrupts, etc. Because he/she interrupts the class, but the student's main difficulties and needs to support are not managed by the teacher, but the assistant, that is why I work directly with the assistant.	TA's relevance for daily management	TA's relevance	Role of TAs	Tas are with studnets the whole day, so they should be more involved in indirect service activities
Integrated activities				
I would like to add that the educational structural model prevailing is so strict that in the end it takes away everything that we could build	Very strict system	System restricts these activities	System's restrictions	The educational system does not allow in general to do these types of activities
we have said it before, that they don't allow and forbid characteristics that could be as positive as the last elements that are detailed here, like the teacher and therapist share educational content or both present the class.	Restrictions from the system itself			

the system defines us, we get there and this is what the system allows us and somehow, the amount of professionals that are joining the educational system, there still are difficulties to define and understand that more difficulties are part of it, like gathering with enough time with the teacher and the assistant to organize and determine things, so the teachers don't have time anymore to plan their own lessons, so they will have less time to gather with the assistant and therapist	Time issues to meet and plan lessons together	Time issues	Time issues	These types of activities require time from diverse people, which is difficult to coordinate
many difficulties to talk about impairments with the psychologists and other professionals, the system doesn't give us time for that, they give us time to perform	Not enough time to discuss			
I think the educational system and the school's characteristics are again the factors that affect the most on this. For example, in my case I did many of those activities, organizing the classroom, adapting activities, adapting furniture, modify the atmosphere, but I was only able to do it with exceptional teachers, who allowed me to be in the classroom, that in my inclusion the classroom for them was not a problem inside it, those teachers saw it as benefit, it depended on the teachers' interest	Teachers interest to accept this type of activities	Dependent on the willingness of teachers	Teachers' willingness	The types of integrated activities that can be develop are dependent on the interest and willingness of teachers to accept them and to work in conjunction.
but this was a situation out of the system's structure, because it was not allowed in the PIE, so instead of half an hour one to one in the resources classroom, it was half an hour inside the classroom with the teacher that gave in, who was the teacher in the whole school, I think what affects the most are the characteristics of the school and educational system and the teacher's professional and personal characteristics who is interested on accepting this type of intervention	Systemic and school characteristics			
	Teacher's interests			
there are teachers who do not matter if the school is open to new experiences, if the teacher is not willing to get new information and help, your help sets there, even though you do it as a suggestion of simple things	Willingness of teachers			

In my case, it is something more structural from the educational system, to understand that in the end, not all of us function the same and from there my class has to be thought for a varied group of people and I think that doesn't happen, a learning approach or format is overloaded of presenting the content, so as the idea of presenting this content is limited by how the teacher expresses to his/her students and from there of course the comprehension of diversity as the basis for that activity to be the most inclusive as possible, there we have a very weak basis.	Weak diversity basis to the way of teachers to provide class information	The planning and conduction of classes, and their approaches	Class planning and conduction	The approach of planning and the conduction of classes impacts on the use of integrated activities
you don't have it either, the reality of how the class is planned, certain things are planned, but sometimes everything is happening and you go and everything is very fast, the activity is being carried out, I think in that cases this option is more possible than others	Timing of the class and its issues			
Teamwork				
the hardest for me to do, as an example, is to develop interdisciplinary work with teachers that are collapsed with time, actually, we have done meetings where we try to apply this interdisciplinary work, by evaluating the factors that interfere this type of work, mainly time, according to what the other professionals say	Time problems to interdisciplinary work	Lack of resources, particularly time	Time issues	The lack of resources, particularly time and instances to collaborate impacts in the type of teamwork in which these SBOTs work.
sometimes there aren't instances to collaborate regarding time and many resources, but on the other hand, sometimes there is time but there isn't team work so you ask yourself if it time or how you work	Lack of instances to collaborate because of time and resources			
in my case I feel that the kind of group that we perform is more interdisciplinary, where each one contributes from his/her profession but time doesn't help to do group work and accompanied and maybe to have objectives in common if they are similar, but time doesn't allow a more transdisciplinary work, which is what we all aim for.	Time does not allow transdisciplinary work			

the type of team complicates time, availability, school's guidelines, coordination, everything affects	Time and resources			
I think it can be because of the professionals characteristics, I was lucky because this team was very flexible and permeable, for all the team in general it was a big benefit the interdisciplinary work, or more. Everyone had his/her children who were attended individually, but the spaces were very preservedand valued for the team.	Team members characteristics	Characteristics of team members	Team members	The characteristics of team members is crucial for teamwork, particularly their interest in working together and how they validate each other
the most important is to find colleagues and coworkers who pursue the same common objective and set common objectives, because one thing is to work in an interdisciplinary team and that everyone as his/her personal objectives, but when you accomplish filling together two or three disciplines is very good, but I feel that doesn't happen a lot, you are benefited when that happens and that has to do with personal factors of the professionals (interest), your praxis, because not all of us work at the same pace and rhythm, so that also affects how we work in teams.	Team members interest to more jointed work			
it is frustrating to arrive to school and everyday you have to validate yourself, earn your place, validate to teams who have been working for years, when you get there you are young,	Team members validation			
in my case, when I started at school, it was multidisciplinary work, because it was the established method by the integration team, many times you set your objectives and socialize them a little, but constant feedback is not usual	Establish structure	Establish structure	Establish structure	Some types of teams are encouraged based on what the system establish
UDL				
I think it has to do with knowledge about the meaning of DUA, because you could understand the concept, but not the implications it has and how it must be implemented and developed and clearly us, OTs, the whole school has to be involved for DUA's implementation	Knowledge about implications of DUA	Lack of knowledge about UDL	Knowledge	The lack of knowledge impacts on how SBOTs implement (or

they say “Ok, it is relevant but as I don’t know it deeply I can’t determine on what way I could really contribute to its implementation”	Lack of deep knowledge			not) the UDL approach
I think it is because of personal factors as for ignorance about DUA	Ignorance of DUA			
the little i Know about DUA is because a special needs teacher who I worked with, she was very good and had a good management on the whole implementation of DUA, which I didn’t notice that it was possible to contribute from therapy	Depending on other professionals’ knowledge			
PIE has reached a good organization with teachers and they are more willing to this collaborative work, based on teaching, DUA, so at least when I learnt about DUA I acquired certain knowledge, I thought to myself, now I have moe tools to defend my work at school, basically, what I wanted was to broaden mi intervention and leave my sensorial classroom, it was very useful for me to justify that it was necessary for me to enter the classroom and say OK, I am essential because kids have to work all these areas.	Need of training to truly understand and use UDL	When training and knowldge is provided, they realise that they implement UDL because of its connexion with OT		
What happened to me, last year I was trained for DUA as every educational assistant, but before that, we realized that we were applying it already, because we were doing classroom interventions at a team level with a planning	Realisation of its application with the provision of knowledge			
As this universal design, it is inevitable to the OT, so there are many things we do, so then you see and read DUA and we say “we do it”, we do it because we are OTs and the training we have, so I think that’s why that duality is given, on one side, the incorporation of the OT in the implementation of DUA is not seen or don’t think it should be or we shouldn’t be there by knowledge, however, above all a universal design can do in the personal area, I think we should be considered as interdisciplinary teams, not because we are the only ones, we should be the cross disciplinary team, where every team can share their diverse knowledge				

It has happened to me and I see a lot, at least here in the institution where I work, that only the special needs teacher is in charge of DUA, and the rest of the team is not considered	Not considered in its implementation nor its planning	Lack of SBOTs consideration in the planning and implementation of UDL approach	Lack of consideration for UDL	There seems to be an absence of SBOTs in the implementation of UDL in schools, particularly from schools, because of lack of time and also because of contract types. This impacts on the role of SBOTs in the implementation of this approach. Other professionals are the responsible of implementing this model. How OTs manage themselves in schools is another factor
In mine you definitely plan but not necessarily implement it				
in the implementation and planning of DUA we don't participate, we can suggest something different but not as DUA or its planning				
I neither have training of DUA at school, I think the answer is because we aren't considered at school either, we intervene kids but we can't participate in curriculum adaptations, the special needs teacher does them and has meetings with all the teachers and work on adaptations, but they don't include the speech therapist nor OTs and we should be in the adaptations to provide strategies and everything possible to work with kids, but we are not considered	Not considered at a school level for planification, adaptations			
I think it depends on two factors, the school's characteristics, if you are considered in the group, and personal characteristics	School's characteristics influence the consideration of OTs			
because of time that's against us in general, few of us can be alone in an institution, in general we are distributed, you lose a lot of what happens during the week, so you have to be alert to mark/highlight your territory and say "I'm important on this, consider me" so, I think that's why it depends a lot on those two variations, how the schools sees you and how you manage yourself at school.	OTs personal management in schools			
	Struggles to be considered because of time issues and contract's types			
I think it has to do with something bigger, where we are given the space to have a purpose within DUA	Space within UDL			
in my case I don't feel it as my own responsibility as OT, I think it is a global matter, I am not being pointed out, from the institution I think it has fostered from my own interest	Not considered an OT responsibility	OT responsibility	OTs responsibility	For one person, OTs are not responsible of

				implementing UDL
we have an important relevance due to the OTs nature, but the context we are working in, takes away our importance, so you go, you are honorariums, you are useful, we are discriminated	Context takes away OTs relevance	SBOTs' relevance not given	Relevance	The context and system do not provide the appropriate relevance to the role of SBOTs, which impacts their functions in UDL's implement
we are incorporated in the educational system, but we are not given the proper importance as OT, we do the hours and most of them work honorary, so we accomplish the hours, work with the kids and we go to other school to do the same, so we are not seen, we are really not seen,	Not enough importance to SBOTs			
it happens to me that in theory you live in adaptations, diversity and using DUA by heart, but in my case, there is a lot of theory, but a glimpse of practice on that is missing, because everyone talks about DUA at school but I don't see many teachers applying it, even though they know the concept, they know how to do it, but maybe they don't know the praxis and to achieve it, maybe they complicate too much and think it is more complicated than it really is and in the end, you do it every day without this validation, maybe in saying "I'm going to this by DUA, because I know it, because I saw it, because I saw the experience on this" so that is what I'm missing, the practical matter and see it in collaboration with teachers because maybe I live it closer because we are used to this, but teachers aren't.	More theory than practice and a lack of collaboration with teachers	Lack of UDL implementation in general	UDL implementation	For one person, there is a generalised lack of UDL implementation in schools, where even though the theory exists, it is difficult to see it in practice, which influence the collaboration with teachers.
the reason of that is because it s not considered or the space is not provided to do it in an integral method because of time issues	Time as an obstacle for UDL	Multiple obstacles to implement UDL as SBOT	Obstacles	There are different obstacles that imped the role of SBOTs in the implementation of UDL (time, knowledge,
I think it can also be related to ignorance and inclusion of the professional about what the area is about	Ignorance of the area as an obstacle			
there isn't deep knowledge about the contract and what we actually do, because otherwise we could have a direct job on	Lac k of knowledge of			

that and under that logic the space and time would be available, that could also be not enabling the proper time to work	what we do so time is not provided for UDL			teachers and schools' characteristics, lack of training opportunities.
what happens to me is that teachers are pretty older, there are a few young teachers, they are the ones who try to apply that strategy, but old schoolteachers, they don't like it so much, they feel like we are invading their classrooms, so they are unwilling to apply these types of strategies in their classrooms.	"Old schoolteachers" age issues			
it also has to do with teachers' characteristics and school's characteristics as well	Teachers and school's characteristics			
I would like to say that regarding DUA, I wasn't included in the training for teachers, professionals, PIE, SEP, everyone in general, I was the only one missing, but I managed to join by sence.cl and I took the course and got my diploma	Not included for professional development in UDL			
Training				
I feel that if you don't manage those training by yourself, due to the educational system characteristics, where there is lack of information, neither provides opportunities to facilitate trainings for OTs, unlike other professionals who belong the team	Educational system does not provide training for OTs	Educational system lack of responsability to train SBOTs	Educational system	The educational system does not provide resources to train SBOTs, neither opportunities for their professional development
I think the educational system and school's characteristics are repeated, I wasn't trained by the school, all the trainings I've done have been private, everything you do is private, it may be for the resources	Schools does not provide training for OTs			
Resources are not used to train other professionals, the resources used are for sets of evaluations to include children in the programme but not to train you to intervene or for something that contributes from other side	Resources not used for OTs' training			
the availability of trainings in Chile, normally we do courses in person mostly in Santiago, if it's not everything, it is expensive or so and almost everything is done by private institutions, I mean small centres, people who bring others from abroad,	Little offer on trainings for OTs in Chile	Obstacles to access training	Access's obstacles	There are diverse aspects impacting on the lack of training of SBOTs

universities and it is like critical, for real, universities have little offer on trainings for those who work in education				(small offer, cost, and how resources are managed)
I feel that IS is popular because it is one of the institutions dedicated to becoming well known on trainings	IS boom because training is available			
I feel that the 40% of non-trained people, it's not because they don't want to or can't in an economical matter or because they don't like IS, but also, I wonder, what else is there to study?	Cost of trainings Lack of offer			
I think that the lack of offer regarding training, plus the economic factor of the cost of the few available, I think that is one of the biggest disadvantages				
it is also alarming, because in the end, that 0% working in centres or schools with PIE or special schools, etc, don't count or can't count on necessary knowledge to be able to do actions that lead to improve not only the quality but the range of the intervention	Lack of knowledge from OTs because of the lack of training			
it is very expensive	Cost of training IS Boom			
I think that not training is because of an economic matter, I don't think someone is not willing to be trained and be a better professional than already is, but on the other side I feel like IS is the boom that everyone wants to be trained on.				
you may have the knowledge but the certificate is required, and the corporation has realized that and prices have risen a lot in comparison to last year's				
regarding trainings in the educational institution, the economic matter comes first, PIE or PIE's coordinator says there aren't funds for trainings	Cost of training and manage of school resources			
resources are not used to train other professionals, the resources used are for sets of evaluations to include children in the programme but not to train you to intervene or for something that contributes from other side				

in that case, IS and TEA's trainings have been completely on me and my own motivation more than the school's motivation				
I think that as IS, we talked about that boom, it's also a requirement lately at schools, generally the OT is the specialist on IS or managing TEA, because of that are the most demanded specializations, but it's curious that there is no interest on training us on DUA, I think it is the framework that should give us directions to be involved in the educational area	IS boom in training because the schools request it	IS training required by schools	Schools' requirements	There are some schools that the training that require from SBOTs is IS training
maybe the IS matter is because it is the boom and everyone wants to do the course and every job you apply for, they require IS training				
COVID				
but now with this new methodology because of the pandemic, it has been the other way to me, it is more meetings and support the kid on every area because they feel it is a little more time but actually it isn't and that happens because of the amount of time and the strict system	More meetings and support children in every area	Benefits of the methodology used to provide support in pandemic times	Virtual methodology benefits	There is a change in the way SBOTs provide their support before and during the pandemic. They have now more meetings, more indirect services, more teamwork, group workshops, which apparently is seen as benefits from the pandemic. Some issues are also involved, with one person sharing that because it was her first year, she didn't have
in my case it depends on interest, it has been a job through time, but today the meetings have been classified, the ones about school's administration from the ones about analysis of specific situations of children, that has been more beneficial in the pandemic context.				
before the pandemic multidisciplinary and now inter disciplinary	Teamwork			
now because of the pandemic I've had to work side by side with the speech therapist, the special needs teacher, some teachers and before the pandemic I used to do my job, we had a very short meeting to talk about some kid and that was it and now the change has been impressive	More work with teachers and other professionals			
personally, I feel that it has changed a lot, there's a before and now, pre pandemic and post pandemic, don't you think?	A change			
everything exposed I've done it somehow and I haven't dimensioned it, but now during the pandemic everything changed, it's an indirect service, I've got a few individual	More indirect services, few individual			

interventions, we do group workshops to deal with everything related to the psychologist, OT and speech therapist in just one intervention	interventions, group workshops			the opportunity to know the school. More work with teachers.
I'm working in a PIE during the pandemic so I never knew if I have a classroom to work or not, I've been to in person attentions and I've realized that I don't have a classroom or so, they asked me for material to buy but I don't know where they will put it because there isn't a room for that, so it's complicated	Lack of knowledge regarding resources because of the close of schools			
what colleagues saya and now what the change transformation of the OT's work strategies, but as I can contribute as team work, classroom team and PIE team, in pandemic, even though I don't have direct attention with the students, but now the OT is the parent, we have tried to complement sessions all together so that has been very positive, so I know the speech therapist's work, the special needs teacher, what the tutor can support me with, the social worker and psychologist support me, in that sense is very important to know the role of each colleague and also you get engaged in and offer help.	More teamwork which allows to know more of the role of others and to access support			
	Co-therapists are parents			
The positive aspect of the pandemic is that parents have engaged a lot better to sessions, they've taken the co therapist role, even working from home I've had progress on children but it is because of the parents commitment, which is bigger than last year's, but there are also cases of children who have no progress because they have connection problems, we give them devices or bring them the material but even when we call the parents to monitor they don0t answer the phone, I lost track of a kid for a month because the mother would not answer, she did, I visited them and the last two days she has sent me videos, pictures of all the work she has been doing, we have congratulated her despite her behavior so we continue to work and not lose her.	Parents more engaged	Parents as co-therapists		Another benefit from the change of methodology because of the pandemic was that parents act as co-therapists which in most of the cases have result in more engagement
	Connectivity problems			

now I work in person with one of them because working online the kid suffered epilepsy and collapsed, I do it in person with a classroom assistant and as I do the session I explain her why I do an activity, what I'm looking for, so the assistant is very excited, she stands besides me and gets involved in the game and everything.	Students' characteristics do not support online provision	Issues of online support	Issues of online support	Some of the problems faced by these SBTs have been the lack of connection, and with some students the online support is not possible due to their conditions or characteristics
now the topic of the observations is much more complex because observing a kid in an online class, how they perform is complex, because now they start with their cameras turned off and many schools have different forms, but, as an example, but, what has been very useful for me is the contact with parents, the evaluations done by questionnaires or that sort of things, through the screen, you can give all the information to the parents without a report, it is more personalized, it gives you more time, which I think has helped, it sort of opened a door.	Observation complexity in a virtual methodology Parents role in assessing their child Personalised	Assessment problems and opportunities	Assessment	The way to assess students have changed, and conducting observation now is more difficult. However, parents play a key role in this which allowed OTs to assess in a more personalised way. Some assessments are difficult to conduct online.
Now in the pandemic, they asked us to close the semester without evaluating, I asked myself "how are we going to do this?" the PIE coordinator told us "we will try to evaluate certain objectives" out of all the objectives you propose, check the urgent ones and what you can actually evaluate on the kid. What I focused in, during the pandemic work, I ask the kids to brush their teeth, we do a brush your teeth workshop, wash your hands workshop, everything related to hygiene and all those activities related in a game form I evaluated them and also a semi structured report was being done.	Issues of assessments to be modified for a virtual world. Specifications from the school to assess.			

what happens is that special needs teachers, everything changed in the pandemic, the special needs teachers had a very important role in the classroom, but it wasn't the co teaching model, it was more like "you do this and you do that or you do the kids tests and I keep with my work" that was the teacher's attitude, so the special needs teachers have always been trying to apply DUA, the problem is that they haven't accomplished it and now within the pandemic, as teachers are overloaded with online classes, a lot of work has been delegated to special needs teachers, so they are all over DUA and teachers are happy with it so they realized it was much more effective.	UDL opportunities because teachers are overloaded with online classes	Opportunities for UDL	UDL	The online environment has giving diverse opportunities to implement UDL strategies in a broader way, and not only special teachers are in charge of this now.
here at school, happened something similar with students, because teachers were in charge of the school's students and the special needs teachers were in charge of the PIE students, but in online classes the students did DUA, but the students passed the notes to each other and realized they learnt better and easier that way.	Change of roles from special teachers to regular teachers to apply UDL			
trainings are out of site in the school, because of the budget and pandemic everyone reduced their budgets, training has been on my behalf and overall because of TEA, it is always my area of special interest	Reduce budget for training	Training issues and benefits during the pandemic	Training	For some, budget problems have resulted in less training opportunities. But for others have resulted in their incorporation in school staff training.
just this year and because of the pandemic, the principal and the supporter have started to incorporate me to the trainings for teachers, they incorporate the speech therapist, special needs teacher, psychologists and me as OT because they are implementing the educational community, so we all have to participate in the trainings and share knowledge under that logic, before that was not done.	Incorporation of OTs in training for school staff			

Appendix 8: Content analysis of focus group data

Groups	Subgroups	Original terms	Translation	No	Total
Systemic factors					
Resources	Time	Tiempo	Time	88	88
	Infrastructure	Aula	Room	72	97
		Espacio	Space	25	
	Economic	ingresos	Income	21	31
		Economico	Economic	10	
	Materials	Material	Materials	10	10
Institutional rules	School governance	Municipal	Municipality	11	21
		Corporación	Corporation	10	
	Programmes	Programa	Programme	20	97
		PIE	SIP	77	
	Class groups	Clase(s)	Classes	85	131
		Curso		46	
Caseload		Casos	Cases	113	113
		Horas	Hours	42	
		Carga	Load	16	
Students Characteristics					
Diagnoses		TEA	ASD	38	38
Difficulties	Motor skills issues	Motricidad	Motor	21	61
		Motoras		24	
		Finas		16	
	Cognitive	Cognitivo	Cognitive	10	10
	Behaviour	Conductual	Behaviour	13	23
		Comportamiento		10	
	Social	Social	Social	23	23
	Executive	Ejecutivo	Executive	16	16
	Language	Lenguaje	Language	16	15
Family dynamics		Familias	Families	21	89
		Padres	Parents	19	
		Papas		20	
		Apoderados	Caregivers	19	
		Cuidadores		10	
Pandemic factors					
(Key terms)		Cambio	Change	30	52
		Pandemia	Pandemic	22	
Professional factors					
Models	UDL	DUA	UDL	99	170
	Theoretical	MOHO	MOHO	38	
	Reference	Sensorial	Sensorial	33	
Training		Capacitarse	Get trained	81	97
		Formación	Preparation	16	
Legal absence		Decreto/ley	Decree/law	26	26
Assessment	Tools	Encuesta	Survey	20	106
		obersevar	Observation	50	
		Estandarizada	Standardised	36	

Groups	Subgroups	Original terms	Translation	No	Total
Activities	Types	Talleres	Workshops	26	81
		Juego	Play	35	
		Jugar		20	
Personal factors					
Expectations	Teachers	Profesores	Teachers	118	194
		Docentes		40	
		Profes		36	
		Diferenciales	Special teachers	42	42
	Other EAs	Fono	Speech Therapist	26	
		Psicólogo	Psychologist	26	
		Asistentes	Assistants	42	
Teamwork	Team types	Transdisciplinario	Transdisciplinary	10	48
		Multidisciplinario	Multidisciplinary	15	
		interdisciplinario	Interdisciplinary	23	
	Manners	Reunión	Meetings	51	51
	Work environment	Ambiente	Environment	15	15