

Exploring Inclusive Practices for Students with Autism Spectrum Disorders in Mainstream Classrooms: A Case from New Zealand

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Abstract: This qualitative study investigated how Resource Teachers: Learning and Behaviour (RTLB) provide inclusionary support for students with autism spectrum disorders from Year 1 to Year 10 in mainstream classrooms in New Zealand. Data was collected through in-depth semi-structured interviews with the eleven purposefully selected RTLBs. They reported that they used: i) a three-tiered support model, ii) facilitated professional learning and development for teachers; and iii) provided differentiated resources as inclusionary strategies for students with autism spectrum disorders in the mainstream classroom. The recommendations and limitations of the study were also discussed.

Keywords: RTLB; Three-tiered support model; Autism spectrum disorders; Mainstream classrooms

1. Introduction

Resource Teachers: Learning and Behaviour (RTLB) are specialist, itinerant teachers who work collaboratively across a number of schools to support and build teachers' capability in relation to meeting diverse learning needs in line with the inclusive education approach (Ministry of Education, 2023). RTLBs work with parents and other agencies that provide services for schools to identify needs and resources and design a collaborative support plan in line with a strengths-based approach to educating children with special needs, including

those with autism spectrum disorders (MoE, 2023). Also, RTLBs concentrate on assisting Mori and Pasifika pupils as well as children and teenagers who are entering state custody (MoE, 2023). The Education Review (2018) reported that the RTLB service is responsible for offering services for teachers to up-skill their teaching skills for teaching students with diverse learning needs, including students with autism spectrum disorders, in inclusive classroom settings in New Zealand.

Autism spectrum disorder is a neurodevelopmental disorder that affects communication, social development,



ritualistic behaviour, and resistance to change (American Psychiatric Association, 2013). In other words, autism is a lifelong underdevelopment condition that could affect people with autism spectrum disorder's thinking, behaviour, and communication with other people. This means people with autism spectrum disorders may have communication impairments, social interaction impairments, as well as restricted and repetitive patterns of behaviour (American Psychiatric Association, 2013).

Students with autism spectrum disorders may have delays or difficulties in speech, language, and understanding others because they may find it hard to communicate what they want. They may use language in an unusual way (such as tone, pitch, and accent, including being overly formal or repeating words or phrases) (American Psychiatric Association, 2013). They might struggle to comprehend nonverbal cues including gestures, body language, and facial expressions. They can have trouble following directions and can take information and instructions very literally.

Students with autism spectrum disorders may not be interested in other students, they may not join in play with other students, and they tend to prefer to play alone. Students with autism rarely bring toys and objects to share or show other students. They may have difficulty responding to other people's greetings. They could struggle to understand social norms and deal with social circumstances. They could struggle to comprehend and process the feelings, ideas, or behaviours of others. They may have difficulty making eye contact with others.

Students with autism spectrum disorders may have restricted repetitive patterns of behaviour, interests, or activities. They may have a strong preference for routine, and they may be upset if their regular timetables are interrupted. They may have difficulty adapting and adjusting themselves to new environments. They could have poor motor skills, poor problem-solving, and poor organisational skills.

Teachers typically use several teaching strategies to teach students with autism spectrum disorders, such as structured teaching programmes, social stories, visual cues, sensory corners in the classroom, and using assistive technology to deliver course content in the classroom (Autism New Zealand, 2020; Bevan-Brown & Dharan, 2016). The structured teaching-

learning programme can support students with autism spectrum disorders because the teaching and learning curriculum is differentiated to meet the learning needs of students with autism spectrum disorders (Attwood & Garnett, 2022; Dettmer *et al.*, 2000; MoE, 2023). Peer support in group work can support students with autism spectrum disorders' inclusion in the classroom (Dillon *et al.*, 2016; Ferraioli & Harris, 2011; Padmadewi & Artini, 2017) because it can help to build a culture of acceptance of students with autism spectrum disorders in the mainstream classroom (Altogether Autism, 2023; Attwood & Garnett, 2022). Similarly, the Ministry of Education, New Zealand (2023) suggested five strategies for inclusionary practices for students with autism spectrum disorders. These are: i) support for communication, ii) foster social interaction, iii) minimise sensory challenges, iv) support positive behaviour for learning approaches, and v) support self-management strategies.

However, several researchers reported that teachers experienced challenges in supporting students with autism spectrum disorders in mainstream classrooms (Harrocks, White, and Roberts, 2008; Humphrey & Lewis, 2008). Teachers were reported to face challenges in classroom instruction, managing behaviour, teaching social skills, and designing inclusive classroom environments for students with autism spectrum disorders in mainstream classrooms (Bowe, 2004; Lindsay *et al.*, 2012; Wilmshurst & Brue, 2010).

There is a significant gap in the application of inclusionary practices to support children with autism spectrum disorders in the mainstream classroom, despite some studies on supporting students with autism spectrum disorders in the classroom. As a result, classroom teachers may need support from specialist teachers while teaching and supporting students with autism spectrum disorders in the classroom because the classroom environment is busy, loud, and crowded, and students with autism cannot cope with the classroom environment (Lindsay *et al.*, 2012). Meeting the needs of students with autism spectrum disorders requires creating inclusive and welcoming environments where every student can actively participate, contribute, and engage as a valued member of the classroom (Eldar, Talmor, and Wolf-Zukerman, 2010; Florian & Black-Hawkins 2011; Humphrey & Lewis, 2008; Humphrey, 2008).

Studies have focused on teachers' attitudes and

perceptions regarding inclusive education of students with disabilities, teaching practices, and inclusive classroom culture (Author, 2018; Florian & Black-Hawkins, 2011; Humphrey & Lewis, 2008). However, there is little research on how Resource Teachers: Learning and Behaviours (RTLBs) provide inclusionary practice for students with autism spectrum disorders in mainstream classroom settings. Thus, the current study explores how RTLBs provide inclusionary support for students with autism from Year 1 to Year 10 in mainstream classrooms. This study specifically aimed to answer the following research question.

How do RTLBs provide support for students with autism in mainstream classroom settings in New Zealand?

Although this research is based on a case study from New Zealand, it is possible that the findings can help to support specialist teachers, teachers, students, and parents in creating inclusive practices for students with autism spectrum disorders in mainstream classroom settings globally. Also, findings of the study could offer effective support system for students with autism spectrum disorders by understanding local socio-cultural contexts.

2. Literature Review

2.1 Inclusive Education

The term ‘inclusive education’ refers to an approach that provides universal educational opportunities to uphold each student’s rights in the classroom (Author, 2018). In line with this, the Ministry of Education, New Zealand defines that “all learners are welcomed by their local early learning service and school, and are supported to play, learn, contribute and participate in all aspects of life at the school or service” (MoE, 2020). This means inclusive education provides learning opportunities to all students including students with disabilities by restructuring school policies, culture and practices (Florian & Black-Hawkins, 2011; MoE, 2020).

2.2 Three-tiered Support Model

The three-tiered support model is also known as the Response to Intervention (RTI) model (MoE 2012). RTLBs follow this model in their practice because it provides a framework with evidence-informed strategies in line with an ecological model of practice for whole-school strategy to enhance student learning outcomes (MoE 2020).

Making the necessary changes to teaching and learning is made easier for teachers and educators when they use the model. This model assumes that the appropriate levels of assistance are in place for students and a group of students by incorporating inclusive teaching and learning techniques that are advantageous to all students including students with autism spectrum disorders (MoE 2020). This model is flexible to apply because interventions and supports can be used from any of the three tiers at any time (MoE 2012).

Tier 1 refers to universal level support for students (e.g., specific, targeted teaching as part of the learning programme, frequent progress monitoring, flexible groups for differentiated learning). Tier 2 focuses on targeted level support for a group of targeted students (e.g., intensive instruction in identified area(s) of need, sometimes from a support teacher, frequent individual progress monitoring, and extra support, which may be 2–3 hours a week). Tier 3 refers to individual-level support for specific students (e.g., personalised, multisensory, structured, and sequential for individual student.). The specialist teachers such as Resource Teachers of Literacy, Educational psychologist, Speech Language Therapist and Resource Teachers of Learning and Behaviour may be involved to provide support for students.

2.3 Provide Professional Learning and Development

Facilitating professional learning and development (PLD) on inclusive and special education for school leaders, teachers, teacher aides, students, and parents is a key responsibility of RTLBs (MoE, 2020). RTLBs offer PLD about learning and behaviour for students with neurological disorders (e.g., students with autism spectrum disorders) for school principals, Special Education Needs Coordinator (SENCo), Learning Support Coordinator (LSC) teachers, and teacher aides (Williams, 2016). RTLBs typically concentrate on three essential areas (e.g., social techniques, behavioural strategies, and teaching strategies) while facilitating PLDs on autism spectrum disorder.

2.4 Social Strategies

Researchers claim that social skills are the most effective way to manage students with autism’ behavioural issues if they are taught within the natural environment (Fleury *et al.* 2014; Murray 2015; Ostmeier and Scarpa 2012). Social skills can provide an opportunity for imitative skills and observation skills for students with autism spectrum disorders, as well as help them get support

from their peers and tutors. Similarly, if computers and iPads are wisely used, they can be useful tools for positive social interactions for students with autism (Jacklin and Farr 2005). Thus, teachers could use playful imitation computer applications and games that are designed to improve social skills for students with autism spectrum disorders because the use of computers can encourage students with autism spectrum disorders to turn-taking with a teacher/peer/parent (Jacklin and Farr 2005). Thus, with the support of social stories and assistive technology (e.g., iPads) teachers and parents can teach and train students with autism on social skills such as imitating and responding to social interaction.

2.5 Behavioural Strategies

Students with autism spectrum disorders might display problematic, challenging, and aggressive behaviour (e.g., difficulty in listening to their teachers and following instructions, self-harm, difficulty following classroom rules, and repetitive disruptive behaviour) (Ostmeyer and Scarpa 2012). Instructional and behavioral supports from behavioural therapists, educational psychologists, and clinical psychologists are put in place to assist students with spectrum disorders (Fleury *et al.* 2014). Additionally, the use of technological interventions such as iPads is an effective intervention for decreasing challenging behaviours in the classroom (Neely *et al.* 2013).

2.6 Teaching Strategies

Using assistive technology (e.g., computers, iPads), universal design for learning, inclusive pedagogy, detailed instruction, visual support, cooperative teaching, and a structured teaching approach are a few selected teaching strategies that can be used to teach students with autism spectrum disorders (Author 2022; Autism New Zealand 2020; MoE 2023a). In other words, the structured teaching refers to reciprocal teaching, direct instruction, direct teaching (Finnegan, 2019) and Treatment and Education of Autistic and related Communication -handicapped Children (TEACCH). The TEACCH approach is a strength-based that provides teachers to adapt learning opportunities (Mesibov *et al.* 2005). However, this research is not fully based on the TEACCH approach.

Using computers can be a useful tool for teaching literacy and language skills (e.g., listening, speaking, reading, and writing) and numeracy skills. Jacklin and Farr (2005) reported the benefit of using computers

with students with autism spectrum disorders in the classroom because they provide a “visual impact on what they are learning” (p. 208). While completing academic tasks, students with autism spectrum disorders may gain a sense of predictability, confidence, and self-control (Murray 2015).

Detailed instruction with a breakdown of tasks into manageable steps and visual and verbal prompting is a key teaching strategy for students with autism spectrum disorders to acquire literacy and numeracy skills (Murray 2015). Providing “clear explanations of the skill or task sequence, modelling, guided practice, and multiple opportunities to independently practice and apply the learned knowledge” is essential when teachers teach literacy skills to students with autism spectrum disorders in the classroom (Fleury *et al.* 2014 p. 72).

An inclusive pedagogy refers to three theoretical assumptions: i) a shift in teaching and learning from an approach that works best for most learners towards one that involves the development of a rich learning opportunity that is made available to everyone; ii) a rejection of deterministic beliefs about ability; and iii) a way of working with others that respects every learner as a full-fledged member of the class (Florian and Black-Hawkins 2011). The inclusive pedagogy creates learning opportunities for everyone, including students with autism spectrum disorders, by rejecting deterministic beliefs about ability as being fixed and the associated idea that the presence of some will hold back the progress of others. It encourages the development of new ways of working for all students.

Similarly, Baines and Yates (2018) found four key strategies to support students with autism in New Zealand. These are: i) collaborative problem-solving; ii) knowing the whole child; iii) establishing a positive home-school partnership; and iv) abandoning deficit theorising. This is supported by Bevan-Brown (2010), who recognised that building a strong home-school partnership is a key technique for impacting the academic success of students with autism.

Teachers can use inclusive pedagogy to teach students with autism spectrum disorders in the classroom by adapting and scaffolding teaching strategies to cater to their needs. Peer-mediated groups: educating peers; staying; playing and talking; and circle of friends are some specific strategies that can support peer inclusion of students with autism (Autism New Zealand 2020). These strategies are more beneficial for

teaching other students in the classroom how to support and include students with autism spectrum disorders in group activities so they can participate, engage, and contribute in the classroom.

3. Theoretical Framework

The author draws on the concept of Universal Design for Learning (UDL) (CAST 2018) as a theoretical framework for the current study. The three UDL principles and guidelines assist in enhancing learning, including for students with autism spectrum disorders. According to students' interests and learner variability, teachers can select certain guidelines to apply in their teaching and learning activities (Rao and Torres 2016). The UDL framework has three principles: i) multiple means of engagement; ii) multiple means of representation; and iii) multiple means of action and expression.

The multiple means of engagement principle offers choices for developing likes, purposes, and self-regulation among students. The multiple means of representation principle is structured to assist learning through recognition networks and provide multiple ways of representing the curriculum. The multiple means of action and expression connect to strategic networks in the brain, and they play an important role in language learning and skill development (CAST 2018). This study used the UDL as a theoretical framework because it supports inclusion and values outlines by Florian and Black-Hawkins (2011) and structured teaching approach. The UDL provides opportunities for engaging, participating, and contributing to teaching and learning activities for all students, including students with autism spectrum disorders, in the same classroom by challenging

the dominant construction of language, pedagogy, curriculum, and assessment practices in schools (Author 2022; CAST 2018; Florian and Black-Hawkins 2011). The structured teaching approach is consistent with the UDL approach and inclusive pedagogy because the structured teaching focuses on students' strengths and providing learning opportunities for all students by accommodating the curriculum.

4. Methods

This study was undertaken to explore how Resource Teachers: Learning and Behaviours' (RTLBs') use inclusion practices to support students with autism spectrum disorders in mainstream classrooms from Year 1 to Year 10 in New Zealand. In order to achieve this purpose, this research adopted a qualitative case study (Creswell & Poth, 2016; Yin, 2018). Purposeful sampling was used to select research participants because it helped us collect rich, in-depth information from participants (Patton, 2002) about supporting students with autism spectrum disorders in schools. The study recruited eleven research participants, RTLBs, for in-depth interviews (Creswell & Guetterman, 2019).

4.1 Research Participants

The research participants of this study included Resource Teacher Learning and Behaviours (RTLBs) who were working in Auckland, New Zealand. Eleven RTLBs (N = 11, Male = 4, and Female = 7) were purposely recruited for this case study. Data were gathered using face-to-face interviews, online interviews via Zoom meetings, and online survey questionnaires. **Table 1** presents the demographic information of the research participants.

Table 1. Demographic Information of Research Participants

Participant Name	Qualification	Teaching Experience
Max	Master in special education	15 years
Tim	BA and postgraduate in specialist teaching	3 years
Jenny	Postgraduate in specialist teaching	5 years
Annie	Master in psychology	3 years
Mel	Postgraduate in specialist teaching	16 years
Mary	Postgraduate in specialist teaching	5 years
George	Postgraduate in specialist teaching	3 years
Monica	Postgraduate in specialist teaching	4 years
Alohi	Postgraduate in specialist teaching	5 years
Nikita	M.Sc. & postgraduate in specialist teaching	3 years
Chris	Master in psychology	4 years

*Research participants were given pseudonyms to protect their identities.

4.2 Data Collection Tools

Semi-structured in-depth interviews and online survey questionnaires were methods of data collection for this study. Consent was obtained from research participants before data collection. Then, the researcher conducted semi-structured interviews either face-to-face or online-Zoom meetings according to the agreed time and place. The data from four research participants was obtained in face-to-face mode, whereas five research participants were interviewed online using Zoom Meetings. The two research participants responded to the interview guiding questionnaire in the Google survey forms. The interview was recorded on the researcher’s laptop. The semi-structured in-depth interviews were employed to collect data through face-to-face and online modes because these modes provided flexibility for research participants. Also, it helps to build rapport with participants, provide opportunities to seek clarification about participants’ understandings of issues, and obtain enough information (Taylor *et al.* 2016). Particularly, the following questions were used as guiding questions in interviews:

- Explain your experience and ideas about inclusive

education.

- How do you define students with autism spectrum disorders?
- How do you provide support for students with autism in mainstream classroom settings in New Zealand?
- How do you offer PLD for teachers on teaching students with autism spectrum disorders?

4.3 Data Analysis

The researcher listened to the recorded audio-video interviews several times before transcribing them for analysis. Then the data were thematically analyzed following the form of thematic analysis proposed by Braun and Clarke (2006). This thematic analysis is easy to apply to a wide range of research questions, and it provides a systematic procedure that is simple to follow, makes provision for the analysis of data, and has theoretical flexibility (Braun & Clarke, 2006). Familiarizing oneself with the dataset, generating initial codes, searching for themes, revising themes, defining themes, and presenting themes were used recursively during the data analysis (Braun & Clarke, 2006).

Figure 1 presents the data analysis framework.

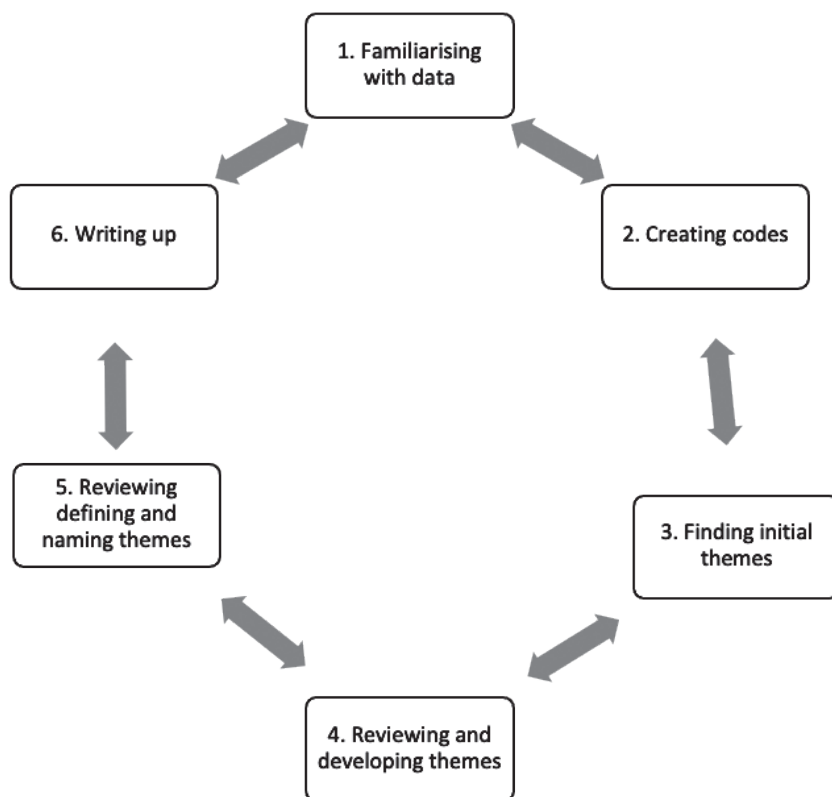


Figure 1 Data analysis framework

The researcher wrote a detailed analysis and the accompanying story for each theme presented after following the six phases of the thematic data analysis framework. Then the author did an in-depth analysis of each theme to determine whether a theme and its sub-themes clearly described the essence of the research participants. Finally, the author merged six themes into three. In order to retain validity, research participants' voices have been presented in the first-person narrative, and their viewpoints and first-hand accounts have been described in terms of supporting students with autism spectrum disorders in mainstream classes. Three broad themes emerged from the data, including a three-tiered support model, providing professional learning and development, and offering differentiated resources. Each theme is discussed in the following section.

5. Results

Three core themes emerged from the data: Three-tiered support model; Provide professional learning and development on autism; Offer differentiated resources. The second theme included four subthemes: (i) social strategies; (ii) learner profile; (iii) behavioural strategies; and (iv) structured teaching approaches.

5.1 Three-tiered Support Model

The findings of the study demonstrated that the majority of research participants, RTLBs, followed a three-tiered support model while providing support for students with autism spectrum disorders. Nikita, states, "I follow a three-tiered support model in my casework because it offers me the flexibility to find out possible solutions that support the mokopuna's needs. Chris, Jenny, Mel, and Tim, corroborated this. Tim highlighted the importance of this support model. He says, 'This framework-Tier 3 support model helps me collect information about the strengths and needs of students if I have to focus on a group of students with similar needs.' Mel, explains,

This support model- Tier 3- offers her an inclusive environment where everyone's views and voices are heard, felt, valued, and respected when she works with individual cases. Tier 3 interventions include behaviour plans or learning plans [e.g., Behaviour Education Plan (BEP) or Individual Education Plan (IEP)] that contain individualised interventions, such as differentiated work by outcome.

Mel's comments reveal that RTLBs follow three-tiered support models while supporting students with autism spectrum disorders.

5.2 Provide Professional Learning and Development (PLD) on Autism

The findings of this study revealed that the majority of research participants were committed to offering professional development training and resources for teachers on how to support and cater to the learning and social-emotional needs of students with autism spectrum disorders. Specifically, they provided PLD for teachers, teacher aides, and parents on social strategies, behavioural strategies, and teaching strategies.

The majority of research participants reported that they offered professional development training for teachers on teaching students with autism to enhance their inclusion in the mainstream classroom. Monica explains her experience:

I notice that teachers need professional training on teaching students with autism...because the training helps teachers know how to include children with autism in the mainstream classroom... as well as create resources (e.g., a visual timetable, social stories, and assistive technology).

This is supported by Mel, Mary, and Annie. Mel says, 'Workshops help to build teachers' confidence levels to teach students with autism'. Similarly, Annie finds that 'offering refresher training on autism for teachers' is helpful'. Mary states, 'I provide PD for teachers, teacher aides, and whole school staff on how to support students with autism in the school setting'. Likewise, George describes, 'I facilitate autism PD for teachers and teacher aides on sensory regulation... and share PD website links with them...'

Comments received from these participants signal that RTLBs facilitate and provide professional learning and development training on autism for teachers, teacher aides in the school to meet the needs of students with autism spectrum disorders.

5.3 Social Strategies

Approximately more than half of research participants, RTLBs, recommended curating social stories and learner profiles of students with autism spectrum disorders with photos. Tim said, 'I recommend and curate social stories on how to wear a face mask

during the COVID-19'. Jenny was supported. Jenny advised teachers 'using of self-regulation strategies, clamming techniques and pre-warning on any changes in students' daily routine.' Similarly, Monica strongly recommended teachers to, do 'social stories activities in the whole classroom to improve social skills for all students, including students with autism spectrum disorders, such as facial expression and feelings- sad, happy, angry'. Alohi suggested teachers use social coaching - relating to others. Jenny advised teachers to use Lego Therapy in the class'.

5.4 Learner Profile

The majority of research participants, RTLBs, recommended teachers to make a learner profile that included all information about students (e.g., learning needs, strengths, and individual needs). They also followed the one plan or collaborative action plan. Mary states, 'I read and learn the student's positive things that he/she can do rather than what she/he cannot do'. This is supported by Chris. He highlights 'I read and follow learner profiles to understand students' needs. I also focus on raising awareness about autism spectrum disorders for other students so that they can support and include students with autism in classroom activities.' Similarly, Tim shares, 'I follow a collaborative plan if a student has one, and I focus on the student's strengths while designing an intervention plan to cater to the needs of students with autism spectrum disorders.'

5.5 Behavioural Strategies

The majority of research participants, RTLBs, reported that they provided behaviour support strategies for teachers, students with autism spectrum disorders, and parents. Visual support, incredible year training, sensory support, circle of friends, social stories, self-regulation strategies, teaching social skills, de-escalation strategies, time-out strategies, giving choices, giving incentives, and using Teacher Aide (TA) support were recommended strategies.

Annie explained, 'I advise teachers and parents to attend Incredible Years Training for parent and teacher'. Mel highlights, 'I suggest teachers use the sensory needs of the child and use social stories to manage disruptive behaviour by following his/her health and safety plan if he/she has'. Monica employs visual support by 'providing timers.' This is supported

by Tim. He recommended teachers and parents 'using visuals, chew toys, social stories, and timers.' Nikita, and George recommend physical classroom accommodating strategies. They advised teachers to focus on breakout space for managing anxiety or tasks in their own space, visual timetables, own stationery, own chair and desk, changing lights, changing noise labels, and classroom colour.

5.6 Structured Teaching Approaches

This study finds that approximately half of the research participants used structured teaching strategies in line with the Universal Design for Learning (UDL) and inclusive pedagogy (Florian and Black-Hawkins 2011) by focusing on students' strengths and abilities. Structured teaching methods refer to a structured daily timetable/routine, collaborative planning, curating of resources, and inclusive teaching strategies to enhance students' motivation (Lindsay *et al.* 2014).

Alohi, states, 'I suggest structured teaching strategies, a visual timetable, a peer/buddy system, and a fidget toy.' This is supported by Tim, Chris, and Max. Max states, 'I present resources in multiple forms (e.g., audio-video and graphic forms) to create learning opportunities for students with autism spectrum disorders.' Tim says, 'I suggest teachers to use language activities, differentiating tasks into chunks, cooperative learning strategies, and individualised programmes in line with Universal Design for Learning (UDL) strategies. 'Chris describes the importance of a buddy system on a rotational basis that can help to build positive relationships for students with autism in the classroom. Nikita states, 'I recommend teachers to adapt autism-friendly classroom communication strategies because it increases students 'ability to comprehend. These communication techniques are in lined with UDL (e.g., use multiple media for communication).'

Monica states, 'I focus on the rule of five: fewer than 5 words, wait 5 seconds, use the student's name first, give positive direction, give warnings before an activity finishes and apply 'first' and 'then' to describe sequences.' Similar view is presented by George. George says, 'I use visual supports (e.g., visual daily timetables) and strengths and interests of students. The visual supports can help make language more understandable for students with autism spectrum

disorders.’ Likewise, Nikita, recommended to use clear instruction and speaking slowly that provides time for processing with students with autism spectrum disorder’. Nikita offered ‘instruction in simple language’. Mel and Mary suggested using ‘communication- e-diary- to communicate between home and school’.

Comments received from research participants indicate that they provided training on how to develop, design, and use communication strategies for students with autism spectrum disorders.

This study finds that RTLB offers differentiated resources and assistive technology support for teachers to cater to the learning needs of children with autism spectrum disorders. George reports, ‘After need analysis of children with autism, I apply for the Learning Support Funding (LSF) application in my RTLB cluster to purchase resources (e.g., noise cancellation headphones, Lego, sensory resources, reading pen, etc.). Alohi confirms this. She says,

With the consultation of parents, students, teachers, and teacher aides, I curate resources according to the needs of students in the mainstream classroom (for example, a visual timetable, sequence flashcards, etc.). I also apply for an assistive technology application in the Ministry of Education for assistive technology support (e.g., a laptop, noise cancellation headphones, clicker writer, etc) if needed to cater to learners’ needs...

Nikita says, ‘I use iPads, noise cancellation headphones, a writing toolbox, YouTube videos, and Speech-to-Text because these technological tools help to differentiate the curriculum for students with autism spectrum disorders.’

According to George, Alohi, and Nikita, they curated resources and applied for LSF funding to purchase resources in the RTLB cluster. They also applied for an assistive technology application for technological support at the Ministry of Education.

6. Discussion and Conclusion

This study explored RTLBs’ strategies for inclusionary practices for students with autism spectrum disorders in mainstream classrooms in New Zealand. The findings highlighted that RTLBs used three strategies to support students with autism spectrum disorders. These were: i) a three-tiered support model, ii) providing professional

learning and development training on autism, and iii) curating differentiated resources. It was evident among the participants that these strategies influenced RTLBs’ inclusionary practices. This finding is consistent with earlier research studies (Autism New Zealand 2020; Bevan-Brown 2010; Fleury *et al.* 2014; Gray 2018, 2000; Murray 2015; Ostmeyer and Scarpa 2012; Saad 2016). They found that social stories were used to improve many types of behaviours in children, including those with autism (e.g., prosocial behaviour, social communication, conversational skills, on-task behaviour etc.). Reichow and Saborine (2009) reported that a social story and visual support were used to increase the frequency of acceptable verbal greetings with an 11-year-old student with a high-functioning autism condition.

In line with Autism New Zealand (2020), the findings of this study reveal that RTLBs provided PLD for teachers and teacher aides on visual support, rule of 5 and sensory regulation strategies, to accommodate the sensory needs of students with autism in the classroom. This is further supported by Singh (2019). She emphasized that one of the strategies that would help teachers better support students in classroom settings is ongoing professional coaching and professional learning and development regarding teaching students with autism spectrum disorders.

This study found that research participants used structured teaching approach in line with inclusive pedagogy, where every student gets an opportunity to actively engage, participate, and contribute in the mainstream classroom. This finding is consistent with Macdonald *et al.* (2018). They investigated the use of visual schedules and a work system to assist four students with autism in remaining focused and working independently in an Australian classroom setting. All research participants showed improvements in their on-task actions. Other secondary dependent variables yielded a mixed bag of results, with some students exhibiting decreased off-task behaviours and higher productivity. This research also demonstrated that the RTLBs used a range of strategies, such as peer-mediated learning, knowing the whole student, and establishing a positive home-school relationship, to support teachers and students with autism, which is consistent with other studies such as Autism New Zealand (2020), Baines and Yates (2018) and

the Ministry of Education (2023). The Ministry of Education, New Zealand (2023a) recommended: i) support for communication, ii) foster social interaction, iii) minimise sensory challenges, iv) support of positive behaviour for learning approaches, and v) support of self-management strategies as teaching strategies for students with autism spectrum disorders. Similarly, this finding is consistent with Autism New Zealand (2020) and Kalyva and Avramidis (2005). They found that the ‘circle of friends’ is an effective intervention that can improve the communication and social skills of students with autism in mainstream classroom settings if utilised wisely.

The findings of this study demonstrated that RTLBs followed the Universal Design for Learning (CAST 2018) and inclusive pedagogical philosophy (Florian and Black-Hawkins 2011) while supporting students with autism in the mainstream classroom. RTLBs used three principles of universal design for learning in their practice in line with an inclusive approach. These principles are i) multiple means of representation; ii) multiple means of engagement; and iii) multiple means of actions and expressions. Research participants, RTLBs, followed inclusive pedagogy (Florian and Black-Hawkins 2011) because RTLBs believe that inclusive pedagogy creates learning opportunities for all students, including students with autism, in the mainstream classroom.

In conclusion, this research examined how RTLBs provide inclusionary support for students with autism spectrum disorders from Year 1 to Year 10 in mainstream classrooms in New Zealand. As this study demonstrated, research participants used a three-tiered support model, provided PLD training on autism (e.g., social strategies, behavioural strategies, and teaching strategies), and offered differentiated resources to support students with autism spectrum disorders because teachers have to offer learning opportunities for all students including students with autism in the mainstream classroom (MoE, 2020). Specifically, the findings of this study signal three recommended strategies that were successful in supporting students with autism in the mainstream classroom. These are: i) following a three-tiered support model; ii) providing PLD for teachers on how to support and teach students with autism: a) social strategies; b) behavioural strategies; and c) structured teaching approaches; and

iii) providing resources.

7. Suggestions for Further Research

This study is limited to a qualitative case study of eleven Resource Teachers: Learning and Behaviours (RTLBs) who worked at seven RTLB clusters at Auckland in New Zealand. The findings of this article may not represent all New Zealand RTLBs. Thus, findings may not be necessarily generalisable, although the findings could be validated by using quantitative tools for a large-scale study. Further research involving larger samples would help gain in-depth information about RTLBs’ perspectives on employing inclusionary practices while supporting students with autism spectrum disorders in mainstream classrooms.

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