The first section of my report will focus on my personal journey, including my aspirations for supporting the development of neurodiverse students and other marginalized groups, and how I arrived at my current role as a faculty learning and teaching advisor. The second part of my report will provide three thought pieces that explore insights I gained throughout my study, synthesising the blog posts I created throughout the year. I end my report with a final note of gratitude.

**Part One – My Personal Scholarship Journey**

Initially, my goal was to become an educational psychologist and support neurodiverse students to flourish in the education system. I was passionate about this work and loved working as a teacher aide turned community therapist. Sadly, the pandemic made this job untenable financially for me and I made the difficult decision to let go of my role at the autism clinic. This was quite a low point for me at the beginning of last year – it was filled with a lot of doubt and feelings of guilt for having to divert off my chosen path. I even considered returning the scholarship money, because I was not sure how I could continue my project in good faith.

Instead, I secured a role as a research assistant working for DMIC (developing mathematical inquiring communities) which involved going around many schools in the community and assessing their implementation of a program designed to boost Māori and Pasifika numeracy through a pedagogy that centres around indigenous cultural values. This ended up being a good move for me as I was able to engage with a large number of teaching environments, work with a variety of other research assistants from different backgrounds within the sector and reflect more broadly on issues within the education system. It supported my scholarship project incentives very well.

Through working closely with a community of people supporting neurodiverse students, in marginalised communities, and completing the education and psychology program, I realized that becoming an educational psychologist was not my calling. I observed peers in the field facing high levels of burnout and discussing limitations in making a difference in the education system, due to being spread so thin and having such large complex caseloads. The recent reduction in funding for educational psychology scholarships made it an uncertain and costly career path that I decided was not worth the risk.

In light of these challenges, which were stressful and upsetting at times, I shifted my focus to learning design, recognising the potential to make a broader impact in the education system. Discovering this relatively new and growing field was exciting for me. Through studying learning science in some of my psychology papers, I realised what a different learning designers can make. As result, I now work as a faculty learning and teaching advisor, on the learning design team at Te Herenga Waka. In this job I am creating student learning resources within a tertiary context. I collaborate with academics and the rest of my team to design learning materials and processes that can better support teachers and students.

While my focus has shifted, I still aspire to support neurodiverse students and other marginalised groups in early and primary level education. By working in learning design, I believe I can make a significant impact and contribute to designing more inclusive and accessible education materials and processes for both educators and their students. I'm particularly interested how we might use technology and AI to support neurodiverse learners in human-centred ways. One of my closest friends has completed a masters in UX design and her thesis was specifically how AI can be used to

support neurodiverse people with their emotional literacy. We have been talking about collaborating on a learning design project together with some teachers, therapists, and other specialists, whom I formed connections with during my study and working out in the community.

I am now pursuing a post-graduate certificate in learning design through Otago Polytechnic, alongside my work at the university. Getting to this point would not have been possible, had it not been for my amazing year studying and working within the field of early and primary education, thanks to the generous support of NZEI. Despite the challenges and my career shift, I have not lost my passion for supporting neurodiverse students and marginalised students in their most formative years. I am optimistic about the impact I can make in supporting in them within the education system. I see the potential for collaborating with experts to design learning materials and processes that can better support teachers and students in the mainstream environment and make the roles of educational psychologists and teacher aides more manageable and effective.

**Part Two – Insights Gained**

<u>Essay One – The Challenges of Combining ABA and Play-Based Learning</u>

In New Zealand, the focus of education is on providing students with a well-rounded and enjoyable learning experience. The play-based approach is rooted in the belief that children learn best through play and exploration. It allows students to develop their own interests and skills, and to discover new ways of learning and engaging with the world. This approach is in direct contrast to the principles of traditional ABA, the main therapy used globally to support students with autism. This is a therapy focused on behaviour modification and the use of reinforcement and punishment to shape behaviour.

When working in schools, I noticed a bias against the idea of ABA, and on many occasions, I heard people express the sentiment that ABA was controlling and harmful. The New Zealand school system is often seen as being opposed to the principles of Applied Behaviour Analysis (ABA). I think that this opposition is rooted in a philosophical belief in more of a play-based approach to learning that values individualized learning, creativity, collaboration, and community-based social development over traditional, structured teaching methods that prioritise mastering standards.

A lot of people in our society have concerns about the ethical implications of the therapy. Many critics argue that ABA is often used in ways that are cruel and inhumane, and that it can lead to feelings of shame, guilt, and low self-esteem in individuals with autism. They believe that this type of therapy is not in line with the principles of autonomy, self-determination, kindness, acceptance, and empathy that are central to the New Zealand education system.

In addition, the opposition to ABA in New Zealand is rooted in the belief that it is not effective in promoting long-term growth and development. The play-based approach, on the other hand, is seen as providing students with the opportunity to develop their own unique skills, interests, and passions in a supportive and inclusive environment. This approach is thought to lead to greater academic success, as well as increased self-confidence, resilience, and overall well-being.

Ultimately, the opposition to ABA in New Zealand reflects the wider philosophical beliefs about the role of education in society. The play-based approach is seen as promoting creativity, self-

expression, and individuality, while ABA is seen as being too focused on behaviour modification and control.

This reflects a broader tension between Applied Behaviour Analysis (ABA) and the neurodiversity movement, which is a complex and controversial issue that has been ongoing for many years. On one hand, ABA is a therapeutic approach that is widely used to treat individuals with autism and other developmental disabilities. It is based on the principles of behaviourism and focuses on teaching new skills and reducing problematic behaviours through reinforcement and punishment.

Of all evidence-based treatments that exist for students with autism around the world, ABA is considered the gold standard and the most effective, when it comes to teaching skills and developing independent adaptive behaviours. On the other hand, the neurodiversity movement is a social and political movement that views autism and other neurodevelopmental differences as natural variations of the human brain and not as a disorder or illness. The movement seeks to raise awareness about these differences, promote acceptance, and support the rights of individuals with neurodevelopmental differences.

As mentioned, ABA has been a highly effective therapeutic approach for many individuals with autism, and its popularity has only grown in recent years. ABA practitioners believe that the approach helps individuals with autism acquire new skills, develop social and communication abilities, and reduce problematic behaviours. They also argue that ABA provides individuals with autism with a structured and supportive environment that helps them to develop and thrive, and crucially, to grow their independence.

However, the neurodiversity movement views ABA as a form of oppression that seeks to control and normalise individuals with autism. They argue that ABA focuses too much on changing the individual rather than accepting them for who they are and that it often involves practices that are cruel and inhumane. The neurodiversity movement also argues that ABA does not consider the unique perspectives and experiences of individuals with autism, or value the forms of intelligence and ways of being autistic individuals have to offer the world.

Specifically, one of the key concerns of the neurodiversity movement is the use of punishment in ABA. Punishment can take many forms, including removing a toy or missing out on a potential reward. The neurodiversity movement argues that this can be harmful to individuals with autism. They believe that punishment can lead to anxiety, stress, and other negative mental health outcomes, and that it can also perpetuate harmful attitudes and beliefs about individuals with autism.

However, this is not the whole story of ABA. While this might be true of its roots, like many fields within medicine, it has developed and become more humane over time. Many ABA professionals would argue this interpretation of ABA is reductionistic and does not account for the umbrella term the label has become. For example, there is a branch of ABA called 'naturalistic ABA,' that does not base its programs purely around a structured 'discrete trial training' (a method of incentivised repeated practice of a particular skill in a highly structured and teacher-controlled setting that is associated with traditional ABA). I worked in both a play-based learning context as well as at a behaviourist autism clinic that nested behaviourist principles within a play-based child-centred environment. Through this experience, as well as through studying behaviourism at university and

having long discussions with my lecturer, and ABA expert, I realized that ABA does not have to use punishment at all. In this context, there is space for 'natural consequences,' such as limiting access to a reinforcing item or response in response to aberrant behaviour, whilst remaining neutral, non-punitive, and patient in spirit.

I saw how ABA can be used to clearly identify and reinforce positive behaviours and skills that are learned through play-based/discovery-based learning. For example, if a student learns a new social skill through play, ABA can be used to reinforce and maintain that behaviour. This integration can help to promote long-term growth and development, as well as increased self-confidence, self-reliance, and well-being. I also met young adults who had been through ABA programs of various kinds and spoke positively about the experience. One young person I met went from not being able to communicate or sit still without having a meltdown, to securing a part-time job after two years volunteering with the support of some employment specialists, following a previous two year stay at an ABA based live-in program. He now lives with a flat mate, independently from his parents with the support of in-home support-workers. Achieving this level of independence is very rare for someone in our system and Michael himself attests to how happy and well-adjusted he now feels in comparison to his years prior to this program.

Ultimately, I believe it is important for both sides to engage in open and respectful dialogue, and to work together to find solutions that support the well-being and rights of individuals with neurodevelopmental differences. It doesn't have to be black and white, and certainly isn't – a lot of good teachers use ABA methods without realising, as all ABA is simply the science of how people learn. It's true that this science can be utilised in a controlling and harmful way, but it can also be used in a positive child-centred way, and often is without realising. There are many people on the ground who recognise these nuances. Nevertheless, there remains a rather black and white bias that I have noticed against the therapy, and I believe this limits our system as a whole. To utilise ABA well as a science requires a lot of training and financial investment from government, schools, and parents themselves.

One of the keys here, I believe, is regulation and funding. New Zealand is behind all other countries in the OECD when it comes to funding ABA, and I believe that the uneducated scepticism towards it is a big part of this. An unfortunate consequence of this is that ABA operates on the ground regardless but is often unregulated to an extent that the therapy offered is of poor quality and does the field an injustice, only coming to reinforce the bad reputation it has developed. Also, parents who do find the therapy to be helpful have to take it upon themselves to become the primary therapists and pay for the weight of this task with their own emotional and financial resources.

In conclusion, ABA and play-based learning do not have to be seen as contradictory. While ABA and play-based/discovery-based learning may seem incompatible at first glance, they can complement each other in many ways. ABA provides structure and support, as well as clearly defined plans and steps to progress through to meet a learning goal, while play-based/discovery-based learning allows for creativity and exploration. Personally, I think by combining these two approaches, students with autism and other developmental disabilities can receive the support they need to learn and gain as much independence as possible, while also being encouraged to discover and pursue their passions and interests.

Currently, I have observed a lack of structure and well-articulated learning goals for our students with

the highest needs. This can lead to a huge loss of learning potential. I no longer have any doubt that a change of attitude and increased funding of ABA in New Zealand would support many neurodiverse students who struggle to fit within the mainstream environment. There needs to be a balance between respecting difference and supporting students to become as independent as possible within the flawed system we live within. This is certainly possible if New Zealanders developed a more nuanced and educated understanding of ABA. They are certainly right to be sceptical of certain aspects of the therapy but throwing the baby out with the bathwater in this instance, I believe, seriously limits our potential to use proven scientific methods to better support our highest needs neurodiverse students to learn within a mainstream setting.

## Essay Two – The Challenges of Teaching Students with Disabilities in a Mainstream Context

The mainstream public education model has long been challenged in effectively serving neurodiverse students, particularly those with disabilities. Despite efforts to create inclusive environments, the lack of proper support and training for teachers and teacher aides often results in real inclusion being unattainable. These challenges are further compounded by limited resources and a fragmented approach to providing services and support.

One of the biggest challenges facing neurodiverse students in the mainstream public education system is the lack of one-on-one support. Many students with disabilities require individualised attention and support to help them succeed in a traditional classroom setting, but this is often not available in the current education model. This can lead to students feeling isolated and left behind, which can have negative effects on their academic progress and overall well-being.

Additionally, teacher aides and other support staff are often not properly trained in how to work with neurodiverse students. This can result in support being provided in ways that are not effective or developmentally appropriate, further exacerbating the challenges faced by these students.

Professional development opportunities for teachers and support staff are available, but these programs are often insufficient in addressing the systemic issues that prevent these professionals from working effectively together.

The fragmentation of services and lack of coordination between parents, educators, support staff, and specialists such as educational psychologists and speech-language therapists further complicates the challenges faced by neurodiverse students in the mainstream public education system. The professionals who provide these services are often overworked and spread too thin, making it difficult for them to provide the level of support that students need. Additionally, many of the methods and programs used by these professionals are not evidence-based (such as the very popular “core-board”, which I never once observed being used effectively and doesn’t have scientific research to support its widespread use) and can end up being a waste of time and resources.

Furthermore, the lack of proper special-education teacher training is a significant challenge in the New Zealand public education system when it comes to supporting students with disabilities. In many other countries, specialised programs and courses are available to teach educators how to work with students with disabilities, but in New Zealand, these opportunities are limited. Teachers are often only provided with a single class or module on the topic, which is not nearly enough to equip them with the skills and knowledge they need to effectively support these students. The current training model also

does not allow specialisation, which can further limit the effectiveness of support provided to students with disabilities, as the number of neurodiverse conditions and ways to approach teaching them is complex.

This lack of training can lead to teachers feeling unprepared and overwhelmed when working with students with disabilities, which can result in inadequate support being provided and often major disruption for the rest of the class. Unfortunately, what I have often witnessed is a melting pot of frustration and resentment that often leads to various forms of harm and mistreatment. Rather than being truly included, students with disabilities often sit at the back of the class, frustrated, bored, and sad. The fact that teachers generally do not have the tools and information they need to foster a truly inclusive classroom environment means that, ironically, the stigma and misunderstandings around disabilities is perpetuated. This severely limits the potential of our well- meaning hopes for a truly inclusive mainstream system.

In conclusion, the lack of proper teacher training is a major challenge in the New Zealand public education system when it comes to supporting students with disabilities. Teachers are not adequately prepared to work with these students and are often not able to provide the level of support that they need to succeed. To address this challenge, it is crucial to invest in comprehensive and specialised training programs for teachers, to ensure that they are equipped with the skills and knowledge they need to effectively support students with disabilities in the classroom.

## Essay Three – The Challenges of Developing Culturally Responsive Programs

The implementation of imported programs for students with disabilities in the New Zealand education system can present added cultural challenges. In particular, programs like "The Incredible Years" that originate from the United States can be seen as being culturally inappropriate for the New Zealand context.

One of the main reasons for this is that these programs are developed in a different cultural context, with different values, beliefs, and social norms. For example, "The Incredible Years" is based on a US model of early childhood education and parenting, which may not be directly transferable to the New Zealand context. The program may not take into account cultural differences in communication styles, family structures, and expectations for behaviour and socialisation.

Another challenge with imported programs is that they may not fully understand the unique cultural identities and experiences of New Zealand students with disabilities and their families. Indigenous Māori students may have a different cultural background and experiences compared to students of other cultures. These differences should be taken into account when implementing programs, to ensure that they are culturally appropriate and effective in supporting these students. For example, one of the ways these programs do not fit culturally is through their different understandings of family structures and relationships. "The Incredible Years" is based on a model of the nuclear family, which may not align with the diverse family structures that exist in New Zealand, including single-parent families, blended families, and extended families. This cultural mismatch can impact the effectiveness of the program in supporting families and addressing the unique needs of different family structures.

There is also a class-based cultural issue where a lot of these programs assume that there is a stay-at-

home parent of some kind who has enough time and resources to learn and then implement the therapy in a home-based setting. This is clearly not the reality for the majority of Māori families who experience poverty as a result of structural inequality.

Additionally, imported programs may also not take into account the different legal and policy frameworks in New Zealand, which can impact their implementation and effectiveness. For example, the education system in New Zealand has a strong emphasis on inclusive education, which may not be reflected in imported programs. This could result in programs that do not align with the principles of inclusion and equity in the New Zealand education system.

This is particularly important to address so that inequalities are not further enshrined, especially for underprivileged families who often do not have the resources to engage with therapies or learning strategies, and then also become limited in their ability to support themselves financially, due to the larger number resources required to support neurodiverse students who do not develop effective levels of independence in the long term.

Some people argue that doing so will be spreading ourselves to thin. One academic I spoke to suggested that we should be focusing on developing stronger methodologies and subject-specific knowledge and teaching abilities for our teachers. This all comes back to the issue of the general inadequacy of our teacher-training programs. It is true that when I worked for DMIC, a culturally responsive program that aimed to boost Māori and Pasifika numeracy levels, I saw the limitations of basing a pedagogy purely around cultural responsiveness. While these pedagogies worked well in theory, and a small percentage of teachers could implement them effectively across the large number of classrooms I visited, the reality was that most teachers simply dropped the cultural elements altogether. My take on this was that they didn't have the classroom management skills and subject-specific knowledge required to handle integrating the cultural element of the pedagogy as well. It seemed to be simply too much to manage and think about. In this instance, I felt sad realising that the development of classroom management skills, subject specific knowledge, and ideas of cultural responsiveness all seems so fragmented. After formative teacher training, there is not an opportunity to truly incorporate culturally responsive pedagogy effectively, if they don't already have this embodied within their classroom management toolkit and an opportunity to gain high levels of subject specific knowledge.

While subject-specific knowledge and training teachers are crucial in ensuring quality education, any redesign should consider cultural responsiveness as a key focus. On the odd occasion that I saw the DMIC pedagogy working well, it worked *really* well, and I saw a glimpse of how a thriving Aotearoa-specific education system might look. It is certainly true that research shows students who feel valued and respected in the classroom are more engaged in their learning and have better academic outcomes. This is especially true for students from diverse cultural backgrounds, who may experience a disconnect between their cultural experiences and the education system. By providing teachers with the tools and support to address cultural differences in the classroom, we can help to bridge this gap and create a more inclusive learning environment for all students.

In terms of addressing systemic issues, it is true that simply incorporating cultural responsiveness into education programs may not be enough to solve larger, systemic problems. However, this does not mean that these efforts are pointless. Rather, cultural responsiveness in education should be seen as one piece of a larger puzzle, with the goal being to create a more equitable education

system for all students.

The good news is that these issues are already present within the consciousness of our most cutting-edge educational practitioners in New Zealand. For example, a woman I worked with at an autism clinic was doing her PhD on developing a culturally responsive version of an imported therapy from the US, called ESDM (the Early Start Denver Model). Furthermore, one of the silver linings to New Zealand losing its licence to provide ABA based certifications is that a board of New Zealand based registered ABA practitioners are currently working to develop their own unique certifications and redevelop the therapy into a new form to suit our cultural context. DMIC too, despite its challenges adapting within a system of deep structural inequities and inappropriate teacher training, showed enormous promise in contexts where classroom management, subject specific knowledge, and appropriate adoption of the culturally responsive pedagogy did flow well.

In conclusion, while a more focused approach may be more effective in some cases, cultural responsiveness should not be disregarded or dismissed as unimportant. By addressing cultural experiences and identities generally in our programs and classrooms, as well as responding to class-based issues, we can help to create a more inclusive and supportive learning environment, which is a crucial step in addressing larger systemic issues in education. Specifically, I have argued that the implementation of imported programs for students with disabilities in the New Zealand education system presents added cultural challenges. These programs may not consider the unique cultural context, experiences, and policies in New Zealand, which can impact their effectiveness in supporting students with disabilities. To address these challenges, it is crucial to support the development of programs that are culturally appropriate and reflective of the New Zealand context, to ensure that they are effective in supporting students with disabilities and their families.

**Part Three – A Final Note of Gratitude to the Scholarship Committee**

Thank you so much for your support and the faith you have shown in me throughout this scholarship. It has given me the opportunity to further my goals of advocating for and supporting neurodiverse students and has allowed me to grow in my skills working with neurodiverse individuals as well as understanding the challenges faced by Māori and Pasifika students.

I have gained a lot of insight into some of the key issues we currently face in our education system and now feel very motivated to use the skills and knowledge I have developed to find novel ways to support the system to improve. Despite the enormity of some the challenges, I feel enormous optimism about the possibilities for the future of education in Aotearoa.

Your generosity has not only provided me with financial assistance, but also with a sense of validation for my passions and aspirations. It has been a great privilege to have received this scholarship and I hope that you have found my contribution so far worthy of the investment.

I will continue to work in my career and use what this scholarship afforded me to try and make a positive impact in the lives of neurodiverse students, as well as other marginalised groups, and to repay the trust you have placed in me.

Specifically, some of the ideas I have had to further my work in the field include supporting, designing, and developing projects such as

- Culturally responsive, digital, literacy and numeracy educational programs for inmates.
- AI based games to support neurodiverse students with emotional regulation skills.
- Free interactive e-learning modules for teacher aides in collaboration with ABA and play-based therapists.

Thank you once again for your support and for helping me to make a difference in the world.

Sincerely,

Ruby Gray