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NEURODIVERSITY IN TERTIARY EDUCATION – WHAT WE KNOW AND WHAT WE DO

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INTRODUCTION

In the 30-plus years since Harvey Blume (Silberman, 2016, p. 492) and Judy Singer (n.d.) introduced the term neurodiversity to describe natural and valuable variation in how people experience and perceive the world, published literature on neurodiversity has steadily increased. In higher education, Clouder et al.'s (2020) narrative synthesis reviews publications on neurodiversity, and aims to summarise what is available and what is needed to ensure neurodiverse students succeed. Pollak's 2009 book, *Neurodiversity in Higher Education: Positive Responses to Specific Learning Differences*, sets out to guide educators in how best to accommodate different neurodiversities. In regards to Aotearoa New Zealand, Mirfin-Veitch et al.'s (2020) review provides a snapshot of the education context, from early childhood to tertiary education but, with its focus on children's rather than adult learners' needs, is less useful for tertiary educators. How tertiary educators in New Zealand respond to their neurodivergent students is less well documented and is the focus of this research.

NEURODIVERSITY AND TERTIARY EDUCATORS

Tertiary educators are selected as subject specialists. Implicit in their selection is the assumption that they can easily share their specialist knowledge with all their students. Woodward et al. (2022) highlight that as emergent tertiary educators, they wanted more preparation for creating an inclusive learning environment, and specifically on working with neurodiverse learners. This is a doubly valuable insight. Those authors responded to their studies in a tertiary educator qualification, one that had been revised only a few years earlier. Surprisingly, while neurodiversity has been identified and discussed for over 30 years, it appears not to be a core element of many tertiary education programmes. Colley is adamant that "all staff need training in AD(H)D – especially as many regard it as another name for bad behaviour" (2009, p. 184). If many educators do interpret neurodivergent behaviours as 'bad,' that puts at risk successful outcomes for neurodivergent students. Martin (2009) noted that neurodiverse undergraduate students' hyperfocus is often seen as a problem, yet it is that same ability to hyper focus that is essential to success in postgraduate study. Otago Polytechnic has been accredited the Dyslexia Friendly Quality Mark for some of its programmes (Foundations, Business and Design), as an indicator of its dyslexia- and neurodivergent-friendly practices such as recording lectures. Yet we know that some lecturers look forward to a time when they no longer have to record and post lectures online, seemingly unaware that recorded lectures as a resource that can be repeatedly accessed benefit many neurodivergent and neurotypical students.

IMPORTANCE OF NEURODIVERGENT LEARNER EXPERIENCE

Neurodiversity acknowledges and values natural variations in human cognitive function, which includes individuals with conditions such as autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD),

dyslexia, and other neurological differences (Clouder et al., 2020). There has been a growing recognition of the need to accommodate neurodiverse learners in vocational education, recognising their valuable perspectives and talents that contribute to the diversity and richness of the academic environment (van Gorp, 2022).

ACCOMMODATING NEURODIVERGENT ĀKONGA

Understanding and accommodating diverse learning styles is one aspect of tertiary or vocational education for neurodiverse learners (van Gorp, 2022). Neurodiverse learners may not always benefit from traditional educational approaches because they process information differently. Mirfin-Veitch et al. (2020) report that neurodiverse learners have advantages in visual thinking, pattern recognition, and problem-solving. These insights can also be valuable for all learners (Mirfin-Veitch et al., 2020). By incorporating a wider range of instructional methods, vocational educators can tap into the strengths of all their learners, not just those who are neurodiverse. This can lead to a more engaging and effective learning experience for everyone. Ultimately, recognising and catering to diverse learning styles benefits not only learners with neurodiversities but also fosters a more inclusive learning environment for all.

CHALLENGES FACED BY NEURODIVERGENT ĀKONGA

It is important to recognise and address the challenges faced by neurodiverse learners in tertiary education. As part of this approach, accessible resources, flexible learning environments, and individual support services should be provided (Rentenbach et al., 2017). Accommodations such as extended exam times, sensory-friendly spaces, and assistive technologies can make a significant difference in enabling neurodiverse learners to reach their full academic potential (van Gorp, 2022). It is unclear how many tertiary educators know this, or if this is something that they are expressly told or encouraged to do by their institutions.

Creating an inclusive vocational education environment requires promoting awareness of neurodiversity among educators, staff, and learners and dismissing myths and stereotypes associated with being neurodivergent (Mirfin-Veitch et al., 2020). According to van Gorp (2022), encouraging an atmosphere of acceptance and support can positively impact neurodiverse learners' well-being and academic performance by making them feel valued and included. Individuals with neurodiverse learning styles often possess exceptional capabilities and insights that can foster innovative thinking and problem-solving. Educating the educators on neurodiversity requires knowing what they know now. Vygotsky's Zone of Proximal Development provides a model for scaffolding educators' development (Shabani et al., 2010) and in this case for understanding neurodivergent students' needs. To scaffold, we must first understand what educators know and do.

THIS RESEARCH

It is here that we began our research. As neurodivergent educators, we were beginning to recognise our own accommodations and adaptations: subtle and at times not so subtle modifications to our teaching as we tried to understand and meet students' needs. We also observed that while these adaptations made sense to us, and were something we saw as essential, this was not true for many of our colleagues in education. We wanted to know how educators across our institution understood, recognised and responded to neurodiversity in their students.

SURVEY OF WHAT EDUCATORS KNOW ABOUT NEURODIVERSITY AND WHAT THEY DO

In this study, we conducted a survey to investigate the knowledge and implementation of strategies by kaimahi/staff at Otago Polytechnic to accommodate neurodivergent learners. The survey was informed by a review of relevant contemporary literature, lived experiences, and input from members of the wider Otago Polytechnic Neurodiversity Community of Practice. The survey comprised a few demographic (identity and college) questions as well as quantitative and qualitative questions about the understanding, experience and accommodation of neurodiversity in tertiary learning environments. These questions are summarised in Figure 1 and Figure 2. Ethics approval was obtained from the Otago Polytechnic Research Ethics Committee (approval number 963).

Challenges educators recognised/identified in their neurodivergent ākonga

ADHD, autism, dyslexia|tīpaopao, dysgraphia, dyscalculia, needs more time, difficulty with social communication, time management, Tourette's, sensory integration issues, a need to fidget, sensitive to lighting, sensitive to noise, poor organisational skills, easily distracted, proprioception difficulties – clumsy/raru kori tinana.

Strengths educators recognised/identified in their neurodivergent ākonga

Hyperfocus, innovation/out of the box approaches, ability to see the big picture, an above average ability to connect concepts and ideas, passion for social justice and fairness, empathy, incredible listening skills, strong memory, very honest, not bound by convention or hierarchy, deep sense of responsibility, good organisational skills, visual thinker, very trusting, attention to detail, good spatial awareness, good with technology, large vocabulary, drive for perfection, a deep approach to learning, strong oral language skills (for example, public speaking, bilingual/multilingual).

Figure 1. Challenges and strengths identified in literature and used in the survey.

Tell us in your own words your understanding of neurodiversity.	Open text field
Have you noticed differences between Māori and/or Pasifika learners with neurodiversity?	Open text field
What challenges do you recognise for kanorau ā-roro|neurodivergent ākonga?	Check list informed by literature
What strengths do you recognise in kanorau ā-roro|neurodivergent ākonga?	Check list informed by literature
What approaches do you use to support kanorau ā-roro|neurodivergent ākonga?	Check list informed by literature
What assessment options do you offer to support Kanorau ā-roro|neurodivergent ākonga?	Check list informed by literature and an open text field asking for more details
How confident are you in providing educational experiences for all your tauira/ākonga?	Yes /No

Figure 2. Questions and response type used in survey.

Our goal was to find out what kaimahi knew and what they did to accommodate neurodivegent ākonga. We wanted to use this for our Otago Polytechnic Neurodiversity Community of Practice (OP NCoP) as we planned hui, education sessions and attempted wider organisational change. Our larger goal was better support for all ākonga, particularly those who were neurodivergent, regardless of whether they identified or disclosed their neuro 'spiciness' or not.

FINDINGS

The survey ran over the months of June to August 2022. Eighty-three participants from five colleges across Otago Polytechnic campuses completed the survey. The largest group of responses was from the College of Engineering, Construction and Living Sciences (22 percent), while the smallest was from the College of Work Based Learning. Sixty-four respondents (77 percent) identified as New Zealand European/Pākehā, 12 (14 percent) as Other, and three (3.6 percent) as Māori, with four (4.8 percent) who did not answer this question. The other identities included Filipino, Samoan, American, Indian, North American, Australian, and Scottish. We analysed the quantitative responses using numerical summaries and graphs to visualise the patterns. We analysed the qualitative responses using the method for thematic analysis set out in Maguire and Delahunt (2017). We individually organised the responses into coded groups, and then met to review and negotiate shared themes or codes. We identified key responses as examples to illustrate each theme. This analysis process took several sessions as individuals and several more working in partnership. Throughout this process we were cognisant of the literature used to inform our study, and also our own lived experiences as late-diagnosed kanorau ā-roro|neurodivergent individuals (ADHD, autism, with communication, sensory and executive function challenges). It was as neurodivergent individuals we decided to sometimes use the popular, commonly-used term neuro 'spicy' to refer to neurodivergent people. We conferred several times with neurotypical colleagues on the emerging themes.

HOW KAIMAHI RECOGNISE AND ADAPT THEIR TEACHING AND ASSESSMENT FOR KANORAU Ā-RORO | NEURODIVERGENT ĀKONGA

Many kaimahi are able to recognise and adapt their teaching to accommodate the challenges and strengths of kanorau ā-roro|neurodivergent ākonga. Over half the respondents recognised many of the challenges and strengths identified in the literature. Many educators recognise when their ākonga need more time, have poor time management or organisation skills, or a host of the other attributes of neurodiversity (Figure 3). There was similar recognition of many of the strengths associated with neurodiversity, including attention to detail, empathy, honesty, organisational abilities, and a drive for perfection (Figure 4). We are heartened to know that educators can recognise these strengths and weaknesses and were interested in seeing how they used this to adapt their teaching to better fit students.

Question: We are interested in seeing if you recognise some of the typical challenges that face our kanorau ā-roro|neurodivergent ākonga at Otago Polytechnic as well as at other educational places and events. Have you had tauira with the following challenges?

	# responses	Rank	Percentages
Needs more time	58	1	70.7
Time management	57	2	69.5
Poor organisational skills	55	3	67.1
Proprioception difficulties – clumsy	55	3	67.1
Difficulty with social communication	54	5	65.9
ADHD	52	6	63.4
Autism	40	7	48.8
A need to fidget	39	8	47.6
Sensitive to noise	30	9	36.6
Sensitive to lighting	24	10	29.3
Sensory integration issues	22	11	26.8
Executive function	20	12	24.4
Easily distracted	16	13	19.5
Tourette's	15	14	18.3

Figure 3. Typical challenges facing kanorau ā-roro|neurodivergent ākonga.

Question: Kanorau ā-roro|neurodivergent tauira have some incredible strengths. Have you had tauira with the following strengths/behaviour in your classrooms?

	# responses	%	Rank
Attention to detail	56	68.3	1
Good with technology	51	62.2	2
Empathy	51	62.2	2
Very honest	49	59.8	4
Ability to see the big picture	48	58.5	5
Good organisational skills	48	58.5	5
Visual thinker	47	57.3	7
Drive for perfection	46	56.1	8
Innovation/out of the box approaches	43	52.4	9
Passion for social justice and fairness	43	52.4	9
An above average ability to connect concepts and ideas	42	51.2	11
Strong memory	42	51.2	11
Not bound by convention or hierarchy	40	48.8	14
Large vocabulary	37	45.1	15
Strong oral language skills (public speaking, bilingual/multilingual)	36	43.9	16
Hyperfocus	35	42.7	17
Deep sense of responsibility	32	39.0	18
A deep approach to learning	32	39.0	18
Incredible listening skills	31	37.8	20
Very trusting	29	35.4	21
Good spatial awareness	25	30.5	22

Figure 4. Strengths of kanorau ā-roro|neurodivergent ākonga

Half our educators reported they support kanorau ā-roro|neurodivergent ākonga with extra time (51 percent), or through conversations (42 percent), practical tasks (38 percent) or demonstrations (36 percent). There were a few responses reporting that some educators did not expect to modify anything; they scheduled the class and the assessments, and expected students to work.

HOW KAIMAHI UNDERSTAND KANORAU Ā-RORO|NEURODIVERGENCE

We asked our participants to tell us about their understanding of neurodiversity. Of our 83 respondents, 19 did not answer this question. In our thematic analysis, four initial themes emerged, and in finalizing these a fifth theme was revealed (Figure 5).

Neurodiversity affects how people experience the world.
Neurodiversity involves mental health, requires diagnosis, and describes how people are different. It is a difference.
Neurodiversity affects how people learn (and by default how I need to teach).
Neurodiversity is a natural variation of being human, which can be seen in an individual's strengths and areas of challenge.
This is me!

Figure 5. Five themes – Tertiary Educators understanding neurodiversity.

Theme 1: Neurodiversity affects how people experience the world

The responses here were framed in terms of how people experienced the world, that there were differences between people. Some of these responses mentioned learning or education but framed this in terms of the wider world. The final quote in Figure 6 is an example of this describing neurodiversity in terms of the world and adding that "our education system and educators are not well prepared."

We feel that these respondents are informed about neurodiversity and perhaps are also familiar with educational practices. Perhaps they have experienced or seen situations where education has not met the needs of neurodivergent individuals.

Neurodiversity affects how people experience the world
It represents the different neurotypes that are present in the population, for example, people living with ASPD, ADHD, dyslexia, dyspraxia, and so on, that may make aspects of learning, sensory experience and/or communication different from other people not living with these conditions.
Neurodiversity encompasses brains that are outside the standard range of variation – ADHD, autism, dyspraxia, dyscalculia, dyslexia. The way they interact with people and their environment can be varied as well as how they absorb, process and learn new information. Early diagnosis and intervention results in learners with more self-awareness and strategies to employ and knowledge of how to manipulate their environment to their advantage. They often encounter high levels of stress and mental health issues from operating in a world designed for neurotypicals.
My understanding is this relates to the idea that each person relates to the world and their experiences of it in different ways.
No one way of being right or wrong. Unfortunately, our education system and educators are not well prepared to work with this diversity.

Figure 6. Responses representative of Theme 1.

Theme 2: Neurodiversity affects how people learn (and by default how I need to teach)

Responses here positioned neurodiversity as something educators needed to understand. They spoke to neurodiversity as a difference that required educators to be flexible in how they approached learning (Figure 7). Some of these responses mentioned diagnosis or named 'conditions' but these were not framed as negative, or as not-normal. In fact many of these respondents used quote marks around the word 'normal' or 'typical.' We felt this framing questioned the concept that humans were normal or typical by default, and any variation was difficult or a problem.

Neurodiversity affects how people learn (and by default how I need to teach)
My understanding is that we are all neurodiverse, in the same way as we are genetically diverse. Some of us may identify with one or more 'neurotypes' or have a diagnosis of one of the neurodiverse conditions (including but not limited to dyslexia, dyspraxia, dyscalculia, Irlen's, Autism and autism spectrum condition, etc.), in which case they identify as 'neurodivergent.' Because the neurodiverse conditions can create learning differences, it is important that we as educators understand and can accommodate for students with these neurodiverse conditions.
Neurodiversity applies to people who learn in non-typical ways – dyslexia, dyspraxia, dyscalculia, ADHD, hearing impaired, sight impaired, autism.
A spectrum of diverse ways of cognitive functioning can result in range of ways of interpreting data, deciding what data is important, analysing cues and environments. Society and environment can cause disability experience for the neurodiverse, but can also create equitable opportunities. In terms of teaching, need to be aware that some forms of group teaching and feedback are stressful for different students for different reasons.
That people have different ways of learning and expressing themselves. These may or may not have causal factors such as disability or trauma. That neurodiversity is not necessarily a barrier to learning but may require different approaches to the traditional.
People whose brains work differently to the 'normal.'
Neurodiversity to me means that we all think and learn differently. Different options need to be available for learners to be able to understand the content and context, i.e., some learners like to learn visually, others like to read text, some like research, some like videos, some need help reading, some use pictures to articulate their thinking. It also means that some learners like practical aspects over theory. Our current courses offer lots of different opportunities to articulate assessment and portfolio work, and none of my students submit the same thing. They submit what works for them, including audios, videos, presentations, portfolios, etc.

Figure 7. Responses representative of Theme 2.

Theme 3: Neurodiversity is a natural variation of being human, which can be seen in an individual's strengths and areas of challenge

Responses here suggested neurodiversity was a natural variation of being human, and could be seen in an individual's strengths and areas of challenge (Figure 8). This theme was different to Theme 2 in that these respondents specifically mentioned positive aspects of neurodiversity. The responses in this theme were cautious and balanced, sometimes mentioning both strengths and challenges, and always using differences as part of the descriptor. Our respondents here were neutral, maybe deliberately so. Phrases like "what is considered normal" or "just differences" were frequent.

Neurodiversity is a natural variation of being human, which can be seen in an individual's strengths and areas of challenge

Neurodiversity is an umbrella term for a number of different conditions where a person's brain works differently from what is considered normal.

Differences in the human brain, how people view, learn, interact with the world. Neurodiversity is about the diverse ways different people process information and learn, that shows up in particular strengths, creativity and challenges when individuals, wider cultures of education and wider society don't cater to/understand these diverse behaviours and needs.

My understanding of neurodiversity is that it includes the range of different ways in which the brain may develop which can impact on a person's ways of understanding, interpreting, interacting and/or providing information in any variety of forms (for example, written, verbal) or contexts (for example, social, numerical).

Figure 8. Responses representative of Theme 3.

Theme 4: Neurodiversity involves mental health, requires diagnosis, and describes how people are different; it is a difference

The responses in this theme spoke of neurodiversity as a problem or a difference. Some related neurodiversity to mental health issues or mentioned diagnosis (Table 9). Often the framing was "different to ours" or to "normal" which was quite distinct from the responses in Themes 2 and 3 and communicated a stance of othering.

These particular responses were challenging for us as authors and proved the most difficult for us to categorise. We recognised that these were spoken and framed from a position outside of the neurodiversity model that we use, where neurodiversity is a natural variation in human experience and mental processing. However challenging these responses are to read, they are important in revealing the challenges for neurodivergent students as they work with educators who respond in this way.

Neurodiversity involves mental health, requires diagnosis, and describes how people are different; it is a difference
Refers to a range of conditions that are normal variations in brain functioning due to differences in neural pathways. Can occur spontaneously in a person or as a result of an event or illness (for example, an accident or stroke or some illnesses). Can be lifelong or episodic and resolve. Various forms – and may need adaptations to teaching/learning options to accommodate or make achievement/progress more accessible. Impacts on individuals will be diversely experienced so important to individualise to meet the individual's specific need. Can be considered or noted as a potential by an educator but should be formally diagnosed by an appropriate health professional – with a plan from there based on individual circumstance. As will any disorder/condition – for some it may mean that some options or pathways in life are not achievable – but this isn't a deficit and can occur across a range of the population for multiple reasons so most people can find a path that is satisfying and enjoyable.
I understand that these learners have trouble reading and view the world differently to some other people.
Neurodiversity encompasses brains that are outside the standard range of variation – ADHD, Autism, dyspraxia, dyscalculia, dyslexia. The way they interact with people and their environment can be varied as well as how they absorb, process and learn new information. Early diagnosis and intervention results in learners with more self-awareness and strategies to employ and knowledge of how to manipulate their environment to their advantage. They often encounter high levels of stress and mental health issues from operating in a world designed for neurotypicals.
It sounds like a buzz word that encompasses a larger group of people with mental development challenges and mental illnesses.
This is very broad. I understand this means Aspergers, ADHD, or autism and possibly covers other conditions also?
People whose brain works differently to ours.

Figure 9. Responses representative of Theme 4.

We identified a fifth theme: This is me!

In our analysis, we both struggled with theming responses that spoke to the participants' own experiences, either as neurodivergent (neuro-spicy) people or in having family members who were neurodivergent. Reflecting on these responses that did not fit into the other themes we realised that together these made a fifth theme – This is me! (Figure 10). This is not a surprise given the increasing recognition and reporting of neurodiversity. Current estimates are possibly inaccurate and low given the problems accessing diagnosis and what many see as a stigma around identification, but are reported as 10 percent of people being dyslexic (Dyslexia Foundation of New Zealand, n.d.) and an estimated 366 million adults worldwide with ADHD (Song et al., 2021). Some spaces seem more suited to neurodivergent people, with reports of between 40 percent to 70 percent of people in the creative sector being neurodivergent (Universal Music & Welsh, 2020). This recognition, reporting, identification, discovery and identification with neurodiversity is likely to increase as more individuals learn about neurodiversity and recognise themselves and whanau as neurodivergent.

I am neurodiverse, and have spent the past few years looking at a lot of online content that explains differences and experiences, and reading books and journal articles on different forms of neurodiversity. I know that there are various presentations, ADHD, Autism, Irlen's, dyslexia, dyspraxia, dyscalucia, tourettes, which are more or less permanent, and also that there are temporary forms that come from head trauma or illness that neurodivergent people experience the world differently and communicate differently. That there are issues when neurotypical people misread neurodivergent peoples behaviours as rude, or threatening, by ascribing intent that or meaning that is not there. I also understand that sensory information can be experienced more strongly by some neurodivergent people, so bright lights, or the hum of electronics, or background noise or the feel of scratchy clothes labels or textures, or smells can be incredibly distracting and get in the way of learning.

My understanding comes from personal experience of having dyscalculia. There is dyslexia in my family and I have one autistic son. So it is a big part of my life and very familiar to me when helping students.

I have a good understanding, my son has dysgraphia.

Figure 10: Responses representative of Theme 5.

RESPONSES THAT TROUBLED US

There were some responses that puzzled us as neuro-spicy tertiary educators. One example is: "It sounds like a buzz word that encompasses a larger group of people with mental development challenges and mental illnesses." To be faced with a response that equates what we believe is a natural variation in being human with "mental development challenges and mental illnesses" (Figure 9) was shocking to us. Responses like this were in the minority, but are important. These reinforced that while we were familiar with neurodiversity and expected to accommodate the differences people had as we taught, not everyone shared that view. Such responses barely concealed expectations for ākonga to appear as 'normal' students, and that their challenges were their own personal problems and not something educators needed to consider, or that such considerations were biased and unfair.

HIDING IN PLAIN SIGHT – A.K.A. MASKING

One way in many neurodivergent people stay safe is through mimicking neurotypical behaviours (Price, 2022). This constant cognitive monitoring and deliberate mimicking of expected behaviours comes as a huge energy and well-being cost to neurodivergent individuals and is known as 'masking.' Price (2022) sets out the very real cost and need for many neurodivergent people to hide their authentic selves. A second way neurodivergent people stay safe is to withdraw or avoid, deliberately stepping away from challenging situations or environments (Price, 2022). Such choices may make tertiary educators' lives easier but at the very real cost of limiting the achievements of neurodivergent ākonga.

DOUBLE EMPATHY PARADIGM

Understanding and accepting that humans can have very different experiences and can communicate in very different ways by both educators and ākonga must be important for successful learning. Milton et al.'s (2022) Double Empathy Theory proposes that successful communication between neurotypical and neurodivergent individuals requires both to recognise and respect communication differences. The Double Empathy Theory reveals a narrow, flawed, and widespread perspective whereby neurodivergent people have, until now, considered to have failed to understand neurotypical expectations. Milton et al. (2022) propose that for every instance where neurodivergent individuals fail to understand neurotypical expectations, there is a counter explanation that the neurotypical are failing to understand neurodivergent expressions. Milton et al. argue for a more nuanced understanding of human communication that is reciprocal. To do this requires neurotypical individuals to recognise and consider non-neurotypical experiences as valid. Previous work by the authors (Ker & van Gorp, 2023; Lange, 2022; van Gorp, 2023) illustrates an experience where neurodivergent students are often misunderstood or misinterpreted.

Our results revealed that while half of our participants demonstrated an understanding of common strengths and challenges of neurodivergent students, disparities exist in educators' comprehension of neurodiversity and the application of accommodation strategies.

ACCOMMODATIONS AND ADAPTATIONS FOR NEURODIVERGENT ĀKONGA

We were heartened to find that responses spoke to a huge range of approaches to accommodating the needs of neurodivergent ākonga. Respondents are adding audio and video options to traditional written assessments, providing extra time, and using workbooks or journals to document work done. Some wrote of ākonga prerecording presentations as a solution to anxiety, because recording allows for students to submit their 'best take.' Softer adaptations included identifying students who were struggling to communicate in assessment situations and offering a conversation as an assessable record. We are aware of one colleague who uses a TikTok format for students to demonstrate via short videos their proficiency in a practical task. Some responses mentioned reader/writers but many more identified more accessible options like audio recording.

Only 50 percent of respondents are comfortable adapting their teaching to neurodiverse needs! For us this was a notable and sad finding. Educators may be too busy maintaining discipline currency and meeting compliance and administrative demands. Without a clear understanding of how neurodiversity can present or how it can affect the learning of some students, educators may never really consider that minor easy adaptations could make significant improvements for their learners and to their abilities as an educator. Promoting neurodiversity in vocational education prepares learners for the diverse and inclusive work environments they will encounter once they have graduated.

This study highlights the need for ongoing professional development to ensure a supportive learning environment for neurodivergent students at Otago Polytechnic and that development needs to start with education on neurodiversity with a goal of awareness and acceptance.

SUMMARY

In summary, we found that educators in our own institution have some knowledge about neurodiversity, and many educators are adapting their teaching to accommodate individual ākonga needs. We also revealed that, when asked, up to half of our educators are not confident in supporting all ākonga, which would include neurodiverse students. Importantly, our educators do not share a common understanding of what neurodiversity is, and so differ in how they respond to and adapt to neurodivergent ākonga needs and strengths. This surprised us as we have worked since 2020 to build the Otago Polytechnic Neurodiversity Community of Practice and have hosted two symposiums on campus that focused on neurodiversity in tertiary education.

We also learned that many educators do not have a contemporary or informed understanding of neurodiversity. As neurodivergent individuals, we are worried that some educators believe they are not qualified to help or that neurodiversity is a developmental delay or mental illness. We believe that all tertiary educators should be expected to build their awareness of neurodiversity as a natural human variation, and be encouraged to adapt their teaching and assessment practices in ways that support ākonga to achieve.

Educators need to have an understanding of concepts like the double empathy problem (Milton et al., 2022) and masking. This is important for them to develop and understand that being 'normal' is overrated (Stockman, 2018), and variation is to be expected. Empowering educators to adapt and accommodate neurodivergent ākonga through being flexible about attendance and timing and format of classes and assessments is a low-stakes strategy for improvement. By encouraging educators to be informed, accepting, and supportive of neurodiverse learners' diverse learning styles and strengths, educational institutions can improve their academic success rates and improve the experiences of all ākonga.

Understanding and educating neurodivergent ākonga is not only about providing accommodations, it is an investment in creating a reasonable, more innovative learning environment that benefits everyone.

Stella Lange, a transplanted scientist working in the School of Design, worked to set up a Neurodiversity Community of Practice, Otago Polytechnic. Her research interests include a recent hyper-focus on Neurodiversity in tertiary education and she has introduced neuro friendly options for teaching and assessment in undergraduate and postgraduate courses in Design.
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Rachel van Gorp is a multi-career educator, formerly a personal trainer and business owner. She is now a Principal Lecturer at the School of Business, Otago Polytechnic, and chair of the OP Neurodiversity Community of Practice. Rachel's passion for inclusion, and provoking kōrero on neurodiversity in tertiary education keeps her active and banishing normality from her classroom.
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