



# Master of Contemporary Education (MCE) Symposium July 2024

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Executive summaries of project presentations  
C11P Cohort  
July 17th, 2024

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## Learning Support System

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This project aimed to implement a holistic Learning Support System to address the diverse needs of all students within the school. The core of this initiative was to foster collaboration among staff to support ākongā (students) and their whānau (families) throughout their primary school journey. This system is essential for providing easily accessible, accurate, trusted, and safe information to support the wellbeing and achievement of ākongā (Ministry of Education, 2021).

Research indicates that young people who lack school support during the transition from primary to secondary education are at a higher risk of disengaging from learning. Vulnerable students, including those with learning difficulties and those from low-income families, are particularly at risk (Education Review Office, 2012).

A Learning Support System was needed to enhance longitudinal data recording, which includes the identification, monitoring, and support of individual ākongā and their whānau. This system embraces the six priorities of the Learning Support Delivery Model.

Currently, the school utilises a Student Management System (SMS) for daily operations. However, the Ministry of Education's certification for an SMS does not prioritise the

documentation of supports and services during a student's primary education. Moreover, the SMS platforms are not compatible with each other, nor do they accommodate New Zealand's Year 0-13 education system.

In the region where this project is implemented, many ākongā experience multiple school enrolments during their primary schooling years. This instability, coupled with the challenges of living in a Q5 Deprivation region, exacerbates the difficulties faced by these vulnerable students.

The school comprises approximately 270 ākongā, 18 teaching staff, and 15 support staff. The senior leadership team were new to their roles, with most members being new to the school.

The Principal and I became well-versed in legislation related to privacy and confidentiality. We clarified the distinction between low-impact and high-impact information and established two separate storage clouds accordingly. Updating procedures and processes to align with this clarification was undertaken by the senior leadership team, ensuring clear access and responsibility guidelines for low and high-impact information.

The leadership team identified existing systems and processes for collecting, storing, and sharing information, highlighting problem areas and concerns. They pinpointed the information necessary to inform support and services for individual ākongā. This was then shared with staff.

During a staff meeting, the questions "What information do we need to know about our ākongā?" and "How can we gather/store this information?" were posed. Draft templates were created, reviewed by the senior leadership team, and introduced to staff. Continuous feedback was sought, and the iteration process was supported by team leaders and the Learning Support Team. This ongoing feedback and feedforward on processes and systems is sought by the team leaders (who are senior leaders) at each of their meetings and this is fed back to the Learning Support Team and discussed and acted on during senior staff meetings to support the iteration process.

The Learning Support System has become a pivotal tool for identifying current and future professional development needs. This just-in-time approach ensures that kaiako (teachers)

maintain up-to-date and relevant knowledge, enabling them to meet the evolving needs of all ākonga effectively.

The system provides a clear framework promoting collaboration, culturally responsive practices, and a shared understanding of each individual ākonga. Ongoing discussions at team, staff, learning support, and senior management meetings ensure that the key questions of the Learning Support System are regularly reviewed.

This system has strengthened information triangulation between class teachers, teams, the Learning Support Team, and the Leadership Team. Variations of this Learning Support System are being implemented in other schools, demonstrating its flexibility and adaptability. It has also been shared nationally through the SENCO network.

The Learning Support System has evolved into a comprehensive, user-friendly platform for managing student data. Its impact extends beyond data management, fostering a collaborative environment and supporting culturally responsive practices. By enabling informed decision-making and targeted interventions, the system ultimately enhances ākonga outcomes.

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## About the Author

Patricia Balloch has over 30 years of experience as a teacher and a leader. In 2022 she completed her Master of Specialist Teaching endorsed in Autism (with Merit) from Massey University. She is passionate about the inclusion and wellbeing of all ākonga. She is currently working in a Learning Support Coordinator role.





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## Practise What You Teach

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“Practise What You Teach” (PWYT)’s key purpose was to develop secondary English teachers’ writerly identities. Through a facilitated, collaboratively led, online community of practice that supported teachers to write, the project hoped to shift the teachers’ self-perceptions and to develop their writerly identities.

PWYT believes that teachers who identify as writers are more effective teachers of writing. However, many teachers do not see themselves as writers (Cremin, 2006). To address the declining written literacy of New Zealand students, PWYT believes that interventions into teachers’ self-perception in relation to writing are increasingly necessary, as their writerly identities are important to our students’ success as writers (Wells & Lyons, 2017). PWYT argues that this identity can be developed through communities of writing practice (Locke, 2014).

The main goal of “Practise What You Teach” was to see if this intervention into teachers’ writerly identities was possible within an online community of practice. To test this, a community of secondary English teachers was established and within this group, PWYT delivered a syllabus designed to build confidence and familiarity with writing, and to create

a culture of constructive critique, in the hopes that participating as writers would enable teachers to see themselves as writers. This model is low cost, accessible, and easily replicated. It builds on the design of the National Writing Project, which shares the kaupapa that teachers of writing must also be writers (Locke & Kato, 2012), but shifts the model to the online space, using easily accessible tools such as WhatsApp, Zoom and the Google platform.

Alongside two collaborators from other institutions, I designed and delivered two iterations of a series of workshops within the community. These workshops were delivered online in Zoom sessions. Each session was a combination of readings, discussions, writing exercises and shared critique in small breakout groups.

Over each iteration, these workshops established the relationships necessary for participation in the community of practice. Each participant was encouraged to write brief pieces within the sessions, and a more extensive task to run throughout the iteration, in order to apply feedback to a singular piece of work. The facilitators frequently modelled the sharing of writing and the feelings that accompany it, as well as establishing the culture and codes of the community of practice. This community was active both synchronously during the workshops, as facilitated by my collaborators and I, and asynchronously, commenting and discussing each other's work via a shared Google drive platform.

In addition to gathering data from within PWYT, a sample of teachers with a publication history were interviewed about their writerly identities in order to compare the development of these to those of the PWYT participants. These interviews and the two iterations of PWYT allowed the development of a resource for the PWYT programme to be delivered within departments or communities by HODs or other leaders.

An action research model was used, with each iteration informing the next, and the researcher embedded in the project. Data was collected via survey, observation and through interview. This enabled participants to discuss the complexity and multifaceted nature of identity development and writing practice. It also modelled the behaviours the PWYT project put forward as best practice for writing communities – one that is respectful, affirming, collaborative and shared.

The data collected was analysed thematically, and the findings supported the project's initial premise that teachers struggle to identify as writers. It also indicated the significance early experiences had in this sense of identity, where both positive and negative interactions had changed the course of a teacher's relationship to writing. It underscored the difficulty of finding time and space as a teacher in which to develop writing skills. However, the findings also indicated that while teachers might struggle to develop their identity, their confidence as a writer and understanding of the complexity of writing grew throughout the project.

PWYT demonstrates the benefit of teachers engaging in the practices they are charged with developing in young people. Cognitively demanding skills such as writing require a deep metacognitive understanding, and without this, we risk continuing our declining literacy rates. Future research needs to be conducted into the experience of students whose teachers are engaged in writing practice in order to establish the 'trickle down' effect of this identity.

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## About the Author

Laura Borrowdale is an English teacher and writer from Ōtautahi Christchurch. Until recently, she was the Ministry of Education Learning Area Lead for English, and she is the chair of Waitaha English. In addition, she writes short fiction, poetry, and essays which have appeared in *Sport*, *Landfall*, *Reading Room*, and elsewhere. Her first collection of short stories, 'Sex, with Animals' came out with Dead Bird Books in 2020, and she is one third of the editorial team of *ngā pukapuka pekapeka*, a chapbook micropress.





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## Developing Student Agency through Blended Learning in Mathematics

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Students need to be empowered to create a personalised learning pathway for mathematics by taking ownership of their learning. This is essential because, as Starke (2021) emphasises, the skills promoted by student agencies are beneficial throughout students' educational journeys, careers, and lives. However, the Mathematics curriculum has low academic performance in my school and low engagement with students. Additionally, students do not demonstrate the empowerment required to own their learning.

To solve these related issues, my project was designed to develop student agency using blended learning within the Maths Curriculum. I aimed to support my learners by fostering student agency and using blended learning, combining digital technology and face-to-face learning. Student agency is defined as students' capacity to take ownership of their learning (Bass & Riggio, 2006), and the New Zealand Curriculum embeds learner agency in key competencies, encouraging students to set and monitor goals, manage time, and reflect on their knowledge (New Zealand Ministry of Education, 2007). By the end of my project, my students demonstrated learner agency by thinking critically and problem-solving.

To support student agency, I developed a Google Site that enabled students to track their own progress and set goals based on their performance in the Gloss Maths test by providing knowledge and accountability tools. The site included goals, videos, worksheets, and online activities. Students placed evidence of their learning in Google Sheets, which I reviewed to monitor progress.

Understanding student agency, blended learning, and heutagogy is crucial for this project. These concepts, initially abstract, became more concrete through research and practical application. Student agency involves students having the power to make meaningful decisions and see the results of their actions (CORE Education, n.d.). It increases engagement, motivation, and problem-solving skills in mathematics. Core components of student agency include self-efficacy, confidence, self-awareness, self-regulation, and individual variation (Chuter, 2019).

Blended learning combines traditional instruction with online activities, promoting critical thinking and problem-solving skills (Johnson et al., 1998). It supports student agency by allowing students to access resources, participate in discussions, and receive immediate feedback, enhancing their learning outcomes (Capone & De Caterina, 2017). Blended learning fosters collaboration and interdependence among students, creating a dynamic and inclusive learning environment. The face-to-face component provides real-time feedback, collaborative activities, and personalised instruction. Social interaction, as emphasised by Vygotsky (1978), enhances learning by allowing students to work together and ask questions. Blended learning supports critical thinking and practice without time constraints, enabling continuous learning (Sukma & Priatna, 2020).

Heutagogy, a learner-centred approach, shifts the focus from teachers to learners, promoting adaptability and lifelong learning skills. Initial challenges included gathering a new group of students and ensuring they were proficient with Chromebooks. However, the students quickly adapted and began making significant strides in their learning. This heutagogical approach empowered students to take responsibility for their learning journey, setting goals, selecting resources, and evaluating progress (Veletsianos, 2010).

Providing students with agency increased their motivation and ability to set and monitor goals, manage time, and reflect on their learning. However, applying student agency in mathematics education through blended learning, face-to-face learning, and heutagogy

required me to value students' voices and choices. Future research could explore strategies to ensure educators value student voice and maximise student agency in mathematics education, enhancing lifelong learning skills and success.

In conclusion, my project built students' confidence in mathematics, making them more willing to take risks and take accountability for their learning. This learner agency gave students control over their learning and fostered a sense of ownership and motivation. This approach not only enhances their mathematical skills but also prepares them for future educational and career challenges, promoting lifelong learning and adaptability. By integrating these innovative teaching methods, I created a more engaging and effective learning environment that empowered students to take charge of their educational journey.

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## About the Author

Konika Briggs has taught in the New Zealand Primary Education sector for nearly twenty years - ranging from Year 0 to 6. Konika has a strong understanding of working collaboratively and creating a positive environment for students and the hub team. Konika wants children to succeed in everything they do, especially maths. She is consistently finding ways that will help her students further their knowledge and learning in mathematics using different platforms.





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## Professional Growth Cycle for Classroom Teacher Aides

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The purpose of the change project was to develop and create a Professional Growth Cycle for classroom-based teacher aides. This provided a framework for teacher aides and school leaders to evaluate practice, set goals and provide professional development opportunities.

The specific goals of the project were:

- Use of key research to create an evidence-based cycle
- Development of a Teacher Aide Evaluation Framework
- Implementation of the complete Professional Growth Cycle with project participants
- Evaluation of the effectiveness of the project

In order to provide context, the project included a synthesis of research on professional development, adult learning and performance management. During the course of the project implementation the participants were the main project beneficiaries. However, at

the completion the school leadership team were provided with a growth cycle system which can be continued.

Drawing from data from the initial interviews, it was evident the Teacher Aides didn't have a current system of professional appraisal or regular professional development opportunities. The project was completed with a small group of five participants within a U4 primary school and took place over three terms.

The action research framework of Cohen et al. (2008) suited this project as it has an ongoing cycle of adaptations and iterations. The eight steps of this framework prompted the research and upon completion of the steps it cycles back round to the beginning for a new adaptation and iteration. This project consisted of more than one element woven together to create a complete 'Professional Growth Cycle' for the participants.

The first element was the creation of an evaluation framework. The second, the introduction of a professional learning group (PLG) as a vehicle to develop an improved collaborative culture and for the delivery of professional learning. These elements became the iterative cycles of the project. Each element of the PGC followed the action research model; with continuous reflection and evaluation throughout the planning and implementation.

Taking into consideration that the participant group in this project is small, a mix of quantitative and qualitative data was collected. The qualitative data provided valuable data during this project and where quantitative data was collected it was further data to support the outcomes. Semi-structured interviews were conducted with all participants to explore current practices and feed forward for developments. A survey questionnaire was administered throughout the project implementation, particularly at the conclusion of each PLG. This data showed that across the seven PLG sessions completed all participants rated the sessions at 4 or 5 on the likert scale of 1 (Not very) to 5 (very much) when asked if the learning was relevant and helpful to their job. The participants had multiple opportunities to engage with the self-evaluation framework and through this, participants were able to set individual growth goals. Quantitative data showed improvement across all domains of the Framework and was supported by qualitative comments "The framework cemented my thoughts about what I do." A research diary was maintained to document the project

implementation, observations, thoughts, and reflections throughout the project. This information was used to assist with drawing conclusions from the range of data collected.

When analysing the quantitative data, I followed the thematic analysis approach whereby I identified, analysed and reported themes evident within the data (Braun & Clarke, 2006). During phase one I needed to immerse myself in the data, with repeated reading and initial note taking. Phase two involved identifying the early ideas for coding of the data and organising it into possible, meaningful groups. Moving into phase three, I took the different codes and sorted them into identified themes. This led me into phase four as I reviewed and refined the themes. During phase five I named each theme and refined them for the themes I would use to present my data. Finally, phase six is evident in this report as I shared my findings under the identified themes. The themes quality of feedback, valuing the teacher aide role, role of a teacher aide and quality of professional development became evident.

The themes identified in the data had direct links to the literature. Svendsen (2020) states that for professional learning and development to be successful when it is designed together with teachers, or in this case the teacher aides. Instead of doing things 'to' them, then there is a shift from the participants being passive to active learners throughout the process. The engagement data collected showed that there were higher levels of attention when the topics were chosen by the participants and when a participant was involved in content sharing the level of commitment also increased. The delivery method, a Professional Learning Group, also contributed to the higher levels of attention as it gave participants opportunities to discuss and question.

This delivery method also links with adult learning theories. With the goal of Heutagogy, the learning encouraged the student, not the educator, to identify the starting point of learning and that the teacher provides materials and the students decide how to navigate the learning process (Jones et al, 2019; Halupa, 2015). Thirdly, in line with Elliot's (2015) cycle of an effective performance management system; reflection and goal setting, professional learning and practice, feedback and review, the project incorporated each area of these which in turn added value for the participants and made them feel valued. The Talanoa research methodology (Vaiotei, 2006) underpinned the approach to the project and supported the improvements in the identified themes.

Completion of the project found that the Teacher Aide Evaluation Framework gave the participants a breakdown of the skills and behaviours of their role to self-evaluate their performance. From this framework they were all able to, with discussion with school leadership, to identify and create two goals for areas they could grow in. The Professional Learning Groups showed a higher level of engagement when they had choice in the topics covered. Talanoa was a valuable method for establishing a culture of learning, sharing and openness to discussion regardless of the level of experience of the teacher aides. Further project development would see more work with making more explicit links between a teacher aides job description and how this connects to the framework.

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## About the Author

Keryn Burns has over twenty years' experience teaching in New Zealand primary schools, having taught from new entrant to year 6. Drawing on that experience, she is now beginning principal at a U4 urban primary school. Keryn understands the strength working as a team brings to creating a positive learning environment for tamariki and values the role support staff play in this, which is why she selected a project topic to support them in her school.





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## How a student-led learning environment enhances problem-solving skills.

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A student-led learning approach is an environment that allows for autonomy (Houbon, n.d). Students are more self-directed and face challenges while having a growth mindset. The purpose of this project was to find out whether a student-led learning classroom is a better environment to solve problems.

My goals for students were:

1. To identify real life problems around the school
2. To create a mind map
3. To revise the school's student-led learning rubric
4. To create a model using Minecraft
5. To lead the whole school into a student-led learning programme.

Students benefited from solving problems and having autonomy to make a difference in their school. While solving problems students learnt other 21st century skills which prepare them better for the unknown future.

Covid has impacted on students' ability to solve problems on a daily basis. Students often rely on teachers to make decisions on their behalf. Upon selecting a core group to use in my research, it was not clear at the time that the gap in maturity between year 5's and 6's was that great. Halfway through my project I had to separate the year 5's from the year 6's and focussed on only the younger learners. There was no clear research to use on how to teach problem solving skills. However, some advancement in understanding was made (Zhong & Xu, 2019).

Action Research is a methodology often used in education. The steps are to plan, act, observe and reflect (Cohen, Manion & Morrison, 2018). After students decided what research to do, they grouped together to plan out their process by using a mind map. Anecdotal evidence showed students were not as collaborative as I had hoped for, considering they have already been introduced to student-led learning. This led to the first iteration of collaboration. Using Bobby Hunter's 'talk moves' and a list on how to become collaborative through effective communication, students eventually learnt how to work together (2013). However, there was an overcare. Students needed to feel comfortable in disagreeing and for others not to feel offended when students disagree with them. This led to the second iteration. By then students were using opportunities within the student-led learning programme to problem-solve while using the talk moves (e.g., S.T.E.M. activities). Being redirected to their real-life project, students designed a pump track and an obstacle course using Minecraft. When they came together to reflect on their design there were a few tweaks that needed to be made. Students were able to differ with respect and next steps were considered. Whether this learning was embedded in students is unknown. Leading towards the end of the year and knowing schools are often chaotic places then, the programme did not continue. In the meantime, students have received some funding to build a pump track and this was a huge achievement. A real-life problem was solved.

There were many ups and downs in this project and after splitting the 13 members in the group between year 5's and year 6's during the course, it became easier to handle the groups. Using methods like surveys, interviews, self-assessments and observations, changes were inevitable. This project became beneficial to all teachers in the team due to the collaborative nature of the group. Whatever was implemented and learnt in the target group, eventually filtered through the rest of the team. Teachers were onboard making

changes. This project encouraged others to take on leadership roles in hope of taking the new learning and teaching throughout the school.

I analysed smaller pieces of data that I collected throughout this project. The analysis of the data led me to conclude a few things within my practice. Students leading their own learning still need to be taught specific 21st century skills. It is much easier to teach these skills and put them to practice daily within a student-led learning environment. Student-led learning is a self-directed environment whereby learners take responsibility for their learning, under the teacher's guidance (Knowles, 1972). There are stages of student-led learning, known as the 'gogies': Pedagogy, Andragogy, and Heutagogy are the different stages of independence. I have also learnt that my andragogical way of teaching and learning can be improved by allowing more opportunities for self-determined projects. This will help students to operate at a heutagogical stage. Research shows the benefits of teaching outside the pedagogical level. The pedagogical level of teaching is common practice for most teachers (Blanchke, 2012).

At a heutagogical level of teaching students are fully in charge of what they want to learn and how they will learn this. Automatically this environment presents itself with many opportunities to solve problems. Students are often obliged to work together with others and this norm prepares them better for the future. Although I have found students need explicit teaching of 21st century skills such as communication and collaboration, a student-led learning environment gives them more opportunities to practice these skills. In this project it was clear students' problem-solving skills improved and more so in a student-led learning environment. Students got many other opportunities to solve problems without teacher input. Working towards a heutagogical stage will prepare students better for the 21st century.

My biggest finding in this project was the discovery of the 'gogies'. Coming from a Montessori background where students are taught independence from an early age, gave me hope to further my understanding of constructivist teaching. My next steps would be to research how to implement the heutagogical steps into primary school teaching and learning successfully. One of our school's strategic goals is rangatiratanga (student-led learning). This learning is useful for our school and the direction we wish to take. Next steps would be to empower teachers, then students, and together we will be Empowering Confident Learners which is our school's vision.

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## About the Author

Suraya Esau arrived in New Zealand in 1998. She started her teaching career as a Montessori teacher and has been teaching for more than 30 years. She is a mother of two and also a grandmother of two.





# academyEX Executive Summary

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## Growing Key Competencies for Y0/1 Students Through a Play-Based Approach

Jan Forde

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The purpose of this project was to evaluate and enhance our play-based learning program for Year 0/1 students. Recognising the significant impact play has on cognitive and social development (Vygotsky, 1967), we aimed to establish a structured framework to develop students' key competencies and improve teacher and parent engagement.

I have observed an increase in new entrants needing support to self-regulate and relate to others. Requests for external support have tripled in recent years, highlighting the need for developing basic key competency skills. Key competencies are essential in the NZ Curriculum for students to collaborate effectively (OECD, 2003). The percentage of ESOL students at our school has increased from 3% in 2018 to 22% in 2024. Coupled with a new teaching team, this necessitated structuring our play-based program to meet the evolving needs of both students and teachers.

The project was carried out in three iterative cycles using Action Research methodology, each building on the previous one. We named the program 'Tahi Time' to signify coming together for shared goals. Initially, we focused on fostering collaboration among students through playful tasks designed to teach teamwork. Many students preferred working independently, needing support to engage in collaborative practices. Watkins et al. (2007)

emphasise the importance of developing collaboration skills in the early years. Through carefully selected teacher-led activities, students co-constructed success criteria for collaboration, guiding and reflecting on their learning.

We then deepened the understanding of collaboration. Pyle & Daniels (2018) describe a continuum of play-based learning, ranging from free play to teacher-led play. Structured play provocations were designed to encourage students to rely on each other to achieve shared goals, helping them regulate their behaviour for group success. Reflective discussions reinforced the value of collaboration, celebrating successes and helping students internalise key competencies.

The final phase focused on leading teachers and fostering whānau engagement. Teachers were supported to run play-based learning sessions, and parents were invited to participate in collaborative activities. A 'Tahi Time' template provided teachers with a framework for play-based lessons focused on key competencies. Sessions were modelled in classrooms, and collaborative artefacts created by students were showcased to whānau. Feedback from parents and grandparents was overwhelmingly positive, indicating strong support for the initiative and its impact on student learning.

Observations showed that when students had a greater understanding of the benefits of working together, more children chose to team up to achieve greater success. Students who found it difficult to share their resources or their ideas initially are now more likely to join a group. This enables them to experience different ideas and cultures in a natural play environment. Some of our neurodiverse students need support to give collaboration a go but others around them are offering kindness and encouragement for them to join in.

Data was collected from teachers, whānau, and students through Google Forms, interviews, and observations. Parents and teachers rated skills they considered important for developing 21st-century learners. 'Working together' and 'taking turns' were highlighted as critical skills and became the focus for Tahi Time sessions. These skills were also the most improved by the end of the project. These findings support the goals of not only finding a way to address the increased social development needs of our tamariki, but they also provide a positive indication that teachers and parents see a shift in capabilities. While surveys may not be a sustainable ongoing way to measure continuous progress, they have provided the data to validate the change I sought to make.

The conclusions drawn from this project highlight the significant benefits of a structured play-based learning approach in developing key competencies among young learners. Weisberg et al. (2013) highlight the benefits of play-based learning with intentional curricular goals. Similarly, Wood (2010) suggests that play-based pedagogy promotes deep learning and development of 21st-century skills, such as critical thinking, communication, and collaboration while fostering children's natural curiosity and creativity. While this project supports these theories, further investigation of how to measure the scope and extent of learning achieved would be beneficial to support continued reflection on best practices.

The significance of this project is substantial due to its transferable nature to frame any play-based learning session. By establishing a structured and credible play-based learning program, Windsor North School has set a strong foundation for developing key competencies in young learners. The findings and insights from this project can support other teams across our school and possibly other schools looking to integrate play-based learning into their curricula. The design is not specific to play-based learning and could be transferred to other pedagogies such as project-based or place-based learning.

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## About the Author

Jan Forde is passionate about getting the 'right fit' learning journey for our young tamariki. Her role as Deputy Principal enables her to assist teachers and students in maximising their potential every day, fostering skills to navigate a 21st-century world. She is committed to continuous improvement and ensuring that all students have the opportunity to thrive in a supportive and engaging learning environment.





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## Aspirations of a Kura Community in Tamatea/Central Hawkes Bay

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This project aimed to engage the community of a Kura in a collaborative effort to create a culturally rich marau ā-Kura that supports the holistic learning of tamariki. The project was structured around six primary goals:

1. Identify key stakeholders.
2. Create questions to gather data.
3. Organize opportunities to meet and collect responses.
4. Collect, collate, organize, and share responses.
5. Design a marau ā-Kura conceptual framework integrating the data collected.
6. Embed the marau ā-Kura in teaching and learning programmes.

**Stakeholders and Community Engagement:** The key stakeholders included tamariki, whānau, hapū, the community, and the Kura kaimahi, representing the Kura community. Engaging these groups to communicate their goals and aspirations was crucial to creating a living document termed a marau ā-Kura.

**Benefits of Participation:** Through participation, stakeholders gained significant benefits such as:

- Whiritahi (collaboration)
- Tino rangatiratanga (self-determination)
- Mātauranga Māori (Māori knowledge)

**Place-Based Education:** Wally Penetito (2009), a professor of Māori education, describes place-based education as a kaupapa that details the attributes and stories of a place. This approach encourages collaboration among educators and the community, connecting place with self and community. A marau ā-Kura aligns with these principles in both description and implementation.

**Project Background:** Over the past five years, the Kura has been developing a marau ā-Kura. This project provided an opportunity to gather perspectives from tamariki, whānau, hapū, and the wider community to build on existing work.

**Project Implementation:** The project commenced with a Board of Trustees hui, securing support from whānau representatives and the Kura's governing body. Project questions were designed to gather diverse stakeholder views. Data gathering approaches included:

- Board of Trustees hui
- Whānau hui
- Community and hapū hui
- Group discussions with ākonga and Kura kaimahi
- Surveys and interviews

**Data Collection and Analysis:** Data was collected using Google Forms, Jamboards, brainstorming on whiteboards, and large sheets of paper. Themes were used to streamline the data collection process. The 100 pieces of data gathered revealed that stakeholders placed high value on cultural knowledge, te reo, and tikanga. Tamariki expressed enjoyment of the Kura and Kaiako and a desire to learn more Te Reo Māori. Whānau aspirations were values-centric, while community and hapū groups identified opportunities to support tamariki in transitioning from primary school to college. Sharing the responses with key stakeholders was an uplifting and positive experience.

**Framework Design:** The next goal was to design a conceptual framework representing the Kura community's aspirations. The framework was constructed using mātauranga Māori and significant tohu whenua (landmarks) of the local area. It emphasized illustrating the journey of success for the tamariki of the Kura community. This framework supports holistic learning for tamariki and is both aspirational and achievable.

**Integration and Implementation:** Aligning the marau ā-Kura conceptual framework with the learning and teaching programmes of the Kura was crucial. Incorporating the responses from the data collection provided detail and direction to guide learning for tamariki. Continuous collaboration and discussions with stakeholders ensured that the marau ā-Kura evolved into a practical document integrated into planning and delivery of important learning contexts. Ensuring the marau ā-Kura is relevant and meaningful for tamariki was essential.

**Professional Development and Future Steps:** Professional learning for Kaiako will include embedding the marau ā-Kura into planning and delivery. An action plan will outline timelines, specific objectives, and designated people or groups responsible for achieving these objectives. Collective change requires commitment from all key stakeholders. The marau ā-Kura is set to be piloted in 2025.

**Outcomes and Impact:** Stakeholders strengthened their connections, made decisions about learning, and acknowledged the value of mātauranga Māori in educational programmes. The project highlighted that tamariki belong to the community, and their well-being and success are important to that community.

**Professional Observations:** Observing the benefit and value gained by the Kura community, who were able to voice and express their goals and aspirations for their tamariki, was inspiring. Dreaming and aspiring, believing their tamariki can achieve anything, reflects tino rangatiratanga. The power to determine the pathway of success for their tamariki and being assertive about their role in the education of their tamariki was a new experience for some.

**Change in Practice:**

1. Approaches to whānau engagement should be tailored to the community, ensuring they are innovative, flexible, and creative.

2. Focus on facilitating discussions rather than influencing them.
3. Empower the community to make decisions about the content of the Marau ā-Kura.
4. Collaboration can be effective in large groups, teams, or even between just two individuals.
5. I have enhanced my capability and competence in using digital tools to communicate, promote, and inform the community.
6. Be intentional and clear about the importance of incorporating tamariki voice with tamariki.

**Conclusion:** The success of this project demonstrates that a Kura community can create a culturally rich marau ā-Kura that embraces and nurtures a sense of place and identity for tamariki. With limited research on developing a marau ā-Kura, this study documented and implemented a process that can inform other Kura communities wishing to design their marau ā-Kura. This project serves as a model for engaging communities in creating culturally relevant educational frameworks that support holistic learning.

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## About the Author

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Ko Ohinemataroa me Te Awa o te Atua ngā awa

Ko Te Moana a Toi te moana

Ko Te Paroa me Rangitihi ngā marae

Ko Ngai Taiwhakaea, Ngāti Pūkeko me Ngāti Rangitihi  
ngā hapū

Ko Ngāti Awa me Te Arawa ngā iwi

Ko Mataatua me Te Arawa ngā waka



I have lived and worked as a teacher in this community for over 20 years. My tāne grew up here and we raised our tamariki here. We have seen many whānau come and go and have also watched tamariki we taught grow to give back to the community that nurtured them.

This project has enabled me to pursue a passion for supporting and illuminating whānau voice. The opportunity to listen to whānau and the wider community express what they value, and what contexts of learning are important to them has been inspiring and motivating. Acknowledging and strengthening the partnership that exists between Kura and their community is imperative.



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## Using project-based learning to teach my year three and four class how to work collaboratively in small mixed-ability groups

Kit Jesson

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The purpose of this project is to use project-based learning as a medium to teach and develop collaboration skills. Project-based learning was chosen as it provides opportunities to work together to solve a real-world problem.

The need for this project came about as I was observing my students and other students across the school attempting to work together to solve a task. In most cases a confident student would take over the task and other students would wait for him or her to come up with a solution.

Besides teaching students how to support each other to work together as a team, I wanted to develop their digital skills, but I realised they would develop these skills as they worked on their projects. I also wanted my students to learn research skills such as skimming and scanning, note taking and organising their information; however, these were also taught as part of their project. I focussed my data collection on the development of their collaboration skills as this was my main objective.

The benefits of this project have been an increased understanding of how to foster collaboration skills within a school. Another benefit was the students shifting their motivation from extrinsic to intrinsic as they realised how much work could be accomplished as a team. There was also a positive change in the class dynamic as the students recognised each other's strengths and came together as a class. They were able to link the collaboration to our school values of Whanaungatanga (Working with others to create and sustain positive relationships), Rangatiratanga (Striving to become your best self and supporting others to do the same) and Akoranga (Growing the skills for reciprocal and agentic learning so we all progress and succeed).

The Talanoa framework was used throughout the project to create a safe place where students could share their ideas in a respectful environment. This project was implemented over two terms. Initially, collaboration games were taught to the class to promote teamwork. Then a research group was selected. The students in my first group researched a part of their individual pepehas with the idea that they would collaborate to teach each other technical skills and help each other research. This was not the case, as they worked mainly as individuals and only occasionally supported each other. At the time, they felt pressured to complete a slideshow about a parent in a few weeks. In the second term, the task was changed to a project that could only be completed as a team, namely researching the school pepeha. This was to solve the real-world problem that our students didn't know a lot about our school. This change created a dramatic shift in the amount of collaboration since the focus had changed to supporting each other to complete the task.

Action research was the methodology used and data was gathered - using observations and recorded on a collaboration rubric that had been co-constructed with the students. The data was graphed based on the number of instances of collaboration and the level of collaboration observed (beginning, emerging, developing and demonstrating). The analysis of the data proved that the task itself has the most impact on the amount of collaboration and the motivation to collaborate. I feel that a focus on the task as the foundation of collaboration is new ground that should be researched further.

The next steps for this project will be professional development sessions at my new school, Peninsula Primary. The focus of these sessions will be to share my project and what I

have learnt. I will also share my deliverables that include lesson plans, the collaboration rubric, collaboration treaty, a useful book on project-based learning by Juliani (2018), and articles about collaboration by (Luvmour & Luvmour, 1990). Another article that needs to be shared is about the importance of co-constructing success criteria by (Gonzalez, 2021). By sharing these deliverables my colleagues will be able to start developing more collaborative classrooms. I will lead this professional development with the support of my management team. The goal will be for me to scaffold my support until the staff are confident to teach collaboration independently. All deliverables will be in a shared folder that the staff are encouraged to contribute to, so it becomes a living resource.

As the professional development is taking place collaboration will be linked to their school values of Respect -Whakaute, Responsibility - Ngā Haepapa and Resilience - Manawaroa. This will manifest as Respect: for each other using the Talanoa framework. Responsibility: for the success of the team. Resilience: Learning that you can overcome challenges as a team. The ultimate goal is to have collaboration (a vital twenty first century skill) become part of the culture of Peninsula Primary.

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## About the Author

Kit Jesson is a primary school teacher working at Peninsula Primary. He was previously employed at Prospect Primary school teaching a year  $\frac{3}{4}$  class part time and relieving across the school.

"Ehara toa i te toa takitahi, engari, he toa takitini" – My success is not that of a single person but instead the strength of many.





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### Strengthening Online Distance Learning: Practical Skills for PE

Naomi Jones

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The purpose of my project was to discover ways that could strengthen online teaching and learning of practical skills for distance ākonga within the Health and Physical Education (PE) Year 2 course at tertiary level. As this was a newly designed programme, I wanted to ensure that online distance ākonga were confident and competent with teaching fundamental PE skills outlined in the New Zealand Curriculum.

The research questions for this project were:

- How do I strengthen distance ākonga sharing content of PE lesson plans effectively?
- How can I effectively facilitate the key components of practical PE lessons for distance students?
- How can I strengthen the practical experience for distance ākonga in learning to teach PE?

During the project I discovered through interviews and surveys that practical skills and resources for distance online ākonga was not a challenge for participants. In order to create positive change to online learning for distance ākonga, three key components were emphasised through literature and ākonga responses.

1. Creating an online community that fosters belonging (Garrison, 2006; Keegan & Sciascia, 2018; Saha et al., 2022)
2. Strengthening technology capability and skills (Şen-Ersoy, 2023; Wakes & Dunn, 2023)
3. Encouraging collaboration and timely feedback (Garrison, 2006; Sato & Haegele, 2019; Wakes & Dunn, 2023)

Distance learners often expressed feelings of isolation due to both geographical separation and lack of connection (Saha et al., 2022). To facilitate deeper learning connections, creating opportunities for virtual whanaungatanga, which enhances and enables ākongā to form relationships through shared values and experiences (Keegan & Sciascia, 2018), was crucial. This was intentionally facilitated through questions and discussions during breakout spaces in Zoom sessions.

Technology capabilities and skills varied among participants and created challenges for some ākongā due to insufficient digital literacy skills (Şen-Ersoy, 2023). Navigating unfamiliar technologies and asking for help from fellow ākongā created a sense of connectedness and a supportive online learning environment. This was beneficial for ākongā who lacked the confidence to try something new or unfamiliar tasks, especially with videoing components.

When ākongā were in small groups online, they experienced a sense of community through collaborative group-centred interactions, discussions, and activities. These opportunities allowed ākongā to build on each other's comments and thoughts in the online environment (Garrison, 2006). Small groups also provided ākongā with ownership and responsibility for their learning, enhancing the opportunity to provide constructive feedback (Sato & Haegele, 2019).

The timeframe for the project was one year, as two sets of ākongā participated during the research, and the Health and PE paper was only taught in semester 1. After gathering and analysing participants' responses, I used McNiff's eight stage model of action research (McNiff, 2002, as cited in Cohen et al., 2013).

Interviews, surveys, and a reflective journal were used as qualitative data collection. During the interviews, participants discussed their previous experience as an online distance ākongā adding ideas to enhance learning experiences for future ākongā. Preparation, active

listening, respect, and remaining objective, as outlined by Cohen et al. (2013), formed the cornerstones for my methodological approach.

To promote a more supportive and engaging learning environment, understanding and enhancing cultural responsiveness, fostering inclusivity and sensitivity to diverse cultural backgrounds was imperative during the whole process of this research project.

From the first action research iteration cycle, key changes to my teaching included:

- Allowing more time for whakawhanaungatanga as well as sharing learning.
- Implementation of reading response sheets.
- Integration of ākonga videos as examples (with permission).

Other ideas and suggestions that developed from the second iteration cycle discussions included:

- Creating a forum page, on BTIonline, where ākonga could write their questions and thoughts about the weekly mahi.
- Having evening Zoom sessions to accommodate working ākonga.
- Visiting a PE expert, high performing team, coach, gym, in their local area.
- Building connections with the local community re sports team, experts, etc...

This project provided valuable insight and reflection to my own personal teaching practice. It has been encouraging to know that the delivery of my teaching is engaging and interactive for ākonga. However, small tweaks in my teaching practice have allowed shifts in unlocking learning for ākonga, hence creating success. My project has emphasised the importance of online connection and sense of belonging because, through these, collaboration and support effectively take place for ākonga.

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## About the Author

Naomi Jones has worked as a kaiako in primary education for 20 years, teaching tamariki across Aotearoa New Zealand and in the United Kingdom. Currently working at Bethlehem Tertiary Institute (BTI), she is passionate about training and equipping ākonga into their future profession as kaiako. Her passion for integrating and cross curriculum linking brings a dynamic and engaging approach to her practice as an educator. Part of Naomi's role as an educator is Cohort Mentor, where she is highly relational and naturally engages in whanaungatanga and manaakitanga. Naomi thrives in the tuakana/teina relationships of education. She is passionate and committed to teaching and learning both for herself and others as her heart is to see ākonga grow and excel as future educators in Aotearoa New Zealand.





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### Developing Self-Determined Learning Using a Blended Learning Model that Harnesses the Potential of Collaborative Groups.

Kate Lewis

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Upon reflection in 2022, through collating teacher and student observations, as well as engaging in discussions with fellow educators and families, significant insights were revealed. Teachers at the kura where this project was conducted exhibited uncertainty regarding the concept of self-determined learning and lacked clarity on how to foster and evaluate it. The majority of students in years 5-8 demonstrated a lack of intrinsic motivation, struggled with independent work and collaboration, demonstrated minimal reflection on their learning process, and remained oblivious to their goals and next steps. These insights highlighted a gap in providing students with the necessary knowledge, skills, and attitudes to thrive in a rapidly changing world, prompting the development of this project. Recognizing the key role of teachers in driving curriculum innovation (Kelly, 2009), the project aimed to: Foster a thorough understanding among teachers of self-determined learning, disruptive technology, collaboration, and blended learning, making clear their interaction and significance, and; Provide teachers with the necessary knowledge and resources to establish a blended learning model that develops self-determined learning.

The goals of the project were to: Develop and produce a blended learning model that harnessed the potential of collaborative groups in order to develop self-determined learning; Implement a blended learning model that included a mixture of collaborative face-to-face learning and collaborative online learning via a school student management system called Hero; Implement two action research cycles (each lasting a term), each offering students the opportunity to reflect on their learning and gradually giving them more control over their learning; Use a combination of teacher observation data, teacher reflective journal data, student interviews, and collaborative work produced including face-to-face and online; Create a variety of project deliverables to support teachers with their understanding and implementation of self-determined learning. Consequently, the project aimed to benefit both students and teachers. Students were expected to gain increased self-determination, motivation, and collaborative skills, preparing them better for future challenges and teachers' practice would benefit from having enhanced clarity on how to implement self-determined and blended learning strategies.

The argument guiding the project was that “Blended Learning enhances Self-Determined Learning and increases student motivation.” This argument was based on the expectation that integrating technology and collaborative methods would enhance students' self-determined learning and overall motivation, supported by Huang and Zhou's (2003) findings that blended learning's focus on self-directed and discovery learning effectively fosters these critical skills among students.

Data analysis involved evaluating both quantitative and qualitative data. The analysis of quantitative data from the interviews and observations was relatively straightforward. This data was collected through predefined categories, making it easy to categorize and interpret responses. In contrast, analyzing qualitative data from open-ended interviews and reflective journals involved identifying themes and patterns related to student experiences and perceptions of the blended learning model. Quantitative data showed that over the course of the two action research cycles students needed less teacher support and interacted more within groups. Qualitative data indicated positive student feedback on the learning opportunities provided. The findings aligned with existing literature, confirming that blended learning fosters self-determined learning and improves student engagement (Cambridge University Press, 2016).

The project revealed significant insights including: The necessity and educational benefits of group work need to be explained to learners (Morrison, 2014); Basic information technology skills such as logging onto devices, navigating the school management system Hero, and efficiently accessing online learning materials need to be developed initially; Learners need to feel part of a supportive community, where they are able to communicate purposefully in a trusting environment that develops their relationships (Garrison et al., 2020); A kawa that has clear guidelines on learner expectations and roles; Assessment methods (group and individual); Learners need to assess their individual and group effectiveness using a self-reflection rubric and by evaluating their work against the established success criteria; Access to digital platforms and tools that assist online collaboration, including Google Docs, web 2.0 applications, and software that permits threaded discussions (Szewkis et al., 2011); Additionally, face-to-face and online content need to complement one another; Carefully choosing groups and controlling group size is important (Kumi-Yeboah, 2018; Wang, 2011); and regular and ongoing teacher support is essential.

This project highlighted the vital role of self-determined learning in preparing students for an uncertain future and the importance of ongoing research into self-determined learning and the evolving role of teachers in facilitating it. It further emphasised that harnessing the power of collaborative groups who reflected on their performance enhanced collaborative dispositions and supported groups to achieve more than they could do alone. To conclude, learning design plays a crucial role in fostering self-determined learning, requiring intentional efforts from teachers to gradually shift ownership of learning to students. While initial support may be necessary, this study shows that students can successfully become self-determined learners once empowered (Benson & Miller, 2020). Overall, this research contributed to understanding and improving self-determined learning through carefully structured group interactions, assigned group roles, and reflective practices.

The next step for the project would be to investigate reflection in greater detail, as the project highlighted the significant impact of reflection on the development of collaborative dispositions amongst students. An additional step for the project would be to continue experimenting with different ways of structuring groups and utilizing group roles effectively

as this project also highlighted how group roles tackled under contribution and over dominance allowing for better group cohesion.

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## About the Author

Kate Lewis, originally from England, has been teaching in New Zealand for the past six years in a variety of primary schools in South Auckland and recently began lecturing on the Bachelor of Education Primary program at EIT in Napier. Passionate about staying current with contemporary educational issues, Kate is grateful for the opportunities provided by her master's studies and is enthusiastic about continuing her academic journey.





## academyEX Executive Summary

Master of Contemporary Education C11P Cohort

Symposium July 17<sup>th</sup>, 2024

### A Context-Specific Trades Teacher Development Programme to Embed Student-Centred Practice

Rhiannon McNamara

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Former industry trades professionals are employed to teach within a large tertiary institute without the necessary skills to deliver student-centred learning and teaching. This project will create a personalised context-specific professional development programme for ex-trades professionals, informed by contemporary literature, to support them to deliver student-centred learning and teaching. The effectiveness of the programme will be evaluated iteratively, with adjustments based on evidence gathered. The project will result in a PD menu, an onboarding handbook, and an online resource repository to support new trades teachers as and when they are ready, benefitting the learner experience and the school with meaningful and readily accessible professional development opportunities.

The Trades Vocational Education and Training sector in New Zealand is in a constant state of flux (Maurice-Takerei, 2015) and teaching roles within it have a complexity beyond those in other sectors (Franciso, 2014; Guthrie & Every, 2013; Maurice-Takerei, 2015). Heightened expectations of the learner experience with a focus on strengths-based student-centred learning (SCL) is a challenge for new teachers. This issue is further complicated by the

diverse nature of NZ's vocational student population. With no requirement for formal teaching qualifications, new entrants are inserted into a classroom environment for which they are wholly unprepared. A personalised context-specific professional development plan will support these trades professionals to develop a student-centred approach in their emerging teaching practice.

The criterion for participating in the project was less than two year's teaching experience. The aim was to provide these novices with a personalised, context-specific professional development plan that would be delivered over a period of six to nine months (time dependent on progress). Seven TVET teachers met this profile and were asked to engage with this project. The focus of the PD was to ultimately deliver a series of training sessions which would embed student-centred teaching practice.

Due to the diversity in knowledge and capability of the participants, a needs analysis was carried out with each participant to determine individual needs as their capabilities were so diverse. A personalised PD programme was then developed to suit their individual needs. Searching academic literature offered a direction of travel and filled gaps in personal knowledge. The key to understanding the needs of the participants was to look at their experiences in the trades and their own experiences as students/apprentices. This helped me identify why they adopted the teaching approaches they did.

Evidence from needs analyses, observations during the scoping phase, and the literature review informed the development of the personalised PD plan focused on the specific needs of trades professionals to support them to deliver SCL. Group and one-to-one input sessions with the participants were facilitated by the researcher where key SCL concepts were explored and outlined, while embedding basic teaching skills, with resources provided to support application of these concepts in practice. As the project aimed to be personalised to meet diverse needs, individual circumstances determined the pace, format, and content of the PD programme (one-to-one or group sessions).

Classroom observations of participants' theory sessions were carried out, with follow-up professional discussions, to identify emerging SCL practices and inform the next iteration of the plan. The PD programme was reviewed after each iteration and evidence-based

changes made. Iteration one of the PD plan was implemented with 5 teachers, then the second iteration with a further 2 teachers.

Action Research was the chosen methodology for the project as its iterative nature and focus on context-specific problem solving aligned well with the project aims.

Thematic analysis of all quantitative and qualitative data was undertaken to evaluate the project. Further to the observations of teaching practice, anonymous surveys of students and participants were also used to gather data. First, the data were deductively analysed against Bremner's SCL framework (Bremner, 2020) to identify patterns of SCL practice. This analysis enabled the measurement of the success of the personalised PD programme to support the development of SCL teaching practices. Data indicated that the PD plan had a variable impact on participants including more SCL approaches in their teaching with evidence of a variety of active participation strategies in use, a focus on relevant skills and the use of oral questioning. It also indicated that participants are continuing to develop their skills in adapting to learner needs and converting expert knowledge into digestible chunks of learning, which aligns with the findings of Maurice-Takerei (2017), and power-sharing is a SCL principle that the participants seem to struggle with to varying degrees, with some struggling to relinquish control - which supports the findings of Harris, Simons & Bone (2000), indicating further training and support is needed in these areas. Inductive analysis found that there was strong evidence of relationship-building skills in the participants' approach to teaching, which honours the bi-cultural context of Aotearoa New Zealand (Rātima, 2022). While the literature review revealed that digital competency was often an issue among TVET teachers, the findings of his project highlighted the extent to which it hinders teaching capability development.

It became obvious that trades teachers bring a unique set of attributes, which are overlooked when viewed through a traditional academic lens. The initial approaches used by novice teachers are shaped by their own personal experiences of academia and apprenticeship training, which in turn informs their modus operandi of teaching through transmission of knowledge. It became apparent that current teacher education programmes miss the opportunity to leverage the unique experiences of trades teachers. Another barrier to progress is the lack of skill which we in academia often take for granted,

i.e., digital competency. This is a key source of frustration and was an unintended observation when undertaking this project. It is recommended that this project continues to be developed by the School, using a Trades Teaching Apprenticeship model to develop excellent student-centred trades teachers, and could be shared with other trades education providers.

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## About the Author

Rhiannon McNamara is a dedicated educator at a prominent polytechnic in New Zealand, committed to equipping trades professionals with the skills needed to thrive in a modern, student-centred teaching environment. She is passionate about dispelling the myth that teaching trades is straightforward.

Raised in a trades-focused family in Wales, Rhiannon left the family business to seek new adventures, eventually becoming an English teacher and teacher educator in New Zealand. Now fully dedicated to trades vocational teacher education, she is driven by a passion for teaching trades teachers the art of teaching. She takes great delight in watching their confidence grow.

Rhiannon is eager to pursue further research to ensure that trades professionals receive the support they need on their journeys toward teaching excellence.





# academyEX Executive Summary

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## A cross-curricular approach to learning through a digital garden project

Leah McPhee

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The Cross-Curricular Digital Garden Project aimed to enhance student engagement, foster interdisciplinary connections, and strengthen community involvement through the integration of gardening, digital technology, and cross-curricular learning. This project was designed to create a holistic educational experience at Tauhara Primary School that not only deepens students' understanding of various subjects, but also promotes hands-on learning and cultural responsiveness.

My project goals were to: increase student engagement through experiential learning activities; foster interdisciplinary learning by integrating subjects such as science, mathematics, literacy, and digital technology; strengthen partnerships between the school, whānau, and the broader community; promote culturally responsive teaching practices, particularly incorporating Māori perspectives and language; and to enhance students' technological skills and digital literacy.

The proposed benefits of the project included improved student engagement and achievement, stronger school-community relationships, and the development of essential

digital skills. The main beneficiaries of the project were the students, teachers, and the whānau community.

My project addressed the need for innovative teaching practices that engage students and connect learning across different subjects. It aimed to bridge the gap between traditional classroom instruction and experiential, interdisciplinary learning. The project involved 54 students from Year 4-6, their teachers, and the whānau community over a school year. The hypothesis driving the project was that integrating gardening with digital technology and cross-curricular learning would enhance student engagement and achievement.

My project was initiated by establishing a physical garden within the school grounds. Students engaged in gardening activities, documenting their progress using digital tools such as iPads and IoT sensors. They created digital journals, conducted research, and developed multimedia presentations to share their findings. Teachers participated in planning sessions to align the project with curriculum standards, while the whānau community was actively involved through regular meetings and participation in gardening activities.

The methodology used for the project was Action Research, which involved iterative cycles of planning, acting, observing, and reflecting (Altrichter et al., 2002). Data collection methods included interviews, surveys, and observations to evaluate the project's impact on student engagement and learning outcomes. Data analysis involved coding and thematic analysis of interview transcripts, survey responses, and observational notes.

The analysis revealed that students showed increased enthusiasm and a deeper understanding of scientific concepts through hands-on gardening activities. The interdisciplinary approach allowed students to form meaningful connections between different knowledge domains, promoting a holistic understanding of concepts. The literature supports these findings, with Dewey (1938) emphasizing the value of experiential learning and Beane (1997) advocating for curriculum integration.

The project's success in involving the community underscored the importance of strong school-whānau partnerships in enhancing student achievement. Epstein (2011) asserts that

family and community engagement plays a crucial role in creating a supportive educational environment, a finding validated through this project.

My project's findings highlight the significant impact of cross-curricular and experiential learning on student engagement and achievement. The integration of digital technology enhanced students' digital literacy and provided them with valuable skills for the future. Mishra and Koehler's (2006) research on Technological Pedagogical Content

Knowledge (TPACK) underscores the importance of integrating technology into teaching, a principle successfully applied in this project.

Culturally responsive teaching practices were emphasized, with Gay (2010) highlighting the importance of valuing students' cultural backgrounds and experiences. The project incorporated Māori language and perspectives, creating a more inclusive and supportive learning environment. The use of the tuakana-teina model further reinforced the value of culturally responsive education. The project demonstrated the benefits of cooperative learning, as suggested by Johnson and Johnson (1989), in enhancing student performance and information retention. The collaborative nature of the project fostered teamwork and tuakana-teina learning, contributing to a positive and productive learning environment.

Reflective practice, as advocated by Schön (1983), played a crucial role in the project's development and implementation. Continuous reflection and feedback from teachers, students, and the community allowed for ongoing improvements and adaptations, ensuring the project's relevance and effectiveness.

If the project were to continue, the next steps would include expanding the scope of the garden to include more diverse plant species and incorporating additional digital tools to further enhance the learning experience. Future research could explore the long-term impact of cross-curricular projects on student achievement and the effectiveness of different digital tools in supporting interdisciplinary learning.

The Cross-Curricular Digital Garden Project has significantly transformed teaching practice by integrating hands-on learning, interdisciplinary instruction, community engagement, digital technology, culturally responsive practices, and reflective teaching.

These changes have created a more engaging, inclusive, and effective educational environment for students, with promising implications for future teaching practices.

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## About the Author

Leah McPhee is a passionate educator dedicated to innovative teaching practices that blend experiential learning, digital technology, and cultural responsiveness. With extensive experience in primary education, Leah focuses on fostering student engagement through holistic and inclusive approaches. She holds a Bachelor of Education degree and a Postgraduate qualification in Sports Management and Exercise Prescription.



Leah's recent Cross-Curricular Digital Garden Project highlights her commitment to integrating various subjects through hands-on learning. She actively incorporates Te Reo Māori and Māori traditions into her teaching, promoting cultural diversity and appreciation.

An advocate for strong school-community partnerships, Leah believes in the power of student voice and choice, creating a learning environment where students feel valued and empowered.



# academyEX Executive Summary

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## Strengthening Cultural Identity through Pepeha and Storytelling

Steve Matthews

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Enhancing students' knowledge and confidence in pronouncing and comprehending Te Reo Māori, including their local and whānau pepeha, was the main goal of this project. It aimed to strengthen cultural knowledge, language revival and cultural identity pride among the Year 5 and 6 Māori students within my class. This project applied a culturally responsive, place-based approach, incorporating pepeha through digital storytelling and stop-motion animation to achieve these objectives.

Bishop and Glynn (1999) highlighted the significance of culturally responsive education, emphasising the importance of identifying and valuing students' cultural identities to promote equity and inclusion. In line with these principles, the project aimed to empower my Māori students at a South Auckland primary school by deepening their connection to their cultural heritage, local environment, and community, while enhancing their language skills.

The identified problem was the declining knowledge and appreciation of local and whānau pepeha among students, impacting their cultural identity and proficiency in Te Reo

Māori. This cohort was no different. This lack of cultural knowledge highlighted the need for educational initiatives that address the importance of pepeha in expressing one's identity, whakapapa, and connection to the land and community. This project sought to address this practice issue by implementing culturally responsive and place-based learning strategies. The project involved Year 5 and 6 Māori students, their whānau, and the local community. The main hypothesis was that integrating culturally responsive pedagogy and innovative teaching methods, such as digital storytelling, would enhance student engagement, improve language skills, and strengthen cultural identity.

The project had several themes within the context of contemporary education by blending culturally responsive pedagogy with innovative teaching methods, such as digital storytelling through stop-motion animation.

Launching the implementation process involved organising introductory meetings with students and their whānau, explaining the project's objectives and gathering input to ensure the project's cultural relevance. Engaging whānau strengthens the bonds between home and school, enhancing student well-being and achievement (Macfarlane, Glynn, Cavanagh, & Bateman, 2007).

Comprehensive lesson plans incorporating Te Reo Māori pronunciation, pepeha and language practice, animation, and digital storytelling were developed using the Educultural Framework as a guide. Phonetic guides, practice worksheets, storytelling templates, and personalised pepeha templates were also created for whānau and students. Culturally responsive teaching recognises the importance of including students' cultural references in all aspects of learning (Ladson-Billings, 1995).

I facilitated storytelling sessions where students learned about local landmarks and their significance in Māori culture. We visited these landmarks, and local experts and elders shared narratives and the history of our local environment. Digital storytelling workshops were conducted to teach students and whānau how to create digital storytelling videos and stop-motion animations. These truly came to fruition nearing the completion of the project.

Students created storyboards of their pepeha animations. They illustrated their cultural stories and pepeha, utilised through short film clips using claymation and stop-motion animation. Creating animations involved designing sets and characters and filming each animated part of the pepeha frame by frame. This part of the project saw the highest

student engagement. Students narrated their animated pepeha in Te Reo Māori, using phonetic cards to refine their pronunciation.

Regular group discussions provided a platform for reflecting on the learning process and gathering feedback from students and whānau. Students were assessed regularly on their pronunciation of Te Reo Māori words, including those specific to pepeha.

The project followed a participatory action research methodology, emphasising collaboration between myself and the participants (students and whānau). This approach fostered a sense of ownership and agency among participants. Action research involves cycles of planning, action, observation, and reflection, continuously improving the project's effectiveness.

The leadership approaches implemented were Adaptive Leadership and Transformational Leadership. Adaptive Leadership, necessary for improving student understanding and pronunciation of Te Reo Māori and pepeha, involves flexibility, problem-solving, and inspiring students to take on challenges. Consistent support and encouragement were provided to create an environment where students could thrive. Transformational Leadership played a key role in the project's success by setting a clear and inspiring vision. This engaged students and their whānau, connecting the project to their cultural heritage through innovative teaching methods and leading to positive educational outcomes (Bass & Riggio, 2006).

The project employed a qualitative research design utilising participatory action research. Data collection methods included observations, interviews, videos, focus groups, and document analysis. This mixed-methods approach allowed for a comprehensive understanding of the project's impact on students' knowledge, language skills, growth and cultural identity.

Regular video assessments tracked student progress in Te Reo Māori pronunciation and pepeha knowledge. By analysing both qualitative and quantitative data, it enabled me to identify areas of success, and other challenging areas that needed improvement to ensure the project met all students' needs. Data that was collected through questionnaires, observations, and video recordings were analysed to provide insights into the effectiveness of the project and the progress made by each student. Key findings included improvements

in students' pronunciation and understanding of Te Reo Māori, increased engagement and motivation, and a deeper connection to their cultural heritage and the local environment.

The project's goal of improving students' cultural understanding and language proficiency through place-based and culturally responsive learning aligns with broader educational research. The improvements observed in this project support the notion that these instructional strategies effectively develop stronger cultural, community, and language connections.

This project further demonstrates that integrating culturally responsive pedagogy, place-based education, and innovative teaching methods like stop-motion animation can significantly enhance students' engagement, cultural identity, and academic achievement. By establishing strong

connections with their cultural heritage and improving their Te Reo Māori proficiency, the project highlighted the importance of whānau and community support, resource availability, and creating an educational environment where Māori students feel valued and supported (Berryman & Bishop, 2009).

This project demonstrated the effectiveness of culturally responsive pedagogy and place-based learning in enhancing cultural identity and language skills. Allocating more time and having more whānau and community involvement would assist in making the project more sustainable. As a follow-up project, I would extend the research to explore iwi history conducting interviews with elders to create a short documentary. This project has altered my practice by emphasising the importance of whānau involvement and having a collaborative classroom. The project findings provide a model for others to incorporate local culture and language into their teaching.

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## About the Author

I am a primary school teacher in Māngere Bridge, Tāmaki Makaurau. I am passionate about education as a teacher in a Year 5/6 class. I strive to create an inclusive, engaging, and culturally responsive learning environment.

Having lived in Auckland for most of my life, I have a strong connection to this vibrant city. I am blessed with an amazing wife, three wonderful daughters and two beautiful mokopuna (granddaughters).

Before transitioning into the teaching profession, I had a dynamic career in the photographic industry. I specialised in professional photography, selling high-end photographic equipment, and training professional photographers as well as high school, tertiary and community-education photography students. This experience has honed my keen eye for detail and fostered a creative approach to teaching, which I bring into my classroom every day.

As a teacher, I am dedicated to helping my students develop their academic skills while nurturing their cultural identities and self-confidence. By utilising 21st-century teaching methods and appreciating each student's unique background, I strive to make a positive impact on their educational journey and personal growth.





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## Creating a growth mindset environment

Elize Meyer

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Establishing a growth mindset among students, where they learn from their mistakes, benefits both learners and educators. Students with a fixed mindset feel an urgency to prove themselves, believing their qualities are fixed repeatedly. However, as proposed by Dweck (2007), a growth mindset asserts that basic attributes can be cultivated through effort, strategies, and support. Individuals with a growth mindset embrace challenges, viewing them as opportunities to explore their abilities. In this project, I implemented growth mindset strategies and positive self-talk to develop intrinsic motivation and positive engagement in learning tasks in my Level 3 Technology class. The benefits of implementing these strategies were successful completion of achievement standards and the learning of strategies to establish a growth mindset.

Post the Covid-19 pandemic I have noticed a decrease in student engagement towards schoolwork and assessment tasks. Throughout my project, I utilized the action research cycle, which encompasses planning, action, analysis, and conclusion, providing a structured framework to iteratively improve my teaching practices. “Action research is intended to support teachers, and groups of teachers, in coping with challenges and problems of practice and carrying through innovations in a reflective way” (Altrichter et al., 2008). As a

middle leader at my school, this approach allowed me to support colleagues and refine educational strategies effectively. I implemented new strategies with a group of students on a fortnightly basis, which proved beneficial in enhancing my pedagogical methods and developing specific student competencies. The iterative nature of action research enabled continuous improvement and a deeper understanding of the impact and rationale behind my teaching adjustments (McNiff, 2010).

The project consisted of three iteration cycles: IC1 involved discussions on Fixed vs. Growth Mindsets; IC2 focused on growth mindset strategies such as positive role modeling, setting individual goals, and providing constructive feedback; IC3 centred on the use of positive self-talk. Data was collected through questionnaires, quizzes, and interviews, providing a comprehensive insight into the effectiveness of each cycle, and informing subsequent iterations.

In this project, the Building Blocks of Collaboration (Griffiths et al., 2020) were employed to foster meaningful relationships with students, aiming to maximize their potential. The model was instrumental in promoting effective collaboration in teaching and learning, with a particular focus on encouraging students to use positive self-talk to develop intrinsic motivation.

Active engagement led to the implementation of growth mindset strategies, contributing to effective collaboration and the construction of strong relationships. The Educultural Wheel further supported this structure, fostering bonding, motivation, encouragement, and the fulfillment of obligations.

To measure student engagement, the Teams platform was utilized for daily progress tracking. The TPACK framework (Koehler, 2009) was implemented, providing an opportunity to develop and establish competencies in Technological Pedagogical Knowledge, Technological Content Knowledge, and Pedagogical Content Knowledge. This was achieved using technological tools and the demonstration of digital fluency.

The Digital Competence Building Blocks (Janssen et al., 2013) were also employed, enabling students to work independently and fostering a growth mindset strategy that contributed to the development of intrinsic motivation. This approach aligned with the project's purpose: to implement growth mindset strategies and positive self-talk to develop intrinsic motivation and positive engagement in learning tasks in a Level 3 Technology class.

The project aimed for students to develop a sense of agency, using digital tools effectively and working self-sufficiently without distractions. This approach contributed significantly to the project's success in fostering a growth mindset among students. The project involved the designing and implementing of a strategy known as "The + Effect", which aimed to foster a positive vibe, environment, people, and attitude in the classroom. This strategy was expected to contribute to positive outcomes.

Creating a positive vibe involved establishing a sense of belonging where students felt comfortable and could learn from their failures. This facilitated the building of positive and constructive relationships, allowing for difficult yet respectful conversations.

Creation of a positive environment involved structuring academic resilience, setting realistic goals, and sharing visions and ideals. The emphasis on positive people highlighted the importance of surrounding oneself with positivity, with students encouraged to identify realistic role models who positively influence them.

Teachers, as role models, were encouraged to be transparent and authentic, providing constructive criticism and positive feedback. The strategy also focused on fostering a positive attitude, creating a space where students used positive self-talk strategies for intrinsic motivation and demonstrated a willingness to work towards their goals.

This approach aimed to engage students in their learning, encouraging them to explore more and develop the ambition to be the best versions of themselves, regardless of their circumstances. The strategy aligns with the project's purpose of implementing growth mindset strategies and positive self-talk to develop intrinsic motivation and positive engagement in learning tasks.

Data collection played a crucial role in informing iterations by assessing mindset levels, the use of positive self-talk, and motivation. Qualitative and quantitative data were gathered using diverse methods to evaluate the efficacy of the pedagogical approach aimed at enhancing learner engagement and fostering a growth mindset in the Technology class. The data collection methods included ākonga questionnaires and semi-structured interviews. This comprehensive approach provided valuable insights into the impact of the implemented strategies on students' mindset and motivation. I have found that most students start with a fixed mindset. After strategies to develop their mindset, most students shifted to a growth mindset. Self-talk was not a motivational strategy that students were

familiar with. However, students were interested in utilizing this method. I have found it rather strange that students did not react to motivational posters displayed in class and that they did not even notice it. A key component of “The + Effect” strategy was the creation of a learning environment that encouraged students to embrace failure and learn from their mistakes. This approach fostered a culture of acceptance where making mistakes was seen as a natural part of the learning process. Crucially, it also provided students with the opportunity to correct their errors and derive valuable lessons from them. The data indicates that this approach was successful, with a significant majority (90%) of students reporting comfort with making mistakes. This suggests that the strategy effectively promoted a growth mindset and resilience among students.

The project’s key learning was building constructive relationships with students and understanding their interests and backgrounds. This understanding significantly improved their attendance, attitude, academic resilience, and cooperation. The implementation of ‘The + Effect’ strategy created a positive learning environment where students felt safe, welcomed, and encouraged. It fostered personal growth, positive engagement, and a growth mindset. As a teacher, focusing on changeable aspects, maintaining a positive attitude, and instilling building blocks in young adults were crucial. The project underscored the importance of continuous personal growth and lifelong learning.

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## About the Author

Elize is an accomplished educator with a wealth of experience spanning nearly two decades. Trained overseas in South Africa, she has held significant leadership roles, including serving as the head of a technology department. Elize's passion for teaching is evident in her commitment to nurturing young minds and guiding them toward becoming responsible adults.

She is known for her positive outlook on life, unwavering commitment, and loyalty. Elize is always willing to put in the effort to ensure the success of her students and the institutions she serves. As she approaches her 20th year in the teaching profession, her dedication remains as strong as ever.

Elize lives by the motto: "Live life and make memories." This philosophy not only reflects her approach to life but also resonates in her teaching methodology, where she strives to create memorable learning experiences that inspire and motivate her students. Her journey as an educator is a testament to her belief in the transformative power of education and her dedication to the growth and development of her students.





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### Implementing Project-based Learning to Lift Student Engagement

Robina Rihari

This project was developed to explore how culturally responsive, place-based and project-based learning (PBL) could improve engagement among Year 7 students in a New Zealand intermediate school. The focus group included eight students who had previously shown patterns of disengagement, including passive behaviours, limited motivation, and frequent withdrawal from learning activities. The aim was to move beyond compliance-based learning and create a classroom environment that offered authentic, culturally relevant tasks designed to improve behavioural, emotional, and cognitive engagement.

The inquiry emerged from a genuine concern about the visible disconnect between learners and the curriculum. Students appeared disinterested and unmotivated, often lacking curiosity and ownership over their learning. Observations and informal conversations revealed that many students struggled to see the relevance of what they were learning in school to their own lives. This challenge became an opportunity to reframe learning through a culturally responsive lens that valued student voice, identity, and connection to whānau.

The work of Taylor and Parsons (2011) provided a foundational framework for measuring engagement through behavioural, emotional, and cognitive dimensions. These were used to shape both the learning tasks and the assessment methods. Culturally responsive pedagogical principles informed task design, drawing from the research of Glynn et al. (2010) and Khalifa (2020), who emphasise the importance of relationships, identity, and

student context in shaping successful educational outcomes. These theoretical perspectives aligned with the goals of the New Zealand Curriculum (2015), which advocates for student-centred, future- focused learning.

The specific goals of the project were to:

- Deepen understanding of student engagement
- Embed culturally responsive PBL strategies
- Use a structured action research approach

The project unfolded across three inquiry cycles. In each cycle, students engaged in integrated, cross-curricular tasks that were hands-on, collaborative, and rooted in real-life contexts. For example, in one iteration, students investigated lunchbox choices and shared their findings through presentations. In another, they adapted family recipes and interviewed whānau members to explore cultural food practices. The final cycle involved the collaborative creation of a digital cookbook, showcasing their recipes, reflections, and designs. Each cycle was informed by student feedback and included time for reflection and goal setting.

Multiple forms of data were collected to assess the impact of this approach:

- Google Form surveys (Likert scale and open-ended questions)
- Student reflections in digital OneNote journals
- Observational checklists based on engagement dimensions
- Student-created artefacts (e.g., digital recipes, presentations)
- Informal whānau feedback and student-led interviews

The findings clearly demonstrated that engagement increased when students participated in authentic, culturally meaningful learning tasks. Behaviourally, students were more focused, productive, and collaborative. Emotionally, they expressed enjoyment, pride, and connection especially when working on tasks that involved whānau contributions. Cognitively, students showed depth in their thinking, creativity in their artefacts displaying growth in their ability to reflect on their own learning processes. Student comments in surveys and logbooks reflected a genuine connection to the tasks and a sense of accomplishment.

One key shift observed was students taking increasing ownership of their learning. As the cycles progressed, learners became more confident in setting goals, evaluating their progress, and engaging in peer feedback. This autonomy translated into a stronger classroom culture and a shared sense of purpose. Feedback from whānau also indicated that students were talking about their learning at home and showing pride in their contributions suggesting that the project had impact beyond the school setting.

Some challenges emerged, including:

- Varied levels of student digital fluency
- Need for scaffolding around new tools (e.g., Canva, PowerPoint)
- Time management within the timetable
- Differing levels of home support for project work

This project aligns strongly with Glynn et al.'s (2010) assertion that when teachers connect curriculum to students' cultural contexts, engagement deepens. Similarly, Khalifa's (2020) call for culturally responsive leadership that centres student voice and community involvement resonated with the outcomes of this inquiry. The most powerful learning occurred when students were able to bring their identities, stories and whānau knowledge into the classroom and be affirmed through the curriculum.

In summary, the integration of culturally responsive pedagogy and project-based learning had a clear and positive impact on student engagement. Students became more motivated, curious, and self-directed, proving their learning experiences became richer and more meaningful. The findings from this project reinforce the importance of authentic relationships, student voice and culturally relevant learning in promoting equitable educational outcomes.

Next steps include:

- Embed the Inquiry–PBL Framework
- Deliver PLD for Staff
- Expand the Cookbook Initiative
- Enhance Digital Capability
- Monitor Long-Term Impact

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# academyEX Executive Summary

Master of Contemporary Education C11P Cohort

Symposium July 17<sup>th</sup>, 2024

## Using Universal Design for Learning to Improve Student Engagement

Andrea Rodgers

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In this project I developed and implemented a plan for the integration of inclusive educational practices using UDL principles to improve engagement for students in my Junior (year 9 & 10) Maths class. The goals for my project included developing a plan to embed principles of UDL into subject delivery of Maths, using action research iterative cycles to introduce more inclusive educational resources and practices. I used a combination of teacher observation, student feedback to assess the extent to which UDL has increased student engagement in lessons. Finally, I produced a google classroom with all resources I created and readings on UDL for my colleagues to use for their own professional development. The project will increase opportunities for students to engage meaningfully with lessons and have more of their learning needs met.

Many pupils find it difficult to fully engage with lessons and their learning needs are not being met by current pedagogy. As a teacher I have worked with many pupils with difficulties engaging fully with lessons and know how difficult it can be to find ways to consistently engage them, so I need to find ways to embed inclusive educational approaches into my lessons so all learners can access them and work in ways that suit their needs. My hypothesis is that by using Universal Design for Learning principles in my planning, I will be able to improve student engagement. Universal Design for Learning is a pedagogy which

aims to give access to all pupils by making adaptations that all can benefit from. Edyburn (2010) says that it 'provides' an opportunity to break free from 'one size fits all' approach and allows teachers to expand the range of learning opportunities for learners

I followed the operational action research model and implemented two iterative cycles. The first iteration was with a year 9 low ability boys' class and the second iteration was with two year 10 classes. One class was predominantly male and middle to low ability whilst the other class was predominantly female and middle to high ability. I planned lessons following the UDL guidelines rubric from CAST (<https://udlguidelines.cast.org/>), gradually increasing the number of guidelines used within each lesson. Participants in both cycles followed the lessons and were asked to complete surveys and interviews. Questions for surveys were based on those from Woolf (ND) and the Maths/Science engagement scales from Chandler (2022) I observed lessons using criteria set out by Lane and Harris (2023) and kept a reflective diary throughout the project.

To analyse my data, I used qualitative methods to note changes in student engagement across lessons and how many of the guidelines were being implemented. I used thematic analysis on the results of student interviews and cross referenced it with the results from surveys to look for evidence of improvement of student engagement. I found that student engagement did increase as the cycles progressed and there was a particularly noticeable increase in engagement from the male dominated classes. Rao (2021) argues that teachers who consider student variability from the start can follow the UDL guidelines to reduce "barriers and proactively support students" to reach their goals and work towards mastery. Riwai Couch notes that Māori students learn best when their culture is valued, and the classroom environment encourages engagement and raises self-esteem. Muffin-Veitch et al (2020) note that neurodiverse pupils are "more likely to learn if information is presented to them in a range of ways that play to their strengths and weakness" By varying methods of response and navigation, I was able to create a more focussed culture of learning for the male dominated classes. My review of the literature did not include any discussion of how UDL impacted different genders, so this is a potential gap in research.

My project shows that UDL has positive benefits for neurodivergent, Māori & Pasifika students and that by adopting UDL criteria when planning, teachers can better meet the needs of all their students. My hope is that other teachers can see how incorporating UDL criteria into their planning can enable them to see an increase in student engagement.

Other teachers can use my project to inform their planning, whilst my department may consider adding UDL to curriculum planning documents. At a whole school level, using UDL to increase engagement could become one of the whole school focuses. This would involve the interdepartmental groups making an initially small change to incorporate some aspect of UDL into their lessons and reporting back any changes in engagement. This would then provide a bigger picture of the benefits of UDL across the whole school and may ultimately result in a pedagogical change to the learning culture of the school.

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## About the Author

Andrea Rodgers is a Mathematics teacher with 25 years of experience in the classroom. She currently teaches in a large secondary school in Auckland. Andrea is passionate about all her students being able to access learning opportunities in Mathematics and in recent years has focussed on improving access to her subject for neurodiverse learners.





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### Enhancing Communication and Whanaungatanga within a Project-Based Learning Framework utilising Digital Technology

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As society evolves and more parents seek full-time employment to make ends meet, maintaining open communication between kura (schools) and their communities becomes increasingly important. At the same time, fostering whanaungatanga (connectedness) is crucial. With many demands and increasing workloads placed on kura and teachers, it is essential to find effective ways to share and celebrate the successes of their ākonga (students) with both the kura and the wider community. This project aimed to enhance communication and whanaungatanga by establishing and implementing a “Communications Hub.” This initiative involved eight Year 5 students who engaged in project-based learning processes. Through their learning of digital technologies, they created a range of content that was shared throughout our kura and with the whānau of our kura. The Communication Hub renamed “JBS Times” by the eight ākonga as a playful nod to our local newspaper “275 Times,” sought to share and celebrate the learning and voices of their peers with the school and beyond.

Effective communication in a school is extremely important. Research suggests that in an

educational setting, the effectiveness of communication has great importance and provides multi-faceted benefits to teachers, the school, and the community (Ozmen, Akuzam, Zincirli & Selcuk, 2016). Additionally, Salamondra (2021) explains how schools are complex systems that require effective communication to meet the diverse needs of learners and maintain positive relationships among students, schools, and the community. Whanaungatanga, another key theme of this project, looks to research by Arataitohi (n.d), who explained how relationships are significant for Māori and how a lot of effort should be put into building relationships with Māori ākonga and their whānau. Tapasā (2018) supports this, explaining how this is similar for Pasifika learners and how partnerships and connections are vital to building close community networks. Project-Based Learning and Tapasā cultural framework both have the ākonga at the centre of their learning and express the importance of authentic learning experiences that connect classroom learning to real-world contexts. These are the two frameworks used in this implementation project. Digital capabilities of learners increased as they used a range of digital applications to create and share content throughout this implementation.

The project goals were as follows:

- 1) Write a literature review to develop an understanding of key themes— Communication, Whanaungatanga, Project-Based Learning, and Digital Technology— and use this literature review as the basis for this project.
- 2) Ākonga to improve their digital capabilities using a range of tools and applications, including but not limited to Google Applications, Canva, Book Creator, and iMovie.
- 3) Implement iterative cycles of action research, integrating feedback from participants and stakeholders to refine project activities.
- 4) Evaluate project outcomes using mixed method approaches to assess whether the key themes had improved.
- 5) Produce project deliverables that can be shared with stakeholders, educators, and ākonga in my learning community and beyond.

This project involved eight Year 5 ākonga and their whānau. The content created by these learners involved over 100 students and many staff and visitors of our kura. Dispositional data was tracked, showing comparisons between data from before and after the change

project. A focus group was formed, a semi-structured interview took place, and data collection involved whānau surveys pre- and post-project, ākonga surveys pre- and post-project, along with field notes. These were the methods used to collect and analyse data in this change project, making it a mixed-method approach.

The findings of the analysis confirmed that communication and whanaungatanga needed to improve. Action research involved reviewing current practices (McNiff, 2002). What is particularly beneficial about this approach is the ability to reflect on your own work; field notes and diary entries are especially beneficial for this purpose. Thematic analysis, which Braun & Clark (2006) explain as a six-step guide, was used in this implementation project to analyse the semi-structured interview. Analysis of data showed that communication and whanaungatanga improved. Findings also showed that the digital capabilities of ākonga improved as well as their thoughts on collaborative learning.

A significant overarching theme resulting from this implementation was preparing our ākonga for 21st-century learning. Research analysed from this change project shows that the frameworks, theories, pedagogies, approaches, and theorists included in this change project have a holistic approach to learning with ākonga at the heart of their educational experiences. All findings of this change project relating to experiential learning (learning by doing) show just how beneficial this type of learning is in raising student outcomes for Māori and Pasifika learners. Bull & Gilbert (2012) explain how over the past 15 years or so, there has been a global paradigm shift surrounding 21st-century education. Outside of education, massive social, economic, and technological changes meant the increase in human knowledge brought with it new approaches to learning that were needed if ākonga were to develop the dispositions needed to productively engage in a 21st-century world (Bull & Gilbert, 2012).

Throughout this journey, I have found that there are many attributes of Māori and Pasifika ways of being and living that lean into what it means to be a 21st-century learner. I want to do more research around how these could become tactile for educators to use in everyday practice. I would look to Māori and Pasifika who collaborate daily in most aspects of life (think at the marae, kapa haka, siva, tivaevae making, church etc.). How can these skills, collaboration, knowledge, and approaches be transferable or utilised more in a

classroom setting? National data shows that Pasifika and Māori students achieve at the lowest level of all cultural groups across Aotearoa and tend to stay in the lowest quartile for achievement throughout their school career (Education Hub, 2022). I want to continue to improve my knowledge and practices and help other educators along the way.

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## About the Author

Liana Setera is a Primary School Teacher and a Syndicate Leader who has been teaching in her community of South Auckland, Māngere for 10 years. She is a passionate educator who enjoys learning and sharing ways to improve student achievement in a culturally responsive way. She continuously seeks innovative methods to enhance her teaching practices, with a particular focus on improving learning opportunities through digital technology and preparing children for 21st-century learning.



Ko wai au

Ko Kuki Airani te whakapaparanga mai

Engari

Ko tamaki Makaurau te whenua tupu

Kei Papatoetoe au e noho ana

He Kaiako au i Jean Batten Kura

Ko Liana Setera au

Tēnā tātou katoa



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### Implementing Inquiry Learning Approach to Develop Self-Regulation Skills in Year 5 Students

Jasbindar Kaur Singh

The main aim of this project was to improve self-regulation abilities of Year 5 students by using an inquiry learning approach. Recognising that teaching methods often neglect the cultural backgrounds and unique identities of students, the project sought to incorporate students' cultural heritage into the learning process to enhance student engagement and academic achievement. The objectives included introducing inquiry learning approaches addressing challenges faced by teachers and students integrating technology to enhance student involvement and promoting self-regulation through the inquiry approach. The primary goal was to assist students in developing self-regulation skills like establishing learning objectives and overcoming obstacles through inquiry-based techniques. To accomplish these aims I included lessons on self-regulation in the mathematics curriculum encouraging students to set learning targets, keep reflection journals and participate in problem solving tasks. Data collection techniques involved observations, reflective journals, surveys and interviews with students, parents and colleagues which offered insights into how students acquired self-regulation skills through inquiry-based learning. The outcomes were substantial.

Before the program started students rarely set specific learning goals. None did so consistently. However, once the inquiry approach was introduced all students mentioned

that they now consistently define their learning goals. Additionally, students displayed increased confidence in managing their learning. They took a proactive approach when facing challenges showcasing improved problem-solving skills and independence (Zimmerman & Schunk 2011). Furthermore, students became better at handling distractions and staying focused on their tasks. The project also highlighted a growing familiarity with inquiry learning approach and a deeper appreciation for how technology enhances the learning process. These results emphasise the effectiveness of inquiry learning in cultivating self-regulation skills and making the learning experience more meaningful and engaging (Bruner, 1961; Dewey, 1938).

The knowledge gained from this project has significantly influenced my teaching methods. By embracing teaching practices and inquiry learning approaches student engagement has increased while self-regulation skills have been nurtured alongside strengthening the connection between home and school (Epstein & Sheldon 2006). The "Climbing Mountain Framework," which integrates self-regulation practices has been implemented school wide to underscore the importance of resilience, goal setting and collaboration.

The positive impact of this project extends beyond achievements. By creating an inclusive environment for learning students have acquired skills that will benefit them throughout their lives. The project highlighted the significance of incorporating teaching methods and inquiry-based learning strategies to create interactive and meaningful educational experiences. These techniques can serve as a blueprint for educators looking to boost student participation, self-management and academic achievements (Hattie, 2008; Vygotsky & Cole 1978).

To sum up this project showcases how the combination of inquiry based learning and responsive teaching greatly enhances Year 5 students self-regulation abilities. By integrating students' cultural backgrounds into the curriculum encouraging student involvement and empowerment and involving families and the local community we established a learning environment that nurtures student development and academic success. This approach provides insights for educators aiming to elevate their teaching methods and enhance student outcomes.

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## About the Author

Ni Sa Bula Vinaka, Satshriakal, and Kia Ora.

Jasbindar Singh comes from the island of Fiji. She is a dedicated educator with more than 10 years of teaching experience. Her career in teaching started in Fiji, and upon moving to New Zealand, she shifted from childhood education to primary school. She has an enthusiasm for learning. She takes great pleasure in her profession as a teacher. With a commitment to growth, she is excited about advancing her career and making a meaningful difference in her students' lives.





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### Having Impact! - An Environmental Journey: The Mana Taiao o Te Waka Unua Project

James Souter

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The Mana Taiao o Te Waka Unua project, conducted as part of the Master of Contemporary Education—Academy EX, explored the impact of experiential learning on students' environmental awareness. Conducted at Te Waka Unua School in Woolston, Christchurch, the project involved ten Year 7 & 8 students participating in ten iterations of an experiential learning cycle during Term 4 of 2023. The central purpose of the Mana Taiao o Te Waka Unua Project was to measure the impact of educational interventions on students' environmental awareness. The project addressed the key questions:

- How do different experiential learning activities affect environmental awareness?
- How do these activities shape students' values and perceptions of the environment?

By answering these questions, the project aimed to provide insights into preparing today's youth for a future affected by climate change.

The project employed an action research paradigm to develop, implement and measure the impact of ten environmental education experiences. An experiential learning approach

was developed, incorporating reflection periods to facilitate students' understanding and connection to environmental issues. An adaptation of David Kolb's (1984) four-step experiential learning cycle was used as a framework for each experience:

1. **Experiencing:** Students actively participated in each of the ten activities.
2. **Reflecting:** Students reflected on their experiences during and after each activity.
3. **Thinking:** Students engaged in critical thinking during and between the iterative cycles.
4. **Acting:** Students participated in subsequent activities, empowered by their accumulated experiences and awareness.

This cycle was designed to be student-focused, allowing participants to draw personal meaning from their experiences and fostering a holistic understanding of environmental issues.

The project was structured around ten experiential learning cycles, engaging students through interaction with environmental learning. The experiences ranged from traditional field trips to utilising emerging technologies like virtual and augmented reality. The project integrated various environmental kaupapa, ensuring a holistic learning experience including cultural, ecological, and technological dimensions. By engaging students in immersive experiences and leveraging technologies like apps, virtual, and augmented reality, the project aimed to provide valuable insights for educators to foster environmental literacy and pro-environmental behaviours in future generations, emphasising the enduring connection between people and the land.

The research employed a mix of qualitative and quantitative data collection methods. The experiences were assessed through self-assessment activities, including learning maps, videos, questionnaires, and focus groups that evaluated the students' environmental awareness across four domains: Awareness and Knowledge, Attitudes and Values, Skills and Abilities, and Actions and Behaviour. The 4 domains of environmental awareness were adapted from the New Zealand Curriculum (Ministry of Education, 2007), Global learning trends (Annon et al., 2018), ideas of environmental education “about, for and in” the environment (Mertz et al, 2010), The Environmental Education for Sustainability - Mātauranga Whakauka Taiao Mahere Rautaki Strategy and Action Plan 2017 – 2021 (Department of Conservation, Ministry for the Environment, and Ministry of Education,

2017) and Education for Sustainability (Efs) (Ministry of Education, 2015). A baseline understanding of environmental awareness was established across the four domains which informed the design of measurement tools and reflective focus group conversations.

The project offers insight into the measurement and effectiveness of experiential learning in promoting environmental awareness and provides a framework for future environmental education initiatives. The findings indicate that experiential learning enhances students' environmental awareness. Students showed a marked improvement in their understanding of environmental issues and their ability to articulate and engage in pro-environmental behaviours. The analysis showed significant growth in students' environmental awareness across all domains. The activities that engaged students directly with nature, proved highly effective in promoting environmental awareness. The combination of direct experiences, guided reflections, and the creation of learning maps facilitated deeper connections between students' theoretical knowledge and real-world environmental issues.

The project highlights the importance of immersive experiences in fostering a deep connection to nature. It supports the need for educational policies that prioritise environmental education and experiential learning. It supports the integration of environmental themes across the curriculum that provide students ample opportunity for direct engagement with nature. The Mana Taiao o Te Waka Unua project successfully demonstrated the impact of experiential learning on students' environmental awareness. By integrating a student-focused experiential learning cycle, fostering strong leadership and collaboration, and ensuring cultural responsiveness, the project provided a framework for the design and measurement of the impact of environmental education. The insights gained from this project can inform and enhance environmental education practices in various educational settings, contributing to a more environmentally aware and proactive generation. A generation better equipped to respond to a future affected by climate change.

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## About the Author

James Souter is a primary school teacher with a passion for environmental education, including how to offer students meaningful experiential learning opportunities through a localised placed-based curriculum.





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## Enhancing Secondary School Students' Data Analysis and Chart Interpretation Abilities

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Are you looking for innovative ways to improve high school students' data analysis and chart interpretation abilities? Look no further. Innovative teaching methods, integrating technology, and developing practical, innovative activities are essential for improving students' data analysis and chart interpretation skills. Targeting a 17-year-old secondary school cohort, this action research study leverages a mini-greenhouse linked to aquaponics, utilising a micro:bit and Arduino Uno within an IoT framework (ThingSpeak) alongside tools like Minecraft Education. Within an Action Research framework, these elements were combined to investigate and research hands-on eSTEM & STREAM projects, assessments, debates, architectural design tasks, and other creative challenges. The focus was to develop students' interpretation skills. The study showed the positive impact of these methods on students' critical thinking, collaboration, and problem-solving skills, emphasising real-life applications and cultural responsiveness. It also highlighted how matrix development could be used to assess students' work more effectively.

During the research exploring the connections between *social innovation and social entrepreneurship*, data supported the idea that developing data/chart interpretation skills lead to more comprehensive and integrated learning experiences (Smith, 2022). This could involve incorporating business studies, economics, and accounting into creative and innovative lesson plans prioritising sustainable practices – identifying a gap for future research.

The increasing importance of data literacy in education necessitates innovative approaches to teaching data analysis and chart interpretation. This study hypothesises that combining hands-on activities, assessments, and creative tasks in a STREAM (Science, Technology, Reading, Engineering, Arts, and Mathematics) and eSTEM (enhanced STEM) context will significantly enhance students' abilities to solve real-world problems, develop collaboration skills, and improve critical thinking (Van Zyl, 2022). By embedding data and graphs through an IoT framework, students gain practical experience interpreting data within real-life contexts (ThingSpeak, n.d.; Xu, Wang & Wang, 2023).

The action research study utilised a mini-greenhouse connected to an aquaponics system, integrating micro:bit and Arduino digital sensors that fed data into *ThingSpeak*, an IoT analytics platform. Two groups participated in the research project, namely Group A and Group B. Group A consisted of 3 students who engaged in a mini-greenhouse kitset using a micro:bit, Arduino, and IoT to manage the greenhouse with digital sensors (WiFi & Bluetooth). Group B received a brief on designing a Sustainable Vertical Skyfarm in Minecraft Education. They researched and studied vertical farm design and explored virtual Minecraft tools for architectural and engineering design. Through in-depth collaboration in small teams, they implemented tools like Redstone (circuitry/electricity) and actuators (making things move). Students engaged through Minecraft Education and other interactive tools – having fun – participated in various activities.

During the project, qualitative data (surveys, questionnaires, observations, interviews, and debates) were collected, analysed, and interpreted as they interacted in their teams. Assessments, debates, and design tasks were incorporated to deepen understanding and promote critical thinking. In their small teams, Group B students designed complicated skyfarms, addressing sustainable design related to future food

shortage issues. Extensive science, engineering, and digital concepts were embedded into their design strategies. Debates revolved around ethics evaluating jobs at risk as the automation of dairy farms in Waikato increased, followed. Observations of the debate were summarised and analysed, providing rich data.

**The key findings from the study were:**

*Data Analysis and Interpretation Skills:* Embedding data collection and analysis within practical activities significantly improved students' skills in interpreting data and charts. Students demonstrated an enhanced ability to understand complex data sets and draw meaningful conclusions.

*Critical Thinking and Collaboration:* Hands-on activities and assessments fostered critical thinking and collaboration among students (Van Zyl, 2022). Debates and discussions allowed students to compare and contrast their values and beliefs, leading to more informed perspectives on real-world issues. This process prompted them to adjust their perspectives around other cultures and the solution to problem-solving.

*Cultural Responsiveness:* The study's culturally responsive approach enabled students to relate their learning to their cultural backgrounds, enhancing engagement and relevance. Comparing and contrasting their perspectives with national and global viewpoints encouraged a broader understanding of different values and beliefs (Hammond, 2015).

*Application of Interpretation Skills:* After mastering data interpretation skills, students applied their knowledge to solve real-life problems, demonstrating improved problem-solving capabilities and critical thinking. The integration of social innovation and social entrepreneurship concepts further enriched their learning experiences.

*STREAM and eSTEM:* The findings support the hypothesis that hands-on STREAM and eSTEM activities, combined with assessments and creative tasks, enhance students' data interpretation skills and critical thinking. The study also highlights the potential of integrating more subject areas, such as Business Studies, Economics, and Accounting, into lessons to provide a holistic and future-focused education.

*Embedding Social Innovation and Social Entrepreneurship into Lessons:* By incorporating social innovation and social entrepreneurship concepts, educators can create richer learning experiences that prepare students for future challenges and careers (Smith, 2022).

*Future Research:* Further research is needed to explore the connections between social innovation, social entrepreneurship, and data interpretation skills. This could lead to more comprehensive and integrated learning experiences, fostering sustainable practices in education.

The study provides strong evidence for the impact of hands-on activities in enhancing students' data analysis and chart interpretation abilities. Incorporating STREAM & eSTEM projects, assessments, and creative tasks significantly improves students' problem-solving, collaboration, and critical thinking skills. The micro:bit, Arduino Uno, and IoT (Thingspeak), linked to practical tools like a mini-greenhouse and aquaponics, are powerful educational tools to develop data and chart interpretation skills. Using AI (ChatGPT) to find and develop code for the micro:bit and Arduino also surfaced in the study. As participants explored the AI tool for their mini-greenhouse project, it became evident that several opportunities for further research are needed. Encouraging students to engage with diverse perspectives enhances their ability to interpret and solve real-world problems. As mentioned, during the study, the research uncovered that integrating social innovation and social entrepreneurship concepts into lessons can provide depth and relevance to students' learning experiences (Smith, 2022). Embedding social innovation and social entrepreneurship concepts into teaching secondary school students provides an opportunity for further research.

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## About the Author

I am from Africa.

**My Mountains are** The Drakensberg

**My River is** The Sandriver in Virginia in the Freestate

**My Waka are** The Drommedaris, Reijger, and De Goede Hoop

**My Father and Mother are** Charlie and Nena Van Zyl

**My Ancestors are** Jan and Maria Van Riebeeck, who set foot on South African soil on April 6, 1652.

*William N. Van Zyl (Self-portrait - watercolours and ink wash).*



William has been a Technology teacher for the past 32 years with experience in Design and Visual Communication (DVC), Education for Sustainability, Electronics, Building Construction, and Design Technology. He also owned a design construction business for eight years, creating plans, renovating, and constructing new buildings. Hence, his interest in sustainable architecture, the application of biomimetics (asking nature how), and biophilic design. His planned future research will be focused on implementing microprocessors like the micro:bit, Arduino Uno, IoT, and AI in a secondary school context to develop problem-solving skills. His other interests are creative writing and writing articles. See some of his published articles at <https://fivehousepublishing.com/>. He also enjoys space exploration, astronomy, art (watercolours and ink sketches), urban sketching, remote-controlled planes, archery, target shooting (air rifles), aquariums, and spirituality.