MASTER OF CONTEMPORARY EDUCATION

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C5P SYMPOSIUM 13TH NOVEMBER 2021

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Flowing up STREAM

Emily Malone

The purpose of the change project was to increase student engagement using a contemporary personalised Learning approach. The goals were to implement a personalised learning approach to develop STREAM (Science, Technology, Religious education Engineering, Arts, Maths) curriculum integration, and collaboration amongst a group of students at a Catholic School, in Northland.

The purpose of personalised learning is to move away from the pre-designed lesson by designing project-based forms of learning where students have the flexibility to determine their learning. In this way, lessons no longer have to adhere to the 'one-size-fits-all' approach characteristic of traditional education systems (Scott, 2015). This personalised approach helps individuals to invest in their learning and make it a habit rather than viewing it as an activity forced upon them (Leadbeater, 2008). Therefore, the teaching becomes learner-centred, as self-determined learning focuses on the learner as the primary driver of the learning process and experience (Blaschke et al, 2014).

Guided by Action Research, I completed three iterative cycles. The plan was aligned with the new Digital Curriculum, explicitly focusing on computational thinking. The students took a STREAM approach and used the tools of Scratch and Makey-Makey to support them in learning how to code. It was the basis of coding, combined with collaborative learning approaches, with Transcendent thinking as outlined by Dr Sonny Magna (2019). This American model was integrated with a local curriculum flavour where we created a kete, Kiwi enclosures, papatuanuku pianos, Maori medicine, and te reo dominant ostinati.

Data was measured on the changing levels of physical engagement in teaching using a worksheet tick sheet and with the STREAM digital learning method using the tools of scratch coding and Makey-Makey. A mixed method of data collection was used. Qualitative data was collected through the stakeholder's self-reflective responses on what they believed learning was and through videos and anecdotal observational data. Data was collected quantitatively by observing a slice of ten minutes per child under each pedagogical style depicted in graphs to show comparisons. Data were analysed in the form of graphs where discovering themes such as increasing collaboration and divergent thinking began to emerge. The students' thinking was analysed along with strands connecting with the T3 transcendence aspect of Dr Sonny Magna's T3 Framework, such as out-of-the-box thinking.

The results proved positive in leaning towards the STREAM teaching method as there was clear evidence of enhanced higher levels of physical engagement. The results also indicated increased collaboration that produced a greater enjoyment for learning. Furthermore, there were indicators of increased divergent and creative thinking. Collaboration, creativity, and critical thinking are some of the 6 'C's highlighted by Michael Fullan for 21st-century skill development (Knezevic, 2017).

Maori students, in particular, existent in a creative risk-taking environment, exercised tuakana teina and tino rangatiratanga more readily, which was a contributing factor to the increased participation in learning and engagement.

Understanding leadership in complexity was enhanced towards navigating the current covid situation. In this project, I have Incorporated the Cynefin model (Snowden, 2007), using facilitation strategies such as; pose, prompt, and respond helped transform into a pedagogical shift in various online and offline communities with the understanding to be comfortable in complexity.

The mixture of STREAM with a pedagogical shift towards a more heutagogical approach tended to develop positive success for learners with increased physical engagement.

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Supporting Student's Self-Regulation Skills Within a Cross-Curricular Project

Andy Wilson

Cross-curricular teaching is not a new initiative. It is a commonplace within the primary school system. Although I am primary school trained, throughout the 17 years I have been teaching at an Intermediate school in Auckland, I have been a specialist Social Sciences teacher, a specialist Mathematics teacher, and now a specialist Exploring Technology teacher. It has been quite a while since I was required to teach in a cross-curricular method within my teaching responsibilities and experiences. I needed to return to the literature to remind me of the benefits that are widely taken for granted amongst the general primary teaching profession yet are only vaguely remembered from within my Exploring Technology teacher silo mindset.

Barnes (2012) says, "We each look at the world, its objects, patterns and experiences, with different eyes. Cross-curricular learning recognises these multiple viewpoints and seeks to build more knowledgeable, lasting and transferable understandings of the world around us". Ponsonby Intermediate's motto is "Articulate, energised achievers; ready for the future". Can we honestly say that we are preparing the students for the real world if we separate the learning into subject silos?

In this project, I sought to develop the skill of managing self to implement a cross-curricular project. The cross-curricular subject areas of Social Sciences and Exploring Technology are suited excellently together under Magana's (2017) T3 Framework. The cross-curricular project encouraged "Students use digital tools to imagine, design, and create new tools or platforms as solutions to wicked problems that matter." (Magana, 2017) within the context of Social Sciences and Exploring Technology

To help the students succeed in participating in a cross-curricular project, I implemented a modified version of Perels, Gürtler, & Schmitz's (2005) Process model of self-regulation. My modified model focuses on setting goals and identifying student self-efficacy and motivation to complete the goals, with the students reflecting on their motivation during the lesson. I provided the students with Google Forms to collect data about their motivation and self-belief in achieving their goals. I used questions like:

- What is the level of your belief that you can achieve these goals?
- How motivated were you to achieve these goals today?
- How would you score your motivation/ focus during today's lesson?

By implementing my modified version of Perels et al. (2005) Process model of self-regulation, my project found that students improved their self-efficacy and motivation throughout the cross-curricular project. Also, that the application of the T3 Framework (Magana, 2017) to direct students to focus on

solving a wicked problem as the foundation for the project resulted in the successful implementation of a cross-curricular project at Ponsonby Intermediate. I seek to implement these findings to improve the student's learning experience by creating a Professional Learning Community to further develop cross-curricular learning. By implementing the T3 Framework and my modified version of Perels et al. (2005) Process model of self-regulation to engage the students.

2020-2021 has been a disruptive time for students in Auckland and in New Zealand with multiple lockdowns and restrictions to in-class learning. Students' and teachers' anxiety levels have been affected directly by this. Using lessons from the results of this project, I have been able to focus more on what is in front of me, and what I can have control over. This project helps to identify the process of being mindful of your level of motivation. Looking at what goal you need to accomplish and how well you achieved that goal in the time given are essential well-being skills that can be applied to everyone. During my Masters of Contemporary Education course with The Mind Lab, my classroom burnt down. I ended up in the hospital due to heart health. My anxiety levels increased due to these uncertain times we live in. Throughout this project, I have learned to take on and apply my findings to my own life. Creating opportunities for success is an important life lesson for myself, students in the classroom, either remote or on-site, and anyone trying to conquer their mountain.

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Student Engagement enhanced through Culturally Responsive Pedagogy

Mesepa Armani-Hiko

This change-based project is the enhancement of student engagement through culturally responsive pedagogy developed at a decile 1 rated school in the low socio-economic suburb of Otara in South Auckland. The demographic is predominantly Māori and Pasifika.

Student engagement is a multifaceted construct made up of a combination of a range of aspects such as key competencies like thinking critically, participating, and contributing (Fredricks et al., 2004).

Culturally responsive pedagogy empowers students to maintain cultural integrity while succeeding academically. It is the collective action grounded in cultural understanding, experiences, and ways of knowing the world. It bridges gaps between traditional learning and teaching practices by making it culturally relevant (Ladson-Billings, 1992).

The purpose of this project is to work with teachers to address and ultimately enhance student engagement for those young people who identify as Māori and Pasifika, build learning partnerships, and develop learner agency, whilst interweaving twenty-first-century skills and growing digital literacy and fluency in the students through culturally responsive pedagogy.

The goals outline the collaborative practices undergone to ensure the demands of our learners are met through teachers being culturally responsive by recognising diversities within individual students whether it be through gender, cultural heritages, socioeconomic backgrounds and talent (Alton Lee, 2003 cited in MOE, 2019), and then collaboratively developing action plans to engage Māori and Pasifika target students.

We worked collaboratively to cultivate culturally responsive pedagogies where we aimed to give mana to the Treaty of Waitangi by getting to know the learners through culturally responsive pedagogy that is sustaining (Paris, 2012), responsive to all students learning identities and well-being, establishing safe environments, and providing authentic contexts for learning underpinned by the Treaty of Waitangi values and principles.

We aimed to strengthen relationships between students, teachers, whanau and community and value the cultural diversity of all individual students and match these values between cultural contexts of home and school while continuing to build strong relationships (MOE, 2019), activate educationally powerful connections to learners' knowledge, experiences, identities, families, whanau, iwi and communities.

We endeavoured to provide opportunities to develop learner agency and promote thoughtful learning strategies, thoughtful discourse, and student self-regulation to help grow leadership and independence. We also applied more active learning techniques like personalised learning and

project-based learning and incorporated twenty-first century skills and key competencies while advancing digital literacy and fluency.

Responsive curriculums encourage a step away from being directed by those outside of our 'sphere'. It is time to come out from under the coattails of the government and government initiatives. Collaborations and agreements made by stakeholders for the design of the project need to be agreed upon kaupapa, which then must be adhered to and prioritised by the ākonga, kaiwhakāko and te whānau whānui o te kura.

Building quality partnerships between teacher and student is one of the most crucial factors in learners being able to engage effectively in education using whakawhanaungatanga. Bishop et al. (2009) confirm that engaging with students' support networks outside of school is vital. Tātaiako (Education Council NZ Matatū Aotearoa, 2011) illustrates the competencies that teachers of Māori learners need and iterates the importance of teachers' relationships with their whānau and iwi (Bishop et al., 2009).

Learners are more likely to take risks and do the 'hard mahi' if they feel safe and supported. Establishing culturally responsive environments is becoming increasingly integral to learners' successful achievement. In this project, teachers make the learning environment a diverse one by recognising, accepting, and celebrating diversity. Such environments are safe and non-threatening and support the development of learner's confidence – where errors are treated as learning experiences because it is based on standards of behaviour and sensitivity towards others (Pierce 1996, cited in Savage et. al, 2012).

The environment is activity-oriented with high expectations to provide learners with understandings and skills that contribute to their sense of self-worth, where their experiences are understood, validated, and valued (Savage et. al, 2012). Throughout this project, culturally responsive opportunities to enhance student engagement, build learning partnerships and develop agency are provided with necessary encouragement to express ideas, elaborate and expand their modes of communication to participate in collaborative and cooperative situations that contribute to the development of their social and cooperative skills. It encourages leadership and independence and is conducive to learners constructing knowledge in social settings and thus enabling them to apply and transfer their skills across the curriculum, and in a variety of settings.

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Professional Learning Development for Staff on Project Based Learning and Digital Technology

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Ramona Fuatino Pitone

Professional Learning Development for teachers is a type of continuing education effort for educators. It is an avenue where teachers can improve and upskill themselves, and in turn, create a breakthrough in student achievement. This learning can take place in a formal or informal environment. My purpose for this project was to lead, develop and deliver a professional development plan for staff on Project Based Learning while integrating 21st Century skills and becoming digitally literate and fluent in a culturally responsive manner.

In facilitating the professional development plan, leadership was a very important aspect in driving teacher collaboration and learning development. As leaders, to move forward with our staff, we need to work collaboratively. Hurwits (2015) states that a flock of birds moving seamlessly together as a collective will always have successful outcomes.

My project involved working with a team of teachers to build their knowledge and understanding of Project Based Learning and Digital Technology. To maintain consistency across the school in implementing Project Based Learning my leadership was pivotal in driving this learning area. Pedagogy is essential for leaders in education as this will lift learning and success (Gunter, 2001). As a leader, I collaborated with staff on how to implement Project Based Learning to strengthen their use of digital technologies in a culturally responsive manner.

Throughout my project to track individual teachers' journeys, they each kept a reflective journal. During our formal and informal meetings, it provided teachers with the opportunity to share their experiences on a weekly basis. As a leader, I was able to provide support for teachers by:

- Co-planning, co-teaching, and support with resources.
- Encouraging culturally responsive practices by taking advantage of strengths that whanau and community were able to provide for our school.
- Providing collaborative learning opportunities for staff in digital technology.
- Engaging and supporting problem-solving through inquiry learning.
- Evaluating how culturally responsive teachers' materials were using the Culturally Responsive Curriculum Scorecard (Bryan-Gooden, Hester, Peoples, 2019, p.16).

With the implementation of Project Based Learning, I was able to use the Culturally Responsive Curriculum Scorecard (Bryan-Gooden, Hester, Peoples, 2019, p.16) with the teachers to measure how culturally responsive their teaching material was. From here teachers were able to evaluate where they were and how they could improve themselves in future topics.

In providing a collaborative learning opportunity to meet the needs of the teachers through digital technology, there was a big emphasis on digital fluency and literacy. Teachers found that once they stepped out of their comfort zone and gained knowledge about the different digital tools that they could use, they felt more confident in applying and using these tools and transferring their knowledge to the students to access information quickly and accurately in their projects. Teachers were also able to make use of expert learners that were in their classes and the expert learners were then able to support other students in the use of digital tools.

As teachers are seen as the experts in the classroom, it is important that teachers continue to upskill themselves and take part in professional learning development so that their knowledge and understanding of current topics are up to date and there is consistency across the whole school. Professional development will provide teachers with the appropriate resources and give teachers the confidence to facilitate learning that occurs in their classroom. Forming Project Based Learning environments, also supports positive teacher engagement with students in their classroom. In the Innovative Learning Environment (ILE) classroom setting, Project Based Learning would be an advantage due to the design of the space and break-out rooms available to provide for independent or group inquiry, thus promoting learner agency.

Weijermars (2012) believes that to lead change it is important to have good leadership with an understanding of research and theories along with being able to work in a collaborative environment. It is important that the sharing and collaborating of knowledge supports teachers to understand, from here, trust will be generated using a collaborative approach. Professional learning communities were also formed using the strengths of teachers to co-teach and upskill themselves during digital technology sessions.

Sharing ideas, knowledge and experiences will be the pathway to supporting and understanding our teachers. As leaders, we need to be role models for our staff and students by being pedagogical, instructional, and visionary leaders. If teachers see these qualities in their school leaders, they will value their support and will work positively as a collaborative group of practitioners with a focus on lifting student achievement for all.

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Acquiring digital fluency through culturally responsive project-based learning in Statistics

Anusha Nirene Soupen

I am Head of Mathematics at a decile 1a secondary school in South Auckland. Savin-Baden (2015) discusses the research of Ito (2010), Haddon (2009), and Sefton-Green (2013), all of whom identify the advantages of digital fluency in workplace success. Digital fluency has been identified as a priority within the Ministry of Education's professional learning and development opportunities (Ministry of Education, 2017). The Ministry of Education has identified digital fluency as an essential tool for kaiako to use to develop rich 21st-century learning experiences for all ākonga.

Digital fluency is seen as a prerequisite for most 21st-century jobs; however, the development of digital fluency skills had not been a focus in Mathematics classes in 2021. Ito (2010, as cited in Saven-Baden, 2015) mentions that directed support is necessary if students' engagement with digital technologies is to be of academic benefit.

The goal of my project was to develop the digital fluency skills of Year 11 Mathematics ākonga. The purpose of my project was to provide the directed support necessary for ākonga in my Year 11 Statistics class to acquire digital fluency. This direct support was aligned with NCEA Level 1 Statistics learning modules, utilizing 21st-century pedagogy and developing a culturally responsive Statistics project that utilises digital technologies.

The need for this project was evident from examining previous achievement data. Achievement for Level 1 NCEA Statistics at my school has been well below national averages for several years. From 2015 - 2020, less than 10% of Y11 ākonga had opted to continue with Mathematics beyond the compulsory Level 1 courses.

My discussions with the 2020 Year 12 ākonga, who had opted not to choose Mathematics at Level 2, revealed that in the previous year they had felt disconnected from the content of their learning. The statistics they had been taught came from textbooks and had little or no relevance to their interests or backgrounds.

I adapted classroom-based action research methodology (Kemmis and McTaggart, 1998, as cited in Mertler, 2017) to suit the purpose of my project, with the ākonga in my Year 11 Statistics class as the only participants. Three frameworks underpin my project: Papakura Pedagogy, the e-Learning Planning Framework (Ministry of Education, 2006), and the Global Digital Citizen Model (Crockett, Jukes and Churches, 2015). The first two frameworks provided current New Zealand perspectives on pedagogy, and the third embraced a global perspective.

The four cycles of my action plan were named after the stages of Papakura Pedagogy: He Kākano (A Seed), Kia Tupu (To Grow), Kia Hua (To Prosper), and Kia Puawai (To Sustain). This choice was influenced by my school's vision for the growth potential of our ākonga, and the potential my project has to develop digital fluency. My project focused on developing creative fluency and collaborative fluency, two of the five digital fluencies identified by the Global Digital Citizen Model.

The Statistics learning modules were taught in Term 2 of 2021, at the end of which two NCEA Level 1 Statistics internal standards were assessed. The Statistics project was implemented in Terms 2 and 3 of 2021. The project required ākonga to first identify a social injustice issue they cared deeply about and to curate items of visual, literary, or performing art that described this issue. Statistical data was curated next. This data had to be relevant both to their chosen social injustice issue and the NCEA Level 1 Statistics standards. Art and data curated were collated into a visual display using Google Slides. Finally, all visual displays were added to a Google Site so that projects could be shared with whānau.

A mixed-methods approach was used to collect both quantitative and qualitative data. The evaluative scales of all digital data collection tools were based on the Papakura Pedagogy framework and the Te Ako (Learning and Teaching) dimension of the e-Learning Planning Framework.

Findings from my project showed that ākonga in my Year 11 class had made significant progress in their use of digital technologies over the course of 2021. At the start of my project, only 15% of ākonga were willing to use digital technologies to develop their understanding of concepts. At the end of my project, 50% of ākonga had progressed to using digital tools to create and share new learning.

Another significant finding from my project showed that ākonga in my Year 11 class had achieved results in Level 1 Statistics that were significantly higher than those of their peers in other classes. More than 75% of my class passed 2021 internally assessed Statistics standards, as compared to a pass rate of 55% in other classes.

The majority of ākonga had experienced improved achievement when working with the new learning materials and had acquired moderate levels of creative and collaborative fluency.

A limitation in my project was that my classroom-based action research collected data from only my Year 11 class. Concluding that digital fluency can definitely be developed using culturally responsive project-based learning in Statistics may not be valid for such a small sample. Future collaborative action research conducted by all or most of the Mathematics kaiako would provide a much larger database. Findings from this data would be far more representative of the Year 11 cohort and could have a far more significant impact on learning and teaching.

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The impact of Design Thinking and Steam Learning on student engagement

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Sarah Cooke

Student engagement is strongly linked to achievement which is fundamental to all learning. It has long been the focus of educational researchers and is of increasing importance as educators grapple with preparing students for an unknown future.

Educational research focuses on three types of student engagement; cognitive, emotional and behavioural (Fredricks, Blumenfeld, & Paris, 2004). For the purposes of this project, student engagement was defined as what students think, feel, and do in the context of STEAM learning and Design Thinking.

Complimentary to concept-based inquiry learning, the pedagogical approach of Design Thinking has many practical applications in primary schools. It is an innovative way to problem solve, allowing students to be at its centre and providing a platform for divergent thinking. It is an iterative and mindful process in which one seeks to understand the user (Kelly, 2016). The 5 modes of Design Thinking; Empathise, Define, Ideate, Prototype and Test, provide a framework for young learners to anchor their learning to.

Additionally, STEAM learning is defined as an educational approach that uses Science, Technology, Engineering, the Arts and Mathematics as a means for guiding student inquiry (Bertrand & Namukasa, 2020).

Combined with STEAM learning, Design Thinking is an effective vehicle by which to facilitate interest and understanding in science and technology as well as develop students' abilities to collaborate and problem-solve (Cook & Bush, 2018).

This project was motivated by the fact that deep engagement was lacking for some students in my class. There was a need for improvement aimed at increasing student engagement by trialling new collaborative pedagogy utilising STEAM learning and Design Thinking processes. Teachers were working in siloed situations to deliver teaching and learning; it was necessary to establish collaborative teaching practice and to deliver STEAM learning in the Junior School to lift student engagement.

The overarching project goal was to improve student engagement in their inquiry learning. My aim was to develop my knowledge and understanding of STEAM and Design Thinking to implement changes in practice.

Specific goals aimed to:

- Increase student engagement through STEAM learning and Design Thinking processes.
- Co-construct learning enabling collaborative use of digital tools and a culturally responsive approach.
- Create a community of practice with teachers to enable the implementation of Steam learning across the school

The methodology chosen for this project was Action Research because it is a practice-based approach to research. It has an iterative pathway to evaluation and allowed me to build on cycles of activity to improve practice.

With the aim to investigate the impact of STEAM and Design Thinking practices on student engagement, student-led approaches were adopted. Students engaged in hands-on activities where students had a choice in the construction of their learning.

To improve student engagement, a dual approach was developed to address the goals of this project. Firstly, with the focus group of Year 4 students, 2 iterative cycles of PYP concept-based inquiry were implemented. Secondly, new collaborative pedagogy for delivering STEAM learning was developed for Year 0-6 students across the school.

To gain a clearer understanding of the impact and effectiveness of STEAM learning and Design Thinking processes on student engagement, qualitative and quantitative data was collected through student surveys, teacher observations, discussions, and semi-structured teacher interviews.

Through the analysis of data, valuable insights were made. It was found that for most students Design Thinking modes supported student engagement. These modes also helped provide a systematic framework for students to find solutions for real-world problems posed through their inquiry learning. STEAM learning and Design Thinking processes lifted student well-being and involvement (Laevers, 1994).

The community of practice that was established to improve student engagement did broaden teacher capabilities (Wenger et. al., 2002). The teacher collaboration developed during this project was widely successful, as Kaiako were coached and supported to construct STEAM learning with akonga across the school.

It was found that Design Thinking modes are a useful anchor for student learning (Taylor, 2020). Through Design Thinking, real-world problem-solving is possible, if teachers are open-minded and move with students' ideas. Teachers began to see the positive impact of a student-led approach to learning. Explicit teaching of digital and Design Thinking skills was necessary to support all learning. A valuable strategy for learning was the use of reflective journaling where students explained their thinking.

Furthermore, many students found collaboratively constructing learning in a personalised, culturally responsive way, using digital tools was very engaging.

STEAM learning provides an excellent platform for students to use Design Thinking, be creative and feel successfully engaged in their learning. The perception that learning is fun and having choices were important factors in students' willingness to participate in activities.

Global opportunities in STEAM-related employment have contributed to the need for students to develop skills in critical thinking, collaboration and problem-solving. This sentiment aligns well with Design Thinking where students are encouraged to address big-picture problem-solving. It is an essential step to developing globally competent citizens for the future.

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History Detectives in Action: Bringing history to life using primary sources

Senga White

Educational leaders who are not necessarily teachers but understand how to engage and align their practices to both learners and teachers can impact the whole community (Durie, 2015). This premise underpins the History Detectives in Action (HDIA) change project, my role as a professional librarian, and my future direction as an educator. This critical participatory action research sought to measure the impact of teacher confidence and capabilities to include elements of local history into their teaching by using a kete of primary source materials and the additional benefits of a collaborative practice approach with a public librarian.

The purpose of the HDIA project also considered pathways for introducing a heutagogical approach for ākonga to pursue interests and strengths in ways that support personal progress and achievement (Kenyon & Hase, 2001., Robinson, 2016). By incorporating a Universal Design for Learning (UDL) framework, the kete of primary source materials act as a springboard to engage ākonga, sparking curiosity and encouraging critical thinking, while addressing the need for alignment with the Aotearoa New Zealand Histories Curriculum (ANZHC).

This project followed a practical, evidence-based process (McNiff & Whitehead, 2005) where teachers were invited to participate alongside their ākonga, effectively learning together while still being free to observe ākonga reactions and engagement through learning from other adults (Bolstad et al., 2012). Primary source materials paved the way for engaged learning through active participation and provided a more authentic learning experience beyond the classroom where the experiences themselves were the main learning event for both teacher and student participants (Wenger, 2006).

Incorporating a UDL framework aligned with collaborative planning and flexible learning design while considering diverse strengths and needs by connecting all learners through meaningful experiences regardless of their ability (Barteaux, 2014). These resources proved flexible and adaptable to a wide variety of learning contexts and acted as catalysts of interactions not reliant on ākonga literacy capabilities (Barton, 2005). There is a perception that primary sources are difficult to locate, and this supposition provided the impetus for genuine interactions with librarians and prompted educators to look beyond their school gates for community partnerships.

The HDIA project comprised three participant groups; six teachers from three schools with classes from Year 5 to Year 7, three archivists from the Invercargill City Libraries & Archives, and two teacher aides who accompanied the Year 7 classes. Each class participated in two visits. Day one involved a

full day based at the public library where ākonga participated in three activities: a city street walking tour investigating history through buildings, an archives visit, and a small group activity analysing local historical photographs. Day two was a two-hour classroom session providing opportunities to explore, in small groups, replicas of archival material, including maps, documentation, old phone books, and soldiers' war letters. The kete was an old leather suitcase containing authentically packaged artefact facsimiles and 'history detective kits' consisting of archival gloves and magnifying glasses to deliver a full experience.

Relevant data were collected through pre- and post-surveys and interviews with participating teachers, separate appraisals by archivists and teacher-aides, observational field notes, and discussions capturing personal reflections and iterative outcomes. Collated sources provided data to evaluate how the HDIA project met the expectations and outcomes from the perspective of each participant group, including attitudes to, and knowledge of, primary source materials, benefits of collaborative practice, and whether the HDIA kete engaged students in their learning.

Analysis showed teachers recognised the benefits of teaching with primary sources, and collaboratively planning and teaching with a librarian, whilst the experience reinforced the need to engage with local community experts to provide enriched learning opportunities. One teacher described the experience as a learning adventure, while another was struck by the ākonga excitement. All participant groups observed increased levels of engagement, commenting that ākonga were having fun through a novel experience and the tangible elements of prolonged engagement sparking curiosity. Archivists noted curiosity increased with hands-on activities or props with ākonga being inquisitive about 'everyday objects', while teacher aides remarked that levels of engagement were much higher, particularly for students not often overly engaged in their learning.

While teacher-librarian collaboration was identified as a vital component to the success of this mahi and contributed to teacher confidence to use the HDIA kete, it was the connection with the archivist stakeholders that demonstrated the most significant opportunities for new modes of collaborative practice. These findings clarify the key areas impacting current practice in this context. Active, participatory learning has a significant impact on student engagement and curiosity. Since partnerships and collaboration are essential to education, it is important to move beyond a siloed approach. Also, decisive, educational leadership situated beyond traditional learning environments appears to be a non-existent but nevertheless important element. As outlined by Kemmis (2011), knowledge, skills, and capacities, along with the values and commitments gained through action research can be transformational. The result of the HDIA project will inform the future development of programmes to enhance and enrich learning beyond the classroom, presenting stimulating and divergent perspectives on Robinson's fundamental question: "What is education for?"

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Executive Summary C5P

Cultivating Curiosity, the Ultimate Motivation for Learning

Kim Bartley

Through observations, I identified learners in our year five and six classes to be somewhat passive. They were generally well-behaved and compliant and completed work as required. However, many did not appear to have the ownership or drive to lead their learning. The identified problem for which I designed my change project came, in part from a compliance culture. While espousing the value of problem-solving, agency, and connectedness, in practice we were more likely to expect and reward compliance and achievement of the norm. The purpose of my project, therefore, was to develop the disposition of curiosity within my participants, framed within an inquiry approach to learning. Curiosity is the motivator to learn and includes wondering, questioning, and experimenting. While it is an innate quality, curiosity can also be cultivated. Curiosity is a positive predictor of both successes in school as well as the willingness to transfer knowledge to life-long learning. The aim, therefore, was to cultivate curiosity to spark learners' motivation (Lindholm 2018). To nurture the disposition of curiosity in my project participants, I would first need to become an expert in it. I would need to develop a way to structure an inquiry approach framework to support this. Finally, I would need to create the time and space for learners to flex their curiosity muscles within what was already a busy school curriculum.

The research methodology I used for my project was Action Research. Action Research is practice-based, insider research. It involves researching and improving practice and then sharing the findings (McNiff & Whitehead, 2006). My project ran through terms one, two, and three of 2021, beginning with pre-data gathering in term one and then three iterative five-week cycles through terms two and three. Of course, operating within a complex environment there were always going to be influences on my project either unplanned or outside of my control. From school productions to student teachers, covid, to new job opportunities. I, therefore, took a transformational approach to designing each iteration based on the Action Research cycle, that is I used the findings from each iteration to shape the design of the following one.

The focus of the first iteration was creating a physical environment that supported the disposition of curiosity. One in which students felt safe, but also one that created space for wonder and exploration. I used what I had learned about my participants to introduce resources and novel stimuli that would appeal to them or make them question. The second focus was linked to the research that argues when leading student-centred change, it is important that learners have an understanding of what the change is, how it might look, and why it is important (Maughan, Teeman & Wilson 2012). Pre-data student questionnaire showed that seven of my seventeen participants either did not know what curiosity was or had a confused view of what it was. It was also clear from the questionnaire that when asked about learning they imagined sitting and doing quiet individual tasks. Paradoxically, when asked about what they would like to learn or explore more of it was predominantly collaborative, hands-on learning. Therefore, as well as the first iteration being about developing a physical and emotional

environment to cultivate curiosity, it was also necessary for my participants to learn about curiosity, learning, and what an inquiry approach may look like.

The focus of the second iteration was teacher action. Implementing systems and creating deliverables in answer to barriers noticed during the first iteration. It was also a time for participants to showcase to the school and wider community some of the learning they had led in the project so far. This was a highlight of the project, seeing learners' confidence grow, becoming curious to try new experiences and stepping outside of their comfort zones. Following on from this, I had high hopes for the third iteration. While it had a strong start with learners feeling empowered to question and experiment, Covid sent us to online learning. This was not the ending for the project we had hoped for.

Being Action Research, this project includes self-study - how do I shift my practice to create opportunities for my students to practice being curious and connected learners? In order to have strong data for analysis, I triangulated the methods of data collection, to include: teacher evidence of actions taken and corresponding anecdotal notes and reflections; student questionnaires and an exploration and absorption scale report before the first iteration and during the third to see shift; photo, video and portfolio evidence of students in action or of their shared work. This data were grouped and analysed to notice patterns and shifts. Having a collection of photos for each participant proved useful in seeing the story of their journey on this project.

Conclusions I was able to draw from literature and my project data include: When students feel a sense of safety, value and belonging, they are more likely to develop curious dispositions and take risks in their learning. Therefore, manaakitanga and whanaungatanga should guide all that we do. An environment that is safe but also has challenges and novel stimuli can cultivate curiosity, but a sense of ownership and control deepens the curiosity drive. Interestingly, we found when developing common frameworks and language for learners, that curiosity is a powerful driver of motivation to learn not only the wider wonders of the world and how things work but also for the motivation to learn surface knowledge and facts. It really is all about finding the unfamiliar within the familiar (Hamilton 2019). Finally, curiosity is a powerful attribute for learner success; teamed with relevant skills students become empowered.

The significance of these findings for me is how they relate to leading in a classroom, or in the wider school. There is significance in the simplicity of it all. Curiosity is the spark or the drive. We can cultivate that spark in our learners through the environment, through questioning, and by explicitly teaching skills that support learning with an inquiry approach. It is important to persistently model curiosity and learning, to create common language as a cornerstone for our learners, and to make time and space for exploration. Create, as Robinson (2013) so aptly describes it - a climate of possibility.

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Executive Summary C5P

Supporting Executive Function in a Play-Based Context

Hannah Newton

Recent findings from the Dunedin study indicate that children with strong self-regulatory skills between the ages of 3 - 11 enjoy better life outcomes in health, wealth and social domains (Moffitt, Poulton, & Caspi, 2013). The power of self-regulation is thought to be underpinned by executive functioning - a set of cognitive processes that control planning, organisation, impulse control, and goal-setting. In New Zealand, teachers are beginning to see an increase in students starting school who lack the necessary executive functioning skills needed to successfully meet the demands of the education system. These students present with short attention spans, the inability to focus for periods of time, poor impulse control, and social/emotional difficulties (Moffitt, Poulton, & Caspi, 2013). To address this trend, teachers are looking to play-based pedagogies to support students in developing their executive functioning skills.

My project paralleled this movement by seeking to implement a play-based environment to examine how executive function is exercised in Year 1 and 2 students in a New Zealand primary school. The primary goal of this project was to bring together two fields of research - current conceptions of executive functioning and the features of high-quality play-based environments to uncover the executive functioning skills of children in play and the support teachers employ in their development.

To implement the project, a key step was to ensure that an environment was created that demonstrated quality play-based practices that would support the emergence of students utilising executive functions. A high-quality play environment emphasises play when timetabling, giving students many opportunities to engage in self-directed and guided play. These environments are rich in loose parts - open-ended materials that can be used for a variety of purposes giving students plenty of props to support their imaginative play and develop symbolic thought (Neitzel, 2018). Within this environment, a play philosophy was put into action that honoured the self-determining nature of play with the support of an intentional adult (Aiono, McLaughlin, & Riley, 2019). A play-based environment designed with these principles promotes imagination, problem-solving, reasoning and language skills that are the physical expression of executive functioning in action, providing a rich context to examine executive function in action.

With attention given to structuring the environment, care was also needed in the project's design to get as close to students at play while honouring its self-directed nature. Capturing data in this environment was challenging. The transient nature of play and the disturbing presence of observation created barriers to revealing the true extent to which executive function was employed in play. For this reason, action research was selected as the most appropriate method as it allowed for the modification of data collection with each iteration as I attempted to get closer to uncovering how executive function was exercised in a play-based environment.

The action research design was undertaken in three iterations of the project that included 16 participants. The first two focused on capturing student behaviours using researcher observations and audio recordings, and the third used third-party observations to capture teacher behaviour.

To make visible executive function behaviours, an observational tool developed by Moreno, Schwayder, and Friedman (2017) was adopted to analyse student and teacher behaviours for markers of executive function. Student observations from iterations one and two were turned into learning stories and coded for markers of executive function, and the audio recordings were transcribed and coded. Markers from these iterations were then tallied, tabled, and graphed for comparison and also to gain an overall picture of how students exercised executive function. In iteration three, observations of teacher behaviours were coded using the teacher behaviours observational tool from Moreno, Schwayder, and Friedman (2017). Again, these results were tabled and graphed to compare each observation and gain an overall picture of the teachers' support to maximise executive functioning.

In addition to this data collection method, a research diary was kept, and the reflections detailed here informed each iteration's design and framed my findings.

Despite the difficulties in data collection, the research diary and observations revealed that a play-based environment provides many rich opportunities for students to employ a range of executive functions as they adapt to shifting play schemes. During play, executive function primarily occurs as conversations outside the play itself as it sets the rules that allow a suspension of reality and pushes the narrative forward. To maximise executive function in guided play, teachers use a range of verbal supports in symphony to support students' executive functioning.

These findings are significant because they support current research trends to place executive functions back into the contexts in which they are embedded (Doebel, 2020). Furthermore, they signal that a range of executive function behaviours and teacher supports are present in a play-based environment and emphasise the importance of providing opportunities for children to organise their cognition in self-directed and guided play with an intentional adult.

While the observation tool effectively uncovered student executive function and the ways teachers can support this in a play-based environment, it does not easily translate into the everyday work that teachers do. To bridge the gap, I used this information to create several classroom-ready resources.

A reflective questionnaire to support teachers to stocktake their current play practices and shift them towards promoting student executive function.

A questioning prompt linked to the items in the observational tool.

An executive function checklist adapted from the one developed by Stowell (2018) linking everyday classroom behaviours to executive functioning providing teachers with an avenue to determine strengths and areas of support for executive functioning.

Future research would focus on how classroom practitioners could use these resources in everyday Year 0 - 2 classrooms to support teachers wanting to develop executive functioning skills in a play-based environment.

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Executive Summary C5P

Digital Skills and Student Agency Through Contemporary Approaches

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Ashleigh Ennor

The purpose of my action project was to digitally upskill learners and begin developing student agency within my year one classroom. I used the DigComp2.1 Framework to support the implementation of digital skills, and to begin developing student agency within Inquiry Learning using contemporary education approaches to support the learning with my year one class. Contemporary education approaches that I implemented within my project were heutagogy, personalised learning and Tuakana-Teina.

After identifying the purpose of my action project, I identified my five goals for my project:

- Goal One: From an analysis of relevant literature, I developed a framework that linked to a module of learning for implementing digital skills and developing student agency within Inquiry Learning.
- Goal Two: I implemented a module of learning with my year one class over Terms Two and Three, using two-afternoon sessions per week.
- Goal Three: I implemented three six-week iterations. Each iteration had a different specific focus. The overarching focus for all iterations was to develop learners' digital skills and student agency through contemporary approaches.
- Goal Four: I used a combination of major and minor data collection sources to guide my project. My three main data sources were student questionnaires, parent questionnaires and a digital framework. My minor data source was field notes.
- Goal Five: I created a junior school digital framework so other teachers can incorporate this digital framework of learning within their classroom programmes.

The overviews of what I did within each iteration are as follows:

- Iteration One: From my research and pre-data, I believed that the first iteration needed to focus on the teaching of explicit basic digital research skills, so children have these foundation skills for the next two iterations. The first iteration was able to build the basic device skills that were taught at the beginning of the year 'pre' action project.

- Iteration Two: With the basic research skills being explicitly taught in Iteration One, these basic research skills were continually being developed throughout Iteration two as well as focusing on learning how to research using YouTube, through using the Inquiry Learning top of countries around the world. Iteration Two was when the student agency aspect of my

action project was able to come in as learners were able to begin researching areas of the world that they were interested in.

- Iteration Three: Iteration three was about integrating the learning from iterations one and two together. It is about putting the research skills that learners have learnt and using their student agency skills that they have developed to think of something that they would like to research, to be able to research this and listen to YouTube clips to learn, then present their learning to the class using whichever platform they decide they would like to present it on.

The conclusions that were drawn from analysing my pre- and post-data against my research question were the main overarching theme that I reflected on. No matter what age children are, if they are given the time to be taught, if they can learn new digital skills and are scaffolded correctly with the time to explore new learning on their own, children can literally achieve anything. The digital framework table that was constructed with the support of the DigComp2.1 Framework clearly supports this analysis as the learning growth from the start to the finish of this project was clear. The digital age is a major part of the world in which our children are now growing up, and we as educators need to do our important part of preparing our learners to truly succeed within their world which results in this preparation starting within the junior school.

The insights from research that I have gained into my practice have been the effective use of theorists and contemporary approaches which resulted in seeing children thrive through their own learning journey. The importance of developing crucial 21st-century skills within educational opportunities today is important as I believe we need to begin implementing the development of these skills within the junior school, as "too little of what young people do in school prepares them to tackle the challenges they face in life" (Leadbeater, 2017, p.67). OECD (2018) also supports this view as they believe that education "needs to equip students with the skills they need to become active, responsible and engaged citizens" which is why this action project was so important to implement within my year one classroom.

Educational opportunities need to change in junior school, and we need to start giving children opportunities to drive their own learning, and to be able to make their own choices within their learning instead of just doing what the teacher tells them to do. It is so important to give children the opportunity to discover their interests and passions and to begin figuring out how they like to learn best. Therefore, developing student agency and implementing digital skills within the junior school is important, so children can use these tools to begin driving their own learning.

The significant achievement I have now gained into practice is the success of creating something new from my action project, a change that can now be incorporated into school learning programmes. There is now a Junior School Framework that I can share with others because of implementing my change project. It is something that I truly believe can help other teachers and support the implementation of these basic digital skills within their classrooms, as well as begin to develop student agency in their learning spaces. Through collaborating with a middle and senior schoolteacher, this digital framework can now be used schoolwide, beginning from level one, and progressing into level three. I found there was a gap in research when it came to developing digital skills within the junior school, so this was a change that I felt could be beneficial and helpful to others. A digital framework that can now be of great use to others because of a successful change project.

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Executive Summary C5P

Implementing personalised learning approach to provide a "Learner-at-Center" learning environment and better support personalisation

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Li Wang

The purpose of my project was to improve my teaching practice by introducing personalised learning, flipped learning, with my mathematics class at an Auckland grammar school, to shift my teaching from the traditional teacher-centred unidirectional teaching pedagogy to a student-centred heutagogy which provides my learners with a multidirectional learning environment and better support personalisation.

The foundation of personalised learning is for every student to become involved in making decisions about their education: what they would like to learn and how (The Education Hub, 2018). The following project goals were drawn up to achieve the purpose:

1. Generate new learning opportunities and create a learner-centred learning environment to support and encourage students to own and manage their learning

2. Create an associated website that enables students to access and evaluate the learning resources and use digital tools such as G-Suite, Google Classroom and Education Perfect in teaching and learning, both in class and at home.

3. Use a combination of teacher observation, interviews, and a collection of students' work to evaluate and reflect on each cycle over two iterative cycles.

4. To engage with whanau and the wider community, such as their guardians, agents and teachers who teach the same group of learners.

An analysis of relevant literature produced the following key insights on personalised learning.

Personalised learning challenges educators to think about moving away from one-size-fits-all traditional pedagogy to bring the opportunity to put learners at the centre and better support 21st-century learners' needs. Personalised learning in some respects is like individualised and differentiated learning. There are distinctions, particularly, in the level of control students have over the learning experience. "Personalisation encompasses differentiation and individualisation" (Bray & McClaskey, 2013, p. 3). The other important aspect of personalised learning is to encourage students to see

themselves as co-investors, participants, and contributors in their own education (Leadbeater, 2005). During the project, my participants were able to use digital technologies to enhance production during their learning tasks by creating personalised quizzes and recording their own lessons. Learners as investors in their own education were encouraged and supported to co-construct knowledge and change the role of the teacher from a central authority to a facilitator.

According to Stewart (2017), research has suggested there are challenges to implementing personalised learning. These come from not only students and teachers who are unfamiliar with the personalised approach, but also there is a lack of direction and guidance from school and government. The other challenge for implementing personalised learning is related to technology. Students' and teachers' prior knowledge and attitude toward using technology, technical support, and accessibility of the internet at school and home are factors that affect the successful implementation of the approach of personalised learning.

``The flipped learning model has great potential for supporting personalized learning" (Sota, 2016, p. 75). It provides students with the opportunities to work at their own pace and at the levels that best suit their abilities. Sota (2016) describes that implementing flipped learning is fundamentally a simple process and it can help to empower teachers to begin incorporating personalised learning into their classes. My school is a BYOD initiative school and students are digital natives. Making meaningful use of technology in their subject in a flipped learning environment not only promotes the opportunity of becoming a good digital citizen but also supports the approach of personalised learning.

Throughout the project, an online flipped learning platform was established on Education Perfect which provides students with individual learning spaces and structured activities. Education Perfect is an online learning tool that every student integrates into their mathematics curriculum.

Throughout the project, Action Research methodology was carried out. The main reason that I choose Action Research as a teaching professional is that I am currently working in a complex system and a rapidly changing world. The Action Research methodology offers a robust framework to analyse phenomena that evolve in complex environments such as the implementation of personalised learning (Phelps & Hase, 2002). I believe Action Research is the appropriate methodology to choose for my practice-based change project as my project has changed hugely due to the implication of the COVID-19 pandemic. I had to continually evaluate and change my practice plans during the implementation of the project to address the ever-changing educational landscape.

The data collected and used for evaluation to inform the design of the next iterative cycle were students' works on flipped learning, questionnaires, and teacher observation. From teacher observations, my participants' responses and analysing of the data collected, the findings in this project:

1. Technology plays a significant part in personalised learning. Everything we did with personalised learning during this project technology has supported us all the way.

2. Co-create knowledge is achievable. During the project, students were well engaged in co-invest in their learning and using digital tools to create their quizzes and co-design their personalised lesson recordings. They have developed the required technical skills and moved from the sole consumer of technology to the producer of digital products.

3. Flipped Learning doesn't have to be implemented through videos. Online learning tools, such as Education Perfect, provide students with individual learning spaces with structured activities which enables personalised learning.

The biggest challenge for me to implement personalised learning would be the impact of COVID-19. The project took a long time to get started due to the impact of COVID-19. The iterative cycle period of the project was reduced by half. This made the implementing period compressed, and did not provide my participants sufficient time spent on learning new digital tools, developing ideas, and reflecting on their learning practice,

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Enhancing Whānau Engagement in Mainstream School

Louise Tupai

Using Place Based Learning as a hook to enhance whanau engagement, as whanau engagement is proven to have a positive effect on Māori achievement (Biddulph, Biddulph, and Biddulph, 2003), was the aim of this research. Using the Action Research method this project consisted of three cycles within a 20-week period, each cycle increasing the level of whanau engagement within the school (Cohen, Manion, and Morrison, 2018). I used a digital portfolio to document the process and communicate our learning with whanau with the hope that this would be used as a way to bridge the divide between whanau and school. The students and whanau were provided with several experiences early on to establish good relationships like noho, bush walks, whanau meetings and shared kai. I was also using this time to converse with whanau to establish good rapport and trust. At the noho I co-constructed the first piece of Place Based Learning with the children, and we carried out their vision of tidying up the local waterfall and petitioning the council to put up no littering signs. The second iteration was whānau-led and involved the children learning their pepeha and our students learning how to conduct a traditional powhiri for a special guest which they performed once they had the process learned. The third iteration involved the students creating a virtual history walk through our school all filmed and self-researched. All iterations were documented on the digital portfolio and whanau engagement and partnership were encouraged throughout.

I used three data collection methods. Survey (parent and staff), field notes and whanau attendance numbers to analyse the effectiveness of the project. The parent survey was used to establish whānau voice and see where we were lacking in creating authentic partnerships (Berg, Melaville, and Blank, 2006). I used this to help guide the rest of the project. The staff survey was conducted at the end of the project to establish the effectiveness of my leadership and dissemination of knowledge about what strong relationships with whanau look like within the classroom. Field notes were used to record student voice, events and the effectiveness of events. This was especially helpful in capturing whānau voice as the project continued. Finally, I took whanau numbers and compared them with our attendance numbers from the year before to gauge how effective my project was at getting whanau in our school and interacting with our school community.

The project findings indicate that the onus of the lack of whanau engagement is not on Māori. That creating opportunities for whanau to come into school cannot be called a true partnership as promised to Māori in the Treaty of Waitangi (Walker, 2016). What it shows is that schools dictate the rules of engagement and that these rules quite often do not align with Māori culture and ideas. It also has been found that although we are forward-looking as a profession, we need to acknowledge the past in order to move forward as unrecognised history and attitudes permeate into current interactions (Özerk and Whitehead, 2012).

The findings also highlight the successfulness of Place Based Learning in aligning with Māori points of view and identity. Place Based learning helps create belonging and knowledge of students' place in the world and enhances the mana and enjoyment of children at school (Gruenewald and Smith, 2008).

My own understanding of the power imbalance for Māori when in mainstream school has been realised (Graham, 2000). I now see my power as an educator and more than ever endeavour to look at issues through another lens rather than presuming I know what is best. Making decisions with Māori rather than for Māori is also important. Although it is an obvious conclusion, the school system leaves little room for this. This highlights the need for being creative in your approach to creating an authentic partnership with Māori is essential. Finally, this research highlights the importance of upskilling teachers to operate within the Māori world with open hearts and minds (Bishop and Gynn, 1999). Māori achievement will never increase until educators make this leap because until we truly understand the Māori perspective we will be unable to create policy and learning for Māori that will counteract the century-long underachievement results of Māori within our mainstream schools (Mutch and Collins, 2012).

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Executive Summary C5P

Using Design Thinking to develop agency and peer assessment amongst Year 8 students

Richard Wells

The purpose of the project was to see if we could equip students with a structured process with which they could enact agency over their learning of any topic. This process would encourage them to explore their own prior learning and goal setting and develop an iterative working habit with regular peer assessment and feedback. The five stages of Design Thinking appeared to parallel these general stages of learning and would be tested as a possible framework for this learning process. We proposed to test a Design Thinking for Learning (DTFL) framework for structuring all classroom learning activities.

The project had an overall focus on developing a student-led learning process in the classroom, including a more iterative workflow. This would align classroom practice with the school's aims for Ako Orewa (Orewa College, 2016), which in turn align with national (New Zealand Ministry of Education, 2007) and global (OECD, 2003) goals for learner agency. Based on existing classroom norms we were specifically looking at improving how learners explored prior learning as evidence that they were personalising their learning in regard to their own context, for example, culture, and/or their current curriculum level. After the initial stages of this learning process, evidence of peer assessment was to be gathered to measure how much learners could inform their own future learning and decision-making and reduce the requirement for input from the teacher.

An active research project was carried out with the author as project lead, two teachers and their classrooms. Twelve students from across the two classrooms were used to feedback on the experience and design changes to the proposed DTFL. Surveys were conducted at the beginning and end of the project and meetings were held between iterations for data collection and planning changes for the next iteration. Three iterations of the project were implemented although the third version was not fully tested within the project's time frame due to a Covid19 lockdown in Auckland.

The first iteration tested the existing classroom conditions regarding learner agency by asking learners to engage with the guidance resources to carry out an already planned piece of curriculum. Based on the feedback from the first iteration, the second focused on existing classroom norms for teacher direct instruction and the lack of existing learner agency, leading to a teacher-led second iteration. The feedback from this resulted in learners appreciating that something like DTFL was needed but this didn't necessarily mean they wanted it to be driven by teachers. Learners requested DTFL to be presented in a more appealing, age-sensitive, and recognisable format. This led the design of the third iteration to be based on working through individual worksheets for each stage of the

learning process to guide how they would explore the curriculum content. This was seen as a compromise between the goals of the project and existing classroom understandings and habits.

This project aligned with other studies (Carrol et al, 2010; Lockard & Hargis, 2017) in confirming the challenges presented by the complexity in adding metacognitive pressures to consider learning processes while also trying to achieve curriculum objectives. There was understanding by all participants of the need to strengthen learning process awareness and skills if you are to create student-led learning environments, which is an aim held by national and global education authorities (New Zealand Ministry of Education, 2016). The findings affirmed previous studies such as Wong (2007) in a need for but also a desire toward intentional student-led learning. The project confirmed that too much existing classroom practice took the shape of passive receivers of knowledge and there was a need and desire for learners to become more active in the learning process (CORE Education, 2014). Both teacher and learner participants expressed an ongoing need for a framework like DTFL and were keen to continue its development.

An important learning from this project for future implementations of DTFL was that the understanding and value of each stage in the process must exist in the classroom to connect the stages and thus make the overall process successful. Once a classroom can operate under a core understanding of what learner agency is, each stage must be valued regarding its impact on learning and agency for learners to genuinely engage with it.

This study has shown that in classrooms in 2021, there is still much work to do regarding meeting national and global goals for learner agency and student-led learning through key competencies. Data in this project showed that there is an appetite to meet these goals but structuring the shift in practice to meet them is an ongoing challenge.

Teachers must increase the Intentional metacognitive discussion in classrooms regarding the reality and outcomes of existing processes. This will produce student voice and feedback that this study has shown teachers are willing to respond to. This feedback from learners outlines existing faults and desires for change. It is crucial that teachers understand that learners are unwilling to present these faults and desires within any kind of traditional teacher-learner power structure, and they will only be brought forward when intentionally sought by teachers.

A framework such as DTFL can play a major role in shifting classroom practice to meet 21st-century learning goals and skill development. The findings showed that a Design Thinking framework helped structure new discussions and priorities, but it was the implementation of such a framework and the collaboration with participating classrooms that the findings show is the key challenge. The project found that it is best if initiatives engage with participants at the very beginning of planning to ensure the existing conditions are understood and to shape the initial implementation accordingly. Imposing frameworks or new processes in classrooms can fail to understand existing mindsets and habits that affect the implementation and thus success of any progressive agenda. It is therefore important for classrooms to plan the order of relevant steps required to adopt a framework like DTFL and shift classroom practice to one that is student-led.

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Executive Summary C5P

"Māuitanga"

Using a Project-Based Learning Approach to Teach Self-Regulated Learning

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Bruce Hill

Students entering the Wharekura or the High School section of our Kura were reliant on teachers to lead their learning. They were reluctant to attempt any learning by themselves unless they were explicitly told how and when to do so. Time management, being motivated to learn, thinking critically and being aware of their own thinking were all skills, that from the staff's observations, were not developed enough to meet the requirements of NCEA. Attempting to gain an Excellence grade which requires a higher level of critical thinking and creativity was beyond many.

Because of the attributes that we were seeing in our year 9 students, I wanted to undertake a project that used a project-based learning approach to develop self-regulated learning within the students. This would equip the students with the necessary skills, in a culturally responsive way, to be able to achieve the academic success that they, and we the staff strived for. My goal was to develop a framework that teachers could use to teach self-regulated learning skills through a project-based learning approach to the students in their own classes without having in-depth knowledge of either approach. The framework is based on the skills of the tipuna Māui, hence the name "Māuitanga." "Māuitanga" is aligned with the skills within Zimmerman's 2002 model of self-regulated learning and follows the stages of development for self-regulated learning as developed by Schunk & Zimmerman (1997).

My project consisted of ten Year Ten students and eight classroom teachers ranging from Year One through to Year Eight. Using an Action Research Methodology, I planned two iterative cycles to gather data in a mixed-method approach. This methodology has been shown to be the most effective type of research to undertake in an educational setting (Ferrance, 2000). The iterations were 10 weeks each and I taught the students self-regulation skills for two blocks of 1.5 hours each per week whilst they were completing a project.

I gathered qualitative diagnostic data from the students in the form of a self-reporting questionnaire at the beginning of iteration one and planned to gather summative data at the end of iteration two. However, this was prevented because of the covid lockdown, which negatively affected the quality of data I would have been able to collect.

At the end of iteration one, I gathered quantitative data from the students in the form of semi-structured group interviews. Each group consisted of three or four students and each group was given the same set of questions. However, because of the semi-structured nature of the interview, I was able to prompt the groups for more information about certain questions depending on their responses. Throughout the project, I also took observations of student behaviour and read through students' reflective journals to triangulate my data.

The self-regulation questionnaire scored each candidate on their self-regulatory behaviour and gave them a score, which fitted into three categories. High self-regulatory behaviour, intermediate and low. Group interviews were transcribed, and common themes or responses were collected. I also looked to see if they corresponded with the quantitative data. I was specifically looking for themes that related to my goals of producing a teaching resource. Were there aspects that were consistent among all students or teachers that I could use to build and improve my resource?

Some of the important findings that came out of the collection of data were:

- All but one of the students scored low or very low in their self-regulatory ability. Some of the teachers scored low, but most scored at the intermediate level with only two scoring high.
    - This indicated to me that a lot of detail and structure would need to go into a comprehensive teaching resource to negate the low to intermediate-level knowledge of self-regulation of the teacher.
    - A framework with little information may be ineffective for those teachers that had low to intermediate levels of self-regulation.
- Students needed to work within their Zone of Proximal Development which affects their motivation. The individual's Zone of Proximal Development is where the individual can successfully undertake a project or task with the help of another person who already has knowledge in the area (Walker, 2010).
    - Teachers need to be aware of this when planning projects for students.
- Students felt that working together in a group was more beneficial than working individually.
    - They felt that the combined skills of the group outweighed the individual's skills.
    - Developing the skills of a Wānanga and using Tuakana/Teina will help with group collaboration and scaffolding of tasks within the Zone of Proximal Development
- The self-efficacy of students was very low
    - This would need to be built up by the teachers by providing quality feedback relating to not only the skills of self-regulation but other areas relating to the efficacy of the student. "One of the most powerful moves a teacher or parent can make is in changing the messages they give about mistakes and wrong answers…" (Boaler, 2016, p.15)
    - This would need careful planning and selection of projects and tasks and celebration of successes when they happen. "Self-efficacy is strengthened by teachers who provide feedback and encouragement" (Usher & Schunk, 2018, p.25)

My project has greatly changed my understanding and practice of teaching self-regulated learning using a project-based learning approach. It has allowed me to teach much-needed "soft skills'' to my learners that can have a profound impact on their future learning. I now have a deeper understanding of what the different components of self-regulated learning mean and how they are interdependent and reliant on each other. Linking the skills of self-regulated learning to the skills of our Tipuna Māui to create "Māuitanga," has been extremely valuable and rewarding within my own context. We can now learn in an extremely contemporary way whilst still learning as Māori. This has provided me with clarity about how to teach these essential 21st-century learning skills in a culturally responsive and locally meaningful way. By using "Māuitanga," teachers all around NZ have a ready-made model to follow and help them understand how to teach self-regulation skills to students without having to invest many hours of research to do so.

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Executive Summary C5P

Developing student agency with students who have learning needs through personalised learning, collaboration and relationships.

Angela Armstrong-Lush

Children are at the centre of personalised learning, where learners have a voice and a choice as part of their educational journey. Student agency is one educational strategy that educators support and encourage to give students with significant learning needs a voice. This project aims to empower students who need additional learning support in an ongoing resource scheme (ORS) and their behaviour by increasing student agency using a culturally responsive approach to learning. Students, educators, and whanau members were all involved in this research project, with three distinct goals to increase agency.

Students:

- Prepare students for life after leaving school.

For students, this means cultivating self-awareness, efficacy, and self-regulation to make informed decisions about their futures. It also means having a voice and a choice in their learning (Kundu, 2020).

Educators:

- Ensure that students, parents, and community members have a solid connection to the school and each other.
- Foster student agency in students through personalised learning, collaboration and relationships.

For educators, this means building positive relationships and meaningful connections with students, parents, and their whānau and using their expertise and knowledge to develop learning opportunities connected with the student's world. Furthermore, building an environment that feels safe and values their views, thoughts, and culture (Whitaker, 2013).

Whānau:

- Strengthen the ties that bind the school and the community.

It is critical for whānau to be part of the journey, but it is the educator's job to create, foster and grow relationships between school and home life.

This action research project focused on a target group of five male students between the ages of ten and twelve of Māori and European descent. Students who were part of the project had been formally diagnosed with specific learning needs. Six adult educators also participated in the initial project. However, due to time constraints and a desire to go in-depth, student and adult numbers were refined to respond more to student inquiries.

This practice-based method was informed by the Mentler (2020) Action Research model.
A mixed method of data collection, quantitative and qualitative, was used. Teachers and students were surveyed in the first phase of this project to establish baseline data on teacher pedagogical knowledge and practice. Whanau, the foremost authorities on their children, were also asked for their thoughts on the students.

After analysing the data gathered, student agency was supported and scaffolded in the study's second cycle refining pedagogical practices. Video analysis provided the most accurate data, which guided positive change for both teachers and students. It captured the growth of teachers and students, confirming the effective application of strategies and tools and challenging teachers' educational beliefs and practices for the better.

During the second phase of the project, teachers' beliefs and teaching methods improved by applying Dewitt's (2017) and Calandrella (2020) collaborative leadership styles. This approach is preferable to other leadership styles because it is more comprehensive and holistic by using the strengths and expertise of others. Using Davies (2016) coaching model, GROW (Goals, Reality, Options, When) teachers developed their action plan using video to discover rather than being ordered along a specific route. A framework for fostering student agency was incorporated into the teaching and learning process. As a result, students began to assume greater responsibility for their education. These changes in behaviour inspired educators to change their teaching methods and attitudes towards students with learning needs.

The project's phase three involved teaching students how to take control of their education by giving them the confidence to use their voice in their learning. Using a framework to guide their teaching, teachers showed students how to solve problems, engage in their learning, and take ownership. Visual images were created to increase teacher-student communication and promote student voice and choice.

Personalised learning, collaboration, and relationships were the foundations of the project. Learning that is tailored to each student's needs and abilities is the focus of the first pillar. At every step of the process, the learner is involved, from setting their own goals to evaluating their progress. We believe that learners must take the lead in their education for it to be meaningful, valuable, and personal (Kallick, 2017). Educators, families, and other groups all work together to ensure that students are successful and flourish. Teachers, parents, students, and the community all benefit from a better understanding of each other's perspectives and abilities when they work together in the classroom.

Student engagement increased as educators' beliefs about how their actions affected their students changed due to increased self-awareness of their actions' learning. Having a say in one's own life results in a sense of agency (Rickabaugh, 2016; Zacarian, 2020). For teachers and parents, the goal is for students to begin making their own decisions about their futures. It is not the job of only the teacher to support students to flourish but the job of many.

E kore e taea e te whenu kotahi
Ki te raranga i te whāriki

Kia mohio tātou ki a tātou
Mā te mahi tahi o ngā whenu mā te mahi tahi o ngā kairaranga
Ka oti tēnei whāriki.

The tapestry of understanding cannot be woven by one strand alone.
Only by working together on the strands and with the weavers will such a tapestry be completed.

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