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LAUNCHED

Anna Taylor

DEVELOPING STUDENT ENGAGEMENT THROUGH PERSONALISED LEARNING AND
PROJECT-BASED LEARNING

Ashok Kumar

PLACE-BASED LEARNING, DOES IT MAKE A DIFFERENCE TO STRUGGLING LEARNERS IN A
MATHEMATICAL CONTEXT?

Cassey Prentice

USING A PLACE-BASED LEARNING PROGRAMME TO DEVELOP STUDENT AGENCY IN A
SECONDARY SCHOOL SETTING

Emma Talbot

DEVELOPING STUDENT AGENCY THROUGH A PURPOSE-BUILT CURRICULUM
INCORPORATING ELEMENTS DRAWN FROM STEM, HEUTAGOGY, AND PLACE-BASED
LEARNING

Fiona Mair

GROWING INDEPENDENT LEARNERS - AGENCY, VOICE, AND CAPABILITIES

Judith McCone Roberts

TEACHER PROFESSIONAL DEVELOPMENT TO DEVELOP STUDENT AGENCY THROUGH PERSONALISED LEARNING IN A PRIMARY SCHOOL SETTING.

Juliet Vickers

INTEGRATION OF COLLABORATION, PROJECT-BASED LEARNING, AND KNOWLEDGE CONSTRUCTION IN A JUNIOR CLASSROOM

Kelly Collins

MABS - MY AGENCY BOT SYSTEM: AI TO ENHANCE ENGAGEMENT

Laura Wheeler

CULTIVATING SELF-MANAGING LEARNERS IN A DIGITAL MATH PROGRAMME

Lovinia Chapman

IMPLEMENTING AND EMBEDDING TWO KEY COMPETENCIES THROUGH PROJECT-BASED LEARNING

Mel Brooks

INCREASING ENGAGEMENT THROUGH PROJECT BASED LEARNING AND VIRTUAL EOTC EXPERIENCES

Rachel Diack

PLACE-BASED LEARNING TO ENABLE STUDENT AGENCY

Teresa Capon



Executive Summary C7P

LaunchED

Anna Taylor

This change project uses collaborative, creative, and considered solutions to increase teacher capabilities with digital technologies. As a primary school based in Auckland, teachers and learners are digital consumers and creators with a wide range of digital skills and knowledge. Teachers have started to explore the project-based learning (PBL) approach to understanding the problem-solving process in authentic ways. Bell (2010) identifies the outcome of PBL as a "greater understanding of a topic, deeper learning, higher-level reading, and increased motivation to learn." (p. 39). There is also an opportunity to use digital technology skills to weave through this process, extending creative possibilities. Becoming proficient with digital capabilities, knowledge, and skills broadens choices and new ways of learning. Teachers want to be fluent with digital technologies, but how can they acquire the necessary skills for this integrative practice?

The project aimed to develop digital technology capabilities for Years 3-6 teachers, supporting teacher self-efficacy in a primary school context. Digital capabilities comprise knowledge and understanding of digital literacy, the ability to manipulate digital content and principles, adopt an ethical and value-based approach, and confidently use digital tools in teaching and learning. There were three key aims to ensure that the teachers and projects succeeded. The first aim was to build a collaborative high-trust-based working environment with participants and stakeholders. Secondly, establish baseline data about the teachers' understanding, skills and experiences with digital technology to create a plan to progress their capabilities. Thirdly, create a shared project plan, select appropriate software or hardware, and structure professional development for teachers.

The first project goal focused on unpacking the term 'digital fluency', which is the ability to select the most appropriate digital technologies for the intended purpose. As there are no New Zealand Curriculum descriptors for digital fluency, the research found digital fluency and capability frameworks used worldwide, which showed a logical progression of digital capabilities. The most relevant framework related to our context was an Australian curriculum digital capability framework devised by ACARA (2021). The framework has five key areas with examples of student outcomes. This framework was a foundational resource that the senior leaders and digital team modified. The next goal demonstrated how PBL and digital technologies could combine to create digital outcomes. The teachers used a PBL design process in their topic lessons and worked with me every fortnightly in a team-teaching capacity.

The project used one cycle of Action Research due to time restrictions. McNiff & Whitehead (2005) describe how practice and theory are irrevocably linked, as theory informs practice and practice reforms theory. Teacher interviews provided rich qualitative data and post-project feedback. Pre and post-surveys captured baseline data and development in fifteen areas of digital capabilities. The teachers assessed themselves as not capable, developing capability, capable, and very capable. By incorporating a 4-point continuum Likert Scale consisting of a 1:4 ratio of open and closed questions, I analysed the responses and categorised participants accordingly. Teachers selected one or two areas they would like to improve or were of interest.



Fourteen teachers took part in the project over fifteen weeks. There were regular meetings, informal drop-in sessions, and teacher observations throughout the project. In addition, I worked with teachers at least once a fortnight. During this time, teachers participated in two professional development sessions and had the option to join two 'unconference' workshops. There were three project deliverables. The digital framework presented the progression of digital capabilities, a collaborative planning resource, and a school-wide Digital Technologies overview incorporated the digital progress outcomes.

The teachers' baseline data was high; nine teachers scored 75%. However, the deficit areas were similar among teachers. Teachers' strongest capabilities were customising their digital environment, collaborating with colleagues, designing using the Google suite, and adapting to system changes. The weaker areas were using additional applications such as Nearpod or Flipgrid, coding games and platforms, designing and developing digital outcomes, and creating opportunities for the creative use of technologies.

At the end of the project, half the teachers had moved a level in at least one area of digital capabilities. The minimum movement was in one area, and the maximum was in 7 areas. There were two-year groups where the whole team increased their digital capabilities. The main finding was that these teams had worked collaboratively and had a Tuakana-Teina relationship between teachers and students. Learning alongside the students increased the digital capabilities of the whole team.

My research project could be helpful for schools developing a digital capabilities strategy and who would like to create school-wide progressions of skills and knowledge. Also, teachers should use a PBL approach to develop authentic problem-solving. This project shows the importance of strong collaborative networks, a supportive culture, and regular professional development to develop digital capabilities further.

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Executive Summary C7P

Developing student engagement through personalised learning and project-based learning

Ashok Kumar

This study project is based on collaborative students engagement to enhance their learning of mathematics better. When students are under pressure to produce results, they resort to rote learning to enable them to pass the assessment. However, once the assessment is over, most will not remember anything about the written content. So this project focused on the students learning and acquiring knowledge through engagement. Learners were placed in groups when studying mathematics, and the results from their responses were collected through Google forms, compared to teacher observations.

This study aimed to implement personalised and project-based learning to improve student engagement in mathematical learning for the learners of Fijian origin in the year nine mathematics class at a South Auckland High School. The overall intentions and deliverables were to; Provide a study into how learning instruction practices involving Personalised Learning (PL) and Project Based Learning (PBL) can be used to enhance student engagement of learners studying mathematics. Provide an action research report which entails information necessary to understand how to improve learners' cognitive and behavioural engagement and develop a student engagement framework to engage students in mathematical practices.

As I specialise in MCE, there is an emerging understanding of the need for New Zealand to have better engagement in Mathematics subjects at the early secondary education level. The need arises due to the continued drop in interest in Mathematics at the primary and intermediate levels. According to a report by OECD (2019), interest in Mathematics has declined since 2012.

I chose to focus on the engagement of students in year nine in mathematics based on the contribution of these values to more effective and equitable mathematics learning for Fijian learners, a minority group of Pasifika within New Zealand. Specifically, I explored various research studies to help understand the topic. The researchers (Hunter & Anthony, 2011; Sharma et al., 2011) affirmed that Fijian mathematics students often endorsed values reflective of their collectivist cultural values.

This project study developed a program to mend most students' relationships with mathematics. There was also the realisation that there is a need to change students' attitudes toward mathematics educators. Today, as in past decades, many students do not succeed with mathematics; they are disaffected and continually confront obstacles to engaging with the subject. The challenge for those interested in mathematics education is understanding what teachers might do to break this pattern. Many of the problems associated with learning mathematics have little resemblance to those encountered in other curriculum areas. In most cases, the problems are domain-specific; solving them is not a straightforward matter of importing more general pedagogical cures.



We cannot point to general education for students' lack of mathematical engagement, nor can we point to exclusion practices whereby, traditionally, access to mathematics was considered the prerogative of a privileged few. In our inclusive society, all students have the right to access knowledge. How teachers can enhance all students access to powerful mathematical ideas—irrespective of socio-economic background, home language, and out-of-school affiliations—is fundamental to this best evidence synthesis (Benseman et al., 2006).

Personalised and project-based learning can improve student engagement-cognitive of learners in a classroom (Duncan, 2013). Nonetheless, without proper comprehension, personalised learning will be dangerously understood, implemented in partiality, and then later looked upon as being impracticable. This action research report provides information necessary to understand how personalised learning can be used to improve learners' behavioural and cognitive engagement by outlining the steps that will be taken to achieve this.

The student's attitude towards mathematics is essential (Mensah, Okyekere & Kuranchie, 2013). I define attitude as the behavioural attribute that affects cognitive functioning. Attitudes affect behaviour and how students perceive things. Since exploring MCE, I have understood the role attitude plays in students' engagement and learning. As my studies continued, I realised that most students had a negative attitude toward mathematics and had a ready-set perception of Mathematics and its difficulties. Attitude influences behaviour towards a subject. In New Zealand, there appears to be a traditionally created ready-set negative attitude towards learning mathematics (McGee et al., 2003).

In contrast, this may not have always been the case and the truth. Students are motivated to work harder in subjects they love or have a positive attitude towards. The same applies to mathematics. All in all, if the mindset for learning and teaching mathematics has to improve, the illusion around attitude toward underachievement and disengagement in the learning of Mathematics has to be done away with. Personalised learning and project-based learning are beams of hope in helping reach that realisation.

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Executive Summary C7P

Place-based learning, does it make a difference to struggling learners in a mathematical context?

Cassey Prentice

Developing confidence in mathematics is an issue for many students and impacts their overall learning experience (Mutawah, 2015). Achievement in mathematics has become a problem in many schools, particularly in the school I worked in at the beginning of this project. Students displayed signs of anxiety whenever they were aware that a mathematics activity was going to be set. This led me to implement place-based learning in mathematics to address mathematics anxiety and avoidance - and develop student agency in my mixed-year level (Years 7-9) class at a private school designed for students with dyslexia. Later in my project, I would work within a low decile class of year 5, 6 and 7 students who also struggled with mathematics and would learn through the place-based learning (PBL) model.

The program would focus on real-life problems posed through questions that allowed students to work through mathematical and social science-based learning, at first with teacher guidance and later with the hopes that students would develop agency to lead their learning in a PBL model. This would then change the dynamics of teacher-led lessons and refocus on collaborative learning.

The aim was to develop the place-based learning model over three iterative cycles between 2021 and 2022. Through the three action research cycles, I aimed to move from teacher-directed and teacher-selected problems to students identifying problems and activities for us as a class to work on.

The next goal was to create a survey to gather student voices and to gain insight into how students were improving with place-based learning. As well as a student survey, I wanted to gather data through classroom observations, standardised test scores (Gloss and PAT tests) and student engagement in mathematics activities. Introducing PBL, in which students have an anchor to their community and the ability to draw on prior knowledge, should lead to a change in agency and anxiety towards learning. Research also suggests that hands-on learning with links to real life supports students in overcoming anxiety towards learning mathematics (Doğan, 2021).

My project was completed over three different iterations, two within a private school with 14 students per class and one within a low decile state school with 27 students per class. In the initial stages of my project, I worked with 14 Year 7, 8 and 9 students in a private school and completed several PBL activities. The second iteration of this project

occurred due to an Auckland-wide lockdown which remained in place for the rest of Term Three and a large proportion of Term Four. During this iteration, I attempted to implement different PBL activities students could complete at home. The last iteration was completed in Terms One and Two at a decile three school, working with Year 5, 6 and 7 students. I chose a target group of 10 students to work with. Students did not have signs of anxiety but still had low test scores. I changed the project to meet the needs of my new students to focus on developing agency through place-based learning.

At the first school, I collected students' Gloss and PAT results as baseline data for assessing achievement in mathematics. I wanted to see whether students' overall test results improved due to the project. I also wanted to see whether students' attitudes towards learning mathematics changed,



so I completed a survey with the students in my class. I used a modified version of the Abbreviated Mathematics Anxiety Scale (Hopko et al., 2003). I modified a few questions to ensure they were relevant to my students. Student survey results show that most students had anxiety based on the current mathematics program. I analysed the results of the survey and mathematics scores to see what correlations could be found. For the next iteration, I modified the survey again to suit the needs of the students I currently work with and included data collected from the Asttle Mathematics assessment in the attitude section. I found in the last iteration that making observations. At the same time, teaching was difficult, so I had a colleague complete a range of short observations in different circumstances - while teaching mathematics - to gain an understanding of engagement. I used this information to base students' pre- and post-engagement and agency abilities.

Through this project, I came to three conclusions regarding PBL in mathematics. Firstly, it is complex and challenging to implement in its most accurate form if it does not match the school policies. Safety policies and ratios can also impact the implementation of regular PBL - which affected my initial goal of having three PBL activities per week. Secondly, PBL can support aspects of learning in mathematics, but some aspects of learning need to be explicitly taught. Students need prior knowledge before a PBL experience to make connections, as Showalter (2013) indicated in his research on PBL in mathematics. As mathematics becomes more abstract, PBL is less obviously fit for purpose. PBL is also designed to be an integrated curriculum approach to learning. In this context, mathematics can sometimes get lost amongst the other learning happening while on field trips, so students must clearly understand the mathematics they focus on.

I believe that PBL has a place in learning and can make a difference in many students' engagement and enjoyment of learning. Having planned trips also improves attendance for students - which will ultimately have an impact on the student's overall success at school.

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Master of
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Executive Summary C7P

Using a Place-based Learning Programme to Develop Student Agency in a Secondary School Setting

Emma Talbot

As educators, John Dewey tells us, our goal is to “prepare students for real adult life” (Jones, 1990). However, how can we do this when many of our students show little or no interest in engaging with their learning? Knowledge construction requires students to want to be part of their learning and be motivated to build on their already accumulated knowledge. Even before the global pandemic, pockets of learners were moving through their secondary school years without receipt of academic success. This project aimed to explore the potential of using a place-based learning programme, immersed in a localised curriculum and supported through digital technologies, to increase student agency in their learning.

The setting for this project was a large, all-girls secondary school in Tauranga. Initially, the key focus group was the year 9 cohort, but part way through the project, this would extend to year 13. The comparative cohort data was rich, and key learnings were made. The context of the project would align not only with the schools’ strategic intents but also support the introduction of the new and compulsory teaching of the Aotearoa NZ Histories curriculum as part of the NZ Social Science Curriculum refresh in 2023.

The project goals were to develop a framework to measure the successful implementation of a place-based programme. The creation of a unit of work called *Tūrangawaewae*, which would be embedded in our Social Studies yearly scheme and form the basis of our beginning of the year *whanaungatanga* programme. To use the Action Research methodology as a framework to plan agile and flexible implementation cycles, knowing that the impacts of COVID could be mitigated and adapted when required without compromising the research. “The generation of evidence is vital in Action Research” (McNiff, J & Whitehead; J., 2005), so a further goal was to gather evidence of student agency through qualitative and quantitative methods. Completed ‘Google Earth Projects’, student voice through interviews, and class observations would provide this evidence. The final goal was to create resources and professional learning to ensure the successful long-term implementation of our school’s social science teaching programme.

Throughout two interactions, evidence was gathered. Iteration one occurred at the end of another COVID-disrupted year during term 4. This iteration was with a group of year nine students. They completed a three-week unit focused on the local area of Tauranga. The first part was called ‘Ko wai au?’ and centred around the students’ knowledge and interaction with our region. The second part moved the focus to the Tauranga region, using collaborative groups to create ‘Projects’ via the Google Earth platform. The second iteration was with a group of year 13 History students who spent the first three weeks of Term

1 in 2022, focusing solely on the unit’s ‘Ko wai au?’ element. This allowed them to dig deeper into their *whakapapa* and *whānau* journeys to Tauranga Moana.

From this project, key learnings were made. The evidence has shown that using a Place-based approach to the curriculum can allow students to experience agency in their learning. However, using a place-based or localised curriculum approach alone does not always guarantee agency in all learners



if students are not interested in the local area or feel connected to it. Higher levels of agency can occur when students can use local knowledge to create learning experiences based on themselves or meaningful learning. The curriculum based on place must be supported with culturally responsive pedagogy that allows learning to be personalised and meaningful. "Culturally responsive teaching is about making school learning relevant and effective for learners by drawing on students' cultural knowledge, life experience, frames of reference, and performance and communication style" (The Education Hub. 2019).

Digital tools can increase agency in student learning. Secondary school students have high levels of digital literacy and can easily navigate new programmes and produce work with new platforms without significant teacher guidance. Digital technologies are an excellent platform for place-based education to occur. Using the Google Earth platform in place-based education increased student engagement by allowing students to explore freely places that drive personal interest and learning needs. It also provides a platform to be creative and create their findings in a clear format to be presented to others. Todd Patterson's research on the broader use of Google Earth in schools, and not just confined to a GIS tool, suggested that "Google Earth has considerable potential to enhance methods for teaching" (Patterson, 2007).

The last key finding was that in a student's senior years of schooling, the academic platform of success, NCEA, reduces the building and teaching of essential 21st-century skills. The high-stakes testing environment often means that teachers revert to traditional rote learning and teacher-driven pedagogy, which leaves little opportunity for collaboration, creativity, communication, and critical thinking. "The greater level of teacher focus is on test preparation...to the detriment of other aspects of learning" (Herman & Golan, 1991).

This project has not only transformed my teaching practice. However, it has also transformed how I view learning and taught me how to lead and support the change in our education system today. As change occurs, leaders must be adaptive, drawing upon leadership qualities needed for different situations. Changes to my practice are evident through my senior teaching programme, allowing space for that century skills and opening the door to be part of a very exciting rohe wide localised curriculum trial. Learnings in this project could be integrated into any school at any level.

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Executive Summary C7P

Developing student agency through a purpose-built curriculum incorporating elements drawn from STEM, heutagogy, and place-based Learning

Fiona Mair

I work at a small rural primary school, fifteen minutes from Wanganui in New Zealand. The purpose of my project came about when our senior team talked about how we deliver a rich curriculum. Our school charter also documented this statement: 'We will provide rich, child-centred learning opportunities through a curriculum founded on empowering students. (Rich literacy and mathematics, integrated learning, sporting, and cultural experiences)'. What I have seen happening in some classes made me wonder whether we were delivering a rich curriculum. A 'rich curriculum' should be engaging for the students, where the curriculum encompasses all the principles, competencies, and learning areas (Education Review Office, 2016). I also wondered how many of our students have agency within their class and how student agency and a rich curriculum work together.

The overarching goals of my project were the following:

Goal 1: Develop a framework to implement student agency through STEM learning (science, technology, engineering, and mathematics) that will link to our local context.

Goal 2: Implement three different projects with the students in my class. Through the process, tamariki aimed to take more control over their projects. I wanted to develop students to become creative thinkers who can work collaboratively with others.

Goal 3: Implement three action research cycles allowing students more control over projects. I wanted to gather evidence, such as the student's voice and peer evaluations.

Goal 4: Evaluate our knowledge and understanding of these topics. I wanted to use a combination of interviews, student voice and evidence of completed work. With STEM learning, we also need to understand that it cannot always be measured as often there are failures with projects. We need to remember how students work together, their persistence, and whether they can talk about the process, they have been through.

Goal 5: I aimed to create a website that showed readings, reflections, resources used, etc. This would be where others can view and access resources to support their implementation of STEM projects.

It was through observations and conversations with staff that this project came about. I aimed to develop student agency through the design, implementation and evaluation of a purpose-built



curriculum incorporating elements drawn from STEM, heutagogy and place-based learning in a small rural school with my Year 5 students and to develop teachers' knowledge and understanding.

This project is necessary for many reasons, but the chief reason is that, in New Zealand, much has been written about the lack of science and technology taught in primary schools. Many of the children at the school I work have good literacy and mathematics knowledge; therefore, using STEM as a way of teaching would help extend their knowledge and understanding of the world around them. It also builds collaboration between students and can lead to personalised learning, place-based learning, and the development of student agency. These forms of learning can also benefit students who struggle with formal types of learning.

Through this project, I used action research. This is a method of systematic inquiry that teachers undertake as researchers of their practice. Action research is a methodology that enables the researcher to solve problems that occur in practice. Action research uses iterative cycles, where the evaluation of one iterative cycle informs the design of the following iterative cycle to address the identified problem in practice. Essential to any research is gathering data. We gather data to help make decisions based on the information to make improvements and changes to the research being carried out. This allows us to modify and make changes based on the information. For my project, I interviewed the tamariki at the start to understand what they knew about STEM learning and student agency and how they liked to learn. At the start of our next cycle, students completed a questionnaire. This was used to identify ways they like to learn and topics of interest - and to gain insight into them as learners. Through these observations and questions, I was able to develop different projects for the students to complete. Through informal conversations, students talked a lot about the different projects completed, showing the benefits of this kind of learning and its impact on our tamariki.

When students have the skills and understanding of STEM and student agency, they are more engaged and take ownership of their learning. Well-planned projects and not just one-off activities have more depth and meaning for the students. Collaboration is essential, not only for students but also for teachers. Through STEM learning, students learn different skills and knowledge from others as they can share ideas and draw on each other's strengths. For teachers, STEM learning encourages collaborative planning, collaborative reflection and the sharing of resources.

These findings suggest that teachers must plan meticulously and set students up well to succeed in STEM learning. In this way, students are encouraged to engage in learning and take ownership of it.

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Executive Summary C7P

Growing Independent Learners: Agency, Voice, and Capabilities

Judith McCone Roberts

My school is a multicultural South Auckland primary. Our students are engaged, compliant and capable; they are happy to be at school but do not know how to participate in their learning effectively. Our teachers are professionally capable and open to learning. My Project Change group consisted of ten Year 5 students in 2021 and continued with the group through 2022 as Year 6 students. As a Deputy Principal, I did not have a class, so the least disruptive option was to borrow some students who were essentially one reading group from a class in 2021.

The group focused on learning about how they learn, discovering agentic learning, and trialling Project-Based learning as a pedagogical approach. Outcomes from this MCE Change Project group would inform my more extensive and ongoing schoolwide focus on developing an Innovative Learning Approach for curriculum delivery at our school. The idea was to have a manageable change project for the MCE course duration but would add value through student voice - to our more extensive project.

The project aimed to ascertain how we could best build capabilities and develop work independence in our students. What were we doing or not doing that inhibited our students from becoming confident in their ability to complete tasks independently and interdependently - without requiring constant adult affirmation? This project would also inform our teaching practices to improve our agentic learning environment across all curriculum areas.

The goals of this change project were:

- To develop learner agency with the students by breaking down knowledge construction so the students understand the need to actively participate in a range of cognitive processes, how they learn and why.
- For students to use their knowledge and skills by thinking critically, applying knowledge to new situations, analysing information, comprehending new ideas, communicating, collaborating, solving problems and making decisions across various contexts.
- To develop the self-efficacy necessary for students to build their self-belief to work independently and interdependently.
- To engage in a project-based learning (PBL) model to practise and strengthen core skills, capabilities, attitudes and aptitudes. PBL - where students thought about a real-world problem, collaboratively researched a way to help alleviate the problem, and then presented their solution product to other stakeholders.
- To lend student voice to the school-wide curriculum delivery review - in light of the New Zealand Curriculum Refresh and to develop our Graduate Profile.

The methodology for this Change Project was Action Research proposed by McNiff & Whitehead as a “common-sense approach to personal and professional development that enables practitioners everywhere to investigate and evaluate their work and create their theories of practice” (McNiff &



Whitehead, 2005). The project took place over three terms of 2021-2022 (including significant COVID interruptions) with a half-day session each week, extending to four iterations of varying lengths.

Qualitative data collected through semi-structured interviews, focus group discussions, and teacher observation helped create a picture of student understandings, knowledge and skills; and the gaps in these. Observation of students' work habits, behaviours, attitudes, aptitudes, skills, capabilities, competencies and evidence of collaborative practice throughout the four iterations established common themes, key ideas and general understandings. As iterations progressed, tasks were set to challenge social, emotional and cognitive skills, and the responses and conversations were recorded. Teacher observations of tasks and learning associated with the Project-Based Learning approach also produced valuable insights.

An unexpected data-gathering exercise was created when, through a discussion of cognitive functions supporting learning, we discovered an Executive Functions Self-Assessment Checklist for students by Janet Stowell (2020). The locus of control was shifting as students carried out, shared and analysed their strengths and weaknesses and the implications for their learning.

The findings from this project reiterated the importance of students participating and contributing to their learning. Students' knowledge of the cognitive processes of learning and the skills, capabilities and competencies were imperative. They found they needed knowledge of the language of learning in order to be able to articulate their thinking. They found they did not understand the complexity of learning and that they had to have some input. They realised the importance of being able to ask and answer robust questions to reinforce understanding.

The Project-Based Learning approach proved more difficult than expected, with students seriously faltering at constructing their knowledge phase. At this point, we co-constructed a framework to support the journey through Project-Based Learning steps and stages, using language our students related to. One of the aspects the students found overwhelming with 'solving' a real-world problem was the enormity of it all. After a thorough discussion, they decided that to 'help alleviate the problem was more realistic.

Engaging with the Growth Mindset, the Power of 'Yet' (Dweck, 2007, 2016) and how to navigate the Learning Pit, (Nottingham, 2007) proved invaluable when addressing this issue of deeper, more critical thinking required in Project-Based Learning. Bray and McClaskey's 7 Continuums have become a valuable visual resource for supporting students' understanding of different elements of their learning progress (Bray & McClaskey, 2016). This provided valuable ongoing guidelines for teachers as well.

The broader implications of the project for myself and the senior leadership team was that we needed to regularly revisit ideas, expectations, research and innovations to make sure we continued to lead the strengthening of our pedagogical practices. We needed to enhance learning for our akonga so they realised their full potential and became true future-ready learners. Educational change is complex; dealing with such a complex journey is not to control it but to guide it (Fullen, 1999). My challenge, then, is to guide this change of focus and establish a new order of teaching and learning. Teachers as collaborative designers of new exciting, and rich learning experiences. Students as collaborative creators of knowledge-based products. To create an actual agentic learning environment.

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Executive Summary C7P

Teacher professional development to develop student agency through personalised learning in a primary school setting.

Juliet Vickers

This change project has centred around the identified problem at an inner-city provincial primary school. The students could not lead their learning through purposeful, real-life contexts. Having the capacity to engage and action learning encourages students to develop skills for lifelong learning. The project led staff through a contemporary pedagogical change to embed agency through personalised learning. In its simplistic form, learner agency can be defined 'as the capacity to set a goal, reflect and act responsibly to affect change (OECD, 2022). Embedding learner agency has enabled the school's vision of being 'an innovative learning environment achieving excellence' to come to fruition.

The project goals were designed to grow teachers' knowledge and support changing their teaching practice to enable learner agency. The main goal was to create a professional development programme. The programme started with the identified problem, learning about 21st-century skills, and examining current teaching practices. Teachers then identified agency as a critical skill to be embedded. A concept map was shared to represent how the elements of the professional development programme were woven together. Teachers worked with critical buddies and learning teams to coach each other and share practice. A shared drive contained professional readings, learning progressions and teachers' inquiries to strengthen the process. Teacher inquiries shared the same goal and were a central component of the programme. This collaborative design formed a vital part of the success of the project.

A second goal was to develop a matrix that showed a natural learner agency progression. It supported teachers' and students' understanding of agency by detailing the different levels of control and prompted reflection on whether the learning design supported agency. Students used the matrix to assess their locus of control and what was required to move to the next step. Absolum (2006) found that it is vital to 'shift from teacher-directed learning to student-driven learning' as this positively impacts learner agency.

A third goal was to develop a place-based curriculum incorporating personalised learning elements to embed learner agency. Place-based learning was incorporated into a local curriculum, including design and aligned to personalised learning. The curriculum contained rich learning opportunities co-constructed with and in response to community and student needs, thus personalising it to the school. There were elements of individual choice and progressions to support individual goal setting and assessment.

Leading teachers implemented the project through two action research cycles. Each cycle involved participants collaborating and focusing on improving practice with a shared goal. It examined the effects of implementing student agency by supporting teachers' knowledge through a collaborative and reflective process. The initial participants were a team of four Year 5 and 6

teachers. Unfortunately, due to a global pandemic, only one teacher in the initial team was there for both cycles. Therefore, the project was taken school-wide in the second iteration, with all teachers focusing on individual inquiries with the support of a critical buddy. This project's inquiry was highly prioritised since it aligned with the school's strategic plan. It was further strengthened by teachers identifying the need for change and including inquiries as the main component of teachers' professional growth cycle. Teachers were given a framework and time to coach each other and share practices. The project goals were developed and refined through trials and discussions with all stakeholders.

Initial data were collected from the participating teachers using surveys and interviews. Four students from each of these classes were interviewed. Student data were triangulated with the teacher data to determine whether the project had changed teachers' practices and impacted students' agency. A matrix was used to analyse data and shape the next cycle.

The most important finding from this project is that personalised learning enabled learner agency in both teachers and students. The learning design of the professional development programme shifted from an ill-adapted 'one-size-fits-all approach to school knowledge' (OECD, 2022) to a personal level strengthened by a community of inquiry. The project concluded that change occurred when teachers were responsible for 'creating, enacting, and embodying their knowledge as they encountered it' (Dall'Alba, 2005, p. 364, cited in Maughan et al., 2021). A secondary conclusion from this project is that a well-developed local curriculum provides elements of personalised learning design that promote agency.

The project's significance highlighted the alignment of personalising learning and learner agency. Teachers can enable students but need to experience agency and personalisation in their professional development. For leaders and teachers, the project demonstrated the importance of forming relationships, providing insight into an individual's agency complexities, thus guiding the decision-making associated with personalising learning. Finally, this project accentuated the success of using the robust 'Community Inquiry Framework' (Garrison, 2009) to lead change.

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Executive Summary C7P

Integration of collaboration, project-based learning, and knowledge construction in a junior classroom

Kelly Collins

My project aimed to integrate collaborative learning within a project-based learning (PBL) approach to support developing knowledge construction in a junior classroom. I implemented key components of PBL, a contemporary learning approach, within a junior context to develop the 21st-century skill of learning collaboratively. Furthermore, I wanted to find out whether this way of learning supported knowledge construction with students in Year 2 and Year 3. By developing skills for juniors to collaborate within a small group or pairs, I hoped to create a learning environment that enabled the students in my class to begin to recognise the value of each other's prior knowledge and skills. I aimed to grow a culture of learning from each other.

This project aimed to design and implement a framework that showed a progression of developing skills that supported collaboration when students were problem-solving. Through various small group problem-solving activities implemented in my classroom, I observed that young children work independently within a small group. Although they were problem-solving side by side, learning was very individual. Knowledge was not shared. Collaboration allows students to communicate in various ways, contribute to a broader learning community, bring their prior knowledge to the learning, and showcase their strengths. This way of learning involves two or more students being a part of a 'collective solution' to an identified problem or task. Students must also be accountable and aim to contribute their best throughout the process (Bartz, 2018). Learning collaboratively creates opportunities to facilitate knowledge exchange.

Understanding the attributes of collaboration and how this skill can be embedded into PBL was essential to this project. The underlying principles of project-based learning encourage students to learn actively by engaging in real-world projects. This approach provides opportunities for students to develop deeper content knowledge, collaborate, problem-solve, and be creative in response to a real-world problem needing to be answered. PBL encourages authentic learning opportunities that are meaningful to the learners. PBL is described as a key strategy for creating independent thinkers and learners (Bell, 2010). Considering my students' age and the various learning stages, teachers need to adapt their thinking around the word 'world' from a global perspective. Real-world in a junior context looks very different. I needed to adjust my thinking around the term 'real-world' and bring this critical component of PBL into the eyes of a junior learner. Collecting student voices is essential in implementing PBL in a junior classroom so the learning is meaningful to the students. PBL fosters inquiry and promotes active learning. Students are more inclined to use their imagination when given opportunities to explore and be creative, which may also increase student motivation (Warren, 2016). Providing real-world learning experiences engages and motivates students. This was evident throughout the implementation of my project with the students in my class.

Following an action research methodology, I conducted three iterations. During the first iteration, the focus was on students collaborating. I provided collaborative tasks to introduce and develop an understanding of this skill. The second and third iterations incorporated critical aspects of a project-based learning approach. Data on student understanding of collaboration was collected from

interviews before and after each iteration. All three iterations showed a shift in students' understanding of collaboration. However, using a progression framework for collaboration highlighted that students involved in PBL developed a deeper understanding of this skill and could confidently verbalise this when interviewed. Surveys collected after each iteration revealed that students enjoyed learning collaboratively. Whilst most students felt they participated confidently in small groups; some were more reluctant to contribute their ideas, feeling nervous. A key finding from evidence in self-assessment data showed that a higher percentage of students were more confident working in pairs and felt more actively engaged.

Research often discusses collaboration and PBL with older age groups, such as secondary and university students. This research demonstrates how PBL can be adapted within a junior context, although the big idea may not necessarily solve a complex world problem. Teachers need to consider what a 'real-world' problem is from the perspective of young students so they can begin implementing this dynamic approach to learning in primary school settings. Collaboration can have powerful positive results if used effectively. It became an essential part of this research to scaffold junior learners to share their knowledge, ideas, and skills during engaging problem-solving activities.

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Executive Summary C7P

MABS - My Agency Bot System: AI to enhance engagement

Laura Wheeler

My change project was based on the need to create opportunities for learners in my classroom to develop their agency due to their lack of self-determination and autonomy. I wanted to find a sustainable way to improve outcomes for learners to meet the needs of 21st Century education within my classroom and my school. I decided to adopt a personalised learning pedagogical approach to allow my 2021 Year 4 class and my 2022 Year 4 class to influence the pace, place, and path of their learning. I believe that by enabling agency and personalising their learning, the diverse needs of learners will be met.

The purpose of this project was to implement personalised learning to develop agency in the learners in my Year 4 classroom as a model to extrapolate and scale up to a systems-wide school level. Part of my problem was to find a way to engage teachers and inspire them to continue to enable agency in their students, even if it was not the school's focus for professional development. I produced an interactive guide for colleagues showing how to introduce personalised learning in a Year 4 classroom to help sustain this change in pedagogy. My goal was for students to influence their learning by gathering student voices around their interests and aspirations and allowing more opportunities for students to choose the pace, place, and path of their learning.

When teachers carefully design the learning environment, learners are empowered to act with agency. Teachers can do this by gathering student voice, enabling assessment capabilities, and using a shared language of learning. Personalised learning is a learner-centred approach. It allows the learner to "drive their learning" and actively participate "in the design of their learning" (Bray & McClaskey, 2014). This approach enables learners to develop their understanding of their interests, strengths and weaknesses, and aspirations for their future within authentic contexts. It also enables learners to "reflect on how they learn, what they find hard or difficult, [and] how they best express themselves" (Leadbeater, 2005, p. 10). Both learner agency and personalised learning focus on student autonomy and meeting the needs of each learner as an individual.

I shifted the power in the classroom to allow students to lead their learning using the 'Networked Campground' metaphor, as illustrated by Bolstad et al. (2012). Specific skills teaching was essential to ensure children clearly understood their learning needs. One of these skills was self-determination, where learners can make choices about their learning without seeking the permission of others. This was particularly evident in the later iterations of my project, as children developed a thorough knowledge of the learning progressions and were more capable of determining their learning goals. They planned their weekly learning based on these through a flexible timetable.

The technology I implemented to enhance the personalisation of learning in my classroom was an Artificial Intelligence (AI) chatbot. I named the chatbot 'My Agency Bot System' (MABS). AI is an emerging and disruptive technology and, in theory, could make personalised learning easier to

implement in the classroom. "It could take over certain rote tasks in the classroom, freeing teachers to pay more attention to each student" (Gates & Couch, 2020, p. 27). Due to the age of the children I teach, I needed to carefully code my chatbot to ensure that differences in literacy ability did not hinder their experience with MABS. Students used MABS independently to find the best learning activity to achieve their goals. I utilised the AI capabilities to train the chatbot to understand the intention of requests from children.

The research methodology I used in this project was Action Research. The focus of Action Research is to make deliberate changes to practice. Each iteration of the project focused on what I did and how I did it, as well as thinking about the perceived impact of my actions (McNiff & Whitehead, 2005). I interviewed each participant one-on-one, using six questions about their perception of their agency. Their responses were analysed using a rubric with a four-point scale to give a numerical score and an agency level. This interview data was reflected upon to determine the needs around the scaffolding and direct instruction required to give students more agency in their learning. Each participant was interviewed at the end of this project using the same interview questions and rubric analysis. Mathematics proficiency data was also gathered at the beginning and end of this project to measure the impact of the increased agency. Students used these Mathematics assessments to self-assess and self-select new goals.

Qualitative data was also gathered throughout the project in a formative assessment manner through focus group discussions. One trend that I noticed was a change in children's language during the interviews and focus group discussions. They moved away from talking about the teacher being in control of their learning to them seeing the power they have over their learning. Their interview data demonstrated that, as a class, they have a shared language around their learning and agency, with most children being able to describe it in the same way. This was supported by clear systems and processes and visual prompts in the classroom.

The key finding of this project is that increased agency through personalised learning and deliberate use of technology significantly impact student achievement and motivation. The essential elements to ensure success are gathering student voice, using clear, consistent language and visual prompts, and empowering learners. Participants in this project achieved accelerated progress in Mathematics and developed the 21st Century skills of self-management and self-direction.

My research project could be helpful to other primary school teachers interested in using AI, as there is limited literature discussing the use of chatbots in a primary school context. Year 4 teachers may also be inspired to adopt a 'Networked Campground' approach in their classroom to develop agency skills while adopting a personalised learning pedagogical approach.

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Executive Summary C7P

Cultivating self-managing learners in a digital Math programme

Lovinia Chapman

The vision of our school is 'to develop a generation of Māori students (mokopuna) with the self-belief that as Māori, they are capable of designing innovative, sustainable, successful futures for themselves, their communities and the world'. Mokopuna should experience high-quality digital learning programmes that will equip them to manage themselves despite location, time and space. This was integral as times called for flexibility in learning and teaching due to the impacts of covid.

With this thinking in mind, the project's purpose was to develop a digital math programme using the flipped learning class approach with a component of two essential executive functions; goal setting and cognitive flexibility for mokopuna. Sixteen mokopuna participated, and another kaiako was employed by the school and worked from a different region.

Ferrari and O'Connor (2013) defined the flipped class learning approach: "online lecture videos are probably the most identifiable feature of a flipped learning environment." The instructional practice may vary, but most flipped practitioners utilise class time for student-centred activities and prior knowledge through viewing tutorial videos. According to Stowell (2018), executive functions are "cognitive skills people use to make decisions, plan, solve problems and manage their thinking and behaviour."

The digital project math programme was implemented as two iterative cycle action research conducted in term 1, 9 weeks, and term 2, 6 weeks. It was developed and facilitated with two ideas in mind;

1. To deliver math content online - through a centralised tool known as the Mokopuna Mastery Matrix for easy navigation of instructional and tutorial videos for some regions of learning. This was housed within a google classroom.
2. To foster cognitive skills for self-management and readiness to engage in digital learning through goal setting and to stay on task to achieve goals and switch the way something is thought about and thinking about it in a new way (cognitive flexibility).

Data were collected on various aspects of the programme, such as the mokopuna mastery matrix, videos, executive functions, activities, workshops and learning preferences. These were collected through the following;

- Pre and post-digital survey (google form) as it was a familiar tool and for response reliability
- Semi-structured interviews with mokopuna, the hybrid hoamahi (colleague) and the school pou matua (principal) to either elaborate, reflect or come to understand the process.
- Reflective and collaborative notes with my hoamahi were used to document the journey.



Results showed that the programme empowered mokopuna to take control of their learning as the locus of control shifted from pouako to themselves, self-managing and working independently, requiring tools and structure.

The matrix served its purpose of being a centralised document where tutorial videos were quickly accessible because they were in one place. It helped mokopuna to be more self-managing, encouraged self-pacing, and over time they felt better about using it. There were many changes to the matrix, some due to pouako reflections but mainly through mokopuna feedback.

The vast majority of mokopuna found the videos helpful for their learning because they could repeat the lesson when and as many times as required and also for note-taking purposes. One of the most critical aspects of producing videos learnt by my hoamahi, as this was one of her roles, was to be clear and concise and to not strive for video professionalism; keeping the format simple was paramount.

These two aspects of the programme required mokopuna to apply the executive functions to arm them with the cognitive tools required for self-managing their learning within this digital programme. This was pertinent to the programme.

The learning programme required teachers to re-position themselves as facilitators and relinquish control, putting mokopuna at the centre of their learning. Considerations pertinent to digital programmes for change is a balanced focus on teaching cognitive tools such as executive functions and content within the classroom. Executive functions do not come naturally to all mokopuna; time spent on learning these would only strengthen their ability to self-manage for now as ākongā (learners) but also for their future as adults.

Digital teaching and learning open up the opportunity for teachers and students alike and unlock the potential to teach and learn successfully, as evidenced in this project despite location and time. It is possible to continue learning through numerous waves of covid and illness.

'You can learn anywhere' was a motto shared in whare waenga (our middle school); I learnt that teaching can also happen anywhere. From my experience, this is true. However, there are some considerations to consider, such as the working relationship prior to the hybrid teacher working off-site, clear roles, and frequent communication, to name a few.

Ko te tamaiti te putake o te ao, learners are always at the centre of our world; we support, encourage and arm them with tools to help them to realise their greatness in learning.

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Executive Summary C7P

Implementing and Embedding Two Key Competencies through Project-Based Learning

Mel Brooks

Key Competencies have been discussed and investigated in curriculums globally and locally since the DeSeCo project in 1997, with the OECD finalising competencies with a findings report published in 2005 (OECD, 2005). New Zealand (NZ) has included Key Competencies in the national curriculum since its draft in 1997 and is now finalised form since 2007 (Ministry of Education, 2007). Research from Hipkins and McDowall based on 'OECD Towards 2030' findings (OECD, 2019) have discussed the five selected Key Competencies: Managing Self, Participating and Contributing, Relating to Others, Thinking and Understanding Language, Symbols and Text (Ministry of Education, 2007).

The purpose of this project was to implement and embed two of the Key Competencies: Relating to Others and Thinking through Project Based Learning (PBL), in order to assess and report, in real-time, to whānau. Project goals included using literature and research and the Action Research Model to implement two iterative cycles of inquiry to measure and analyse the effect of explicitly teaching Key Competencies to my Year four and five students.

My primary school in Hawkes Bay has been investigating how to report on more than core curriculum subjects. Traditionally, my school has provided two written reports per year weighted towards Reading, Writing and Math rather than competencies, values and principles within The NZ curriculum, as these competencies should be woven and delivered alongside the essential learning areas (Hipkins, 2018). The project was undertaken over three terms in 2021 and 2022. The students were from a year 4-5 team (125 students, five classes. However, data was only reported from students in my class (25 students).

The first cycle of my project using the Action Research model was using PBL through Student Organised Learning Environments (SOLE) to implement Relating to Others as a Key Competency. Data from student surveys pre and post-implementation, self-assessments and observations were collected and analysed. Survey questions were skills from the Relating to Others Key Competency: listening, getting along with and contributing in a group.

The second cycle of my project was to implement the Key Competency of Thinking through PBL through the technology process and design for learning. The students undertook two key projects, to build a waka that would float across the pool and, secondly, to design a solution to the PE shed only being on one side of our school during Level 3 COVID protocols. Data were collected, including random student surveys, pre-and post-implementation, self-assessments, and interviews with students and teachers. Survey questions were skills from the Thinking Key Competency: showing curiosity and asking questions, sharing thinking, using thinking tools and explaining and justifying thinking.

During both cycles, the skills and strategies from each Key Competency were explicitly taught and discussed during all teaching and learning activities. Booklets using Book Creator had pages and



activities specific to demonstrating the skills and strategies from each Key Competency, and this made analysing the student's learning easily accessible. Students showed their understanding of these two Key Competencies through reflections from them and myself as the researcher.

I analysed the pre and post-survey data by measuring the change in percentage from my questions. The responses were Never, Sometimes, Often and Always to performing these specific skills related to Thinking and Relating to Others. After explicitly teaching these two Key Competencies, the data showed that students could talk about how they had used the Key Competency in their learning. The survey questions showed a marked improvement in answering Often and Always, compared to Never and Sometimes. During interviews, students discussed using the Key Competencies in all their learning across the curriculum areas. The literature discusses that to effectively implement the Key Competencies; they should be woven into essential learning areas rather than taught in isolation (ERO, 2019; McDowall & Hipkins, 2018; Ministry of Education, 2007).

My school has implemented a Rich Record of Learning (RRoL), assessing students against the Key Competency of Thinking. We have begun to assess and report on the Key Competencies, and after surveying whanau, this has been received very positively. Examples from students' PBL were uploaded to Hero, our management system and teacher voice and student voice were reported on to whanau based on the Thinking skills.

The following steps for my project would be to implement and embed the remaining three Key Competencies using this model of research. Another goal is to create a rubric that students and teachers could easily use that outlines the skills necessary to learn with and through the Key Competencies. This research could be helpful to other educators wanting to implement and embed the Key Competencies into their practice and pedagogy.

I can see through my project implementation the growth and learning that has occurred with my students, who finally have a tool that recognises the importance of the Key Competencies and delivers this in practice and pedagogy. "It is no longer sufficient for students to acquire knowledge and master skills. Students need opportunities to develop their capability as users of knowledge and skills in wide-ranging contexts now and in the future" (Ministry of Education, n.d.).

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Executive Summary C7P

Increasing Engagement through Project Based Learning and Virtual EOTC Experiences

Rachel Diack

A problem I identified in my school context is a disparity in engagement between our Junior and Senior students. I believe a lack of continued student-led pedagogy may be a contributing factor. Creating an aligned pedagogy using Project Based Learning, and developing a stronger philosophy across the school around student-led learning, may be key factors in increasing engagement at the Year 4-6 school level.

I hoped the beneficial outcomes of this Change Project would be:

- Alignment of student-led pedagogy from Junior to Senior school will benefit students and teachers.
- Students will gain engaging learning experiences.
- The school will have an up-to-date online code of conduct for students.
- Other teachers in my school and our Kahui Ako will have access to information on implementing Project Based Learning and Virtual EOTC.

This Change Project was implemented with Year 4-6 students in my classroom. Planning for implementing each iteration was based on the fundamental principles of The Walker Learning Approach (Walker & Bass, 2011). The reason for choosing this approach was that it builds on the strategies and principles used in the Play Based approach followed by our Junior School. The Walker Learning Approach claims to continue these strategies with older students with more formal instruction alongside Project Based Learning to empower, engage and motivate learners.

For my first iteration, student projects were based on our whole school theme of 'Our Community, Our World'. With the Olympic Games happening in Japan, a significant focus was also dedicated to this event. Students completed several activities, such as My Virtual Mission to Tokyo, Google Earth Hidden Japan tour, and a Nearpod Virtual Tour of Japan. I was inspired by Delacruz's (2019) research on having students connect with students from another culture. Through connections with a teacher in Japan, I was able to plan a collaborative project with a class of Japanese students that allowed all students to explore their own and other's cultures and to make connections and consolidate their understanding of their place as they compared and contrasted contexts.

In iteration two, the whole school topic continued on 'Our Community, Our World', with the focus shifting to volunteers. This iteration was not a success, and due to Covid-19 and several complexities, this iteration and student projects were not completed. However, reflection on this iteration did lead to



key conclusions about lesson structure in Project Based Learning and the need to draw on students' prior knowledge and cultural connections.

For my third iteration, the whole school had an art focus on portraits. Students started their projects by sharing their prior knowledge and personal experience with portraits. They created several self-portraits using a variety of different techniques. Students then chose a famous artist to research and wrote a biography on, and created a self-portrait in their chosen artists' style. These projects were shared with whanau in a celebration day at the end of the term. During this iteration, asynchronous virtual field trips were made to online museums. Students reported in feedback that they liked navigating the sites themselves and not having to go to specific pages and wait for everyone to be in the same place. A collaborative space, such as Google Classroom, to share findings, and a task to complete while navigating the sites, was essential for making the Virtual EOTC experiences relevant and purposeful and provided a space for reflection, which is key to students achieving deeper levels of cognitive engagement.

The Action Research process I took with my Change Project used qualitative data from surveys and semi-structured interviews, student work samples, observations, and anecdotal notes in my implementation journal. Throughout my research on student engagement, I returned to the research article, *Student's engagement in literacy tasks* (Parsons, Malloy, Parsons, & Burrowbridge, 2015). This included a simple engagement rating scale of the three affective, behavioural and cognitive dimensions. It is this scale which I adapted to use for coding my observations.

Through reflection and data analysis, I identified these key aspects that lead to increased student engagement.

- Students having a cultural connection to the activity.
- Students can draw on and make connections to prior knowledge.
- Students work collaboratively and have a choice over whom they work with.
- Students being in control of navigating digital tools.

This report elaborates on how these four aspects increase student engagement and the ways they can be implemented using a Project Based Learning approach. The use of Virtual Field Trips for increasing global cultural connections has begun to emerge in more recent research, with Delacruz (2019) being one of the leading examples. My collaborative project with students in Japan, inspired by this research, is the most valuable learning I took from this Change Project and made a contribution to research in this area. The most relevant finding for New Zealand educators is how Project Based Learning can be used as a culturally responsive approach. The key aspects that lead to increased engagement closely align with research from Professor Russell Bishop (2019) on Relationship Based Learning. This project provides practice-based evidence that Project Based Learning is valid for engaging diverse learners in New Zealand primary schools.

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Executive Summary C7P

Place-Based learning to enable student agency

Teresa Capon

This project aimed to support students who are struggling to learn, feel unsuccessful, and feel that school is 'not for them'. This project took a place-based learning approach to raise student agency by moving learning beyond the classroom walls. It was designed to build a deeper sense of personal identity and belonging for every student and encourage authentic connections between students, whānau, teachers and the wider community.

Place-based learning (PBL) is both a constructivist and holistic approach to learning that acknowledges the importance of the learning environment while addressing learner motivation and emotion (Dumont et al., 2010). Learners need to be in a 'good place' before learning.

Project Goals:

1. Explore localised place-based integrated curriculum that gives students agency to engage in local environments, events and community
2. Implement two Action Research iterative cycles, each building on relationships with students, whānau, community and the environment
3. Develop skills to lead and support a teaching team, building our capability to engage in the new curriculum and emerging contemporary approaches to teaching and learning
4. Use a combination of teacher observation data, student and whānau voice, and contextual assessment tools to assess the extent of participants' self-belonging and identity, and self-agency

This project was undertaken as an action research project, within a collaborative, innovative learning environment, over two terms. Weekly walks were framed in the context of our Pepeha and Turangawaewae. We explored the Mahinga Kai, wandered the beach, swam in our awa, kayaked up the creek, visited a local taonga tree, climbed the hill to introduce ourselves to our maunga, and created our own pepeha stories of these places. Students were encouraged to share their learning experiences in written form and digital media. Digital stories were shared with family, within the class, and across the school to build self-identity and belonging. They became invaluable class resources that supported students as they wrote and provided student voice and contexts for curriculum integration.

Qualitative data was gathered from observations, interviews, a survey, student work from writing books and video narratives. Students could make solid and relevant connections to the places they visited and clearly explain how the PBL walks supported their learning. Many students talked about how the walks gave them lots of ideas to write and highlighted the importance of inspiration and motivating contexts for writing. Content-based responses show how PBL gave students control over what they learnt. Students valued the connections and shared experiences between the class, home and school, and the environments we visited. Students developed self-management competencies, showing a natural ability to assess and avoid risk. Students confidently talked about their learning,



constructing deep understanding and knowledge of their learning. Data showed students developed positive personal learning theories, indicating student agency and self-belief.

Connecting people, places and conversations was the key leadership challenge in this project. I took a wayfinding approach (Spiller et al., 2015) to lead this project in a servant leadership role. I learnt to step back to observe, reflect and respond while staying in tune with what was happening and making slight adjustments - but not oversteering. The intensely relational and complex nature of an ILE makes collaborative decision-making, relational trust and well-being a priority. When making changes, people need time to think about it, sort, evaluate, and reorganise their beliefs before adopting something new. We began teaching into the unknown, building our capacity to plan, teach and assess learning using a just-in-time approach, often responding to the students, environment and opportunities that arose. PBL provides opportunities for students to share their values and expertise in ways that are not typically valued or measured in school.

Placed-based learning provides many opportunities for exploring big ideas using localised curriculum and learning outcomes that go beyond teacher-planned specific learning intentions and can comfortably fit within the timetables of a typical structured school week. A collaborative teaching ILE is a great place to explore PBL curriculum integration because it draws on individual strengths while sharing the workload. The collaborative nature of teaching and learning in an ILE creates many opportunities for robust and critically reflective conversations about what is essential to learn and brings professional rigour to learning. The local explorations addressed student motivation and engagement. However, the curriculum integration across all learning areas created opportunities for student agency to develop and enhance the learning opportunities.

Student agency encompasses all positive traits of learning, with a specific focus on heutagogy and dispositions of motivation (Vaughan (2018)). Place-based learning is a good context for developing student agency because it is multidimensional, inspiring thinking and learning in many complex ways. Place-Based Learning provides opportunities to deliver a rich, engaging curriculum - learning that can harness personal and collective knowledge and experiences - while valuing and respecting the self, others and the environment. It builds collective curiosity, inquiry and critical thinking so everyone can become agentic learners. Place-based learning bridges the gap between home and school, well-being and achievement while wandering off joyously along a trail of learning, laughter and mutual respect.

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