

The Mind Lab Symposium Proceedings I

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THE MIND LAB

Introduction



Master of Contemporary Education Research Symposia – 2019

This is the first publication from The Mind Lab e-press, containing abstracts from the first two Master of Contemporary Education Research Symposia, which took place in July and November 2019.

PART I

SYMPOSIUM ONE - JULY 2019

The first Master of Contemporary Education Symposium took place in July 2019, and included 7 presentation abstracts.

1. Building the Disposition of 'Teacher Self Improvement' Through Teaching as Inquiry - Teresa Scott
2. Toward a Curriculum of Wellbeing - Tanith Gordon
3. Improvement of Student Critical and Computational Thinking through Mathematical Talk - Sue Crawshaw
4. Designing a Personalised and Authentic Learning Environment for Adult Learners in the Educational Sector - Shona Poppe
5. Engaging with Play-Based Learning - Rebecca Anderson
6. Implementing Problem-Based Learning in the Classroom - Dannikea Holtom
7. Vini. Vidi. Lusi. I came. I saw. I played. An investigation into students' engagement in digital game-based learning with Minecraft - Christopher Charteris

I. Building the Disposition of ‘Teacher Self Improvement’ Through Teaching as Inquiry

TERESA SCOTT

Teaching as Inquiry has been described as a component of effective pedagogy:

- a model of pedagogy (Aitken and Sinnema, 2008);
- a form of professional practice (Clarke and Erickson, 2003);
- a cyclical framework (NZC, 2007); and
- a role teachers perform (Fichtman Dana and Yendol-Hoppey, 2014).

But I had a hunch it could be so much more. Building on the disposition of self-improvement in teachers is an attractive opportunity to harness attitudes towards Teaching as Inquiry (TAI). By optimizing teachers’ habits of mind and shaping their natural mental and emotional outlook toward TAI there is potential to strengthen teachers’ pedagogy resulting in improved outcomes for tamariki. Beyond that, TAI is an opportunity to help teachers see themselves as ‘lifelong learners’ and – in a very real and authentic way – demonstrate their commitment to this ethos.

This study demonstrates the potential for self-improvement through TAI. It presents leaders with a new lens through which to view the role of teacher dispositions as an integral aspect of TAI. The study also offers collaborative toolboxes and work spaces to kick-start the process of developing these dispositions. Based on the research, this study examines the impact of ‘teaching as inquiry’ on teachers through the lenses of an evaluation of pedagogies, teacher’s assumptions, and their funds of knowledge that deepen the TAI experience.

A mixed methods design was adopted. Surveys and interviews were used to collect data about teachers’ knowledge funds and their attitudes and beliefs around TAI. The project worked to establish a link between TAI and the disposition of self-improvement through the following project aims:

1. In what form and for what purpose ‘Teaching as Inquiry’ is used and implemented in a range of primary schools in New Zealand;
2. What common attitudes, beliefs and knowledge funds teachers have about Teaching as Inquiry; and,
3. How the concept of teachers as self-improvers is realized through Teaching as Inquiry.

Preliminary results showed that numerous TAI frameworks can be applied effectively. Schools however, struggle with its implementation. Further analysis suggests that, regardless of the framework applied, the TAI experience needs to stimulate improved thinking and pedagogical knowledge. Diverging from initial findings, discussions focused on what teachers needed to connect to TAI experiences. In conclusion, the lens through which TAI is viewed needs changing. Initial findings revealed that teachers are committed lifelong learners, open to new learning, and they are focused on improving outcomes. By applying a new lens teachers were asked to make the connection between TAI and self-improvement. This resulted in the application of a holistic view of TAI through the Head, Hand & Heart approach. This approach consists of: teachers using knowledge (the Head); taking action and doing (the Hands); and applying these to the purpose of TAI and the holistic being (the Heart). After preparatory discussions of this lens were applied to TAI, barriers came tumbling down. Attitudes and beliefs that could be stumbling blocks were identified, and shared understandings about the benefits of TAI were developed. Overall, the disposition of teachers as self-improvers was framed in such a way that links between that and TAI can be identified quickly, giving more meaning and purpose to the process.

Unexpected discoveries have included:

- Informally teachers have started to frame up their TAI using the Head, Hands and Heart approach;
- The greatest shifts recorded so far have been in self-satisfaction, professional pride, less stress and calmer teachers – indicating that there is a correlation between attitudes, beliefs and teachers seeing themselves as

self-improving lifelong learners.

The question that arises from initial data is 'Does a self-improvement lens sustain teachers confidence, participant willingness and new professional knowledge?' This and other questions will be addressed in the ongoing study where the self-improvement lens will be implemented through the Head, Hands and Heart approach to TAI.

The project reveals that:

- the implementation framework does not impact as much as a systematic, consistent approach across the school does;
- the school's implementation approach is largely determined by the extent to which TAI was understood and practised by staff;
- shining a self-improvement lens over TAI connects to the disposition of lifelong learning in teachers.

Following these research results, there is the recommendation that self-improvement should be actively promoted by leadership, and embedded as a cultural condition through the Hand, Head, Heart approach to TAI, to improve outcomes for teachers and students.

Overall, I conclude that for change to happen there needs to be a re-visioning or change of lens applied to TAI. The building of teacher disposition towards self-improvement needs to be the cornerstone of TAI.

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2. Toward a Curriculum of Wellbeing

A Narrative Case Study of the effects of Mindfulness and Growth Mindset lessons on building resilience and engagement in learners

TANITH GORDON

This project was formulated through experiences and conversations with educational colleagues across a Community of Learning in New Zealand, and academic review of existing literature. The aim of the project was to deliver deliberate acts of teaching based on key concepts from Growth Mindset by Carol Dweck (2015), and the *Pause, Breathe, Smile Mindfulness* programme created by the *Mindfulness Education Group* (Bernay, Graham, Devcich, Rix, & Rubie-Davies, 2016). The approach has also been informed by a literature-based framework of what a resilient learner 'looks like' in the educational context. The proposed lessons focus on aspects of each programme that supported the development of skills, understandings, and strategies that are used by resilient people.

The primary goal of this project was to teach children to recognise, identify, and name their emotions, and to develop resilience through Growth Mindset and Mindfulness strategies, designed to promote positive social interaction.

Over two four-week blocks, separated by the two-week school holiday, a cohort of Year 2 and 3 children in a small rural school in New Zealand received specific daily lessons on Growth Mindset and Mindfulness. These lessons were sourced through the teacher-created resource site *Teachers Pay Teachers*, and were adapted where necessary to suit the local context and the age of the learners. These lessons introduced concepts and vocabulary, and often incorporated a practical activity. The lessons also used story books that prompted making connections between the scenarios in the story and the children's own experiences. The stories and connections to students' experiences together create a shared framework for understanding that became embedded in the class culture.

Alongside these deliberate acts of teaching, the children had daily Learning Through Play sessions with provocations that allowed for problem-solving, communication, and the use of the resilience strategies and understandings being built through the guided lessons. Amongst this cohort, two case studies were followed – the significant events in their learning and the effects of the programme were captured through the use of the CYRM (Liebenberg, Ungar, & Vijver, 2012) self-assessment rubrics, observational field notes and learning stories, and conversations with the learners.

The narratives of these two learners showed that regardless of the underlying causes of disengagement or a lack of resilience, the deliberate act of purposefully and consistently teaching the concepts, vocabulary, and strategies of Growth Mindset and Mindfulness can positively affect the development of resilience in learners, and their academic achievement (Claro, Paunesku, & Dweck, 2016). In addition to the explicit teaching of these ideas, the daily opportunity to apply this learning in the purposeful but free-choice environment of Learning Through Play, allows learners to co-construct a shared understanding of what resilience looks like in the classroom and on the playground. In the process, students experience for themselves the benefits of being resilient, and interacting with people who are also resilient.

The findings from this research project are significant in two ways. The first of these is that resources for teaching Growth Mindset and Mindfulness are easily accessible, and in New Zealand there are several organisations that are able to support schools to build the purposeful delivery of these lessons to students. As such, this direction for teaching and learning programmes is attainable. Secondly, this project was conducted with Year 2 and 3 learners in a school that had Mindfulness and Growth Mindset in the Contingent Curriculum for two years, but there was no direct expectation that these topics, and their connected lessons, were explicitly delivered in the classrooms. In theory, the children in this research project had two years in an educational environment that on paper valued Growth Mindset and Mindfulness, and yet they had not developed any of the strategies, understandings, or vocabulary of these areas until taking part in this project. Ultimately, children can – and will – learn these concepts if they are deliberately and consistently taught and students are reminded of them. If, however, these are

merely formulated as ambiguous values and umbrella terms existing in the charter and 'vision statement' of their educational environment, they will have little to no effect.

Growth Mindset and Mindfulness should be tagged to Key Competency learning (Ministry of Education, 2007) in New Zealand schools. Lessons on these should be taught in the classroom and then practised through the vehicle of Learning Through Play in the junior school, to ensure the development of resilience and positive strategies for engagement in learning programmes and social situations.

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Website: <http://www.teacherspayteachers.com>

Literature Based Resilient Learner (created through Project): <https://tinyurl.com/y3j4sd8e>

3. Improvement of Student Critical and Computational Thinking through Mathematical Talk

SUE CRAWSHAW

This study was motivated by the logic that developing Mathematical talk will result in improved critical and computational thinking amongst Year 1 students. The intention is to encourage students to clarify and justify their ideas through improved questioning skills by utilisation of talk moves. Group learning activities, along with whole body movement, provide a vehicle to affect change through problem solving. Both quantitative and qualitative methods of data collection and analysis were employed.

Pre- and post-test data, collected through the *Junior Assessment in Mathematics* and *Learning Maps*, provided evidence of learning relating to responses of preciseness in Mathematical talk.

In addition, improvement in grouping and place value understanding was evident in the responses of students who completed the Junior Assessment in Mathematics. Of the 7 students who completed both pre- and post-interviews, 3/7 (43%) students moved two Stages; 2/7 (28.5%) students moved one Stage; and, 2/7 (28.5%) students had no change in data. Data from student voice was captured through video, voice transcribing apps and teacher field notes. Students were able to speak using Mathematical language, once taught. Expectation of and insistence on speaking in sentences was mandatory. Wait time allows students to respond particularly when deeper level responses are required. Whole body learning activities enjoyed higher student engagement, coupled with more student- to-student verbal interaction. When students shared their ideas with imagination, listener engagement was high as students reacted to the imaginary creatures their peers spoke of. Student justification initially occurred only when the teacher asked questions, requiring clarification type responses. On rare occasions, a student would challenge another. Through very careful listening, students' questions and statements about how they view the world could be ascertained. This demonstrated critical and computational thinking. Student perceptions can differ from adult perceptions.

Building partnerships between whanau, staff and students provided insights into cultural backgrounds – with positive learning gains. Teacher skill sets have emerged richer, owing to the research journey of spiral of inquiry. Facilitating student Mathematical talk through skilled questioning of talk moves and providing opportunities for students to share and justify their ideas, will continue to build opportunities for critical and computational thinking.

4. Designing a Personalised and Authentic Learning Environment for Adult Learners in the Educational Sector

SHONA POPPE

Previously, students completed an online course by reading text, reflecting on their learning in a journal, writing a reaction in a forum to share with other students, writing an essay and creating a sample eportfolio to demonstrate relevant technical skills. These components were assessed at the end of the course. From my observations and data supplied by the students through the EvaluationKIT student voice surveys, it appears that students are not fully engaging with the module. Moreover, they find some of the material – and the learning environment – challenging to engage with.

This research aimed to:

1. suggest ways to use the principles of Universal Design for Learning (UDL) to provide students the choice of media through which to engage with the module and the use of Web 2.0 tools to produce learning artefacts – thereby affording them the personal choice of how best to interact with peers, construct and record their knowledge;
2. study the responses of the students to the learning design of constructing an eportfolio, as a means to engage them in an authentic experience, to utilise reflective practice, showcase learning and skills, and finally, as a living document to complete a Teaching As Inquiry (TAI) project;
3. explore the use of a TAI project, as a means for students to engage with the module from their own context, directing their learning and transferring their learning into practice; and
4. establish whether the change to the learning design results in increased student engagement and gains in cohort successful completion of the module.

The findings from the research brought together elements of the challenges encountered when designing learning for adult education, where there is competition within their contexts for their time, energy and resources (Rogers-Shaw, Carr-Chellman & Choi, 2018). The findings also stress the importance of the tutor creating a learning environment that holds student attention, elevates the priority of their studies and reduces the dropout rate (Salmon, 2013).

The learning was designed to create a personalised learning environment through the immersive use of eportfolios, which according to the literature, should have a twofold desired result. First, the students will participate in the module as active learners (Curtis & Wu, 2012), be given the ability to drive their learning – and ensure the content is relevant to their context (Mohammed, Mohssine, M'hammed, Mohammed, & Abdelouahed, 2015; Malita, 2009). Secondly, the elements of using eportfolios deepens learning by creating a cycle of curating information, planning, action and reflection (Light, Chen, & Ittelson, 2011), while taking advantage of the affordances offered by using digital technology (Curtis & Wu, 2012, Light, Chen, & Ittelson, 2011).

Based on my findings from this Practice-based Change Project, it has been confirmed that students respond positively to having choices in how they engage in learning (Stacey, Smith, & Barty, 2004) and expressing their understanding through a variety of mediums (Rogers-Shaw, Carr-Chellman, & Choi, 2018). Although the students did find learning a variety of Web 2.0 tools time-consuming, the fact that students found the learning relevant to their studies, ensured that they persevered to complete the activities (Salmon, 2013). The creation of their own authentic eportfolios supported their learning. As outlined in Monteiro & Sharma (2013), students were able to partake in active learning, constructing their knowledge by creating their learning artefacts and, later on, interacting with each other through forums and their TAI pages. The same authors also warn of a digital divide, when more mature students, who are challenged by technology, can be reluctant to engage with eportfolios. Human connection is still highly significant in this instance to create a successful learning experience for adult students (Salmon, 2013).

Tutors working in the complex environment of online tertiary education, have a major leadership role with regard to:

- the learning design;
- remaining agile;
- catering within the one module for individuals from varying contexts;
- modifying their approaches to provide support and motivation; and
- being well-disposed towards the pastoral care of the students.

The significance of these findings highlight the challenge of ensuring that the learning is the centre of the learning design and the tools do not inadvertently take centre stage. Further research to inform the amelioration of the constructivist model for this type of single semester module with regard to supporting the mature student, could be to investigate the viability of expediting the formation of collaborative groups, and therefore potentially providing an additional avenue of peer support and knowledge construction earlier in the module (Brindley, Blaschke, & Walti, 2009).

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5. Engaging with Play-Based Learning

REBECCA ANDERSON

This project aimed to explore the impact of play-based learning on cognitive engagement in a Year 1-2 learning environment. The project aimed to explore two main research questions: how does play-based learning affect students' cognitive engagement with learning and how can the concept of play-based learning be integrated across the New Zealand Curriculum? A secondary aim of this project was to develop a website that would disseminate the findings – including research around the topic of cognitive engagement, a short report on the project itself, and a bank of resources for other teachers wishing to adopt play-based learning activities into their own practice.

The project was carried out in a Year 1-2 New Zealand primary classroom that accommodated 15 students. The project adopted an action research approach, made up of two research cycles. In the first cycle, students were given a range of follow-up learning tasks during literacy time. Some of these tasks were play-based tasks, taken from a list of activities developed for a play-based learning programme, and the other tasks were in keeping with the traditional, non play-based learning tasks students participated in prior to the implementation of the project. Data was collected and then triangulated from three different sources: (1) video observations of students working on each task; (2) audio recordings of learning conversations; and (3) photos of learning artefacts. In the second cycle of the research project, changes were made to allow for more student choice and to make the data collection more flexible. Students were still given both play-based learning tasks and non play-based learning tasks to complete, but they were also given a range of activities to choose from after completing the initial tasks. Data collection took the form of field notes, which allowed observations to be made in real time, enabling flexibility in the capture of relevant evidence.

Field notes were recorded and then coded against a rubric that had been developed using current research on measuring cognitive engagement. Comparisons between play-based and non play-based activities were based on the coded behaviours. This data was then analysed against the two research questions and findings that supported a better understanding of each question were then identified. These findings suggested play-based learning did improve cognitive engagement with learning tasks, although this was only for particular behaviours indicated in the rubric, like using a growth mindset.

Revisiting the research in this area suggested that some indicators of cognitive engagement needed to be explicitly taught during play-based learning lessons. It was also noted that play was not enough to intrinsically motivate students in some situations, and again, revisiting research in this area led to the identification of other important factors that lead to intrinsic motivation, like perception of autonomy and ability during a learning task. Other findings included the following:

- Whilst these observations were focused on different learning areas of the New Zealand curriculum, play-based learning provided students with a range of contexts for students to build their key competencies as explored in the New Zealand Curriculum.
- The research project also suggests that play-based learning needs to be well-structured and carefully planned for, with explicit teaching included to ensure effective integration across the curriculum.

These findings suggest a number of insights and implications for practice. Firstly, some behaviours that can indicate deep cognitive engagement need to be taught. The next steps for this project therefore will include experimenting with teacher modelling and explicit teaching during play-based learning to develop skills such as self-regulation and metacognitive strategies. Secondly, this project illustrated the complexities of intrinsic motivation and learning. Whilst play did appear to intrinsically motivate students to take part in their learning, there are other factors that may also affect intrinsic motivation, such as the challenge of the task, student choice and students' previous experiences with a task. This is an important finding that will help inform future planning of play-based tasks and teacher practice. Thirdly, play-based learning gave an engaging context for students to develop the key competencies and 21st century skills. It is important therefore that planning for play-based learning incorporates support for these competencies and skills during learning sessions.

6. Implementing Problem-Based Learning in the Classroom

DANNIKEA HOLTOM

Problem Based Learning (PBL) is an inquiry process, where students are driven by their need and desire to solve a problem. A problem is created from doubt, difficulty or questions raised that require some sort of solution or resolution (Barell, 2006). PBL is student-driven and teacher-facilitated. Students pursue a problem by asking questions that have spiked their curiosity (Bell, 2010). The students in my primary school classroom are the main stakeholders in this project.

This project aims to create a set of guidelines on a website that support the implementation of PBL in the classroom. Through PBL, it also aims to improve student engagement in the classroom. By learning how to identify and solve authentic problems students should be motivated to drive their own learning. Delisle (1997) points out that students make more effort to understand and remember what they are learning about when they see connections between what they are doing and their own lives.

The goals for this project are to:

- develop a guideline (website) to help teachers or other practitioners to implement PBL in the classroom; and
- improve student engagement in the classroom through intrinsic motivation.

Data collection has been governed by an autoethnographic methodological approach and comprises teacher reflections (Ellis, Adams & Bochner, 2011). A reflective dynamic approach focuses on participant-researchers and their stories, thoughts and feelings. Within this approach, personal motivation, knowledge of the topic, emotional responses and ways in which the participant-researcher has interacted with the project are all considered (Ellis, Adams & Bochner, 2011). This methodological and data-gathering approach was adopted because the target change involves teacher practice and the implementation of PBL in the classroom. The focus falls on observing PBL happening in real-time, along with associated reflections and the process adaptations. PBL, like anything new, needs time and understanding to develop. Teachers need to find the right fit for their styles of teaching and their contexts.

The autoethnographic approach has supported the second goal in this project by informing teacher practice when an activity has been undertaken. Each reflection looks back on how the task was conducted and the impact it had/has on the students. Subsequent judgements could then be made on next steps in the PBL implementation process.

Data analysis at this point in the project has resulted in the identification of themes. The themes I have identified have arisen from the implementation of the PBL process and from the associated observations and reflections on my part, as the teacher. The five themes I have developed so far relate to: identity, skill development, developing a problem, the teacher's role, and assessment. These themes have informed the development of a set of web-based guidelines to help teachers or other practitioners to implement PBL in the classroom.

The findings of this research project, listed below, have informed the development of a set of guidelines for teachers regarding the implementation of PBL in primary classrooms:

Time:

- Time is the scarcest resource
- It takes longer to implement PBL than the teacher plans for
- It takes longer than envisaged for the teacher to understand what needs to happen in practical terms
- Student projects take longer than anticipated
- It takes longer than imagined for the teacher to implement PBL in addition to existing job functions

Teacher vs students' assumption:

- What I initially thought was a good activity/ idea/ lesson was not
- What I initially thought my students were able to do was proven wrong and I had to be able to adapt and

change at any given moment

- This finding was not something that I had come across in the literature but I feel it is important

Intrinsic Motivation:

- Even though this was one of my chief project goals, it took the most time to develop
- It took me a while to come up with ways to spark interest in my students
- I had to find ways to meet them on their level
- It took a good deal of effort to get them to come up with a problem they wanted to solve

In terms of the next iteration of the continuing project, the following next steps have been decided upon:

- I want to roll PBL out at a slower pace
- I would like to develop the research skills students need for PBL more deeply – before implementation
- I need to further develop student intrinsic motivation
- I will continue to develop my website

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The key supporting documents to this project are:

Implementing Problem-Based Learning in the Classroom (Website) <https://implementingpbl.weebly.com/>

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7. Vini. Vidi. Lusi. I came. I saw. I played. An investigation into students' engagement in digital game-based learning with Minecraft

CHRISTOPHER CHARTERIS

Video games have the potential to enhance students' engagement in the traditional sense (i.e. sustaining students' cognitive, behavioural, and emotional interest in learning), but also assist what Gee (2003) calls 'active engagement'. While educators are beginning to take the aesthetics of video games and apply these in practice to improve students' interest in, and enjoyment of, learning, the true potential of video games lies within their ability to engender the empowerment of the individual. The video game, *Minecraft*, is emerging as an appealing digital platform that can provide secondary educators with solutions to address the complex nature of students' engagement in contemporary educational practice. This project explores how the flexibility of *Minecraft's* open-world "sandbox" environment lends itself to pedagogical approaches that might enhance students' engagement in the context of New Zealand secondary education.

The primary goal of the project is to answer the research question and two sub-questions:

- How might game-based learning with *Minecraft* affect students' engagement in Classical Studies?
 - What are Year 12 and Year 13 Classical Studies students' perspectives on digital game-based learning?
 - How might digital game-based learning affect students' participation in Classical Studies?

Characterising the relationship between pedagogy, *Minecraft*, and students' engagement as a complex problem, I followed the systematic and democratic nature of action research to collaboratively develop and implement three cycles of digital game-based learning across two senior high school Classical Studies classes. The senior high school students involved focused on using *Minecraft* to (re)create Greek mythology and ancient Roman architecture. As outcomes emerged, I gained insights through the collection of quantitative and qualitative data that allowed me to refine pedagogical approaches to better support students' engagement in using *Minecraft* to learn about Classical Studies.

The findings illustrate that game-based learning with *Minecraft* promotes a highly immersive environment where students can be creative and demonstrate their understanding of mythology or architecture in ways not possible in the physical space of the traditional classroom. Notably, problem-based learning with *Minecraft* afforded students the freedom to practice and develop creativity through designing and solving challenging problems in customised ways, which improved students' commitment to, and enjoyment of learning mythology or architecture. Students were able to actively engage in the learning process to construct an experience according to their personal goals and learning preferences. What students thought and what they chose to do mattered and this improved their confidence and agency as learners. Furthermore, being able to represent their understanding of mythology or architecture through the creation of artefacts in the virtual environment was commonly associated with a sense of pride and achievement. Though *Minecraft* is a multiplayer platform, the findings were more equivocal where students' collaborative engagement was concerned. Additionally, some findings suggest that gamification of learning and connectivist learning might not be as productive towards supporting students' engagement in learning with *Minecraft* compared to the constructionist approach of problem-based learning.

While this project focused on how game-based learning with *Minecraft* might enhance students' engagement, it also illustrates an instructional approach not commonly found in contemporary New Zealand secondary educational environments. *Minecraft* supports a constructionist approach to learning that fosters students' agency and supports the development of competencies that secondary schools are notorious for marginalising (Education Review Office, 2018). While this study and others like it (e.g. Karsenti, Bugmann, and Gros, 2017; Marcon, 2017) illustrate how *Minecraft* might support skills in creativity and problem-solving, further research could focus on how *Minecraft* might support students' collaborative engagement. Additionally, future research could focus on how *Minecraft* can

be leveraged to support cross-curricular learning, which might enhance students' abilities to transfer and apply skills (i.e. in creativity or problem-solving) across different contexts.

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PART II

SYMPOSIUM TWO - NOVEMBER 2019

The second Master of Contemporary Education Symposium took place in November 2019, and included 3 presentation abstracts.

1. Sustainably Integrating iPads into a Learning Through Play Environment – Aroha Porteous
2. Can Collaboration in a Vertical Learning Space effectively enhance Inquiry Based Learning? – Dana Thompson
3. The Impact of ePortfolios on Evidencing Learning, Collaboration and Whānau Connection – Joss Matthews

8. Sustainably Integrating iPads into a Learning Through Play Environment

AROHA PORTEOUS

Learning through play and play-based learning refers to the notion of “young learners constructing knowledge as they explore, experiment, discover and solve problems in playful and unique ways” (Ebbeck, Yim & Lee 2013, p. 185). During learning through play students are settled in their environment and feel safe. Play allows students to calm their brainstem, while they learn in their most natural way of being. High-order play works at the developmental stage of the child and encourages problem-solving, creativity, cognitive conflict, development of gross and fine motor-skills and language acquisition – to name a few (Gray, 2013; Brownlee, 2016).

A range of sources in the literature supports this style of teaching. However, a common trend across this literature is the negative discourse surrounding the use of digital devices. The view is expressed that digital devices limit creativity and collaboration within play and that these devices should not be used as tools to support this type of learning (Ebbeck, Yim & Lee 2013 & Collins, 2018). In contrast to this statement, Howell (2012) claims that technology is ever-changing and that we need a society with digitally fluent people who can adapt to these new ideas effectively. For schools this view entails the need to ensure that they are supporting students to become digitally fluent.

This project looked at the apparent paradox in the literature relating to the sustainable use of digital devices in the learning through play environment. More specifically, the project investigated the use of iPads and how these could enhance student inquiry within their play. A questionnaire was used to collect stakeholder views (students, staff and whanau) around the use of digital technologies – both at home and in the school context. I observed my students during the implementation of the project to see how they were engaging with technology. From the field notes produced during these observations, I created learning stories. These learning stories were then compared to learning stories used in environments in which devices were not being used, in order to make comparisons relating to student engagement and the skills they were using. A final questionnaire was administered to students to see how their responses changed and to gain insight into the skills they had developed over the course of the project.

The results between the pre- and post- student surveys showed enhanced student skills such as basic iPad use and using YouTube for learning. Sustainability was a key element in my project. “Sustainability in this context investigates how individuals or groups choose to use an innovation and how this can be used without drastically impacting existing systems” (Hall, 1979 & Rare, 2015). Collated learning stories provide evidence of effective student learning with iPads during their play. In addition, these learning stories do not provide any meaningful evidence of limited creativity or collaboration as a result of the use of iPads during play. After analysing the data collected, it can be concluded that iPads can be used within the learning through play environment, in the context of this study, without limiting student creativity or collaboration.

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9. Can Collaboration in a Vertical Learning Space effectively enhance Inquiry Based Learning?

DANA THOMPSON

Our traditional education system – the structures, routines and practices – are failing many of our children (Bolstad, et al, 2012). They are not learning the social skills that will be vital in the future. This project aims to challenge the status quo of education and present alternative classroom structures. It will document the way in which a vertical learning space (year 0-6 students in the same learning space, with multiple teachers) influences collaboration to effectively enhance inquiry based learning. The focus of this project is to enable students to engage in self-determined (heutagogical) learning through collaboration with other learners, regardless of age, to solve 'wicked problem' inquiries.

The Educational Design Research approach was adopted in this project since the findings were postulated to have implications for both practitioners and researchers. Qualitative data was collected through: surveys completed by parents; video observations; field notes, and reflections from kaiako. I used observations from collaborative challenges to identify what specific skills were lacking. These skills, deemed necessary to effectively collaborate, were used to set the next challenge.

The results from pre- and post-project surveys, field notes and observations show that in order for students to collaborate effectively in inquiry based learning they must first have the skills of self-regulation, communication and the resilience to want to problem- solve and work through disagreements within the collaborative group. The Vertical Learning Space team identified that many students needed the development of social skills such as empathy, resilience, communication, and critical thinking. A lack of these skills resulted in the breakdown of collaboration particularly in groups where students were of a similar age. The project found that a vertical age learning space identified students with underdeveloped skills relating to emotional intelligence, such as self-awareness, self-management, empathy, and skilled relationships (Goleman, 2012). In addition, the vertical learning environment supported student learning in these identified areas as the tuakana/teina relationships developed. Although our goal was to teach inquiry through collaboration, we refocused and worked towards developing identified skills so that students could work together and communicate to resolve issues. The mixed age of our learners has encouraged collaboration and supported developing empathy and communication skills.

I have created a report to the Board of Trustees, outlining the plausibility of implementing vertical learning spaces throughout the school and the prerequisites that must be met. To support teachers to understand why we would change the traditional structure of classes to a vertical age class, I have created a slideshow presentation in video format. This includes: background information and research; what we have implemented; our goals and identified challenges we have faced to date.

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10. The Impact of ePortfolios on Evidencing Learning, Collaboration and Whānau Connection.

JOSS MATTHEWS

The aim of the study was to document the development and use of eportfolios in a secondary school context to provide, in real time, chronological artefacts. The focus was to develop formative assessment opportunities, collaboration practices and whānau connection. Students were guided through a number of learning modules. Two of these were cross curricular learning modules with a number of learning sessions around the setting up and use of eportfolios.

The research approach used for this project was Participatory Action Research, drawing on elements of Educational Design Research. This iterative, cyclic process (Kemmis & McTaggart, 2005) allowed for stakeholder input and the flexibility to further develop the action plan as needed when issues arose and needed to be addressed. Qualitative and quantitative data were gathered using a survey, interviews, field notes and recordings of student work. Throughout the project, reflections on critical literature informed practice and learning decisions to develop student agency within the eportfolio format.

The most important finding was that eportfolios do have a place in secondary schools as a tool to inform whānau of student engagement and learning across a range of subject areas and key competencies. In addition, it was found that the use of eportfolios provides formative assessment opportunities (Ministry of Education, n.d.; Bocconi & Guglielmo, 2015). This must come with the understanding that such a tool cannot be expected to be self-fulfilling. It requires a commitment from the educator to support and connect with both students and whānau regularly to ensure the tool remains active and effective. With directives from teaching staff, the students were all able to set up the initial stages of the websites and share their eportfolios with whānau. Most students actively engaged in the process of recording their learning to create learning journeys.

Limitations around this study were that without sustained support and expertise from the classroom teacher – or a dedicated project manager – engagement in eportfolios was reduced. This way of supporting learners is discussed in Taylor, Harris, & Dargusch (2015) who argue that in the initial stages there is potential for issues to arise as students and teachers may not have an understanding of the process and may not have the digital fluency skills required. Conscious planning for opportunities for posting to eportfolios, management of resources and creating habits of recording and reflecting on learning need to be explicitly taught and reinforced beyond the project period to ensure eportfolios continue to be an effective tool.

Outcomes from this research are a range of teaching resources to assist students with giving feedback to others and supporting documents for blogging. An instructional video was developed for schools that are interested in looking at the final outcome of the project. This video shows the work of two students and how they used the platform to share their work with staff and whānau and developed the eportfolio as a tool to demonstrate their learning over a period of time.

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