Investigation Into the Use of Innovative Curricula and Pedagogical Practices for Use by Senior Secondary Students.

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Acknowledgements

Executive Summary

This report describes the concepts of integration, project based learning and problem based learning; the key factors influencing student engagement and the impact of these

innovative pedagogical practices on student engagement, and some of the assessment methods that can be used with these practices.

I have also described, as individual case studies, the practices at each of the schools visited and examined how their practices align with identified practices for assessment and engagement.

Purpose

The purpose of my sabbatical was to explore how New Zealand Schools have designed and implemented innovative curricula and pedagogical practices in the Senior Secondary setting. There are many schools that have adopted an integrated approach to learning in the Junior Secondary area. The challenge continues to be maintaining these approaches in the Senior Secondary years whilst maximising success at NCEA Level 1, 2 and 3. How is this being done successfully and what are the lessons that can be learned from these practices?

My sabbatical has been designed to allow me to see a range of innovative learning practices in the New Zealand context. The professional learning I have gained from this experience will enable me to feed into future development of integrated learning programmes for senior students within our own learning community.

Rationale/Background

By Easter 2019 Wellington East Girls' College will have completed a major rebuild programme enabling over half of the school to experience teaching and learning in Innovative Learning Environments (ILE).

At Wellington East Girls' College we have been engaged in developing teacher pedagogy to support the move into the ILE's and have been developing an integrated learning programme for Junior students in an attempt to increase intellectual engagement, with teachers developing project and problem based learning activities. A coherent curriculum will make meaningful connections between learning areas through using shared approaches, collaborative teaching strategies and common strategies around skill development. It will use contexts for learning that allow students to make connections with their prior learning and areas of interest.

In 2015 the school was successful in accessing the Teacher led Innovation Fund (TLIF) for three years. This project has enabled us to focus on developing a more collaborative approach to curriculum planning for the integrated junior classes.

We have a well established Integrated Studies class for Year 11 students who have been identified as being at-risk of not achieving NCEA Level 1 for a variety of reasons. This has involved two teachers collaborating and planning together to identify a context and integrating appropriate English, Science and Social Science achievement standards. This approach works very well for this group of students and I am interested in seeing if there are opportunities to broaden or modify this approach to meet a wider group of senior students who will have experienced an integrated approach to learning in the junior school.

Activities Undertaken

Readings and Research
- What are the practices of integration, project based learning and problem based learning
- What are the different types of student engagement and the key factors influencing it.
- What are some of the assessment practices that align with these approaches
- What aspect of school design facilitates the use of these practices
- What are some of the challenges that face staff as they begin to engage in these practices.

School Visits

School	Type	Roll
Ao Tawhiti	Composite Yr 1-15	485
Haeata Community Campus	Composite Yr 1-13	744
Hobsonville Point Secondary School	Secondary Yr 9-13	544
Papamoa College	Secondary Yr 7-13	1302

I was also interested in visiting Albany Senior High School and Ormiston Senior High School, however, I was unable to schedule visits at the time I was in Auckland.

Student Engagement

There is much literature on the topic of student engagement and student disengagement, and the factors influencing it. The Programme for International Student Assessment (PISA) has made some key findings published in their report "Student Engagement at School, A Sense of Belonging and Participation" (2000). The criteria that they used for engagement were a sense of belonging and student participation. It is encouraging that they identify 75% of all students having a moderate-strong sense of belonging at school and that 80% of all students attend classes regularly. There are three key risk factors identified by PISA as significant in student disengagement: low socio-economic status, being in a single parent family and being born in a country other than that of residence. In our society young people can be faced with any one of these three factors meaning that our student population is highly at risk. It is also indicated that students who are in school environments where there are a large number of students experiencing these factors are more likely themselves to become disengaged from school. However, they identified a number of students who remained engaged despite these factors which indicates a level of resilience in young people to the challenges they face.

The report discusses different viewpoints from a range of educators as to the best way in which to challenge this issue. It is argued that whole school reform needs to be undertaken with schools restructured to "create smaller learning communities" and "give teachers and students greater autonomy and evaluate students and schools in more authentic ways"(pg. 57). The alternative view supports curricular reform suggesting that our current curricula are "too narrow" and "highly abstract, verbal, sedentary, individualistic, competitive and controlled by others" (pg.57). The recommendation of this group of educators is to move away from a content focus towards developing student competency in the use of knowledge and skill development.

Canadian Researchers J. Douglas Willms, Shawn Friesen & Penny Milton, in their report "What did you do in school today - Transforming classrooms through, social, academic and intellectual engagement", categorise student engagement into three types:

Student Engagement		
The extent to which students identify with and value schooling outcomes, have a sense of belonging at school, participate in academic and non-academic activities, strive to meet the formal requirements of schooling, and make a serious personal investment in learning.		
Social Engagement A sense of belonging and participation in school life.	**Academic Engagement** Participation in the formal requirements of schooling	**Intellectual Engagement** A serious emotional and cognitive investment in learning, using higher order thinking skills (such as analysis and evaluation) to increase understanding, solve complex problems, or construct new knowledge.

Figure 1. Three dimensions of student engagement (pg. 7)

The different types of engagement do not remain separate within an individual student. They are likely to experience different combinations of engagement in different subjects and levels of engagement are likely to vary even within one day.

Strong, Silver and Robinson, 1995, suggest that students are engaged and motivated by four key goals: "Success (the need for mastery),Curiosity (the need for understanding), Originality (the need for self- expression), Relationships (the need for involvement with others)" (pg. 8-9). Having these four drivers provides the energy or motivation to complete tasks and supports the development of resilience to overcome barriers. It is also suggested that it is a combination of both extrinsic and intrinsic motivation which facilitates the development of successful and creative learners.

So why is it that we aspire to intellectual engagement? The research carried out by Willms et al. describes disengagement as "a source of inequity" (pg. 7). In New Zealand where Māori and Pāsifika students are over represented in stand down, suspension, truancy and low achievement statistics, then engagement is a critical issue. Their findings indicate that engagement levels are at their lowest in secondary schools. Data also supports the PISA findings indicating that students from high socio-economic status and two parent families have higher levels of engagement.

How do we structure tasks and activities to maximise engagement?

Willms et al. describe factors in detail.

Engaged Students			
Variety in activities, learning approaches and situations	Opportunity to engage with real world issues	Expectations are positive, high	Students feel respected and valued
Teacher input and pedagogies are effective	Student views, ideas and interests are incorporated into their learning	Learning pitched at appropriate levels	Cooperative, collaborative learning opportunities are provided
Classroom environment positive for all	Students provided with timely, effective feedback regarding progress	Students feel connected to the school	Students clearly understand what to do
Students have a sense of links to future goals	Students take some responsibility for their own learning	Students are able to see purpose and value in their learning	

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Ongoing participation and readiness for learning

Adapted from figure 3: Factors engaging students in their learning at school (pg.11)

Engagement can be impacted by the level of skill and challenge in the learning activity, and this must be carefully considered once the context has been decided. Csikszentmihalyi (1997) describes the four relationships between skill and challenge.

Challenge	High	Anxious about learning	Interested and successful
	Low	Apathetic towards learning	Work irrelevant/boring
		Low	High

Skill

Adapted from fig 5 (pg.14)

The activity must be challenging and demand a high skill level. In this zone students experience a balanced state and are motivated to continue with the task even if the end goal is not achieved. If this state is not achieved then the students will become disengaged for the reasons illustrated in the diagram above.

The challenge is to design curricula and learning programmes for both students who have low confidence in their skills **and** students who are confident in their skills, whilst providing challenge to maintain intellectual engagement. Students need " a careful, intentional scaffold constructed around concepts that are central to the discipline or disciplines" (pg 33). Curricula need to be re-oriented from focus on Knowledge, skills and attitudes to attitudes, skills and knowledge (OECD, 2000).

What is Integration?

There has been a long history of integration in education but currently there are three approaches as acknowledged by Drake and Burns (2004):
- Multidisciplinary
- Interdisciplinary
- Transdisciplinary

Multidisciplinary

Also known as thematic, with individual learning areas connecting around a particular theme. It can be further subdivided into:
- *Intradisciplinary* - where the subdisciplines in a particular learning area are integrated. For example, having a Biochemistry programme that integrates aspects of the Biology and Chemistry disciplines. This helps the students to see and understand the connections between the different sub disciplines.
- *Fusion* - where particular skills and knowledge are woven across the entire curriculum. For example, teaching literacy skills across the curriculum.
- *Service learning* - where projects that serve the community are part of the curriculum.
- *Learning centres/parallel disciplines* - where a central theme is viewed from the different perspectives of the different learning areas.
- *Theme based unit* - teachers plan collaboratively across three or more learning areas with an integrated project or task marking the end of the unit.

Interdisciplinary

This approach focuses on the skills and concepts that are common to the different learning areas, and the curriculum is organised around these key skills such as literacy, numeracy, thinking skills, research skills etc.

Transdisciplinary

Here the curriculum is organised around questions or issues that are relevant to students and raised by students, allowing the cross discipline based skills to be applied to a real-life context.
This can be further sub-divided into:
- *Project based learning* - where students address a community issue or problem. The topic is co-constructed considering student interest and addressing any curriculum requirements. The role of the teacher is to facilitate student questioning and provide the resources and opportunities to connect with the community.
- *Negotiating the Curriculum* - here the questions developed by students provide the basis for the curriculum.

Drake and Burns (2004), suggest that inter and transdisciplinary approaches can successfully incorporate standards from different learning areas when the planning process involves backward mapping. This approach meets the engagement requirements suggested previously resulting in many benefits for students "making connections among different subject areas to answer open ended questions, retain what they have learned, apply learning to real life problems" (Curtis, 2002).

These integrated approaches allow interdisciplinary and disciplinary skills to become the focal point for learning within a real-life context, with knowledge being interconnected across learning areas. They provide relevancy and meaning for students and allow them to learn through inquiry and experience in a constructivist environment. The teacher now plans with the students and learns alongside them.

Assessment

What constitutes effective assessment in Project Based Learning (PBL)?
Teachers need to have clarity around the specific targets and standards that they wish to assess prior to the development of the project. Miller (2018), refers to these as

"Power Standards". Education NSW state that the key skills and capabilities that are to be assessed also need to be identified prior to project development. They also indicate that assessment should be an ongoing practice throughout the duration of the project and that assessment should be open ended to "provide students with an opportunity to demonstrate the full extent of their understanding rather than being confined by needing to find one answer".

They suggest the following framework for assessment:

- *Beginning of project* - "Need to Knows" identifying students prior/existing knowledge and skill level. Identifying the "Open Ended Assessment Strategy"(OEAS). This will shape the project process and identify the specific skills teaching that needs to occur.
- *During the project* - repeating the OEAS to track student learning in terms of content and skill development.
- *End of project* - using the OEAS to compare student learning across the project.

They also promote the use of learning to learn strategies such as co-construction of success criteria to clarify expectations; critique and peer feedback to help students become more autonomous and self-regulated learners and reflection to act on feedback from peers and teachers. This feedback provides a framework for the students to base their reflections on and to identify the goals or next steps towards improving their learning.

Another method for assessment that can be used with integrated or project based learning is the SOLO taxonomy. SOLO is an acronym:

S = structure
O = observed
L = learning
O = outcome

SOLO is based on different levels of understanding as outlined below

Prestructural	Student needs help to start. Task may not have been presented clearly to student
Unistructural	One aspect of task is understood. Student understanding disconnected and limited

Multistructural	Several aspects of the task are understood. Relationship to each other or whole not understood
Relational	Aspects are linked and integrated. Deeper more coherent understanding
Extended Abstract	New understanding at relational level rethought at another conceptual level. Looked at in a new way and used as the basis for prediction, generalisation, or creation of new understanding

(Hook and Mills, 2011)

This framework scaffolds the development of higher order thinking and can be used to design innovative learning activities, supporting research and student led inquiry. It is also valuable as a formative assessment tool facilitating self-assessment and reflection on learning progress. This supports students to develop greater autonomy and self regulation of their learning, increasing confidence and engagement.

It is a successful form of assessment with innovative pedagogical practices as it allows for "constructive alignment" (Biggs and Collis,1982) where there is backward mapping from student learning outcomes allowing for alignment of the teaching and assessment. Hook describes SOLO as a model that supports students to see that learning is progressive not fixed and can be improved by the use of effective strategies.

Interestingly this model aligns with the criteria for Achieved, Merit and Excellence at NCEA.

It is also possible to use skills based assessment. Innovative Teaching and Learning (ITL) have identified the skills that students need to be successful in the 21st Century, with detailed rubrics to assess these skills.

- *Collaboration* - at the higher level students are working interdependently and making decisions that determine the content of their learning, the process by which they learn and the outcome produced
- *Knowledge construction* - requires student to generate new knowledge from their learning. Key verbs associated with this are: interpret, analyse, synthesize, evaluate. This relates to the extended abstract stage of SOLO. Integration of ideas across learning areas and application of new knowledge to a different context characterise the highest levels of achievement in this skill

- *Real world problem solving and innovation* - the key criteria for this skill include students developing solutions for problems that they do not know the answer to, that are situated in a specific real context, and to put into practice or present their solution to key stakeholders or an audience outside of the school context. This connects strongly with Project/Problem Based Learning.
- *Use of ICT for learning* - can be the use of ICT to complete all or part of a learning activity. It could also include the development of an ICT product that can be used or viewed by others for example a video or podcast.
- *Self regulation* - supports the students to plan, monitor and progress their learning. The teachers role is to scaffold this process and support the students to take increasing responsibility for their learning. To facilitate this process the task must be long enough for students to be able to plan; students must receive feedback based on clear success criteria to evaluate their progress, and have the time to act on it before submitting the task.
- *Skilled communication* - focuses on communicating to a specific audience and looks at the modality of communication. If more than one mode of communication is used to give greater impact than that provided by any single method, then it can be considered multi-modal. It also examines the ideas being communicated. Extended communication requires the student to connect several ideas together in the communication, which must be supported by evidence.

Case Studies

Ao Tawhiti
Based in Christchurch, Ao Tawhiti was formed in 2013 from the merger of DIscovery and Unlimited and has a Special Character designation. Currently in temporary accommodation, the school is due to move back to the central city in 2019.
The philosophy of the school is to support students to identify their passions and invest in learning that is important to them and meets their individual needs: a very individualised approach with no two students learning being the same.

Timetable structure

9.00am	Yr 7 - 10	Yr 11-13
	Homebase time	Class selection
10.30am		

	Homebase for all
11.00am	
	Yr 7-13 Class selection
12.30pm	
	Lunch
1.00pm	
	Homebase time/Mentoring
1.30pm	
	Yr 7-13 Class selection
3.00pm	

Classes are in 5 week blocks with students choosing two per term. There are 3 hours for each class per week and they are strongly teacher led. Classes are organised in terms of ability level and interest. Students are organised into vertically grouped homebases (Year 7-10 and Year 11-13)

Self-directed Learning (SDL)

SDL constitutes supported 1:1 sessions and mentoring. Key mentors are provided and students book times to see their mentor. Each student has a 15 minute 1:1 session each week using the GROW model to facilitate conversations. There is a simple framework for the 1:1 sessions. Teachers ask students about achievement, engagement and attendance. This information is recorded as a simple tick or a cross in a google sheet which is shared with the community leaders as a percentage. The achievement information that has been gathered directly relates to student pass rate at NCEA.

IEP Meetings

There are four IEP meetings per year which look at individualised programmes and goals for each student with the Learning Advisor, student and parent. These meetings put student learning at the centre and parents are provided with documentation to

support them and their student to prepare for the meeting. The outcome is to identify a pathway for the student to follow their interests and meet their needs.

Year 7-10 Curriculum/Impact Projects

There are four key areas that need to be considered in the development of projects:
- Self Directed Learning
- Collaboration
- Assessment rigour
- Hauora

Currently many of the projects are individualised with students not engaged in collaboration. Staff would like to put together projects over a five week block and offer to students who then choose which project they would like to engage with.

Assessment and Reporting

Each teacher generates the learning outcomes for each class or five week block. Students are assessed against these outcomes at the end of the block and this information is reported on the Learning Management System (LMS) for parents to access.

Assessment of impact projects occurs using a SOLO rubric which has been adapted to align with the school's learning philosophy of "Collect, Connect, Create"

	Collect	**Connect**	**Create**
Unistructural	Multistructural	Relational	Extended Abstract
	1		
	2		
	3		
	4		

In the rubric there are four sub-levels within each dimension of increasing competency

Haeata Community Campus

Structural Organisation

Currently two blocks with approximately 350 students. They are designed to hold a maximum of 600 students each.

Block 1 - General space
Open plan with break out spaces. No teacher workspaces, teachers work with students in the open space. A space for independent quiet work has been allocated.

Block 2 - Specialised space
Central open area with specialised science and maker spaces surrounding. A space for social collaborative work has been allocated in this block.

There are Year 7-13 students in each space.

Learning Design

Year 7-10
Kaupapa for two thirds of the week: individual projects based on areas of individual interest. "Awakenings" are workshops to stimulate students thoughts and ideas. Students are mentored into projects through Puna Ako teacher mentor.

Year 11-13
Korowai are subject based classes but also have a project stream. Each Korowai lasts two terms

Science
Performing Arts   English and mathematics are integrated into the programme
Pathways

Each student has a project plan which is developed with their teacher mentor. The project plan includes the goal for the project/learning, what key dispositions this will target and the teacher selects the standards that will connect with the project. Learning design meetings are held once a week for 90 minutes where teachers meet to case manage six to eight students identifying their expertise to meet the teaching needs of the student.

My Area of Interest (MAI time)
There are a range of teacher workshops available to students, or the time can be used to pursue a students own interest. At the start of each week students generate a timetable based on the workshops that they have chosen.

Puna Ako
There are 15-20 students with two teachers. The purpose of Puna Ako is to organise the learning for the week, upload evidence of learning to the LMS and to engage in social and emotional learning and mentoring.

Timetable

There are three 90 minute sessions per day. 30 minutes of each block is mentoring. This provides an accountability measure for students to see if they have achieved their goals for the session and uploaded their learning. There is Puna Ako time each day. The success of this programme is dependent on the quality of the mentoring and support received by the students in the Puna Ako groups. Teachers have clear guidelines around what is expected of them in this role.

Teachers
Teachers are timetabled in the following way:
3 sessions - Puna Ako
5 sessions - Non-contact
4 sessions - Workshops
3 sessions - On floor conferencing
2 sessions - Space management

On floor conferencing engages teachers in learning conversations with students and supporting them to upload evidence to the LMS. Students needing extra support can be targeted by Puna Ako teachers, and this information is shared at the group planning meeting. Space management requires teachers to be allocated to specialist spaces where they assist students with finding resources and management of the space. There are a series of job descriptions available for teachers for each component of their programme detailing what the expectation is, what it looks like in practice and connections to the practising standards.

Professional Learning design.
Each term there are two key essential items that must be covered and then there are a choice of inquiry projects for staff. This is a deliberate attempt to model and allow teachers to experience what they should be providing for students.

Hobsonville Point Secondary School

Structural Organisation

Currently 548 students from Year 9 - 13. The school is a Public Private Partnership with the building consisting of a central spine with a number of open learning spaces and breaking into specialist spaces such as laboratories and maker spaces.

Students are placed in Learning Hubs with a maximum of 17 students. The Learning Hub covers a specific programme:
Term 1 - Whānaungatanga - relationships
Term 2 - Ako - learning to learn
Term 3 - Huarahi Ako - pathways and careers
Term 4 - Manaakitanga - citizenship and community

There are termly kōrero with learning hub coaches meeting students on a 1:1 basis

Timetable

8.55am:	Student check-in (Students go to their community / hub areas and read notices and emails)
9.00am:	Learning Coach check-in
9.10am:	Block 1
10.30am:	Morning Tea
10.50:	Block 2
12.10:	Block 3

1.30:	Lunch
2.10:	Block 4

Learning Design

There are three key components to learning:
- Projects
- Learning Modules
- Spins

Project Learning - The projects undertaken by students varies across the year levels. Year 9 & 10 are engaged in "Big Projects" which examine key pre-set concepts. These include: Identity, Citizenship, Relationships, Transformation, Space & Place, Systems and Innovation

Year 11-13 the contexts and capabilities depend on the subject specific choices students make. Each learning area looks to develop threshold concepts. These are key concepts that are specific to the subject but that are related to the bigger overarching concepts or principles. Skills development can be divided into generic capabilities which are skills that are demonstrated across all subjects and discipline specific practices. Year 11 and 12 are characterised by Impact Projects that have significance to the community. In Year 12 and 13 students are engaged in Pathways Projects that look at developing partnerships and internships supporting skills development and pathways beyond schooling.

Projects follow a framework which is based on the action research/inquiry model of learning:

Kick off
Plan
Action
Showtime
Reflection

There are two project blocks equating to 200 minutes during Wednesday. Collaboration is a key skill that is assessed throughout the project process.

Learning modules - two learning areas integrate to produce a module that is taught by two teachers. At Foundation level (Year 7-10) students can choose any module. However, students are supported to maintain curriculum coverage across all of their choices with at least one module or Spin from each learning area. *Spins* are stand alone courses.

At Qualification 1 (Year 11) Students are to choose one English and one Mathematics module and must cover at least five different learning areas in their module and Spin choices. At this level students select for semester 1 and 2. At Qualification 2 and 3 (Year 12 and 13) students select their courses for the whole year for consistency. Student at Qualification 2 are required to cover at least four different learning areas. At Qualification 3 students are required to have at least three different learning areas in their Spin choices. There are no modules available at this level.

Assessment and Reporting

There are assessment rubrics developed for each learning area for Foundation and Qualification level. These are mapped against the curriculum levels and can be broken down into Developing, Proficient and Advanced. SOLO is used to generate the criteria for each of these three levels.

Progress reports are available termly showing effort in subjects, and Kōrero comments from the 1:1 meeting with the Hub coach can be accessed by parents through the portal.

NCEA - the overarching philosophy of assessment for NCEA is that the evidence should be naturally occurring and should emerge from the students' learning. Students develop a portfolio of assessment over time. There is little external assessment at Qualification 1 but the opportunities for this increase at Qualification 2 and 3. Tracking of student progress occurs every couple of months using data exported from the LMS. A traffic light system is used with students coded green if 60 credits or above, orange if just under and red if an intervention is required. Learning coaches work with these students to look at subject specific interventions and to develop an IEP with either the Deputy Principal or Learning Area Leader attending.

Year 11 students have a two year journey toward completing Level 2. Traditionally students will complete approximately 20 - 40 credits. This allows them to complete fewer achievement standards and provides the time to go deeper with learning. If naturally occurring evidence for achievement standards arises from projects then this

could be used by the student for assessment. Spins and Learning Modules are designed to produce evidence for achievement standards. At Year 11 each module offers one achievement standard per learning area per semester giving 12 in total. This increases to four achievement standards per learning module at Year 12. All students at Year 12 are also offered a Social Studies achievement standard as part of their first impact project. Only Spins are offered at Year 13 and students work with their learning coach, careers and pathway advisor to ensure they meet the requirements for their future pathway.

Papamoa College

Timetable

8.30am	*Campus buildings open and available for students*
8.40am	Administration Time
8.55am	**BLOCK ONE**
10.30am	Interval
10.55am	**BLOCK TWO**
12.35pm	Lunch
1.25pm	End of lunch
1.30pm	**BLOCK THREE**
3.10pm	End of school day

Structural organisation

Year 7 and 8 are composite classes. Each learning community is made up of 4 composite classes and 4 primary trained teachers. Each student has a teacher that they are connected to.
In Year 9 and 10 there are two Year 9 classes and two Year 10 classes in each Learning Common. There are four Learning Communities of four classes. In Year 9 there are 28 -29 students per class and 24 - 25 students per class in Year 10. The teaching teams are a combination of primary and secondary trained teachers. Teachers have a small break out space in the common with two teachers spending all of their time

in the learning community and two teachers who have one class in the senior school and the rest of their time in the common. Gaps are filled by teachers with specific expertise. This allows for continuity and significant pastoral care. Each of the Learning Communities is structured differently based on the relationship dynamics, expertise of the teachers and learning needs of the students. This leads to the development of different timetables within each learning community, with teachers having a collaborative responsibility for the learning of the students in the community. However, there are some key elements in common including: collaborative planning by teachers, planning that is responsive to student interest and need, aspects of student directed learning and teacher directed learning, high degree of student choice and large numbers of quality conferencing conversations.

Senior Students - the majority of senior students follow a traditional NCEA programme. However, there is one Level 1 Future Focused Class. Students choose to participate in this programme and meetings are held with parents to explain what involvement in the programme means. Students spend all of their learning time in this class and work on individual projects. The projects are the drivers for learning and the teacher's expertise is required to align relevant achievement standards to the project and to collaborate with other staff to provide the learning experiences needed by the student to be successful.

Reflections/Findings

Visiting the four schools provided an opportunity to see innovative learning practices being applied in diverse ways. Bearing in mind this diversity and considering the research into engagement I wondered whether the practices implemented by the schools met the criteria for engaging students. As Strong et al. state students are engaged by four drivers: success, curiosity, originality and relationships. Without doubt, at all of the schools the learning was designed to stimulate student curiosity or to support students to follow their passions. Students views, ideas and interests were central to the development of learning activities and projects which were very varied. There was also the opportunity for students to engage with real world issues. This was particularly evident at Ao Tawhiti and Hobsonville Point with specific scaffolds for the development of impact projects. This has led to students being able to see purpose and value in their learning. Students at Hobsonville Point, through impact projects and internships, have developed strong relationships with the community and outside businesses and organisations. All of the project learning allows students to express themselves and demonstrate originality and creativity.

Another key factor to successful student engagement is the level of instructional challenge as stated by Csikszentmihalyi . All of the schools visited were strongly committed to meeting the needs of the individual students. This was particularly evident at Ao Tawhiti and Haeata where individualised learning was central to the educational philosophy allowing the learning to be pitched at the correct level for the student. Thus activities are challenging and at an appropriate skill level allowing students to experience success and remain engaged, ultimately enhancing motivation. Each school had high expectations of the students.

Effective teaching was observed with positive environments in the learning spaces and effective teacher pedagogy. This was particularly evident at Hobsonville Point. The effective use of key formative assessment practices such as feedback and feedforward are critical to students becoming more independent and self-regulating their learning. At Haeata and Ao Tawhiti teachers are fully responsive to students passions and find ways of making what the students want to learn happen. Conferencing was a central focus for all of the colleges visited, supporting students to become partners in the learning process and to drive their own learning experience. The use of the LMS as a centralised place to record the outcomes of the conferencing was essential in all of the schools. Through this conferencing process students gain an understanding of how what they are learning links to their future goals. They are provided with timely, effective feedback and given time to action it. These skills are seen as an area of development for some students and they are strongly scaffolded. Overall, self regulation and independence in learning is a strong ethos in all of the schools.

Finally, what are the factors that have been cultured to produce a sense of connection and belonging. Haeata and Ao Tawhiti have taken a philosophical position to bring equality to the power dynamic between teachers and students. This was demonstrated by the shared use of all spaces; with teachers and students using first names to address one another. This adds to students feeling respected and valued which was also felt at the other two colleges. Cooperative and collaborative learning opportunities are available to all students in the colleges furthering a sense of connection with peers. It appeared that students at Papamoa and Hobsonville Point felt strongly connected to the school community. This was difficult to ascertain at Haeata with the school having only been open for a year. It would seem that all of the schools visited have demonstrated a commitment to embedding practices that support and facilitate student engagement.

Integration was evident in all of the schools. The Impact Projects at Ao Tawhiti, Haeata and Hobsonville, are examples of the transdisciplinary approach. At Hobsonville Point

the assessment opportunities are clear in the Spins and Modules. In Spins the assessments and standards are attached to one specific learning area in a heavily contextualised course. Modules are a collaboration between two different learning areas focused on skills development built around a context. This is an example of interdisciplinary integration. Haeata is committed to being bold with learning for senior students, with teachers working hard to avoid connecting the learning to generic standards. Instead the focus was to use the expertise available within the staff to meet the needs of the student in their particular project. All of the schools avoided the approach of teaching concepts and then giving assessment tasks to measure student understanding of the concepts. Their approach was to drop in tasks while teaching the concepts. These tasks are then gathered as evidence over time and scaffold towards the final assessment: an holistic, portfolio approach.

As previously mentioned all of the schools were engaged in formative assessment practices to empower students to take ownership and make substantive decisions about their learning. Ao Tawhiti and Hobsonville Point both clearly articulated the use of SOLO as an assessment framework. Hobsonville Point had created assessment rubrics for every aspect of the curriculum mapping the learning outcomes for the courses against curriculum levels. This provides consistency and clarity for staff and students in relation to assessment in all learning areas, and at all levels within the school. Reporting and tracking at Hobsonville was also rigorous with a three stranded approach. A colour coded progress report is made in the third week of each term available on the LMS. Comments need only be made for students coded red. The 1:1 learning conversations (kōrero) held each term with every student are recorded in the interview section of the LMS and can be accessed by parents through the portal. Results are published termly with no comments - the third strand. Haeata upload the conversations from on the floor conferencing to the LMS which allows students and parents to have access. Ao Tawhiti's point of difference are the IEP meetings held each term with parent, student and Learning Advisor looking at the goals and individualised programme for each student.

Conclusion

Our focus at Wellington East has been to establish a junior integrated programme through Learning Hubs. This is open and flexible to allow the teachers involved with each Learning Hub to develop a programme that meets the needs of the learners using a variety of integrated approaches ranging from interdisciplinary to transdisciplinary. I believe that our next challenge is to develop an integrated/project approach for learning

in the senior school. This will allow students familiar with this way of learning in the junior school to continue to grow and develop as intellectually engaged learners whilst still achieving success at NCEA. The current review of NCEA will hopefully support a more innovative approach to learning and pedagogy.

Each of the schools visited were established with the philosophy of innovative learning at their centre, from the outset. This has been one of the challenges at Wellington East Girls' College; continuing to operate as a successful learning community whilst trying to change the paradigm for teaching and learning - shifting teacher understanding and pedagogical practice.

Visiting each of the schools has been inspiring and a privilege. Although we have begun our journey of innovative learning, these schools have embraced these pedagogical practices wholeheartedly to put student learning firmly at the centre of what they do. The learning designs are thoughtful and considered and maximise student engagement; allowing students to demonstrate intellectual engagement with an emotional and cognitive investment in their learning.

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