





Sabbatical Report September 2014 David Reardon (Russell Street School) Debra Peck (Riverdale School) Lynne Huddleston (Pahiatua School)

Acknowledgements:

We would like to thank our three Boards of Trustees for their commitment to our ongoing development. We recognise and would like to thank the leadership teams in each of our schools, who have maintained and added value to the school in higher acting positions during our absence. Thanks to our staff who have also contributed and influenced our reports. We would also like to thank the Ministry of Education for making this opportunity available.

We pay tribute to the communities we work within who understand the need for schools to continue to reshape curriculum delivery, to re-conceptualise and redefine learning in the C21.

Purpose:

'The capacity for self-direction is the foundation for learning. Students who develop a sense of responsibility for their own learning are prepared to master rigorous academic content, think critically and analytically, communicate effectively and collaborate productively.' (M.Martinez & D.McGrath, 2014) The purpose of our collaborative sabbatical work was to critically explore models, themes and approaches to develop the above.

Background/Introduction/Context:

More than ever education is taking place in a time of rapid social, cultural, economic, technological and global change. New Zealand is facing many challenges as we respond to a diverse range of needs and aspirations, and address issues of social equity and justice.

We are increasingly aware that our learners will have multiple changes of career in their lifetime. We also know that there is increasing amounts of information accessible for many people in all parts of the world and that in some areas, knowledge becomes superseded or

obsolete very quickly (e.g. medical field). Technology continues to transform communication, learning and our ability to connect anywhere, anyplace, anytime.

These changes influence the school curriculum. What and how we teach needs to provide students with the knowledge, skills, attitudes, values and sense of identity they need to give them the best chances in the next stage of their education and life. The school curriculum should be future focused, developing flexible, creative students who are critical thinkers, competent in a range of ICT skills, and able to work interdependently. Students need to learn how to learn, acquiring the skills necessary to continue learning throughout their lives, manage themselves and achieve goals.

New Zealand's national curriculum establishes a broad view of student outcomes from schooling. It emphasises that outcomes for students include, what they know (knowledge) what they can do (skills), and who they are in relation to themselves and others (values and attitudes) including a strong sense of personal and cultural identity.

We want each student in our schools to be well equipped with the knowledge, skills, attitudes, values and sense of identity they need to give them the best chances in the next stage of their education and life.

The New Zealand Curriculum is the statement of official policy relating to teaching and learning. Our curriculums' based on this, places students at the centre of the learning process. It emphasizes the importance of literacy and numeracy and of a broad education across a range of learning areas. After six years of learning, we want students to demonstrate a high level of competence, strength or awareness in these important elements:

- Be engaged, motivated, and eager to learn;
- Be informed and active participants of their own learning;
- Develop a strong personal and cultural identity and healthy self-esteem, supported by home and school;
- Feel safe physically, emotionally and culturally;
- Have affirming relationships with teachers and be part of a supportive, healthy peer culture;
- Develop positive ways of responding to learning and social challenges, be respectful
 of differences and learn to resolve conflict constructively;
- Be capable of learning and experience learning as , challenging, relevant, meaningful, useful and stimulating;
- Take charge of their own learning and become independent learners;
- Have opportunities to experience and celebrate achievement and feel safe about risking and experiencing failure as part of the ongoing process of learning;
- Be able to share what they have learned and demonstrate social conscience.

The sector has undergone significant change in recent years, arguably a period punctuated with the strongest drive of 'back to basics', even if this was not the intention. Our three schools, and primarily the three Principals have worked very closely together for a significant period. Our Principals' Professional Learning Group (PLG), supported by regular meetings and communication, has been the foundation for examining literature, challenging each other's practice and robustly considering next practice. We had previously been part of an EHSAS Cluster and have found ways of collaborating, even with some distance between us. At the time of applying for a joint sabbatical, we were each embarking on developments focused on further personalising learning, in keeping with each school's strategic plan.

Our Strategic Direction/Plans

Change is part of education. Strategic planning is the process that helps us manage change to the best advantage of our school, including staff, students and the community. It is a process by which we identify our aims and set about, in a systematic way, to achieve them.

In each of our schools the last strategic plan identified realistic but challenging goals that were either fully completed or revised through annual review of the school's operations. The success was largely as a result of there being agreement on issues and directions at the broad strategic level and coordinated action and vision. Staff, parents, board members and students all had a clear understanding of what the school stood for and where it was heading. Put succinctly, each school values the place of community consultation. It is our collective belief that this is the foundation for change, and indeed is instrumental in accelerating the pace of change. It is fundamental to the work in each of our schools. In each of our schools we engage in processes that seek and respond to both student and parent voice, and at roughly three year intervals we each engage in extensive, deliberate processes of seeking feedback on the current and future shape of education as it should be.

Note – Each of our Boards was mindful of research that shows that schools that commit to a limited number of goals are more likely to achieve benefits and success not only in relation to those goals but in unexpected ways, when exponential positive effects occur as one

success leads to another. Our current strategic work is focused on the purpose of this sabbatical.

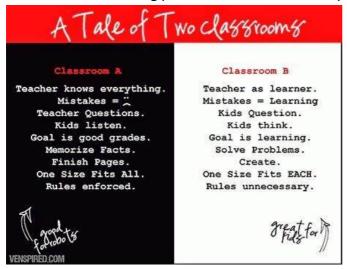


Drivers of a Personalised Curriculum:

While there are many similar drivers in each of our schools, there are also some subtle differences. These reflect our demographics, the wish to build upon prior learning, staff profile/needs, the Government's own goals for education and that of our own communities. In essence we all agree that the following are drivers of our local curricula (in no particular order):

- Learning occurs anywhere, anyplace, anytime;
- Student voice is powerful -we should seek and respond to it;
- Learning is social. We can learn with and from others;
- Where fun and enjoyment is present, learning best occurs;
- Educators acting as coaches improve quality teaching and learning;
- Teaching should be a strategic/responsive and a deliberate act;
- Formative practice is the foundation for all powerful learning
- Student agency is at the heart of lifelong learning;
- Students must engage in experiences where they can create or innovate;
- All should hold an appreciative view of the world;
- High expectations, coupled with significant cognitive demand;
- Authentic inquiry-based learning;
- A strong grounding in literacy and numeracy is essential;
- A supportive learning environment with sound relationships and community;
- The infusion of ICTs;
- A broad rich curriculum where authentic, relevant learning occurs;
- Maori achieving success as Maori.

Everywhere you turn there are very good examples of the 'shift' in education. We think the following pictorial and statements represents this.



From the NZ Curriculum Update – Why is learning to learn so important? (May 2012)
The following are just some of the examples provided in this very valuable NZ Curriculum Update:

Hattie (2009) observes that "significantly high effects on students' learning are found where they (a) can set challenging and specific goals that allow them to direct, evaluate and redirect their learning, and (b) receive feedback (from peers, teachers, parents, and own experience) that relates specifically

to how the gap can be addressed between current and future performance" (as cited in Gibbs and Poskitt, 2010, page 19).

PISA (Programme for International Student Assessment) has found that learners' belief in their own efficacy is the strongest single predictor of whether they will adopt strategies that make learning effective (Artelt et al., 2003, pages 33–34). When students can direct their learning and know how they learn best, they can also better navigate the wide range of available choices in school and beyond. Learning to learn is particularly important when teachers are no longer a main source of information and knowledge. For example, young people regularly use information technologies to connect with other people and information. An individual's ability to locate and critically appraise information from such sources is vital for learning throughout life.

Student Agency

Agency, learner agency, student agency...what is it and how does it differ from self-reliance, self-management or self-regulation? What place does it have and what are the drivers behind it?

Firstly, we think it is important to recognise that the notion of agency is not new. For decades and in our own classroom teaching experiences (spanning 40 years), we have seen others and indeed engaged in approaches ourselves that would be considered as encouraging agency. As a sector we have had as a goal the desire and hope that students develop the ability to act independently. In fact it is fair to say that this is the process of learning for life, both within and outside the four walls of the classroom.

While this is not new, the drivers are very much present and amplified in current documents, including the 'Best Evidence Synthesis Iteration: Quality Teaching for Diverse Students in Schooling' (A. Alton-Lee, 2013). While ten characteristics were identified in this report, the following, in our view, are very prominent in the developmental or strategic work of schools we visited and indeed are currently present in our own work:

- 4. Quality teaching that is responsive to student learning processes;
- 5. Opportunities to learn are effective and sufficient;
- 6. Multiple task contexts support learning cycles;
- 7. Curriculum goals, resources including ICT usage, task design, teaching and school practices are effectively aligned;
- 8. Pedagogy scaffolds and provides appropriate feedback on students' task engagement;
- 9. Pedagogy promotes learning orientations, student self-regulation, metacognitive strategies and thoughtful student discourse;
- 10. Teachers and students engage constructively in goal-oriented assessment.

We invite the reader to make connections to these throughout the report.

Agency is described by some as having the capacity to act, or having the capacity for independent thought, which forms the basis for autonomous action (Reference), the power to act. We think of it also as having the 'will' (attitude and belief) 'and the way' (skills, dispositions, tools required). There is a strong link between agency and self-regulation, self-reliance and self-management (to name but a few descriptors).

Students can be self-agents but they can also act in ways that enhances the agency of others. Indeed there can be group agency too, whereby a group of students work together with the same goal and influence.

The importance of developing agency is championed in the following quotes:

"If nothing else children should leave school with a sense that if they act and act strategically, they can accomplish their goals (Peter Johnson, 2013). 'Children who doubt their competence set low goals and choose easy tasks, and they plan poorly. When they face difficulties, they become confused, lose concentration, and start telling themselves stories about their own incompetence. Children who adopt a fixed performance frame tend to become helpless when they run into trouble. They cease being strategic, except when it comes to ego-defence." (P.Johnson, 2013)

Children need to know that they have control over their competence. They require a process for learning to be explicitly taught that enables them to continue to work and learn especially when the learning becomes difficult. It is only at this time that real learning and understanding occurs. They need to view intelligence as something that is malleable, not fixed.

We need students to move towards a more dynamic frame by making it clear things change, giving consideration to what students did or didn't do that led to the result gained. This approach is very consistent with developing the skills for lifelong learning.



The following humorous clip helps to exemplify for adults and children the notion of agency, or in this case knowing what to do when you don't know what to do.

http://youtu.be/VrSUe_m19FY

Our experience in schooling and certainly in very recent times is that some parents see this devolution of responsibility, as an "airy fairy" approach, where students would achieve nothing and teachers would rest up. This couldn't be further from the truth, but it is true (like anything) if not well designed, it could become directionless and lacking in rigour. We certainly don't want students falling through cracks. In the last 24 months in particular we

have visited many schools and discussed at length the notion of student agency. Our overriding impression has been that this is hard work and it involves a very high level of planning, design and evaluation of learning, both prior to learning and during it.

(An excerpt from the reflection log of two teachers in a flexible space that was not purpose built.) The following points resonate with us as teachers beginning the MLE journey:

- Teachers have to be more skilled than ever in a collaborative space. Juggling and knowing each individual and providing specific next learning steps for students requires forward thinking, organisation and rigorous teacher collaboration.
- Teachers working together need to be in synch, able to establish a working and personal relationship and they all need to share the same vision and goals.
- Teachers widening their spectrum of linking systematic learning in their rooms as well as providing students the opportunity to learn 'in the real world' (Real world learners – connections etc)
- These words are used often systematic, efficient, effective, precise, rigorous, learning communities, purposeful.

During our sabbatical we have come across many wonderful examples of emerging best practice, in fact, leaders in the field. Some of these examples would be considered the pathway to a transformation of education as we know it. We visited some of these schools more than once – Amesbury and Stonefields are two such examples.

Back in our own schools there was work that was rapidly gaining momentum too (much of it influenced by visits to the above schools). We share a few examples from across our schools where the shift in the teaching of maths is very much focused on students engaging in agentic behaviours. Obviously viewing it in action would be much more appropriate but we do our best to describe it here:

Students complete an assessment, notably in the case we saw, a maths pre-test. From this comes a checklist of strengths and also 'next learning steps'. (Note some students complete more than one assessment if necessary.) Students carry this checklist with them and record their learning as they progress. They need to record three stages of learning – the learn it phase, the practice it section and finally the 'prove it' as they demonstrate their new learning. This process in itself hands over a great deal of responsibility but the real agency occurs when students must choose what they want to focus their learning on, when and how. So, a student may choose to learn in a range of ways – by studying examples in a text, by carrying out an online tutorial, by viewing another student's archive of their learning, or by attending a workshop with a teacher (or indeed a whole other range of possibilities, some of which students come up with spontaneously). If it is the latter, students are required to show they need to attend a workshop by placing their basketball (named) on one of the backboards which have the objectives or goals in the current unit and level. At the end of each day and week, teachers come together to plan what workshops they are going to offer, and students duly mark it off on their timetable and attend. This means that there is never a set grouping system, rather it is dynamic, changing daily, and critically students are making strategic decisions about their needs. There are other features of this programme that are exciting but perhaps the other critical factor is that

students need to prove their learning in an acceptable way. Some wonderful videos have been created, some students have simply engaged in a learning conversation with an educator (frequently in their break time, or in the middle of another learning block in the day) or a learning loop has been created with email-feedback-email during school hours, or out of school hours.

Another such example of agency from one of our schools is as follows.

The maths strand achievement indicators are clearly visible on the wall for all to see. (There is a school of thought developing as to the impact this visible display has on students. Currently our students view this as a challenge for them to improve and an opportunity for others to support students' individual progress.) Students have indicated where they are currently and the next step is then very clear. Notice of workshops is posted following educators collaborating around what is required. Students self select those workshops they believe they need to attend. Each child has an individual maths portfolio where evidence of achievement is stored.

The exciting aspect of the visibility of next steps is that children were incredibly self-driven and engaged. Observing children rushing into the classroom and asking if they could book a quick workshop with an educator before school or during break times in order to complete mastery or providing video evidence to demonstrate understanding and achievement was wonderful to see. (Overhearing a conversation between 2 students who were sure they could complete the current aspect following a workshop, and so wanting to provide the educator with evidence, resulted in one child being asked to video another in order to show the educator at a more appropriate time.)

https://www.dropbox.com/s/jzhx2cvgp0qekgb/Visible%20learningFinal1.mp4?dl=0

We need to challenge those approaches that are still very teacher centric, where teachers make all the decisions about what, where, how and when something is taught and acknowledge that students are more engaged where they are involved in the whole learning process, including making decisions about the curriculum itself. And we need to seek and act on student voice.

Indeed we need to hold a future orientated view of teaching and learning. While future-orientated educational thinking is underpinned by many ideas there are two that stand out. The first shift is how we view knowledge and the second is the need to redesign educational approaches based on what we know about learning. (NZCER)

There is a need to rethink learners and teachers roles

The challenge is to consider learning as being more than just student centred or teacher driven and instead think about how learners and teachers can work together in a knowledge-building learning environment.

Long term system wide change is difficult .It requires a culture shift in which the majority of teachers think in new ways, develop new skills and embrace new understandings of themselves as professionals.

In his book "Visible learning for teachers ... maximising impact on learning" Professor John Hattie explores the eight mind frames...or shifts in teachers' thinking. (The key aspect investigated was not so much the theory behind Visible Learning but the "culture change" required within schools for these mind shifts to occur.)

Hattie asserts that powerful impacts in our schools relate to how we think and teacher-held beliefs about the role of teachers as:

- evaluators.
- change agents,
- adaptive learning experts,
- seekers of feedback about our impact,
- engagers in dialogue and challenge,
- a trust of all,
- a willingness to see opportunity in error, and
- a desire to spread the message about power, fun, and the impact we have on learners is critical.

"It is the way of thinking that makes the difference and we need to turn away from finding the "thing" – the program, the resource, the teaching method, or the structure." (John Hattie Visible Learning for Teachers, 2012, pg 181)

Teachers must examine their own beliefs and understandings and come to a consensus about their shared beliefs and the vision they hold about learning. Schools then need to examine the culture of the school and develop systems that promote the positive attitudes towards learning and the learning community.

The foundation for change and improved learner outcomes is the value placed on review, reflection and metacognition. We need to reflect on what has changed and to examine the impact this is having on student outcomes and capability.

So began the examining of practice that had been implemented in a few forward thinking New Zealand schools, a great deal of reading, web browsing, attending conferences and of course trialling ideas. (We have traditional physical spaces that we couldn't change immediately, however traditional thinking we could challenge and potentially change.)

In our schools and in the schools we visited there has been a very real shift to assessment forms that are student centred and increasingly focused on dispositions. Student led conferences were extensively scaffolded and in on one school the model even extends to the third of these (in any given year) being a home-led conference, without the presence of an educator. Self-assessment forms and rubrics highlight the competencies/dispositions including but not limited to collaboration, goal setting and leadership and work ethic.

In order to achieve the desired outcomes of self-directed, assessment capable learners and accelerated learning, we chose to research the "Visible Learning" pedagogy based on the research by John Hattie. In 'Visible Learning: A synthesis of over 800 Meta analyses relating to achievement', John Hattie identified a wide body of evidence that proved 'direct teaching' was a very successful approach to learning. This is the very opposite of 'Constructivist' theory and the open Inquiry approach which had become accepted in most NZ schools.

The main aim was to move learning from assuring access to learning to ensuring success of learning. We all desired learning to be purposeful, meaningful and self directed (agentic). Hattie makes it clear that there were certain key components (attitudes, systems and values) required to be in place for direct teaching to be successful. Teachers need to teach skills and develop attitudes within learners that enable students to be responsible for their own learning. It is this knowledge, sense of ownership and responsibility that leads to the self-motivation which accelerates learning. How schools achieve this is particular to each school.

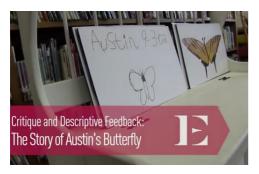
We have identified that what works in one school will not necessarily work in another. There is no magic formula, no program and no quick way to achieve genuine and identifiable impact on students learning ... it is hard work and a planned systemic reform strategy.

In the schools visited a significant shift couples the move in agency with the shift towards greater collaboration between teachers. By examining our own practice as teachers it is clear that collaborative learning doesn't just occur because we are sitting at a group table. We need to design tasks in such a way that they really do foster collaboration, with a shared goal and roles that are not decomposable (i.e. able to be completed by one, while the others loaf). Teaching needs to include specific training in collaborative group work with individual accountability mechanisms.

In all schools there was a common, extensive platform of formative practice. These practices were well aligned to Hattie's effect sizes. There was a strong belief and further emerging practice in cycles of learning (or learning loops) whereby students engaged in project based work, with clear expectation of what quality work looked like. Students were actively involved in building the learning intentions and success criteria. It wasn't always evident when work was complete, as there was a strong commitment to self-assessing, and receiving and acting on feedback from peers and educators, thereby revising/improving learning further. And students were given time to carry out quality work. These practices in themselves reinforced the idea that intelligence isn't fixed and that effort impacts hugely on achievement. These schools recognised the importance of students receiving effective,

specific, appropriately frequent, positive and responsive feedback. They ensured it wasn't too infrequent so that a student does not receive appropriate feedback in a useful manner, nor too frequent that the learning process is subverted.

Here is a good example of the 'learning loop' process in action. In our opinion, it is a well-crafted process or sequence of pedagogical practice leading to the highest quality work:



http://youtu.be/hqh1MRWZjms

Schwartz and Okita (2013) developed the following table to compare and contrast high versus low agency learning environments:

high agency low agency student centred teacher centred student voice authoritarian constructivism transmission active passive doing watching elective compulsory intent participation assembly line in control programmed

From our research we list these key findings, which we believe need to be in place to ensure a school of agentic learners:

- Time and effort put into developing the school-wide approach. Understanding the
 knowledge, skills and behaviours required to be a successful learner. All teachers and
 students need to share these understandings, and hold a vision and passion for
 learning before any radical changes are made. This includes the skills of
 collaboration, citizenship, risk taking, and responsibility being taught and practiced.
- Explicit teaching of the Learning Processes students are taught how to learn; thinking skills and strategies eg. problem solving is taught and practiced and becomes part of regular conversations between students and teachers.
- Explicit teaching of the learning dispositions, which become an expected part of regular conversations eg. "Learning is hard and requires effort- if it is easy you already knew it"; how and where to get help; learners take risks and make mistakes

- and this is expected and shows that learning is happening; deadlines and standards are life get used to it!
- Explicit teaching of the skills and knowledge required to be an assessment-capable learner ie. "Where am I at, Where am I going, How will I get there?" (Indicators of achievement are well known, constantly referred to and easily accessible for the students; students are assisted to interpret assessments eg. E-asTTle and actions planned; goal setting and monitoring etc.
- Explicit teaching of feedback so everyone knows the purpose, how it helps and how
 to use feedback for improvement. There is a culture and environment where
 everyone has the skill to give, receive, seek and act on quality feedback. Time is
 made for regular reflection and feedback.
- Clear, school-wide language of learning that is co-constructed by the teachers and students and reflects the beliefs about learning that are understood by all and constantly used to assist the learner in the process of learning.
- The school interpretation of the NZ Curriculum is designed to meet the needs of the students and allows for development of the Essential Learning areas in a relevant and purposeful way, using the skills taught. Tasks required allow for creativity, personal interest and choice while at the same time providing the vehicle for the students to show and develop their learning.
- A culture that values the notion of students being surrounded with support and reminders (learning environments with walls that talk)— technology, wall displays, goal sheets, indicators, measures of progress, newsletters.
- In order for authentic change and sustained impact, systems are required to be in place that support and ensure that the attitudes and skills required are promoted and maintained. Time needs to be given to developing community practices such as: collaborative support groups; school wide community activities; regular individual and group reflection; opportunities to share knowledge and teach others; recognition and celebration of successes (academic, sporting and cultural); along with opportunities for both students and, in particular teachers, to share their work and successes.

On returning from our sabbatical

The Principal of Pahiatua School will not only work to introduce the school's own take and expectations of Visible Learning at Pahiatua School, they will/have established teaching practices and management which support the practice and leads to all students becoming assessment capable eg. goal setting, task design, collaborative activities etc. Most importantly they will develop school wide community activities. These activities give students and teachers the opportunity to not only practice the learning but also to share the language, the practical implications, fun and successes of learning. Activities such as

assemblies, social sports, 'Show and Glow', The Great Race and Community groups are examples of regular school wide activities which build community.

William Glasser promotes love, power, freedom and fun as the pillars of a Quality School – we would add achievement. This is what binds successful schools together and makes them a true learning community. Unless schools understand fully the role of 'the community' in Visible Learning, they run the risk of changing to 'Directed Learning' approaches which fail, due to the pick up on the physical changes to programmes and environments rather than the pedagogical and social changes.

The Principal of Riverdale School will continue to extend educators working together collaboratively within flexible learning spaces. We have completed a year long case study of collaborative teaching in a flexible space that simply opened up 2 rooms. The outcomes for students and the teacher reflections have proven invaluable in terms of influencing next practice.

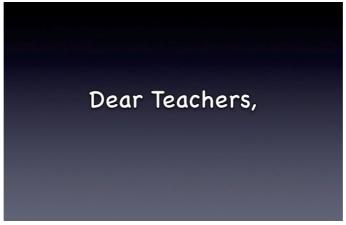
The one thing we know for certain is there is no programme, no one set of rules. Collaborative practice in innovative, creative flexible spaces is a pedagogical mind shift. Student engagement is incredibly high when the learning journey is visible, the learning process is explicit, and a common language of understanding is in place. I thank the educators who were willing to give things a go, research extensively, fail and change direction in order to improve outcomes for students. It is important to note the significance of creating opportunities for teachers to collaborate as opposed to mandating for all. Rather ask the question "What will your early adopter /high flyers do, given the opportunity?" We are working toward designing an assessment matrix that will enable both students and educators to measure where individuals are on their self directed learning pathway.

The Principal at Russell Street School is presently working with leadership, staff and community to establish next steps. These are likely to include seeking an opportunity, such as an application to the contestable Innovation Fund, or similar, to engage deeply with another school, or two, in a process of collaborative inquiry aimed at developing agency in students and teachers. It is also likely that all staff will be encouraged to get their feet in the water, and look for ways to do more than just cooperate with other staff members, trialing and reflecting on their actions in light of this new school vision, in an effort to also inform future development.

"Learning is autonomous requiring an active, self-constructed intentional process" Sinatra, 2000 If everyone engages in the process and knows that they are surrounded by 'fellow learners' constantly challenging themselves to improve, then both students and teachers will see the need to set goals, collect evidence of their learning and openly discuss what has worked and what hasn't in their quest to meet those goals. A healthy respect between teachers and students, where teachers will listen to student voice and act on it, and measure their impact and effectiveness by the assessment results of their students. Appraisal by a leader, peer or outsider will serve only to compliment the teacher's own self-reflection as the teachers themselves will be their harshest critic. Providing good indicators are in place, teacher, colleagues and principal will want to work together to improve teacher performance (assessment outcomes). It is important that teachers work in an environment of trust, knowing that they can be creative in their delivery provided that engagement levels and progress are at least greater than 0.4 effect size.

It is headspace not fancy space that needs to change in our schools.





Bibliography:

E. Toshalis and M.J. Nakkula (2012) Motivation, Engagement, and Student Voice; www.studentsatthecentre.org

A. Alton-Lee (2013) Quality Teaching for Diverse Students in Schooling: Best Evidence Synthesis Iteration (BES)

John Hattie (2009) Visible Learning: A synthesis of over 800 meta analyses relating to achievement, Routledge

John Hattie (2012) Visible Learning for teachers – Maximising impact on learning, Routledge

Pasi Sahlberg (2012) Finnish Lesson: What can the world learn from educational change in Finland?, Hawker Brownlow

The NZ Curriculum Update, Issue 21 May 2012 The NZ Curriculum Update, Issue 26 October 2012

D.L. Schwartz & S. Okita (2013) The Productive Agency in Learning by Teaching, http://aaalab.stanford.edu

Michaela Pinkerton. Modern Learning environments http://maoristudentsuccess.wordpress.com/2014/03/24-modern-learning

Modern Learning environments, MOE website

Reggio Emilia Approach, The child as an active participant in learning http://www.reggioemiliaapproach.net

The big picture learning http://www.bigpicture.org/schools/learning-goals

Peter H Reynolds. Personalised Learning map image, http://www.fablevision.com

21st century skill making learning personal. Kathleen's Scoop it http://www.scoop.it/t/personalised-learning-p learning

Barbara Bray and Kathleen McClaskey. Personalised Learning Toolkit: Designing New Pathways For Each Child.

http://sites.goggle.com/site/personalisedlearningtoolkits/home