#EdBookNZ 2015

+Clare Amos, + Christine Fernyhough, +Sandra Jenkins, +Pam Hook, +Kat Gilbert-Tunney, +Al Ingham, +Te Mihinga Komene, +Nathaniel Louwrens, +Tristan Pang, +Sonya Van Schaijik

About the Cover

STEAM - science, technology, engineering, arts, mathematics – the five focal fundamental learning components in the 21st century digital age. Each one of them are so important that they cannot just stand alone.

The book cover illustrates all these five different fields. "Science" is represented by the equation of kinematics, "Technology" is denoted by the diagram of electronics, "Engineering" is shown by integration, "Mathematics" is demonstrated by trigonometry identities. "Arts" is signified by Shakespeare's Sonnet 18. The line "Rough winds do shake the darling buds of May" can imply the disruptive thinking of our current educators who are contributing their effort of "collaboration" and "co-creation" in shaping our future education. "Manaakitanga" is the quality of showing generosity, kindness and hospitality. We won't have the positive, quality relationships focused on learning and improvement without having manaakitanga.

As a 13 years old student, I know clearly that our teachers work endlessly for our future by providing us knowledge of STEAM. Their efforts are highly respected.

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People and their 1000 Words

Cover Design & Explanation Tristan Pang
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Innovative Learning Sonya Van Schaijik

This co-constructed **#EdbookNZ** project organised by Sonya Van Schaijik and being co-authored by a great set of New Zealand based educators for Connected Educator Month.

Sonya Van Schaijik — Owner | Al Ingham | Kat Gilbert-Tunney | Pam Hook | Claire Amos
Nathaniel Louwrens | Tristan Pang | Sandra Jenkins | Te Mihinga Komene | Christine Fernyhough

Manaakitanga

Uia mai ahau, he aha te manaakitanga?
Ka hoki, ko te iho o te aroha

Ko Kiara me Delilah i Kāwhia

Whakapakeke mai ahau i te mōhio, me mātua tautiaki i te manuwhiri ahakoa ko wai, ahakoa nō whea, ahakoa he aha tana take. Whāngaihia, atawhaitia, āta poipoia te tangata kia pai tana noho. Ina tomo atu tētehi tangata ki tō kāinga, kia kaua koe e pātai atu, "He kapu-tī māu?" kei whakamā ia i runga i tana kore hiahia ki te whakararu i a koe. Ko tāu kē nā, he whakataka kai, inu hoki me te kī atu, "Tēnā, kia kai tātou." Hei whakaū i tāku e kōrero nei,

He kai nā te ringaringa whero i taka.

nā Te Mihinga Komene @temihinga

Kāore te manaakitanga i ākona i te kura, pērā i te pāngarau, eaoia, he tikanga ia ka kite ā-whatu, ka mahi ā-ringa, ka rongo ā-ngākau, kātahi ka whai atu. Ko ngōku tino tauira i a au e tamariki ana, ā, mohoa noa nei, ko ruruhi mā, ko koroheke mā. Kāore he painga i a rātou mō te manaaki i te tangata. He aroha nō rātou ki te hāpai i te mana o tētehi atu i mua i te paku whakaaro ki a rātou anō. Ehake hoki i te mea, ka whakamōmona te tangata mō ngāna ake mahi ki te manaaki i tētehi atu. He whakahīhī tēnā. E tika ana, waiho mā te tangata (koe) hei mihi. Hāunga atu, he uara, he mātāpono tuku iho a te Māori te manaakitanga kei kīia,

He tangata takahi manuwhiri, he marae puehu.

Tārake ana te kitea i ngā momo āhuatanga o te kumanu i ngēnei wā nei, ko te whāngai mōkai i te SPCA tērā, ko te tuku koha mō tētehi kaupapa, mō tētehi tangata e raru ana mā te ipurangi hoki tērā. Ka pā te rongo i te hēmanawa, i te pāmamae o tētehi atu, ā, ka pupū ake te hiahia ki te āwhina atu ahakoa kāore i te tino mōhiotia ko wai tērā tangata. Tēnei anō te manaakitanga, waihoki, te aroha.

Kia hoki ngā mahara ki ō ake wheako whaiaro hei manene, hei waewae tapu ki tōu kura, ki tōu wāhi mahi rānei.
- Nā wai koe i āta whakamōhio atu ki ngā tikanga a tō mahi hou?
- Nā wai koe i whakaatu atu kei whea te whareiti, kei whea te tūnga waka, kei whea ngā kapu hei mahi kawhe māu?
- Nō tō tomokanga atu ki te tari o te kura, i mihia koe? I mōhio te taupaepae, otirā, ko ngā kaimahi katoa o te kura ki te take o tō taenga atu i taua wā rā?
- I whakatūria tētehi pōwhiri, mihi whakatau rānei mō koutou ko tōu whānau?
- I whāngaihia koutou?

- I whakaritea tō akomanga, tō tuakiri mō te pae tukutuku o te kura, tō īmēra, ō taputapu whakaako, aha atu, aha atu?
- He aha ngā mea i kite ā-whatu, i mahi ā-ringa, i rongo ā-ngākau, kia kīia i manaakitia koe?
- Nā, kei te manaakitia tonutia koe i tēnei wā?
- Ki ō whakaaro, he aha ngā āhuatanga me panoni kia tino hāneanea te noho a te manene ki tōu kura?
- Ina tae atu koe ki tētehi hui, he aha i meatia ai he hui nui whakaharahara, ngahau katoa, i tētehi hui noa?

Katoa ngēnei pātai e tohu mai ana i ngā āhuatanga o te manaakitanga. Hei kōpaki ake, mau roa ana te rongonui o tēnei kōrero nā te apotoro, nā Ruka 6:31,
A, ko tā koutou e pai ai kia meatia e ngā tāngata ki a koutou, meatia anō e koutou ki a rātou.

Heoti, ehake mō te tangata anahe te manaakitanga. I tēnei wā o te māhana haere o te ao, o te whakapau rawa o Papatūānuku, kei te horapa te mōhio, me mātua manaaki hoki tātou i te taiao. He aha ngā tikanga i tō kura hei manaaki i te taiao, i a Papatūānuku, i a Tāne-māhuta, i a Tangaroa? Ka whāia ngā tikanga tukurua? Ka pēwhea hoki koutou ki te whakaiti i te para me te tiaki i te hiko?

Hei matapaki mō te akomanga, mō te wāhi mahi rānei,
- Ka pēwhea koutou ki te manaaki i te whānau o te tamaiti?
- E mōhio ana koe ki te whakahua tika i ngā ingoa o tēnā, o tēnā o ngā tamariki?
- Hei kaiako, ka āta whakamōhio atu koe ki ngā whānau he aha ngā kaupapa e heke mai nei ia te wiki, ia te wāhanga o te tau?
- Ki te hiahia koe ki te whakatū hui me ngā mātua, ngā kaitiaki rānei o ngā tamariki, me tae atu rātou ki te kura hui ai? Ka whakarite rānei koe kia hui ki tētehi atu wāhi e pai ana ki a rātou?

Hei whakatauira atu, e mīharo pai ana ahau ki tētehi kura, ki te tonga o Tāmakimakaurau, me tā rātou mahi ki te taunaki i ngā mātua o ngā tamariki o te akomanga teina. I te tīmatanga o te tau, rā atu, rā atu, nō te hauwhā ki te toru karaka i te ahiahi, ka tae atu ngā mātua ki te akomanga ki te tiki i ā rātou tamariki nohinohi. Ka noho rātou ki waho tatari ai, nā wai rā, ka hoihoi haere ngā pakeke, ka hōhā haere ngā pēpi, ā, he kore hoki nō ngā ākonga ki te aro ki ngā mahi whakamutunga mō te rā. Kātahi ka toko ake te whakaaro ki te whakarite i taua wā, hei wā whānau kē. He wā hei ako tahi rātou katoa i ngā waiata me ngā kēmu akoako a te akomanga, hei whakahoahoa, hei tuku pānui, hei whakarata hoki mā ngā tēina ki ngā āhuatanga o te kura. I tino whai hua tēnei tūmomo panonitanga. Nā te tini i tētehi tikanga paku noa nei, ka ora ai te katoa. Hei whakakapinga māku,

Ko Maru kai atu, ko Maru kai mai, ka ngohengohe.

Hei konei mai i roto i ngā tauwhirotanga

@temihinga

Hei tohutoro

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He Rourou Mā Koutou - He waiata

Maniapoto e - He waiata

Christine Fernyhough ONZM, CNZM.

Christine Fernyhough ONZM, CNZM.

Educator, Business Woman, Farmer, Author, Volunteer and Philanthropist.

Christine travels throughout NZ talking to diverse audiences focussing on building a greater understanding by those who live in the cities of rural life, with particular emphasis on the care farmers take in the management of their environment.

She is the First Ambassador for Lincoln University and a member of the Chancellor's Development Advisory Panel. Christine is on the TFSEC Board under the Ministry of Defence, a member of the University of Auckland's Creative Thinking Board and on the Advisory Board of the Indian Ink Theatre Company.

On teaching agriculture in our schools

Farmers are 6% of the population and they generate, together with forestry and fisheries, 60% of our export earnings.

It was when my family came to Castle Hill with a footie team and their families that I realized that farming, agricultural science, call it what you will, was absent from any curriculum they had encountered. Upon further enquiry I found the same was true for other young students.

I believe it is vital that 'agriculture' is taught in every New Zealand school, at primary and at high school level, and regardless of whether the school is located within a farming community or not. If the teaching of agriculture is neglected or not given a higher status within the curriculum we risk a growing disconnect - city and country - and a lack in the understanding of what generates our country's wealth. And equally as depressing, our students will continue to miss out on the multitude of exciting vocational options found within the sector - biotechnology, genetics, agricultural, science, environmental science, banking, marketing - and then there is the fascination and satisfaction of being on the land.

Experiencing the allure of producing a product. Farmers are 6% of the population and they generate, together with forestry and fisheries, 60% of our export earnings. This sector is New Zealand's true competitive edge, our point of difference and excellence on the world stage.

Christine Fernyhough

There is now such a gulf between the city and the country - 20 years ago they used to say 1 in every 400 New Zealanders had a connection to a farm - now it is in the tens of thousands. This growing gulf makes our future economy, community and environment vulnerable. A lot of townies do not understand the practical challenges faced by farmers. Fewer still these days have seen first-hand how many farmers effectively juggle the increasing and often legitimate demands of the RMA and local councils, food processors and marketers, consumers, environmentalists and pressure from the townies themselves.

Farming is about capturing, packaging and marketing sunlight. These producers and earners are not environmental baddies - farmers rely on their land, soils, availability or otherwise of water, trees, bees for the viability of their enterprise, for their income. They are the best of custodians. It is about sustainability as well - economically, environmentally and socially. To farm sustainability is every farmer's goal.

Farming is about capturing, packaging and marketing sunlight.

Christine Fernyhough

The political power in New Zealand rests in the cities - only 13% of voters live in rural areas and many of those are life style blockers. It is time for a great focus on education - a focus on reducing the gap in understanding - the daily media need to step up - so little of substance and fair reporting is evident in papers away from those which service strongly rural communities.

In the past fluctuations in farming fortunes dominated the media, we knew the price of a bale of merino wool - it indicated the value of our exports for the year. The Minister of Agriculture was always near the top of the cabinet hierarchy - often just below the Prime Minister and Minister of Finance - that locked in political power to protect and enhance our production and economic base and support the farming families.

Nowadays farmers care for about 60% of our land surface. Today the mainstream media tend not to celebrate dairy fortunes and with it New Zealand's gain but instead often spread misconceptions about these seven day a week, 24 hour hard workers.

Christine Fernyhough

Time Magazine says if you want to become rich become a farmer. Food prices have become high recently and as 10 New Zealands are added to the world population each year predictions are that farming incomes will rise dramatically in the next decades, faster they say than those in most other industries - even Wall Street!

The world has a serious food shortage. And the only real way to solve it is to draw more people - our youth - back to agriculture. Rural towns have emptied as families have moved onto technology, service jobs and finance. We can reverse that trend.

The world has a serious food shortage. And the only real way to solve it is to draw more people - our youth - back to agriculture.

Christine Fernyhough

There are all kinds of knowledge and many ways of learning. Perhaps teaching right up to my day could in some ways be described by this excerpt from a book by Frank O'Court 'Angela's Ashes' - "*Never mind what's Sanctifying Grace! that's none of your business. You are here to learn the catechism and do what you are told. You are not here to be asking questions*" that was a time for spitting back information - but information is not the most important part of learning.

We need to know how to think deeply - we need to rid ourselves of multiple choice questions, simple questions - make a distinction, a difference between surface learning and the value of deep learning. Learning is understanding - the why of the world and all it's complexities. Understanding agriculture, global trade, the rich bed of learning found within this sector will provide opportunities for our students we cannot even envisage today.

Understanding agriculture, global trade, the rich bed of learning found within this sector will provide opportunities for our students we cannot even envisage today.

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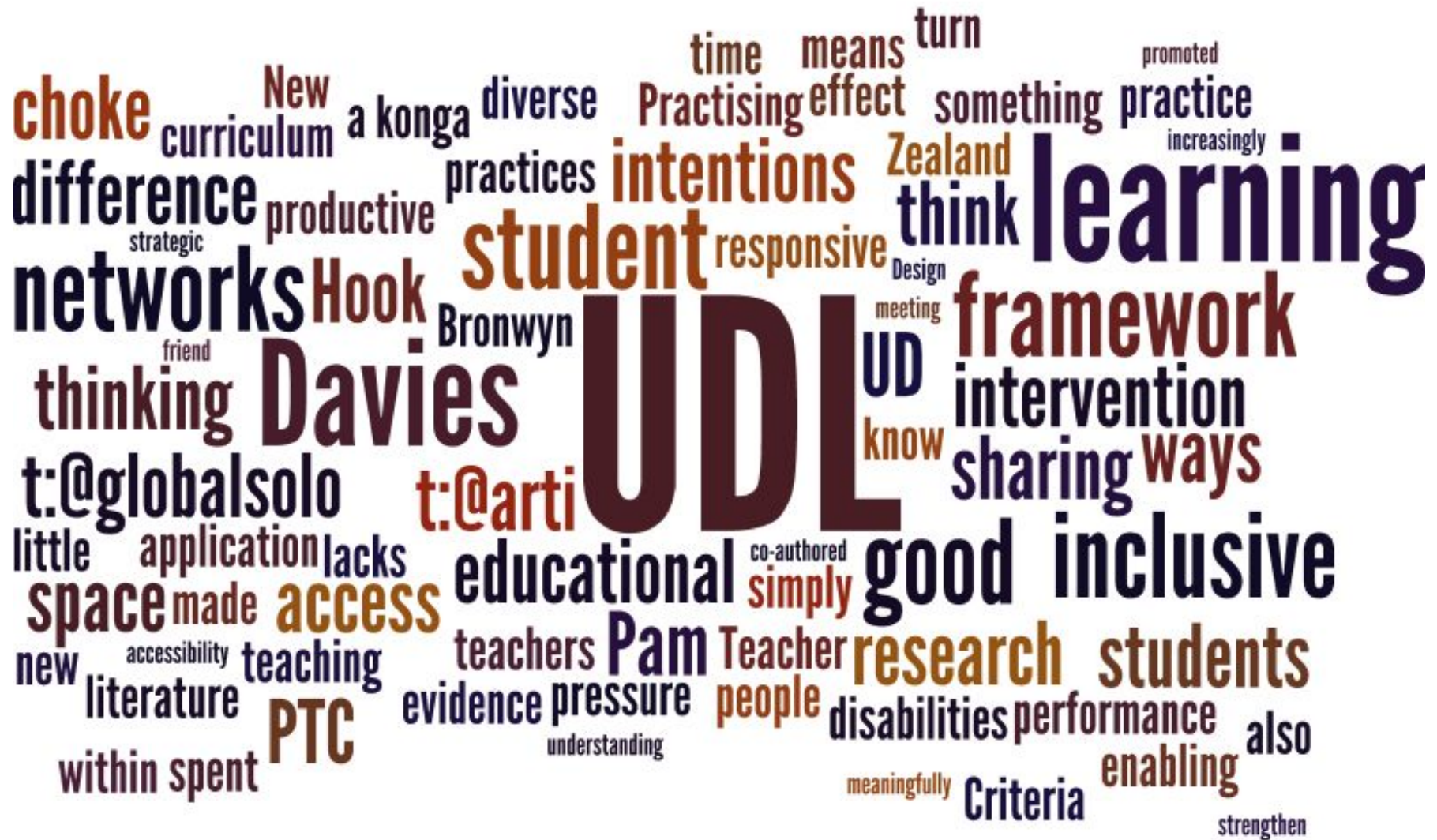
On sharing the same space and good intentions

*"**Inclusion** requires new ways of thinking and being that are open to ambiguity, and require porous boundaries in the daily intra-active encounters with difference." Bronwyn Davies* [1]

On the recommendation of a friend, I spent this morning listening to a lecture by Professor Bronwyn Davies at the Wilf Malcolm Institute of Educational Research at the University of Waikato [1]. It was disruptive time – aka time well spent. The experience made me think about inclusive practices in new ways, especially when Davies argued that *"inclusive practices can easily turn into coded structures that conserve, repeat and strengthen exclusion".*

Davies' arguments make me think more deeply about how an educational policy or practice can be something more than it looks – something essentially darker than simply *"sharing the same space and good intentions"* [1]*.*

If, as Davies describes, we are **"***a profession increasingly under pressure to be productive and to produce normative subjects who in turn will be economically productive, responsible and responsive to government norms"* [1], then we might describe the New Zealand Practising Teacher Criteria [2] as a state-mandated means of exercising this pressure.

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How does this understanding sit with the NZ Practising Teacher Criteria (PTC) #9?

PTC #9 asks us to "*respond effectively to the diverse language and cultural experiences, and the varied strengths, interests and needs of individuals and groups of ākonga*". Key indicators include "*teaching and assessment approaches that are inclusive for diverse ākonga*" [2].

I started thinking about "inclusive practice" in the context of the Universal Design for Learning (UDL) – a framework for thinking about inclusion.

UDL is currently promoted in New Zealand education as a *"good thing"* and an answer to meeting expectations within PTC #9 [3]. Indeed I have recently co-authored a book about using UDL and SOLO Taxonomy in learning support to build academic and social success [4].

UDL prompts teachers to think about:

- how students can access learning materials
- how teachers can design learning activities in adaptive and responsive ways, which start by putting the student at the centre of teaching and learning

Using UDL as a framework, we can look at how the curriculum can give every student equal access to opportunities to learn.

The three networks within the UDL framework are:

- **recognition networks** – how we present learning, "enabling access"
- **strategic networks** – how students express ideas, "enabling expression"
- **affective networks** – how we engage and motivate, "capturing attention".

Although this framework appears promising and is popular with educators, I am also aware it is yet another educational approach that lacks research evidence about whether it has any effect on student learning. When we decide to implement UDL, we are making an educational leap of faith – we are sharing the same space with good intentions.

Given the lack of evidence on its application or effects on student performance, UDL cannot claim to be a scientifically validated intervention [5]. A recent review of the literature on UDL frameworks [6] comes to a similarly worrying conclusion. Further than that, the critique identifies that the research literature also lacks any clear definition of what constitutes a UDL intervention. In other words, we do not know what it means and we do not know if it makes a difference. Until we can clarify what a UDL intervention is, we will continue to meet significant barriers to proving its efficacy.

> *"There can be little doubt that UD has made an appreciable difference in the lives of people with disabilities. Houses and other buildings that posed accessibility challenges for people with disabilities are now accessible because of the application of UD principles. **Can the same be said when UD[L] is applied to curriculum and instruction, or is it simply an intuitive concept that has little real effect on students' performance levels?** Further research is needed to meaningfully address this critical question."* [6]

But listening to Davies' lecture this morning has made me dig deeper than searching for simple claims over evidence of any performance advantage. It has prompted me to ask troubling questions over the extent to which *inclusive practices like* UDL *"can easily turn into coded structures that conserve, repeat and strengthen exclusion"*.

The lecture led me to ask to what extent:

- …☐is UDL a coded structure for a generic set of performative practices that exacerbate othering and exclusion?
- …☐does UDL represent a "citational chain" of abjection created by normative educators in response to difference and disability?
- …☐is UDL, with its focus on "assistive technologies" to increase access, expression or belonging, a model that helps perpetuate thinking that excludes those seen as diverse or different?
- …☐is UDL an escape hatch from "either/or" thinking for educators?
- …☐does UDL help educators re-imagine "inclusive practices" as being a Deleuzian "both … and"?
- …☐does UDL offer educators an affirmative, productive and innovative look at inclusive practices?

These questions have no easy answers. Through them, perhaps I will open up and escape my existing thinking enough to allow new ways of knowing the unknown unknowns – to find ways to answer what is not yet imagined, let alone asked. And that has to be a good thing.

Here's to porous educational boundaries and leaking at the margins of teaching and learning.

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Flipped learning

Digital technologies have enabled teachers to develop new pedagogical approaches and teaching practices in order to increase student engagement and achievement. One of these new approaches is that of flipped learning or the Flipped learning or the flipped classroom is a method to teach students. Put simply, the flipped classroom is a "model in which the

Triple Flip: Taylor Hand, Flickr | CC BY-SA 2.0

typical lecture and homework elements of a course are reversed" (EDUCAUSE Learning Initiative, 2012). The idea is that rather than spending in-class time teaching or explaining concepts and ideas, the teaching is delivered through video that students watch during their traditional homework time. Class time is then used to develop the ideas and concepts and apply what has been learnt from the videos.

Video sharing sites such as YouTube and Vimeo are already providing plenty of learning opportunities. For example, if you want to learn to play the guitar, you don't need to necessarily pay for lessons. Instead, you can do a quick search on YouTube and learn through video. Why not use this same method in formal education?

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Of course, in-class lecture is not the way us Kiwi's teach in general. Homework time is moving away from worksheets and textbooks with practice material. We also don't want to see our students sitting in front of those same worksheets or textbooks in class repeating practice exercises, or watching 50-minute videos for homework. We want to see the development of all the key competencies. We want to see, among other things, higher order thinking skills developed, with students collaborating and contributing to solve complex, 'wicked problems' (Hipkins, Bolstad, Boyd & McDowall, 2014).

How can we re-think what flipped learning is for us in New Zealand? How can we also ensure that flipping the learning doesn't simply take away the responsibility from the teacher to teach their class and give students more work to do at home? How can we ensure flipped learning is equitable as some students don't have internet access or digital devices at home?

The Flipped Learning Network defines flipped learning as:

a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter. (Flipped Learning Network, 2014)

This means that students watch the direct instruction on their own through videos, and then develop and apply the concepts taught in the classroom group situation. By taking this broad definition we can rethink what flipped learning looks like and ensure that our approach best meets the needs of our students.

We can think of flipped learning approaches along a continuum. On one end of the continuum, we have the true flipped classroom model where the teacher records themselves teaching a particular concept or idea and posts it online for the students to learn in their homework time. They then come back to school to demonstrate their understanding through discussion with peers, practice and application. On the other end of the continuum we might have rewatchable learning such as recording your teaching, modelling, explanations as they happen in class, and posting these online allowing students to rewatch and review what they covered in class, or learn what they missed if they were absent. Both of these allow for students to rewatch their learning as often as required.

In between these two extremes, we might have students creating flipped lessons by teaching their peers through online video. These can then be used in future years as well, bringing the students into the picture in creating new ways to explain a concept or idea. Of course we can mix it up a little and have different lessons approached in different ways.

In order to ensure we're not just using up students' homework time (or free time!) when employing such a model, we need to be sure that the videos are succinct and relevant. Teachers love talking. They can talk a lot. Videos of concepts or ideas need to be short, no more than three to five minutes long where possible. Think about your own online video viewing habits. Many of us switch off after less than a minute unless it's highly engaging (Shout! Communications, 2014). You might also need to record different ways of explaining concepts. Don't keep reinventing the wheel though. Use what others have created already.

Don't forget that relationships are important too. Your students need to see you or hear your voice, otherwise are YOU really teaching them! Make sure that class time is used carefully to develop deeper understanding of concepts through a variety of ways.

Keep considering what will make learning equitable to all and accessible to all. Flipped learning doesn't have to require students to watch videos at home. What about spending the first minutes in class allowing students to watch? They might need to re-watch them during class time too. What about ensuring devices are available at lunch time or after school for those who don't have access at home? You could even add subtitles to your videos or include the transcript.

Used with other pedagogical approaches, the flipped learning model could help support a move to developing deeper discussions in-class in order to increase understanding. Through the removal of a lot of in-class direct instruction time, students can ask questions, think more deeply, and consider real-life global examples and problems. It is a model that is worth considering as digital technologies become more prevalent in school and the day-to-day life of our students.

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Learner Agency - more than just a buzzword!

So what does Learner Agency actually mean? The way I define it is the idea that the learner has a sense of ownership and control over their own learning.

The word 'agency' is defined as "action or intervention producing a particular effect", so I guess if we apply this to the learner, it means they engage in a particular action or trial an intervention which then produces a particular effect.

Learner agency at Hobsonville Point Secondary School from EDtalks on Vimeo.

In the context of a school this might involve students taking action, whether it be through reading, researching, discussing, debating, experimenting, making or tinkering and as a result, gain (through **their own** efforts) new understanding and new learnings. This being a shift from the notion of teachers, teaching **at** the student and fundamentally providing all of the knowledge and content which they then transfer to the the empty vessel.

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Of course this notion is not new, in fact, it's positively ancient. I sometimes think Socrates must be turning in his grave.

So if this notion has been bandied about since the the time of Socrates, why the hell are we considering it as cutting edge now? I'm guessing the honest answer is that education started off pretty sweet, then got a bit crap in the last 100 years or so.

Public schooling as we know it appears to be have been formed or at least heavily influenced by the reforms introduced by The Committee of Ten, a group of US educators who called for the standardisation of the secondary curriculum.

They recommended 12 years of education and a range of subjects or learning areas that have remained, for the most part freakishly unchanged (remember, this was a 120 years ago!!!). They also recommended that "...every subject which is taught at all in a secondary school should be taught in the same way and to the same extent to every pupil so long as he pursues it, no matter what the probable destination of the pupil may be, or at what point his education is to cease." [4] I do wonder if it recommendations such as this that resulted in learners falling victim to the generations of well meaning educators developing well honed teacher agency, attempting to produce similar outcomes for all learners by delivering same size, one size fits all learning regardless of learner strengths, weaknesses, interests or career path.

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Even in modern times, the notion of standardised testing has the unintended effect of producing standardised teaching. To ensure that teaching remains standardised, learners must not interfere! I actually have no issue with standardised testing or even standards. It's actually our notion that to meet common goals, we need to get there through common means that is the issue.

If the world around us wasn't changing so rapidly, we might have got away with sticking our heads in the sand and believing (like certain schools still do) that effective education means little, if any, learner agency and whole lot of control and teacher centred pedagogy. Don't get me wrong, there is still a place for direct instruction and even rote learning, but if you are limiting yourself to such practice, no matter how awesomely charismatic you might be, you are doing your students a **massive** disservice.

Firstly there is the issue that students no longer need you or I to access knowledge and expertise. Once upon a time you may have got away with little learner agency because they (the students) had few if any other ways to learn. I once worked with a teacher that claimed that school was like the dentist, that students simply had to suck it up and do what was good for them. I'm sorry lady, but you need to wake up and smell the laughing gas. Students no longer necessarily need us to learn, if learning is something they have to suffer through they will look elsewhere. However, they do need us to know how to learn more effectively and to curate what skills may be good to learn and what content might be useful to know in the future.
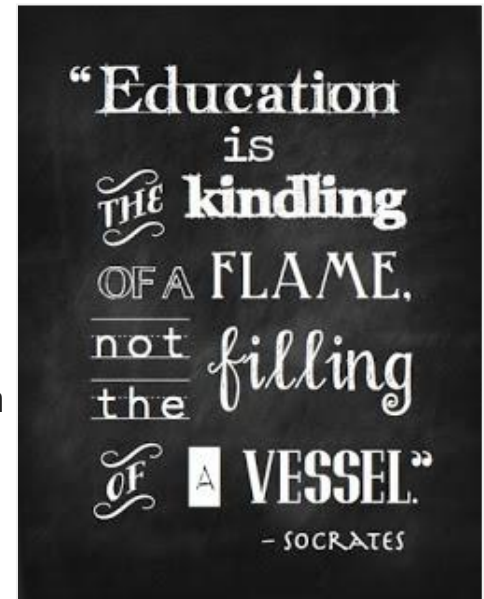
Secondly there is the reality that we are preparing learners for a different world than we were in 1892. We are no longer producing compliant workers for an industrial workplace where basic writing, reading and arithmetic and learned compliance was the key to success. In fact we don't actually know what we are preparing them for. We are almost certainly preparing them for multiple careers, more casual, informal work and/or self-employment.

This calls for a broader set of skills. Yes, the three Rs are still incredibly important, but now the ability for young people to self-manage, learn to learn and then re-learn and adapt is going to be a basic need for survival. Complex problem solving, creative thinking and risk-taking are undoubtedly going to be the key ingredients for success. I mean look at the list Forbes produced as The 10 Skills Employers Most Want in 2015 Graduates

1. Ability to work in a team structure
2. Ability to make decisions and solve problems (tie)
3. Ability to communicate verbally with people inside and outside an organization
4. Ability to plan, organize and prioritize work
5. Ability to obtain and process information
6. Ability to analyze quantitative data
7. Technical knowledge related to the job
8. Proficiency with computer software programs
9. Ability to create and/or edit written reports
10. Ability to sell and influence others

These are not skills developed in a teacher centred learning environment. And who know what the graduates of 2025 and beyond may need. Whilst I do don't have a crystal ball, I am guessing agency and efficacy will be even more important than ever.

So what are 10 ways you might provide Learner Agency in your classroom or school?

- Introduce one to one devices or BYOD and actually give students the freedom to use technology in a variety of ways - not just a glorified exercise or text book. There is no question - all students having access to a browser is incredibly liberating if you just shut up and get of the way and let them go explore and actually use more than just the latest app or platform you've stumbled upon. Technology is not actually about improving grades, it's actually about improving agency (and hopefully greater agency should then result in better outcomes).
- Give students choice about context or topic where possible.
- Give students choice about how the record or process their learning - paper & pen, written notes, images or voice recording.
- Give students choice about how they evidence their learning - let them choose whether evidence is verbal, visual or oral (or a combination of all three)
- Give students choice about how and where they learn - provide an online platform with 24/7 access to clear learning outcomes, prompts, support and challenges.
- Provide students with a platform or space for online discussion about their learning that doesn't rely on you.

- Give students time and space to work independently - yes sometimes they will waste time, get distracted and frustrated - but so do we! And how are you going to bloody well learn to to learn for yourself without being given the opportunity to do so. as an aside - it always cracks me up when schools wonder why Year 13 students don't cope with "free periods" when we have barely given them a "free moment" in the 12 years prior.
- Allow time for independent inquiry, where students have time and space to seek out and create new understanding.
- Where possible let them personalise inquiry to give them even greater ownership - do those students really need to explore the same topic, book, period or place? And do they need to all present it the same way (see #4)
- Give students a choice of classes or modules or if this isn't possible in your present environment, at least give them the opportunity to co-construct the course they are in - even in a school where you have to present some sort of year plan, you can still hack that plan....if there is one benefit of a non-MLE environment you can usually get away with being as creative as you blooming well like in the privacy of your own classroom.

This list is not exhaustive.

How you develop/enable/encourage learner agency in classroom or school?

The Collaborative Classroom

Teaching environments and modern ways of reinventing knowledge.

The silent classroom is a thing of the past. Long days at your desk, all facing north, with the teacher's desk aligned in the opposite direction at the front have been relegated to the storage cupboard along with the typewriter and cassette tape.

Instead, the class is a buzz. Students, while individual and unique, are working together to achieve a common goal. The key competencies of 'Relating to Others' and 'Participating and Contributing' both get ticks in their boxes. Motivated by their own choice, students are inquiring into the affects of bees or lack thereof on the environment.

The Collaborative Classroom has come about to closely align with 'Modern Learning Environments (MLE), and seeks to align the physical aspects of the classroom environment with the collaborative philosophy of today's education standards. It is one thing to get students to work together, to have collaborative practises, to have a teamwork based curriculum, but if all the classroom isn't set up for students to work together, then they won't. Certain aspects of the 'Collaborative Classroom' leads students naturally to work together.

But with the environment there needs to be shifts in the teaching that allows students to work together, to search, struggle, challenge, and extend each other, and hopefully, grow a deeper understanding in the topic, their peers, and themselves. In essence, the teaching environment leads to modern ways of reinventing the way we acquire knowledge.

Al Ingham @Unleash_NZ

I do not think there are many modern day teachers who don't incorporate some collaborative tasks into their daily programme. We are constantly reminded of the value of strategies like 'Think, Pair, Share' and 'Reading Jigsaw'. Certainly, having recently gone through training college, the idea of 'group work' and collaboration are well ingrained in the pedagogy of how we were taught to teach.

Now there is a move to ensure that such activity is not only expected, it flourishes and happens naturally purely because of the classroom layout. As this Government rolls out a selection of funds for schools to 'modernise' their learning environments, the collaborative classroom is immediately considered as the way forward. Larger open spaces which are customisable are favoured for this, as different tasks require different needs.

1900

Working in groups is not a new thing. As we can see in this old classroom photo, whilst individual desks are set apart, all facing the front, we can see the children of the class in a circle, participating in a lesson. Everyone doing the same thing s o that they all left school fitting in a particular box was the aim.

Al Ingham @Unleash_NZ

1990

In the 1990's, desks were somewhat modernised, along with individual trays that have multiple uses. Large, often bulky 'personal computers' were all the range, and it wasn't uncommon for each class to have at least one that sat in a corner, just waiting to be played with during a wet lunch time, or if you were lucky,

publish a piece of writing. The introduction of a mat area also became popular, inviting students in closer to see details, but also participate in a lesson that was separate from the daily grind of staying in one place all the time. For the first time we see a dedicated wide open space in the classroom.

2000

Enter the year 2000, turn of the century, and educators are looking for ways to encourage student talk, real life learning, and discourse in the classroom. But without a budget, schools had to use what they had. Individual desks were kept, but placed into groups. Each child would still have their belongings, but they would also be part of a group to work with, discuss ideas, and work together as a team.

Al Ingham @Unleash_NZ

It is around this time that the idea of a collaborative classroom came into play. Hubs of tables fill wide open space. The clutter is generally gone, but there is space for learning to happen. The walls are adorned with linked up screens that can be viewed from anywhere in the room.

Roles and Relationships

The role of both the student and the teacher has changed along with the physical space. In the 1900's, the role of the teacher was that of a preacher. The fount of knowledge to fill the empty minds of the students. Repetition, repetition, and repetition was the key to learning, and if you didn't get it first time, you'd keep doing it until you got it right.

Take this through to today, we have a teacher who is a facilitator for learning. They pose questions that challenge and encourage wonderment. They inspire and engage. Students are the driving force for learning. They pick up an idea and take it further in the direction they want to take it. They work together to co-construct their success criteria, and figure out the how themselves. They rely not on the teacher for information, but on their own ability to go and find out. They are both collaborative, but independent, and the balance of these happens seamlessly. In an article written well before it's time (1990), Tinzmann, MB et al. state that

"Effective communication and collaboration are essential to becoming a successful learner. It is primarily through dialogue and examining different perspectives that students become knowledgeable, strategic, self-determined, and empathetic. Moreover, involving students in real-world tasks and linking new information to prior knowledge requires effective communication and collaboration among teachers, students, and others."

The environment is only one part of the Collaborative Classroom. What is more important is the learning going on inside it. Rebecca Alber states:

"Learning, and higher-level learning such as synthesising information from several documents or analysing scientific data, can hit much deeper when done collaboratively. Let's not forget Lev Vygotsky and his educational theory that proposes learning as a social process. And if he were alive today, he would most likely agree with the saying, Two minds are better than one. He might even add, "Better yet, how about three or four?"

It doesn't matter if you are stuck in a 1960's classroom with cupboards and storage, old flip-top lidded desks, and steel framed chairs; the way you go about teaching (or facilitating learning) is key.

Is it any wonder then why the subtitle of this article spells out 'Teamwork' with each first letter?

Related Reading

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Al Ingham @Unleash_NZ

Teacherpreneurs, Twitter and Transformation

Teacherpreneurs are considered to be highly effective, connected and resourceful educators who actively seek opportunities to grow their skills, collaborate, share best practice, ideas and research. They have a passion and determination to improve education in their setting and beyond. What excites me is that teacherpreneurs can develop leadership opportunities to influence positive change to education systems for the better. With the incredible rise in technology and more demand for student agency the teacherpreneur can enable change to determine a more relevant curriculum for learners. These leaders create opportunities for educators to connect, share, grow their knowledge and expertise and influence education systems to be relevant to our students future roles in their communities. Teacherpreneurs cross oceans and cultures to make connection with other educators and advocate to transform curriculum.
Their focus is to co create new learning that is relevant, authentic, personalised and technology rich, building on the diversity and strengths of all learners

October is Connected Educators month globally and in Aotearoa, New Zealand.
Connected Educator Month supports educators to thrive in a connected world. Sharing and collaboration centred on personalising learning needs and strengths across *our country* and global networks.

Thinking about Connected Educators month has prompted me to update my reflective blog and share my own personal experience about the power of connecting on Twitter and how Twitter has facilitated amazing learning and incredible experiences for me. Through Twitter I have connected with teacherpreneurs and innovative educational leaders from all over the world.

In 2013 I was a new Twitter user. I only had a vague idea what it was about – but I set up an account for Freemans Bay School.

Sandra Jenkins @FreemansbayScho

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I received a tweet from Lene Jensby Lange, from Denmark, asking about our e-learning model at Freemans Bay School. Lene had checked out my principal's blog and followed up with a couple of questions about our e-learning model

Lene is a founder of Autens Educational Design Consultancy in Denmark. This consultancy facilitates and leads innovation to support educational leaders to align their school vision with new and renovated school design. I asked Lene if I could meet her in Denmark to discuss links between learning design and school design as part of my travel fellowship in 2014. Not only did Lene agree, but she showed me around a whole lot of schools and organisations and I was able to stay with her and family in Copenhagen – where the conversations flowed into the night.

Since then we have been great twitter mates! We often have tweet or Skype, problem solving and sharing perspectives and experiences. Networking with Lene led to being invited to become a member of the Global Schools Alliance.

GLOBAL SCHOOLS ALLIANCE (GSA)
The vision of GSA was developed by a group of global educators:
- David Price, OBE (member of the Most Excellent Order of the British Empire)
- Andrew Raymer (Founder and former Head of Matthew Moss UK)
- Dr. Steven Edwards (White House and World Bank advisor)

Lene Jensby Lange
Co-ordinator
Global Schools Alliance

Dr. Steven Edwards
Co-founder
Vega Schools
Washington D.C., USA

Sandy Hooda
Co-founder
Vega Schools
New Delhi, India

Sandra Jenkins @FreemansbayScho

GSA aims to have innovative schools collaborate and be part of a learning community that will influence education systems across the world.

The GSA Founding members selected and evaluated progressive schools from for the Alliance. Member schools are considered highly effective and innovative in their respective countries. These schools agreed to bring their experience and knowledge to work together to improve the standards of education globally.

The vision of Global Schools' Alliance is to ensure children experience a better quality of education no matter where they live. Our mission is to collaboratively improve education that engages and empowers learners within the context of their culture and language.

The founding school leaders are from eight top-rated schools internationally.

- Muriel Summers, Principal, A.B. Combs Magnet Elementary School, Raleigh, USA
- Mark Moorhouse, Headteacher, Matthew Moss High School, Rochsdale, UK
- Natalie See, Principal, Hilltop Road Public School, Merrylands, AUS
- Allan Kjær Andersen, Principal, Ørestad Gymnasium, Copenhagen, DNK
- Sugandha Mathur Anand, Head of School, Vega Schools, Gurgaon, IND
- Sandra Jenkins, Principal, Freemans Bay School, Auckland, NZ
- Carl Jarvis, Executive Headteacher, EOS Teaching Alliance (Hartsholme & St. Giles Academies), Nottinghamshire, UK
- Barbara Cavanagh, Principal, Albany Senior High School, Albany, NZ

The GSA first symposium was held in October in New Delhi and was hosted by Vega School founder Sandy Hooda.

Sandra Jenkins @FreemansbayScho

John Hardy: My gree...

Green School is located in Bali jungle. It focuses on fostering green/ enviro school thinking.

Ni Putu Tirka Widanti (Ika)
President
Yayasan Kul Kul
(Green School)
Bali, Indonesia

The architecture and ...

Ørestad Gymnasium (upper secondary school) has a framework for cross-disciplines and an extended use of IT-based learning by revolutionizing educational space in a structure without traditional classrooms

Allan Kjær Andersen
Principal
Ørestad Gymnasium in Denmark

Liger Learning Center

The Liger Learning Center, in the jungle in Cambodia, has one goal - to create change agents within their own country

Jeffrey Holte
Learning Coordinator
Liger Learning Center
Phnomh Penh, Cambodia

Larry Rosenstock - C...

HIGH TECH HIGH
Designing E...
SDXD

High Tech High is a group of schools in San Diego, USA. These schools focus on effective use of technology and digital learning.

Melissa Daniels
Founding Director
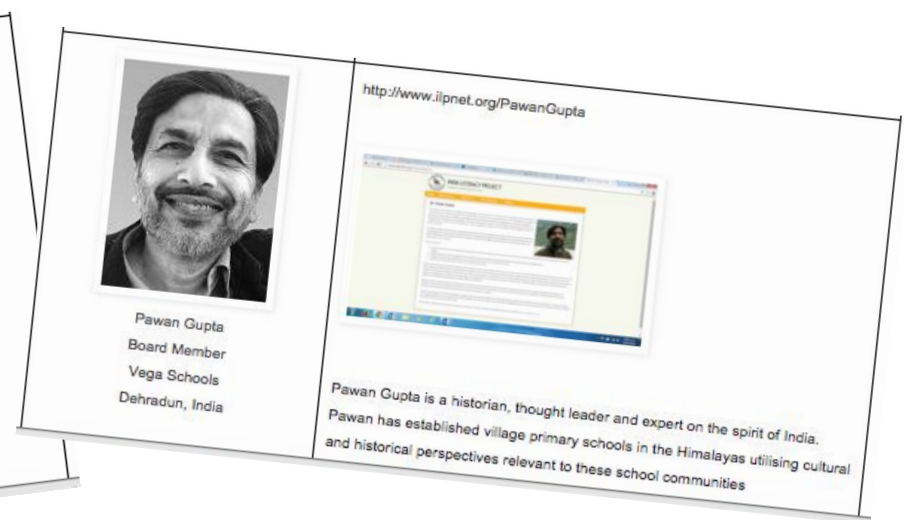High Tech Middle Chula Vista
USA

D6, Matthew Moss H...

Matthew Moss is the "most radical school in England" according to Professor David Hopkins and was featured in Innovation Unit's influential publication "10 Schools for the 21st Century", a highschool in UK Mathew Moass has a focus on child centered education through project work.

Andy Raymer
former Head of School Matthew Moss
High School
Vega Schools Board Member
Rochsdale, UK

Welcome to ASHS

Liam van der Werff
Year 11

Albany Senior High School has a focus on project based learning supported by coaching students to ensure the development of dispositions for learning and life

Barbara Cavanagh
Principal
Albany Senior High School
Auckland, New Zealand

Sandra Jenkins @FreemansbayScho

Sandra Jenkins
Principal
Freemans Bay Primary School
Auckland
New Zealand

Freemans Bay School has a curriculum design is focused on engaging, enriching and empowering learners.

Orcon UFB at Freem...

TECHNOLOGY IN OUR CLASSROOMS

http://www.ilpnet.org/PawanGupta

Pawan Gupta
Board Member
Vega Schools
Dehradun, India

Pawan Gupta is a historian, thought leader and expert on the spirit of India. Pawan has established village primary schools in the Himalayas utilising cultural and historical perspectives relevant to these school communities

Although each school at the symposium was from a uniquely different part of the world we all shared a vision of working together to promote rich, innovative and personalised education. You can see from the list of participants the diversity represented. It was humbling as well as inspirational to be part of this GSA symposium.

During the conference we visited the Vega School construction site and will be watching the development of these schools with interest.

On the final night of the symposium we attended a large meeting where Vega Schools had invited parents, politicians and media from Delhi to hear about schools in the Global Schools' Alliance. The meeting also included the state of Haryana Education Minister Ram Bilas Sharma.

CO-CREATING THE WORLD'S BEST SCHOOLS

Sandra Jenkins @FreemansbayScho

The sharing of each other's school vision was inspirational and refuelled our shared commitment to lead education that ultimately builds on learners' strengths and diversity to equip them to contribute positively to their communities.

My twitter journey has connected me with a range of committed primary and secondary educators from all over the world. Twitter has enabled me to be meet and be involved with inspirational educators and projects across the globe.

These global leaders of education are committed to transformation of education in their countries. Student agency is the common thread of these schools' curriculum – all engage in projects in some form or other. All are advocating to break down the homogenous systems of education, based on ranking and one size fits all models and developing systems that will strengthen diversity and learners talents in an increasingly globalised world. All are from very different cultural, social and political contexts. They have a shared mission to influence education systems to give our learners the skills and dispositions needed for their future lives. The GSA leaders have taken the concept of teacherpreneur to a new level.

Reference:

http://www.touchapp.co.uk/blog/2014/04/25/teacherpreneurs-the-leaders-of-future-education/
http://www.globalschoolsalliance.org/

Sandra Jenkins @FreemansbayScho

STEAM
WHAT IS STEAM OR STEAM EDUCATION?

STEM creates a pathway to a brighter future, opening up a wide range of interesting and exciting career opportunities" (Central Office of Information, 2008).

STEAM stands for Science, Technology, Engineering, The Arts and Mathematics education. It is grouped together because of the current push in education to include a greater focus in schools to bridge the gap between education and the shifting 21st century job market. STEAM was originally STEM without 'The Arts' inclusion and there is some debate by those in STEM careers about the benefits of including 'The Arts' in this acronym.

In this American article there is discussion about there being an oversupply of arts based graduates from universities and that a focus on just the STEM subjects will increase the number of students interested in pursuing careers in these areas. It also says there is an under representation of females in these careers and that focusing on this in primary and secondary school will lead to a correction in this balance.

We cannot deny, that particularly in New Zealand many of our jobs are manually based. With the rise in civil, construction and mechanical engineering; and IT fields there is a constant struggle to fill roles in these sectors. However, as also described in this article the great inventors and engineers throughout history had a good basis in both the arts and STEM subjects, not one or the other. Steve Jobs, for example, was a genius when it came to STEM subjects but was also creative and innovative. Was this because he had a good all round education that included the imaginativeness of the arts?

Kat Gilbert-Tunney @TopKat76

This research conducted by the University of Florida suggests yes. It shows that students who study a mixture of arts and technology subjects score higher than those that study one or the other.

Of course there is also research to counteract the movement too. The American Psychology Association journal article talks about research by New Zealand psychologist Michael Corballis that shows that brains with no cerebral dominance can often lead to mental dysfunction as the brain has a more difficult job when having to cross information over the corpus callosum (area between the left and right cortex).

As the job market changes and moves more towards the use, and invention of, more highly advanced machines we must ask ourselves whether schools/education include STEAM enough and just how they do. Educators are schooled well in the Literacy and Mathematics curriculum but what about knowledge in Science, Technology, Engineering and the Arts? Many teachers feel ill equipped to take a lead in these areas and rely on outside providers or other teachers with these as a strength. Science, Technology and Engineering skills in primary teaching can be particularly hard to come by and some schools include little of these because of that reason. So, that begs the question, what can we do to change this? Perhaps we need to look at ITE and how these curriculum areas are being properly serviced. Does the MoE need to put money into providing professional development for teachers into these areas. IT, and in some cases 'The Arts' being serviced in many schools well but the other areas are. NZCER research into Science engagement in primary schools shows that there is no shortage of enthusiasm in implementing in robust Science programmes in schools but that a lot of these initiatives were fixed term and therefore the sustainability was often an issue. "Although some resourcing for these initiatives is available, it is usually insecure or fixed term."

Kat Gilbert-Tunney @TopKat76

NZCER research into the future of Science Education in New Zealand shows that our students do well in Science achievement and are in fact above the OECD average in this area. However, only 39% of students studying Science would consider moving into more advanced scientific research and occupations which is below the OECD average. It also shows that our Maori and Pasifika students do poorly in Science. Studies show that 13% of these students did not reach the lowest benchmark in the International Mathematics and Science Study results. This is a very worrying statistic and we must ask ourselves, how can educators become culturally responsive in the area of Science teaching and learning.

As this article from New Geography talks about marketability and asks the question to students, how will they make themselves unique from the thousands of others out there? With such a shortage in these areas we need to be including them as part of our curriculum to close this gap. Careers New Zealand (see link) lists these are the emerging and future jobs in the New Zealand job market that will grow:

- *biotechnology – especially medical drugs and equipment*
- *food and beverage – our dairy, seafood, and wine industries continue to grow with an insatiable demand from consumers for fresher, tastier products*
- *creative – movie-making is well established and tipped to grow*
- *information technology – our fastest-growing export sector.*

They also list these as jobs that have recently emerged and tipped to grow
- *web developer*
- *social media manager*
- *3-D animator*
- *sustainability manager*
- *carbon emissions trader*
- *mobile phone applications developer.*

An interesting and not surprising look at the future of the New Zealand job market. If we look at this list we can attribute learning in the area of STEAM to most of these roles. In STEM Education: Proceed with caution (Williams, Design and Technology Education: An International Journal 16.1) Williams states that the rationale for the inclusion of STEAM are varied and many but that the overarching reason advocated is the*"… shifts in workforce patterns and downward trends in economic indicators."* There is a changing landscape in what we can expect, especially with the effects of globalisation, the internet and the accelerated invention of new technologies and because of this we cannot really predict what the future jobs will be particularly if we think about the later years of our student's lives.

So what do we need to do to serve the growth needed in STEAM? Provide professional development to educators so they are ready and motivated to serve our students. *"New kinds of teacher professional learning are needed to scaffold the change…"* (Gilbert & Bull, 2003). A top down approach starting with more of a focus through the Ministry of Education in this area with associated professional development and funding. Discussion is also needed between schools, the STEAM community and greater New Zealand communities to decide on a nationwide vision on what we would like this education to provide in the future in terms of outcomes. "Developing science education that is a better fit for the times we live in is a massive undertaking and it is unrealistic for schools to do it on their own." (Gilbert & Bull, 2003). Lastly, we need to be culturally aware when designing a New Zealand outlook on STEAM education. Showing the relevance of STEAM subjects for our Maori and Pasifika students is paramount.

Kat Gilbert-Tunney @TopKat76

Cowie, Jones and Otrel-Cass (2011), discuss the importance of showing relevance of these subjects and how they might fit into their future opportunities. *"For some, there is a tendency to 'opt out' of sciences and mathematics, often citing not being able to see the relevance to what they are learning or not being able to identify a career option that utilises the curriculum content."* Auckland University of Technology's STEM department (http://www.stemtec.aut.ac.nz/) advocates promotion of the *"…utility and intrinsic value of STEM subjects at schools and in the wider community to attract more students to study STEM subjects especially from groups that are traditionally under-represented (Maori, Pasifika, women)"* and this is also what is needed in primary STEAM education.

STEAM education is a necessary and central part of future focused education so it is our job to become promoters for its inclusion in everyday classroom learning.

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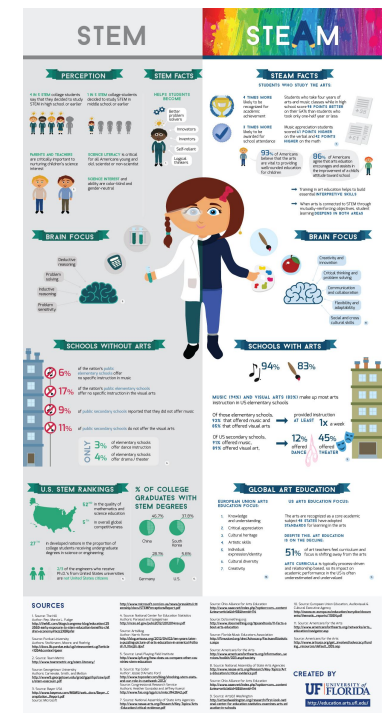
Kat Gilbert-Tunney @TopKat76

Innovative Learning

HookED

Describe: Innovative Learning.

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Background

Last term I attended an Educafe session run by Emma Kingston. Emma is a firm believer in privileging opportunities for face to face communication. She creates regular face to face events to enable educators to talk together.

What was particularly interesting at the Educafe evening was a chance to meet Professor Jane Gilbert. My virtual buddy Danielle Myburgh told me she had brought her professor along and would I like to meet her. Of course I jumped at the chance. After being introduced, Jane asked me some probing questions about the TeachMeetNZ project that I coordinate. I proudly told her that I have been gathering data since I began the project.

The question Jane fired back at me was:

> **"How can you prove that what you do makes a difference to student learning?"**

This is a great question - quite possibly the one question to rule them all. It is the provocation that comes from Thomas Guskey's work on professional development (Guskey 200 p 85) and sits at the heart of John Hatties work on "*know thy impact*" (Hattie 2012 p.169).

Sonya Van Schaijik @vanschaijik

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It is a question that encourage us to inquire into the effect of our actions on the learning of others. Virginia Kung, Deputy Principal at Newmarket School, asked me something similar during my initial appraisal conversation around this year's inquiry. She suggested I turn my teacher inquiry on its head and reflect on what it is I do that does make a difference.

I believe that one of the most influential elements to raising academic achievement over the past eight years at Newmarket School, is my and other teachers' understanding of SOLO taxonomy and its focus on the student learning outcome. I have experienced this personally as I have used SOLO to drive my own learning to greater depth. When we as teachers understand the importance of designing appropriately challenging (cognitively and physically) learning activities then that is when applied learning proficiency develops. SOLO has made me so much better at deeper or higher order thinking - linking my thinking with what I know, or knowing where to go to clarify what I need to know, or who to have a learning conversation with. I recognise that unless I can make explicit links with my own pedagogy and my student's learning then I am likely distracted from the things that matter most.

I have used SOLO Taxonomy as the framework for what I do with all my various adult and student learners. My own reflective writing has deepened as a result. The overall outcome of my teacher inquiry is deeper in a number of significant ways.

1. **Thinking about how I make a difference for the learning of English Language Learners**

Thinking about learning and models of learning like SOLO taxonomy has deepened my understanding of the learning needs of my English Language Learners.

I am in the final stages of co-authoring a book with Pam Hook about my inquiry into effective pedagogies with English Language Learners. I join a group of incredible educators who have co-authored a book with her framing their pedagogy inquiry around SOLO Taxonomy. Pam has challenged several of my ideas around learning, so much so that a couple of times I have had to slink into a turtle shell and hide because I do not want to have further discussions. But that is what learning is all about.

Is this innovative? I believe it is because I am being stretched to think about teaching and learning of L2 in new ways - to think at an extended abstract level. And my thinking has resulted in the design of learning experiences that have shown real gains in academic language acquisition for my ELLs students at Newmarket school.

Thinking about how I make a difference for the learning of teachers taking part in EdBookNZ
Thinking about learning and models of learning like SOLO Taxonomy has deepened my understanding of the learning needs of teachers in online collaborative environments

As part of Connected Educator month I set up a learning environment for teachers. I wanted to see if I could push boundaries on teacher's learning. Could I make a difference to the ways teachers learn? This project has been ongoing as part of my personal inquiry that was selected as part of my Core Education efellowship.

I believe innovative learning is an iterative process. It is not a series of over-hyped launches of the latest "new thing" - innovative learning is going back and finding out what changed, what worked, what didn't and then repeating the process until you find the real innovation - something that improves learning - something that endures.

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Last year I had 10 educators agree to collaboratively co author a book around educator terms. The trial was so successful that this year I scaled the project to over 30 educators and coordinated them to work together in teams to co construct their understanding.

This year when I sent out digital feelers via Twitter I had the following fabulous educators respond.
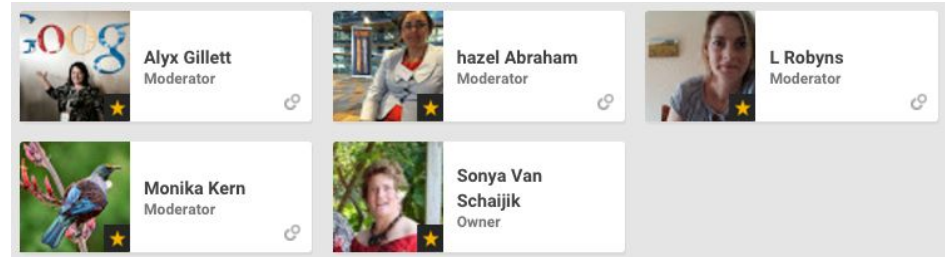
In this iteration I have 5x "prods" working in teams of 6x educators each. I am a prod for one team. Scaling a project is a real way to test the tightness of my thinking about effective online environments.

The teacher "prods" in the EdBookNZ project have had to learn, unlearn and re-learn knowledge and skills and they have to think independently and interdependently. I have not led something on this scale before and I am learning alongside all the members. I have had fabulous cognitively challenging learning conversations with the prods as they look to me for guidance and I frame our next steps for collaboration and challenging existing thinking using SOLO Taxonomy.

Is this innovative? I believe it is - scaling up (rather than adopting the latest new thing) means the new idea or innovative thinking I have gained from this project is that developing deeper teacher learning comes from having clarity about the purpose of the project. The number of participants is not necessarily a barrier if the learning design is clear. Much like clarity of learning intentions helps in a classroom so clarity over the purpose of an online collaboration is a prerequisite for deep learning outcomes.

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Using SOLO taxonomy to design the learning environment has helped ensure clarity - learning is visible. And this has made a difference to the depth of teacher learning as evidenced in the teacher's dialogue and written texts.

Thinking about how I make a difference for my learning.

Thinking about learning and models of learning like SOLO Taxonomy has deepened my understanding of who I am as a teacher and a learner working with students and with teachers across New Zealand and around the world.

I selected "Innovative Learning" because I wanted to see if I could define it. Do I even know what it is? Could I say what it is in a way that was deeper than shouting edu-slogans.

"Innovative" is commonly understood to involve novelty or creating something new that is worthy to the culture it is created in. With respect to SOLO Taxonomy it would be learning at the extended abstract level.

As educators we love adding descriptors to highlight our in-vogue education terminology. I suspect we need to be wary of the need for descriptors - to ask why we need "innovative"

> learning
> /ˈləːnɪŋ/ 🔊
>
> *noun*
>
> the acquisition of knowledge or skills through study, experience, or being taught.

inserted. So I would like to start by rephrasing the challenge and ask instead "**what is learning?**"

John Hattie defines it with more flair.

> *"Learning is spontaneous, individualistic and often earned through effort. It is a timeworn, slow and gradual, fits and starts kind of process, which can have a flow of its own, but requires passion, patience and attention to detail (from the teacher and the student)." John Hattie 2009 p2*

My understanding at its most simple level is that learning is about building on.

When I work with learners I liken learning to building blocks and I use SOLO Taxonomy to identify the gaps between the blocks. Part of those learning blocks are study, experience, and being taught using a variety of strategies. Other components include self effort, other learners, the teacher, whānau and community.

I love my learning tools and digital environments so I have to claim a place for the tools and the type of learning environment in my definition.

Then there is the stuff you cannot see that affects learning - learner attitude, background, language spoken at home.

So where does **innovation** fit into all this?
I believe the conditions for "innovative learning" are most likely to occur when the framework that surrounds the learning makes it visible to students and teachers. For if you cannot clearly see what the learning is - how will you ever know if it is innovative or not.

For me the framework for "innovative" learning is a model of learning called SOLO Taxonomy (Biggs and Collis 1982).

Simply put, SOLO Taxonomy is a model for learning that looks at the structural complexity of learning outcomes as learning progresses from surface to deep to conceptual levels - SOLO - Structure of Observed Learning Outcome. Refer HookED.

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I believe SOLO lies behind the pedagogy that effective teachers bring to learning that makes the greatest difference as has been highlighted by John Hattie, 2003. In particular the part about *'how they will* **organise and structure learning** *in the context of their particular students and their circumstances.'*

Did I make a difference for me?
For this section I focus on changes in my learning when I was designing opportunities to encourage teacher collaboration and prompt deeper learning outcomes in the #EdBookNZ project that is part of Connected Educator Month.

When I listened to Jane Gilbert's [Educating for an Unknown Future](#) podcast I found myself nodding in agreement at some of the ideas raised. I made links between the podcast and what I have witnessed with teachers in the #EdBookNZ learning community.

 In designing the teacher learning community for #EdBookNZ I wondered - to paraphrase Hattie - how to '**organise and structure learning** *in the context of the particular [teacher] participants and their circumstances.'* so that they would engage in cognitively challenging discussions.

My intent was to challenge the teachers to think deeply and in doing so increase the likelihood they would provide opportunities and challenge for their students' learning. Those of you who know me well often hear me say, "*We should focus on the teachers and the learners will benefit.*"

I believe professional conversation should be about how we can do things better. That is what the #edBookNZ collaborative and co constructions project is all about.

Last year the #EdBookNZ project was quite individualised because educators got together and wrote a blog post each debunking current educational jargon. The feedback from the educators was that they had more fun learning when their disruptive friend probed their thinking than they experienced writing the actual product.

When I use SOLO to frame my learning I understood that my design task activity was multistructural because I simply encouraged a list of educators to write down their ideas. Don't get me wrong - the educators themselves are thinking relationally and at extended abstract levels because they are reflecting on their learning and technically we are creating a product. However the activity itself is multistructural from a design perspective because I have created the conditions for simply bringing in ideas - a list of educators reflecting on their learning.

This year I wanted to move the learning design away from bringing in the individual writers and create one to enable linking of ideas - a more collective writing experience or force to create a single piece of work. I wanted to design a space to be more cognitively challenging.

I know that the space was cognitively challenging for teachers because I used SOLO levels as a framework for the set up and prompting the ongoing dialogue needed to stretch their thinking. I did this with prodding questions designed to drive teachers thinking using the SOLO Taxonomy Question Generator . You can view these driving questions under each week's activity in the Google+ community. And I needed reflective questions as prods to help keep that cognitive dialogue momentum going.

The focus of this year's collaborative project is a discussion around the Practicing Teacher's Criteria (PTC) framed with Tataiako. It is a work in progress. The real learning will surface when the teachers reflect about the process they went through. In all cases I made all dialogue visible so that observers could see the '*messy thinking.*' However as a prod, I still had hidden dialogue available through the direct messaging of twitter.

I believe in lowering barriers to participation by simplifying access - to do this I amped up the teacher's learning by asking my prod volunteers to create the artefact for all the discussion. For example I have chosen to use popplet with my team because I just love the way the Describe ++ SOLO maps created by HookED prompt for deeper and conceptual thinking. I intend to use my understanding to guide ours.

Is this innovative? Learning and pedagogy go together. So has designing and sustaining the various and varied collaborative #EdBookNZ learning spaces using SOLO Taxonomy had an impact on my pedagogy? I believe it has.

What has come through strongly in my thinking about "innovative learning" is the need for co-construction using a common language or framework for learning conversations. When I look at all the learning happening in schools using "*Modern Learning Environments"* or "*Innovative Learning Pedagogy",* I look for evidence of co-construction. Are the children collaborating and co-constructing their learning or is the learning still individualised? Are our teachers working across schools or even more challenging across countries, time zones and cultures to co-construct learning? How visible is all this learning?

Conclusion

What am I still wondering about?

I am wondering:

- ❏ if the #EdBookNZ space has been sufficiently cognitively challenging?
- ❏ if I will see a shift in our teacher's pedagogy at Newmarket School who are involved in the Flat Connections Global Project.
- ❏ if you will find new learning in Pam's and mine "awesome as" collaborative book.
- ❏ if the environment I design has encouraged and enabled all voices to be heard?

The last question is the most interesting and ongoing. This year several educators with Maori backgrounds and Pasifika backgrounds have joined the #EdBookNZ

project. I encouraged a rural voice asking educators to look at sustainability from a rural New Zealand perspective and even managed to persuade a student to take time off exam revision to design a provocative cover. These are people whose voices are often not heard in the spaces we design for online dialogue.

We learn more through cognitively challenged dialogue. The most important part of learning is asking for feedback. Those of you who are learning with me please see this piece as a request for ongoing dialogue.

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