Building Learning

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Contents

Acknowledgements

I would like to take this opportunity to formally thank the Ministry of Education for providing principals with sabbaticals. They are a real shot in the arm for many who are weary from the day to day grind of running a school and are very much in need of some time away from the daily pressures of managing staff.

Likewise, my thanks to the Board of Kaikorai Valley College who granted me this time away from school and the confidence they place in those left behind to keep the school running so smoothly.

I also wish to pass on my appreciation to the three schools who opened their doors to me to visit and ask many questions about their curriculum design. I know they must get a lot of visits yet they were incredibly welcoming.

Abstract

I suspect in some secondary schools there might well be conversations held each year about how we might further engage our Year 9 & 10 students and better prepare them with good study habits as they move into the senior school.

This conversation takes on another layer in schools such as ours, whose largest entry point is in Year 7 and by the time these students hit Years 9 & 10 they have been at the school for a couple of years and tend to see this time as a big of a break before the big exams come along.

Some have introduced various graduation or learning programmes that see students working towards a goal or target that will see them walk across a stage at the end of the year with a diploma or certificate of some kind.

Others have tinkered with their curriculum to add new subjects or revitalise the more traditional ones. Then there are those who have taken the brave step of really shaking things up and completely redesigning their timetables and school structures to offer a curriculum that looks very different from the traditional models of the 20 century.

As mentioned above, the main entry point for Kaikorai Valley College (KVC) is Year 7 so by the time students reach Year 9 they have had two years of the core subjects (all be it in a homeroom setting) as well as multiple tasters, modules or electives, where they get to do every subject over a two-year period. As they come into Year 9 they get very much the same menu with the only difference being that the core subjects of English, Mathematics and Social Studies are now delivered by different teachers (rather than one homeroom teacher). Once again they continue with the tasters. In Year 10 they finally get to choose three options yet continue with these core subjects.

One begins to question whether this is the best preparation for NCEA and the world in which they will live.   Are we preparing and providing the opportunities that they need to develop a way of being able to think deeply about issues, solve problems in a creative way using multiple sources of information and communicate in a variety of ways using the ever evolving technologies that the world now uses?

This sabbatical provided the opportunity of visiting three schools that are beginning to explore these questions and have structures in place that are allowing students to function in this way. It also provided the opportunity of rubbing shoulders with educators from other parts of the world at a *Building Learning Communities* conference held each year by *November Learning* in Boston.

Introduction

The remainder of this report is split into two sections:

- School visits – Three schools in the Auckland area were visited. All three were recommended to me by other principal colleagues as leaders in the field of curriculum design and were receptive to visits from other schools. Each school was quite different from the others in terms of size, decile, structure, and the communities in which they were located. Each had taken a slightly different approach, providing a contrast of ideas.

  It was originally my intention to also visit some schools in the states but unfortunately this was not possible as the timing of the conference fell in the middle of the school vacation time.

- Boston Conference – During my time in Boston I was very privileged to attend the *Building Learning Conference* run by *November Learning*. This conference is run annually and hosts speakers and participants from all around the world. In 2019 the keynote speakers were:

  DR. KAREN BRENNAN - *Associate Professor, Harvard Graduate School of Education, Harvard University*

  An Associate Professor at the Harvard Graduate School of Education, Karen directs the Creative Computing Lab. Her research is primarily concerned with the ways in which learning environments can be designed to cultivate young people's creativity and agency as learners and designers: http://scholar.harvard.edu/kbrennan/ and

  SCOTT WOMACK - *French, English, and Journalism Instructor, Cross Country Coach James Monroe High School*

  Scott is a native of Atlanta, Georgia, and retired from the U.S. Army in 2011. He now teaches English, French, and Journalism at James Monroe High School in Lindside, West Virginia. He also coaches the Cross-Country and Debate Teams and serves as the faculty advisor for the Student Government Association, Youth Leadership Association, and Model United Nations.
  Scott's thirty-year military career included diverse assignments as a paratrooper, Armor Officer, Civil Affairs Officer, and Sub-Saharan Africa Foreign Area Officer. Highlights of this service include assignments as an accredited diplomat to eight African countries and a tour teaching French and African Studies at the U.S. Military Academy at West Point. During the latter assignment he also established West Point's Center for Languages, Cultures, and Regional Studies and served as its first Deputy Director.

School Observations

As mentioned in the introduction I visited three schools in the wider Auckland area. All three were incredibly helpful and willing to share, and are each doing interesting things in terms of their curriculum delivery.

Alfriston College – opened in 2004, this decile 2, Year 9 – 13 co-educational secondary school is situated between the South Auckland suburbs of Manurewa, Takanini and Papakura, and along with Botany Downs Secondary College, was the first state secondary school to be built in Auckland in 25 years. It has a school roll of approximately 1100 students.

Hauraki Plains College – is a rural Year 9 – 13 co-educational secondary school situated in the township of Ngatea, central to the Waikato, Tauranga, Auckland and the Coromandel. It has an approximate roll of 700 students and enjoys the benefits of a rural community school. It is a decile 5 school.

Howick College - a decile 8, state co-educational secondary school located in the eastern suburbs of Cockle Bay, Auckland. Howick College is a large Years 9 to 13 school with a roll of 2100 students.

Alfristan College

At Alfriston, the school provides what they call personalised learning opportunities that they believe are "connected, authentic and relevant."

Their staff are dedicated, passionate people, led by a strong team of senior managers and curriculum leaders who really believe in the concept independent learning. The school's curriculum is based around five programmes of learning: Whakapapa (Connection), Ahuatanga (Character), Tu Maia (Confidence) and Maatau (Competence) with the intention of preparing students for the future world in which they will work and live.

In Years 9 & 10 the core learning areas (English, Maths, Science, Social Studies and Health & PE) are delivered through an integrated programme known as Whānau-based Learning, which places priority on the development of learning skills that prepare them for learning in the senior school.

Whānau based learning, delivered by a small, consistent, connected team of learning leaders (called the Learning Team) is a time where students co-construct learning goals and pathways that are used to track and review progress. A significant portion of time is allocated to this whanau based learning (720 minutes per week) and this is not done in a conventional way i.e. hour long periods.

Students are often engaged in telling stories about their learning that are accessible to parents and whānau via the school's *Linc Ed* portal. One can see a real sense of ownership with the students in their learning.

In Year 11, learning is divided into three trimesters, each of 12 weeks. Students are able to select a combination of *project-based* learning classes and *passion* learning classes.

In the *project-based* classes, where there might be up to 50 learners and 2 learning leaders sharing a space, students come up with (guided) a plan for a project which is linked to a "driving" question. The project spans two different curriculum areas where evidence is generated for assessment purposes across multiple achievement standards in these curriculum areas. Where work is of a higher standard, students could be assessed at a higher level if an appropriate and valid assessment is available.

The *passion* classes, which are usually smaller than the project based classes, give students the opportunity to follow a real interest in a particular area of the curriculum. Again, each trimester, students will select three different *passion* classes where they can focus on a deep passion for learning.

A *project-based* or *passion* class may run over more than one trimester giving the student learners more time to build evidence for portfolio assessments.

A similar offering is available in Years 12 and 13 with the addition of *Pathway courses* that are offered in partnership with tertiary providers such as Manukau Institute of Technology, NZMA and Techtorium. In such a scenario Year 12 students spend one day on their course and 4 days at school. In Year 13, students spend three days at school and two days on their course. Both year levels work towards Level 2 and 3 NCEA credits respectively.

Like many other schools, further learning opportunities are available through Gateway placements and STAR courses where credits can be gained towards NCEA.

Hauraki Plains College

As discussed in the abstract (on page 3) some schools have introduced graduation or learning programmes where students in Years 9 and 10 work towards a goal for the end of each year, and this is the case at Hauraki Plains College. In Year 9 this is called the Junior Certificate and in Year 10 a Diploma of Learning

The reasoning behind the Junior Certificate and Diploma of Learning is the endeavor to increase motivation and provide purpose for students whilst developing the key competencies and learning capabilities needed for Years 11 - 13. All students in Years 9 & 10 are required to participate in the Junior Certificate and Diploma of Learning.

All learning areas (or 'hubs') assign assessment activities that contribute to the Junior Certificate or Diploma each term. The assessments have to cover each of the five key competencies found in the front of the NZC. Students are graded against their ability to manage self, relate to others and participate and contribute. These are known as 'learning process grades'. Students are able to gain an Achieved, Merit, Excellence or Not Achieved, much the same as NCEA.

In Years 9 & 10 at Hauraki Plains College, students are organised into six *Learning* Hubs (in some ways similar to essential learning areas found in the NZC):

- English (Includes languages)
- Mathematics and Statistics
- Humanities and Sciences
- Hauora (Health and Physical Education)
- The Arts (Art, Drama, Music, Dance)
- Technologies (Fabrics, Food, Engineering, Wood, Graphics, Design, Electronics, Computing)

Students are also assessed on their skills and knowledge within these areas. Assessment is against NZ Curriculum levels.

To achieve the Junior Certificate and Diploma students must:
- have at least 90% attendance
- have a 90% work completion rate
- be achieving their learning process grades with achieved or more

Howick College

Howick College is a school that has, for many years now, sought to explore new ways of delivering the curriculum in a way that engages students and provides opportunities that prepare them for the world in which they will live. They were one of eight schools selected to be part of the '*Sport in Education*' initiative rolled out by Sport NZ in 2013 and this initiative is still present in the school today.

In 2018 the school introduced the '*Innovation Stream'*, a programme offered in Years 9 & 10.

The *Innovation Stream* is a teaching and learning approach that students are able to apply for when enrolling at the school. It was an initiative created for students who wish to be involved in an integrated approach to based learning using knowledge meaningfully across the core subjects of Mathematics, English, Social Studies and Science.

Due to the size of the school, students are able to apply to be involved in this approach to learning as well as the *Sport in Education* initiative, while others continue with the more traditional approach of individual subjects. This allows the school to have some base line data to compare the *Innovation Stream* to, in terms of student achievement.

The *Innovation Stream* focuses on 6 C's:

- *Character -* Build resilience, empathy, confidence and initiative
- *Citizenship -* Be a global citizen, demonstrating understanding of diverse view points and ways of thinking
- *Communication -* Apply speaking, listening, writing and reading skills in a variety of contexts
- *Collaboration -* Work in teams to learn with and from others
- *Creativity -* Develop abilities to create, design and innovate
- *Critical Thinking -* Develop abilities to seek and solve problems, and model situations that require critical and analytical thinking

It offers four 'new' integrated courses. They still include the same content as the core subjects, however, delivery of this in an integrated approach, where classes are larger and facilitated by more than one teacher. Up to 15 hours per week are dedicated to the following streams:

- *Community Action* – Students are encouraged in moving from ideas to action whilst having a positive impact in the community e.g. entrepreneurism, heath, tourism and more.
- *Creative Design* – here students are designing and creating in a range of ways. Topics could include: architecture, 3-D printing, visual art and more.
- *Problem Solving* – under this heading, students are thinking creatively to solve real problems, as well as modelling situations. Topics in this stream can include: gaming, scientific methods, argumentation and proof and more.

- *Future Studies* – students engage in analyzing big issues that face the world we live in. Topics include: Food in the future world, language, travel in time and space and more.

For the remainder of the time students continue with options subjects as well as Health and PE. The Innovation stream began in Years 9 & 10 and has now been developed into Years 11 and 12 supporting higher levels of literacy and numeracy.

Conference notes

Building Learning Communities Conference Boston 2019

This conference was attended by around 200 educators from all over the USA as well as others from across the world. Below are notes taken from a series of key note speakers and workshops:

Opening Session: Designing for Curiosity, Dr Karen Brennan, Harvard Graduate School

In the introduction of the speaker, participants at the conference were asked how many teachers were using "*scratch*". Many confirmed that they were. Since its release 43 million projects have been shared.

In every classroom there is a natural curiosity amongst students of what other students are doing. In this session we were challenged about the first time we can recall being curious during our school years. Although young people are naturally curious, teachers are essential to draw this curiosity out by creating cultures where this can be cultivated. Teachers also develop creativity, collaboration and contemplation.

Some case studies from the classroom:

Angela: the teacher sets a project for the class expecting it to take a couple of days. After a few hours they come across Angela playing a game and when they question her, she tells them she is 'finished'. *What should the teacher do?* Many suggestions were made, including drafts that should be presented for feedback, peer assessment, scaffolding, etc.

Guillermo: Is a teacher who has just started teaching his first Computer Science class - a Visual Arts based introduction to programming with processing language. He finds the students create self directed projects that become more complicated with an increasing number of questions that sometimes he does not know the answers to. *Responses were sought.* Again several answers including encouraging students to go out a discover the answers in a way that is verifiable, supporting them in seeking the answers. Finding someone with the expertise. This is a great example of demonstrating to students that we will not always have the answers and encouraging them to go out to find them, rather than letting them rest.

The speaker went on to discuss the importance of students feeling empowered in their learning. When designing for student's curiosity it is important to design for your own curiosity. It has to start with you!

Workshop: An educator and parent's perspective on the value of learning from our mistakes, Speaker: Tracey Cox, Principal - Greenbrier Christian Academy

This session started with us being asked to draw our favourite animal. This brought on a sense of discomfort because not many felt they drew well, yet we are asking our students to do this everyday.

Why do students have such a difficult time facing failure? Peer pressure, parent pressure. The speaker recommended a book called the *"The gift of failure".*

Sometimes as educators, or even as parents, we can be too quick to rescue students/children. They do a piece of work and we go over and over it to get it perfect. They forget something and we run it to school. If we see a mistake looming, what do we do?

The speaker suggested, if it is not going to do serious harm, then let it happen. Rather than ask what did you learn today, ask what mistake do you make today? If they get a poor grade, simply ask and explore what happened. *Video:* The Robinsons - Keep moving forward. *"From failing you lean; from success not so much"* Billie Robinson.

It is important to let students make mistakes so they can be learned from, e.g. a science experiment, the PE lesson, the written story, ... The question "is this good enough?" Put the question back to them, "is it, I will not answer that question."

Ask, "what mistake did you make and what can you learn from that?" This can and should form the basis of our formative assessment and conferencing.

"mistakes = information". Tom Edison "I have not failed; I've just found 10,000 ways that it won't work."

Workshop: Evolving Learner, Shifting from traditional PD to personalised Professional Learning, Speaker Lainie Rowell NL consultant.

Given scheduling and budget challenges that come with PLD, significant amounts of time and money can be spent on teaching learning that is not engaging.

Research shows that unless there is ongoing coaching and mentoring there is only a 5% chance of PLD making it into your classroom or teaching practice. The speaker went on to say that research statistics suggest only 18% of teachers have input to their PLD.

> Professional Development = traditional, externally driven, one size fits all, seat time

> Professional Learning = innovative, choice, personalised, deliverables

If we look at the traditional classroom set up, with rows of students and teachers at the front, who works the hardest? If the classrooms were set up in a different way, could this be changed?

Before kindergarten, children ask an average of 300 questions per day but as they get older this rapidly drops off. The speaker suggested that one approach before beginning a new topic that students brainstorm by writing questions about that topic before any teaching begins. No questions are to be judged, as this can shut a student down. The teacher is to avoid saying, "that's a good question" as this can shut the rest of the class down, thinking their questions are not.

In traditional classrooms ownership of learning is 100% teacher driven. Ideally we would like to get to classrooms where the ownership is 100% student driven. However, the teacher does, every now and then, redirect, refocus or guide learners.

Workshop: Classroom Management, what they didn't teach you in college - How to eliminate unruly misbehaviour and get back to instruction. Speaker Sharon Hartrich, National trainer in classroom management.

Teachers on an average lose 5 - 9 hours per week dealing with minor misbehaviour. How much more instruction could be accomplished with these hours available?

Everyone wants a classroom where there are fewer problems and less referrals. Lack of discipline is probably the number one reason for teachers leaving the profession.

Students can be splits into several categories:

- Always - great students
- Sometimes - a mixture of emotions
- Never - very seldom cooperative, suck up most of your time. You are the coach and police officer.

It is sometimes said that teachers have the most difficult job in the world!

Five foundational beliefs:

1. Caring - kids don't care how much you know, until they see how much you care! Contingent and non contingent action.
2. Conflicts are inevitable - conflict is a healthy part of development, a majority of problem behaviour is learned.
3. Students are ready and willing to learn, do you care enough for what is right or wrong. Teach them your expectations even if it takes two weeks. TLC
4. Behaviour can be changed - problem behaviour is captivating by nature, multiple warnings and repeated requests, stop it or .... Gimmicks do not work e.g. 1,2,3 magic.
5. Good discipline is a matter of good timing - teachable moments, correctable moments, every school has teachers who are very good at this.

Management styles

1. Authoratarian - rigid, I'm the boss, students might be a bit fearful
2. Permissive - no guidelines, lenient, non directive, can be chaotic
3. Authoritative - flexible, democratic, structure, standards, assertive, students are engaged and learning
4. Uninvolved - uninterested, passive, absent, neglectful, distant

Self control

1. Diffusers - I understand, probably so, nevertheless, I'm sorry ..... most of these are 'walk aways', others can be push asides where you may ask the student to see you later and ask if there was a different way they could have said that.
2. Conflict is inevitable but combat is optional. E.g. "tapping the desk" - let's have hands free, rather than stop it"
3. Avoiding power struggles - defending credibility, past history, button pushing

Keynote panel, Scott Womack, Elliot Soloway and Cathie Norris, Shayne Zarkesh

Scott brought 5 students from his school to the conference. He asked them, in one sentence, to state what they would like to see in a school, e.g. like to be in a school that puts more emphasis on education rather than sports, a school where teachers differentiate learning, a school that caters for accelerated students, a school that connects with community.

Scott then went on to speak about Durasic Park and how this in some ways symbolises a school, i.e. chaos.

Scott left us with four letters P,P,P,E

Presence - be really present with the students, be in exchange with the students, lock you phone away. Be the same with your colleagues, heart and soul.

Persistence - be actively persistent, don't accept no.

Precision - pick battles you can win, e.g. testing is not going to go away, pick things that are winnable.

Empathy - be empathetic with students, try to understand where they are coming from.

Elliot Soloway and Cathie Norris then both spoke about AI (Artificial Intelligence). The digital transformation of K12 (elementary and high school).

What is the missing piece? - the classroom trinity, pen, paper, and materials that the teachers could use, e.g. text books, and other bits and pieces. So what is missing in the classroom with students, teachers and computers? "The digital curriculum", but one that is actually provided. Teachers are often told to integrate computers into the classroom but are not told how. Individual teachers surf the net for hours seeking digital resources. All of the studies tell us this. 75% of teachers are saying that they do not feel comfortable with using technology in the classroom. There are commercial products out there. Then there is the OER - Open Education Resources (Gooru). This includes 2 million objects, but then how do I find what I find?

They have developed the "Centre for Digital Curriculum". This is completely digital and it is adaptable, designed by teachers. This uses roadmaps. https://roadmaps.centre Is comparable with google.

Shaya Zarkesh - a recent high school graduate (19yrs old). A real maths nerd, competed in international maths competitions at age of 11 years old. He spoke about how so many of our young people find maths boring or uninteresting.

At a young age he was asked to write a book, but felt this would have a small audience. So hje then started to consider the digital platform and hence the creation of **Polyup**.

Shaya then went on to talk about what he would like classroom environment to look like:

> *Pillar 1* - classrooms need to be interactive
> *Pillar 2* - should be self directed, more investment
> *Pillar 3* - should be experimental, without the fear of messing up
> *Pillar 4* - assignments should result in a creation that the student is proud of
> *Pillar 5* - learning environments should be "gamificatied", this will hook them in
> *Pillar 6* - students should show off their creations to other students.

Polyup provides the ability to earn you points that allows you to compete with students all over the world.

Keynote: "Added value of the teacher"   Speaker Alan November conference organiser. This is the 20th year of this conference and Alan is held in very high regard by all those who attend.

When we think of 5G, this will speed up the cell phone by 100 times. The introduction of the driverless car could put 11 million people out of work. The changes that we see coming are massive in comparison to the last 30 years.

The need for content knowledge will go down, as this will be accessible on the web.

However, the need for diagnostic skills will go up. How do people learn, what resources need to be provided, how will learners be organised and facilitated?

The teacher will become the head learner. They will be learning continuously how their students learn.

Alan then introduce Scott Womack (see above)

Scott spoke about his time at WestPoint. The armed services tended to be leaders in technology, as it was a question of life and death. In 2003 the decision was made to invade Iraq. This was a simple exercise as they were trained to do this, yet the resulting politics that ensued, they were not prepared for. The WestPoint academy took note of this and learning has now become much more problem focused. The outside crisis of a war resulted in curriculum change. However, we do not have an outside crisis, so people will not recognise the need to change.

The current curriculum has sometimes been referred to as "spoon feeding". We have the ability to shift things and create problems that we can learn from. The average student spends six hours a day on their cell phones. How could we harness that?

Alan put up on the screen the photo of a drinking cup. The teacher threw this picture at the students and asked them to create *the problem*. One came up with, if the cup was two thirds full and you added 3 ice cubes (size given) would the cup overflow? Then there is the issue of ice displacement. So sometimes students come up with problems that even the teachers struggle to solve. But then there is the internet.

It was not long before students were taking pictures about geometry problems around the school. They were walking around the school with a different mindset. They were encouraged to come up with the problems and this transformed the learning going on in the classroom!

Some companies now, do not select candidates from an interview, but present candidates with a problem they want them to solve. Sometimes they are insolvable, but what the company wants to know is, what steps they went through in trying to solve it. What sources did they go to?

Conclusion

It has been very interesting to see what three schools are doing in terms of providing an engaging curriculum that is providing motivation for students as well as preparing them for the world in which they will live.

Each provided a different context that clearly cannot just be uplifted and implemented in another school but without question there were things to be learned from each.

Each of these schools have been on a journey and it was really interesting to hear their stories, of the things they might do differently and the benefits that they see in their approach.

If schools are considering a change in their curriculum design they are definitely worth a visit. Some of their work is inspiring, and I wish to thank them once again for opening their doors to me.

As a consequence of my visits, several significant changes are planned for 2020 in my school. Further investigation will take place around curriculum design and a timeline put in place that allows staff time to plan carefully and consult with all the key stake holders.