

Growth mindset and its impact on learning and school culture

Since the emergence of Carol Dweck's work on mindsets and as a result of reading her book, *Mindset. The New Psychology of Success*. (2006), I have been interested in whether knowledge about mindsets positively impacts on learning and school culture. My sabbatical goal was to investigate this.

In the interests of brevity, my report will not explain the research on mindsets. However, the following diagram outlines the distinction between Dweck's two mindset categories and the characteristics of each one. I do recommend you read Dweck's book; *Mindset. The New Psychology of Success*. You may also find this powerpoint presentation helpful:

https://www4.esu.edu/academics/enrichment_learning/documents/pdf/developing_growth_mindset.pdf

Fixed v Growth Mindset
Based on the work of Carol Dweck (2006)

Fixed Mindset	Growth Mindset
Intelligence is static.	Intelligence can be developed.
Leads to a desire to <i>look smart</i> and therefore a tendency to	Leads to a desire to <i>learn</i> and therefore a tendency to
• avoid challenges	• embrace challenges
• give up easily due to obstacles	• persist despite obstacles
• see effort as fruitless	• see effort as path to mastery
• ignore useful feedback	• learn from criticism
• be threatened by others' success	• be inspired by others' success

My sabbatical programme

Conference attendance

I attended the Learning and the Brain Conference in San Francisco in February, 2016. The subtitle for the conference was *Shaping student mindsets*, and I set out to "discover how the "Psychology of Mindsets" can help boost academic motivation, persistence and performance and raise student achievement" (taken from the promotional material on the conference).

Standout quotes from the Learning and the Brain Conference:

Carol Dweck

'Growth mindset is not a panacea. It has many ingredients. It can empower students and help them learn'.

'We are a mixture of growth mindset and fixed mindset, but dominant in one. It is like a continuum. Growth mindset is not about proclaiming you have it, but taking the journey to get it and being part of the process'.

'Effort is part of the story but it is not just about effort. It's developing abilities, which requires a lot of scaffolding, help and support'.

'Never praise effort that is not there. It is good to work hard but there needs to be progress'.

'There are too many students under-challenged and without challenge, you don't learn'.

Dr Robert Brooks

'Mindsets play a powerful role in impacting on all aspects of the climate and culture that is created in schools, and when students know they are helping others, it helps to build resilience'.

'We need to spend more time focusing on caring, empathy and interpersonal relationships'.

'Kids don't care what we know until they know we care'.

'Character traits such as self regulation, resilience, grit, optimism, compassion, empathy, respect are even more important than grades in determining school and life successes'.

Dr Jack Naglieri and Kathleen Kryza

'Mindset is a description of the attitudes someone has about their capabilities to perform.'

Metacognition is the awareness, analysis and directing of one's own thinking and developing of strategies (or skill sets) that are achievable'.

'Knowing how to learn is just as important as what you learn'.

'Self-regulation is a skill that is taught; it does not emerge naturally. Self regulated not teacher regulated'.

Dr Robert Marzano

'There are four systems; cognitive, knowledge, meta-cognitive and self-system (our needs, beliefs). There has been too much of a focus on knowledge and content. We need to focus on the meta-cognitive and the self-system'.

Key take-home points for me:

- Mindsets play a powerful role in impacting on all aspects of school culture.
- As teachers we must know our students' and our own mindset.
- Positive student-teacher relationships are crucial.
- We must use the latest neuroscience to explain brain development.
- We have to look beyond the content. Knowing how to learn is as important as what you learn.
- Students need a sense of purpose and also to have opportunities to do something for the greater good.

School visits and interviews

I visited eight secondary schools in Auckland, Tauranga, Dunedin and Alexandra. The types of schools ranged from decile 1a to decile 10, co-educational, single sex and integrated schools.

I chose the schools for a combination of reasons:

- I knew they had focused on growth mindsets as a whole staff or in pockets within the staff **or**
- I had heard there were good things happening in the school **or**
- I was travelling to the area as part of my sabbatical **or**
- A combination of these reasons.

Six of the schools had at least some knowledge of growth mindsets amongst staff and students. Two of the schools had not focused on mindsets. See below for more information about each of the schools.

I was interested to find out that five of the eight schools were Positive Behaviour for Learning (PB4L) schools. The current school where I am Deputy Principal is a PB4L school, and the fact that so many of the schools I visited were the same was a coincidence.

There are so many great things happening in every school every day and it was an absolute privilege to be welcomed, as I was, into the eight schools I visited. In four of the schools I did not know anyone on the staff. It would have been easy for the school to have said no to me visiting and talking to staff and students, so I want to thank them all very much.

Further information about the schools

- School 1: Growth mindset research was introduced to the whole teaching staff as part of their Professional Learning Programme (2014), with the overall goal to develop a growth mindset culture in the school. All teachers focused on an aspect of growth mindset as part of their Teaching as Inquiry. Prior to this the school had appointed Teaching and Learning Coaches, who have been allocated time as part of their teaching load to help teachers. This can involve facilitating Professional Learning Groups, meeting with teachers in small groups or one to one as the need arises, or observing teachers.
Since 2014, the language around growth mindsets has become a common language throughout the school. Strategies such as praising effort when there is progress, the power of YET¹ and teachers having conversations with students using growth mindset language have been successful strategies. In 2016, having a growth mindset culture as a school is an integral part of the school's Annual Plan.
- School 2: One faculty within the school focused on Dweck's work and introduced this to all of their year 9 classes in 2014. A growth versus fixed mindset handout explaining the characteristics of both mindsets was given to all students and referred to during class to increase motivation and resilience. This group of teachers have presented to the whole staff and over time the growth mindset language has permeated throughout the school and is now part of their school culture. Praising effort when there is progress, the power of YET, teachers creating a culture in their classroom that says it is ok to make mistakes and using growth mindset language in every conversation have been the most successful strategies.
- School 3 has a Professional Learning Team and has also appointed Teaching and Learning Coaches, similar to school 1. Following the presentation about growth mindsets and other relevant topics, teachers could choose what to focus on as part of their Teaching as Inquiry (TAI) and those

¹ http://www.ted.com/talks/carol_dweck_the_power_of_believing_that_you_can_improve/transcript?language=en. Just the words "yet" or "not yet," we're finding, give kids greater confidence, give them a path into the future that creates greater persistence. And we can actually change students' mindsets.

teachers with similar TAIs formed a Professional Learning Group. Growth mindset posters were evident in all classrooms.

- Schools 4, 5 and 6 had introduced growth mindsets to the whole staff and teachers could decide whether to focus on this as part of their TAI. These teachers formed a Professional Learning Group. Growth mindset has had traction in pockets of the school. School 5 has a range of growth versus fixed mindset posters up in every classroom, as a reminder for both teachers and students.
- Schools 7 and 8 had not discussed growth mindset.

School interviews

I interviewed students and teachers in all schools I visited.

- I interviewed 74 students in total in the eight schools. (20 in years 9-10, 54 in years 11-13).
- I met with students in small groups for 15-30 minutes per group. The teachers I liaised with selected the students I interviewed.
- I interviewed 27 teachers; some were classroom teachers, some were full time teachers who had a role within the school as a Professional Learning Coach, and some were members of the Senior Leadership Team.

The questions I asked all of the students:

- If you were to advise someone about learning, what would be your top three things that you think are important?
- If you find something hard (you may even feel stuck) what do you do?

Where students had knowledge about growth mindsets, I also asked them:

- Does knowing about mindsets help your learning? Does knowing about growth and fixed mindsets impact school culture?

The questions I asked the teachers who had been part of professional learning focusing on growth mindsets:

- How have you introduced or used growth mindsets?
- What strategies, either whole school or in classrooms have been particularly successful?

What the teachers said

Question: How have you introduced or used growth mindsets?		
Whole staff PLD	<p><i>Through a whole school professional learning focus.</i></p> <p><i>It was a good concept to do as a school. It seemed logical.</i></p> <p><i>Really important having everyone talking about growth mindset.</i></p> <p><i>It permeated through the whole school. It became part of the language and part of school culture.</i></p> <p><i>Realising it starts with ME first.</i></p> <p><i>It needed to be saturation. It was a massive shift for many teachers.</i></p> <p><i>Some of us didn't realise how fixed mindset we were.</i></p> <p><i>It made us realise we have to look for evidence in all students.</i></p> <p><i>Fine to have the theory, but have to apply it to everyday practice.</i></p>	School 1

<p>Moving from faculty to whole staff</p>	<p><i>Mindsets was first discussed by the HOD and Assistant HOD in one faculty, then shared with the other teachers in the faculty. They all thought ‘why not do this’. It seemed like something they all believed in.</i></p> <p><i>All students in year 9 were given a handout explaining both mindsets. If students looked like they were giving up, we would ask them ‘are you stuck or do you have a fixed mindset?’</i></p> <p><i>Through staff meetings, professional learning sessions and informal teacher to teacher conversation, the language of growth mindsets filtered throughout the school. ‘You would struggle to find a teacher in the school who has not been amazed by the difference this had made’.</i></p> <p><i>Anecdotally, we are seeing all students giving up less – both the lower ability and the gifted and talented students.</i></p> <p><i>We have a staff of learners. Willing to learn, change and improve. In conjunction with mindsets, unstreaming (as this school called having no streaming in the school), meant teachers had to differentiate which also meant having to know their students.</i></p>	<p>School 2</p>
<p>Whole staff then continued by some teachers</p>	<p><i>There have been several whole staff professional learning presentations focusing on mindsets. Teachers could then choose whether to focus on mindsets as part of PLD. Several did and these teachers formed a professional learning group (PLG) or similar name.</i></p>	<p>Schools 3, 4, 5, 6.</p>
<p>Teaching and Learning Coaches</p>	<p><i>In two of these schools there were Teaching and Learning Coaches who worked with teachers in varying capacities: individually, in small groups or as part of a Professional Learning Group. This approach was spoken about very highly as not only did it build capacity amongst their own teachers, it also encouraged a Community of Practice.</i></p>	<p>Schools 1 & 3</p>

<p align="center">Question: What strategies worked?</p>		
<p>All teachers involved</p>	<p>For teachers: <i>Growth Mindset had to be a whole staff approach with time allocated to ensure there was saturation. If it was to have traction, it had to start with all teachers coming from a growth mindset position.</i></p>	<p>School 1</p>
<p>Embedded in Teaching as Inquiry Process</p>	<p><i>Growth mindset language underpins the Teaching as Inquiry process. When ‘developing a growth mindset culture’ was introduced as part of PLD (2014), all teachers had a Teaching as Inquiry focus related to how they could use growth mindset language in their teaching. Teachers were in cross-curricular groups with a coach. In 2016, we are working in faculties, still with a coach and the emphasis for our Teaching as Inquiry focus is to test our assumptions and collect student voice. This is to ensure there is ‘stretch’ for all staff and at the same time the language of mindsets remains at the forefront.</i></p>	<p>School 1</p>

Coaches	<i>Having Teaching and Learning Coaches working with small groups of teachers. Teachers observing other teachers.</i>	Schools 1 & 3
Common language	In the classroom <i>It is part of the language in the class. The whole class is exposed to growth mindset. It is helping the class.</i>	Schools 1 & 2
Praise and YET	<i>Focusing on praising effort and also the power of YET (not YET there, as opposed to saying to the student that they hadn't achieved), were two strategies that really helped students' motivation and resilience.</i> <i>Being very careful to praise effort not intelligence. Praising effort, progress or the strategies students are using, and not giving evaluative feedback, for example, 'Well done.' or 'You seemed to do that calculation with no effort.' or 'What an intelligent answer that is'.</i>	Schools 1, 2, 4 & 5
Visual reminders	<i>Posters in every classroom and office. Reminders at staff meetings and through professional learning sessions.</i>	School 5
Teacher modelling using 'think alouds'	<i>Teacher modelling: Using the flipped classroom approach where the teacher videoed herself teaching calculus and put this on the intranet. She used 'think-alouds'³ to show her working through the calculations. This was a lot of work to set up, but more learning happened during class time and this strategy has encouraged self-regulation. It allowed the teacher to work with students one to one or in small groups according to learning needs.</i> <i>This strategy has been shared with all teachers.</i>	School 2
Unconditional positive regard²	<i>Teacher attitude of 'I will respect you no matter what. Each day is a new day'.</i>	School 4
Positive Behaviour for Learning (PB4L)	<i>A common language has developed (or is developing) about expectations for learning and behaviour within the school for staff and students.⁴</i> <i>This has seen improved teacher-student and student-student relationships.</i>	Schools 1, 4, 5, 6, 7
Specifically	<i>One Social Science teacher is working with the counsellor once a week in a year 10 Social Studies class, trialling a programme called 'Metacog' to raise</i>	School 1

² **Unconditional positive regard** (UPR) is a term credited to humanistic psychologist **Carl Rogers** and is used in client-centered therapy. Practicing unconditional positive regard means accepting and respecting others as they are without judgment or evaluation.

³ <http://static1.squarespace.com/static/55d3467ee4b04baeaff5b32b/t/56f35ea286db43ccbd6a44c6/1458790050612/Think+Alouds.pdf>

By verbalizing their inner speech (silent dialogue) as they think their way through a problem, teachers model how expert thinkers solve problems.

⁴ Positive Behaviour For Learning School wide. <http://pb4l.tki.org.nz/PB4L-School-Wide>

<p>teaching metacognition skills</p> <p>Other strategies not specifically about growth mindsets.</p> <p>Teaching and Learning Kete</p> <p>Fortnightly Report</p> <p>Evidence Based Meetings</p>	<p><i>awareness of self and others through focusing on group processes. The aim is to improve relationships in the class. It is helping the motivation of the students as well as the classroom environment and results have improved. The teacher says it has been very worthwhile.</i></p> <p><i>Although not specifically related to growth mindsets, the senior students have a mentor and good tracking processes are used via google sites to encourage all students to drive their own learning. The focus for teachers this year is pulling all of the effective strategies for teaching and learning into a Teaching and Learning Kete.</i></p> <p><i>Fortnightly feedback to students on Respect and Personal Best. (Rubric used to give grade 1-5). There is a culture of form teachers meeting regularly with each student to discuss results and trends that may be developing.</i></p> <p><i>Evidence Based Achievement Meetings (EBAM) were proving to be very successful as a way to identify students at risk of not achieving and then implementing strategies for improvement.</i></p>	<p>School 7</p> <p>School 6</p> <p>School 8</p>
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Analysis of responses

School wide professional learning

Clearly the teachers in schools 1 and 2 had been influenced by the school-wide approach to mindset professional learning. It was heartening to hear them say they had moved from fixed to growth mindset.

They had learnt about and understood the research and they had also had the time to apply the research to themselves and their teaching and make the mindset shift.

For many teachers in these schools, learning about growth mindsets has been illuminating for them, because it made them realise they were of the fixed mindset and they had to make a very real effort to shift to having a growth mindset. These teachers said they have never looked back.

The importance of a common language for learning conversations

The focus on growth mindset as a whole staff meant a common language was developed, in the same way the PB4L schools also developed a common language through the development of their matrix which outlines the expectations for learning and behaviour. Teachers in the schools where teachers had knowledge of mindsets and were also a PB4L school, they said there was a clear alignment between the two, and it was great to have common language to use across the school, as there was consistency when having learning conversations.

Positive impact of growth mindset on teaching practice

It was wonderful to hear teachers in all schools who had learnt about and applied their growth mindset learning to their teaching practice say how this has positively impacted on their practice and the way they now relate to ALL students.

Teaching and Learning coaches

Having coaches as an integral part of the professional learning model in schools 1 and 3 has been very successful, as it encourages a Community of Practice or a Learning Community.

Teaching as Inquiry process

Using growth mindset language to underpin the Teaching as Inquiry process, as in school 1, has helped to keep the language foremost in all teachers' minds. Emphasising the step in the TAI process for teachers to test their assumptions, as well as including student voice as part of the process, has added depth to the inquiry cycle for all teachers.

Successful strategies

The importance of praising effort when there is progress,⁵ and not intelligence, was a common strategy used by teachers in schools where growth mindset was used either whole school or in pockets of the school, as was the use of 'not there YET'.

Tracking and communication:

Good tracking processes and communication between the student, teacher and the whānau are proving to help student motivation and improve achievement.

What the students said

Talking to the students was so uplifting because it reinforced for me how important student voice is and how much they have to offer in terms of helping us, as teachers, make learning work. Here are some comments that show they do understand us and that we are all in this together:

'We know how difficult the job of teaching is'.

'We really understand what it must be like to teach 30 different students in one class, so we understand if the teacher doesn't get it right or do amazing lessons every day'.

'The students have to adapt to the teacher's style as well'.

The students all talked about intrinsic strategies to help them with their learning. Some examples are:

- stay on task
- work hard
- read over our work
- write notes into our own words
- listen
- be organised

⁵ Dweck's Keynote address Learning and The Brain Conference (2016). 'Never praise effort that is not there. It is good to work hard but their needs to be progress'.

- revise
- don't give up.

Below is a collation of responses to questions.

Question:		
If you were to advise someone about learning, what would be the top three things you would say are important?		
<p>The importance of student and teacher relationship</p>	<p><i>The teacher needs to know you.</i></p> <p><i>The relationship with the teacher.</i></p> <p><i>The teacher needs to know how you learn.</i></p> <p><i>The teacher has to be passionate about what they are teaching.</i></p> <p><i>The teacher gives you support and ensures you feel safe and comfortable sharing ideas.</i></p> <p><i>Teacher support is needed to develop confidence.</i></p> <p><i>Feedback from the teacher that focuses on how to improve.</i></p>	All students
<p>Opportunity to self-regulate</p>	<p><i>Set meaningful goals and monitoring them helped motivation. The goals have to matter. Not just written down.</i></p>	
<p>Students knowing how they learn</p>	<p><i>We know how we learn. This helps us to understand that others sometimes 'get something' more quickly than us because they learn in a different way. This helps our confidence because we know it is ok. Knowing how we learn also helps us know how to study and therefore we use our time more effectively.</i></p>	
Practice that helps learning		
<p>Teachers know you as a learner</p>	<p><i>They know you. They know how you learn.</i></p> <p><i>They give you advice, motivate you, make you excited to go to class.</i></p>	All students
<p>Teacher passion</p>	<p><i>They have passion for their subject and their teaching.</i></p>	
<p>They use a variety of teaching methods</p>	<p><i>They change how they teach because they understand we learn in different ways.</i></p> <p><i>There is a two-way relationship.</i></p> <p><i>We work harder when our teacher knows us. It improves the atmosphere in the classroom and it motivates us.</i></p> <p><i>They have specialist knowledge.</i></p>	
Practice that does not help learning		
<p>Negative impact</p>	<p><i>We know some of our teachers have a fixed mindset about us.</i></p>	Schools

of teachers having a fixed mindset	<i>A fixed mindset teacher means I have a fixed mindset in class. It is hard to have a growth mindset in these classes. Almost give up. Disheartening.</i>	1, 3, 4 School 1
Unsafe learning environment	<i>We are scared to answer a question because of the reaction of either the teacher or other students.</i>	Schools 1, 3, 4, 5, 8
Fixed mindset of teacher	<i>The teacher uses one way to teach all the time. They get cross if we don't understand because they think we are not trying, but we need to learn it another way.</i>	Schools 1, 3, 4, 7

Question:		
When you are completing something that is hard – you might even feel a bit stuck – what do you do?		
Perseverance	<i>Ask a friend. Ask the teacher. Ask 3 before me. Get the teacher to re-explain. Find other strategies. Be proactive. Google it. Go over it at home.</i>	All students
Visual reminders	<i>Refer to the growth mindset posters. These are good reminders for us.</i>	Schools 1 & 5
The issue of workload	<i>In years 12 & 13 the workload is so great, that if something is hard and is going to require a lot of effort, we weigh up whether to put in the time to get a better grade or to settle for achieved and move on to work due in another subject.</i>	Schools 1, 3, 4 & 5

Question:		
(For students in schools familiar with the growth mindset term). Does knowing about growth and fixed mindsets help your learning?		
Positive impact on learning	<i>Yes. It is good to know about both fixed and growth mindsets. Once you do, you don't want to be fixed mindset because it is so limiting.</i>	Schools 1, 2, 3,

Continued presence needed	<i>There needs to be a presence all the time. Not forced. When teachers were focusing on this as a whole staff, we heard about it from all teachers. It is still there, but all teachers need to keep using it.</i>	4, 5 School 1
Visual reminders	<i>Having posters in the classrooms helps. It is a reminder. If work is getting hard, I know that giving up is not an option.</i>	Schools 1, 2, 3

Question: (For students in schools familiar with the growth mindset term). Does knowing about growth and fixed mindsets impact on school culture?		
It makes a difference	<i>It has positively impacted our school culture, but everyone needs to keep using the language.</i> <i>The awareness of growth and fixed mindset makes a difference.</i> <i>There is more personalised teaching since growth mindsets were introduced.</i>	Schools 1 & 2
A trusting and safe environment	<i>'At the beginning of the year, the tone is set that it's ok to make mistakes. If that wasn't done, there wouldn't be the safe environment to make mistakes.</i>	School 2
Common language	<i>If there is a common language used by all teachers and students, it makes it easier for everyone to work hard. The students who think it is not cool to work hard as well as those of us who are striving to achieve challenging goals.</i> <i>There needs to be a presence all the time. Not forced. When teachers were focusing on this as a whole staff, we heard about it from all teachers and it really helped. It is still there, but all teachers need to keep using it. This language has to be present all the time and be part of the school culture.</i>	School 1
A holistic environment for learning	<i>Even if the teacher is not directly working with me, the way they are interacting with students to help them learn and keep improving is encouraging. Also we are not just learning for the standard but learning for knowledge and capability.</i>	

Analysis of responses

Teacher and student relationship

Students in all of the schools talked about the importance of the relationship with the teacher and how this

helps their motivation and engagement. The common factor emerging was the importance of teachers knowing their students and caring about their learning, and also being passionate about their teaching.⁶

Positive learning culture

Students in all of the schools talked about teachers who created a positive culture for learning. The students could all articulate what their best teachers did and why this mattered. These things made a difference. Students were more motivated and engaged in these classes.

Knowledge of their mindset

Knowing about growth mindsets meant students had a common language they could use with teachers to talk about their learning.

Motivation

Students in all schools talked about their intrinsic motivation as being important for their learning. There was a high correlation between the relationship the student had with the teacher, teacher passion for their subject and the intrinsic motivation of the student.

Self-regulation

Most students talked about the importance of goal setting. They said, 'Our goals need to be important ones, not just written down for the sake of it'. Toshalis and Nakkula in their paper *Motivation, engagement and student voice* say that 'self-regulated learners plan, set goals, organize, self monitor' and that 'self-regulation is among the more teachable skill sets'.^{7 8}

Clarity in their learning

Students spoke more positively about their learning if they were clear what they were learning and why they were learning it.⁹

Learning styles and learning how to learn

I was surprised by the number of students who said knowing about their learning styles helped them with their learning, as the research says there is very little evidence that this impacts learning.¹⁰ The students felt it helped them to understand themselves as learners, as well as helped them know their peers. I think what the students were saying is that learning styles is part of their understanding about how they learn and therefore, for me, if learning styles is one way to increase engagement, then it makes sense to use this and plan our lessons accordingly, giving students choice in how they connect with the learning in our class.

⁶ Absolum, M. (2006). *Clarity in the classroom*. Learning Focused Relationships. Pg 28.

⁷ Toshakis, E., Nakkula, M. (2012). *Motivation, engagement and student voice*.

⁸ Hattie, J. (2009). *Visible Learning*. 'Student motivation is at its highest when they are competent, have sufficient autonomy, set worthwhile goals, get feedback and are affirmed by others'. (pg 48).

⁹ Absolum, M. (2006). *Clarity in the classroom*. Pg 76.

¹⁰ Hattie, J. (2009). *Visible Learning*. Pg 199.

What else did students want?

Students wanted more choice about who they collaborated with, and as well as this, the opportunity to have more control over their learning. They talked about being bored in some classes, or not being clear about what they were learning and how it was all fitting together. For some students there wasn't enough challenge and they felt the teacher was always teaching to the middle of the class. Others talked about being frustrated at losing learning time because of other students, or too much teacher talk and not enough doing.

They don't want us to let go of the reins, but I did get a clear feeling that they want us to put more trust in them as learners, in a more co-constructed environment.

Overall

After interviewing the students in each of the schools I visited, I felt a sense of pride about how interested they were in talking about their learning. They wanted to be seen as learners. I heard loud and clear that the relationship with the teacher was crucial as was the learning environment and their desire to be challenged in learning that is relevant and has clarity for them.

These student responses have made me want to look at how we could do things differently. There are many constraints that every school is balancing – between engagement and achievement. However, it is worth asking the question.

The OECD 7 Principles of Learning

For me the students were talking about the big picture of learning, and how it is for them in our classes, and this discourse led me to the OECDs 7 Principles of Learning. I have attempted to align what our students are saying about 'what helps them learn' by dividing their responses into two columns - positives and gaps.

Linking what the students said with the OECD 7 Principles of Learning

The 7 Principles of Learning (OECD)	The positives from the students	Gaps
<p>1. Learners at the centre Students construct their learning through active engagement.</p> <p>Mix of pedagogies.</p> <p>The environment aims to develop self-regulated learners who develop metacognitive skills, regulate their emotions and motivations, manage their time well and set and monitor</p>	<p>We like it when our teacher mixes up how they teach.</p> <p>We know we all learn differently.</p> <p>There is an atmosphere of care and support in the classroom.</p> <p>A growth mindset helps us with our learning. It is good when teachers say 'are you really stuck or are do you just have a fixed mindset'?</p> <p>Our goals need to be important ones, not just written down for the</p>	<p>Sometimes the teacher teaches to the middle of the class and it is either too easy or too hard for a lot of us.</p> <p>The teacher teaches too fast.</p> <p>There are too many gaps and it is easy to give up.</p>

specific goals.	sake of it.	
<p>2. The social nature of learning</p> <p>We learn through social interaction and the organization of learning should be highly social. Personal research and self-study are naturally important.</p>	<p>We ask our friends if we are stuck.</p> <p>We like it when teachers mix up how they teach.</p> <p>We learn from each other.</p>	<p>There are teachers who just lecture or we all just copy the same notes in class.</p>
<p>3. Emotions are integral to learning</p> <p>Learning results from the dynamic interplay of emotion, motivation and cognition. Positive beliefs of oneself as a learner are essential. Learning should be first and foremost effective but also enjoyable.</p>	<p>Feeling safe and comfortable in class is important.</p> <p>We like working with peers we can trust.</p> <p>We look forward to this class.</p>	<p>We are sometimes afraid to ask or answer questions because of the reaction of the teacher or fellow students.</p>
<p>4. Recognising individual differences</p> <p>One size does not fit all. The learning environment is acutely sensitive to the individual differences among the learners in it, including their prior knowledge.</p>	<p>We know when the teacher cares about us and knows us as a learner.</p>	<p>Some teachers don't know us. We know the ones who don't really care about the class or about us individually.</p>
<p>5. Stretching all students</p> <p>There is challenge in the work for students without excessive overload. High achieving students can help lower-achieving students.</p>	<p>We get good feedback.</p> <p>We feel confident about our learning.</p>	<p>The teachers often teach to the middle.</p> <p>Teachers think we are not trying or not listening but they are teaching too fast or we need it explained another way or time to discuss with a friend.</p>
<p>6. Assessment for learning</p> <p>The learning environment needs to be very clear about what is expected, what learners are doing and why. Otherwise motivation decreases. Formative assessment should be substantive, regular and provide meaningful feedback.</p>	<p>We like it when there is clear direction with our learning.</p> <p>We know when the teacher is passionate about their teaching and makes the learning relevant to our lives.</p>	<p>Sometimes we are just learning stuff and the teacher doesn't give us an overview. When we finish the unit, we see how it connects. That would have been good at the start of the unit.</p>
<p>7. Building horizontal connections is a critical competency in the 21st century.</p>	<p>Two students talked positively about how the learning in two of their subjects, Dance and Textiles</p>	<p>Students were focusing on passing individual subjects and not thinking interdisciplinary.</p>

The ability of the learners to see 'horizontal connections' helps foster deeper learning.	Technology, worked together to reduce assessment pressure.	Students couldn't see how this would work in our current system.
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In the schools where students talked about not pushing themselves when the work got hard and deciding to complete work in other subjects, I asked them whether they thought there could be more cross-curricular or interdisciplinary teaching and assessment, in relation to number 7 above. The students quite clearly could not see how this would work. Anecdotally, I know there are good examples of this happening in some schools, but my understanding is that it is not common. Could we be doing more of this?

Do some of the answers lie in the New Zealand Curriculum? ¹¹

Having spent time reflecting on what the students and teachers have said, and pondering how all schools can:

- Build a culture where the students are engaged in learning which is relevant, challenging and engaging.
- Ensure students have the confidence to make mistakes and be challenged.

I have found myself delving into the New Zealand Curriculum with fresh eyes. I think many of the answers lie in this document.

The students I talked to have enlivened the front part of the NZC again for me. Reflecting on their responses has illustrated that 'the front' (a fond description of the first half of the NZC), needs to be evident in all our classes with all of our teachers. The Vision, Principles, Values and Key Competencies.

'The front' helps 'the back' come alive. I think we can be guilty of saying 'we do this already'. One way to have a fresh look at this is through a future focused lens.

Hipkins et al in the book *Key Competencies for the future* address the big questions:

'What will today's students need to be capable of doing and being in their lives beyond school' (p 17)

'How is today's learning, in whatever learning area, helping young people look to their personal futures – to be and become the people they are capable of being? (p 20).

The front part of the curriculum was always supposed to connect with the back in real and meaningful ways. I think our students want more connection between the content and developing their capabilities and preparing them for the future. The pressure of meeting assessment deadlines is certainly a constraint for teachers, but we need to listen to student voice to help us with our decision-making in this area.

David Perkins in his book *'Future wise - educating our children for a changing world'* talks about the 'uppity question' asked by the student in the back row of your class - 'Why are we learning this'? As he says this is a

¹¹ New Zealand Curriculum (2007).

very worthwhile question and one we need to be able to answer if we are to ensure what we are teaching is meeting the needs of our students. He says:

‘What is conventionally taught may not develop the kinds of citizens, workers, family and community members we want and need. The familiar disciplines in their traditional versions, sitting in silos, constrained by regional perspectives, and taught to all comers purely for academic understanding aren’t enough. The universe of what’s seen as worth learning is expanding’.

He asks, *‘What kinds of teaching and learning make understandings lifeworthy?’*¹²

Perkins talks throughout the book about having an interdisciplinary approach. He uses a hierarchy model and a networking model to illustrate how this might look in a school.¹³ This brings to the fore the importance of each learning area being clear about what learning looks like in their subject.

These comments made me think about the students who were bored in class, where the teacher taught to the middle, where the students couldn’t connect the learning to other learning or to the real world. I am not saying it is wholesale change, but it does raise the importance of ‘future focused’ conversations about what we are teaching and why, and what the students are actually learning and why.

Below are some questions I think are timely to be asking ourselves:

- Are we clear in our subject area/learning area, what is the purpose of learning? If we are going to teach interdisciplinary, each discipline needs a strong vision of what we want students to learn and why it matters.¹⁴
- How are we integrating the Key Competencies into our daily teaching? The Key Competencies are the ‘Capabilities for living and lifelong learning’. They need to be used in combination with each other, not as separate entities.

Building connections with the New Zealand Curriculum

Aligning some of the student comments with the NZC statements, I could have included so much more in the table below, but it is my attempt to demonstrate the NZC is a great place to start.

New Zealand Curriculum		Student comments
Vision	Confident	<i>Knowing about mindsets gives us belief in ourselves and confidence in our ability.</i>
	Connected	<i>Knowing we can grow our intelligence through hard work is cool.</i>
	Actively involved.	<i>We like working with others when there is an environment of trust.</i>
		<i>Mix-up the teaching strategies, otherwise it is boring.</i>

¹² Perkins, D. *Future Wise*. Lifeworthy – that is - likely to matter in the lives learners are likely to live. Students want to feel that what they are learning today is knowledge for the future. Pg 8.

¹³ Perkins, D. *Future Wise*. *Educating our children for a changing world*. Pg 41.

¹⁴ New Zealand Curriculum, pgs 16-33.

	Lifelong learners	<p><i>More doing than talking.</i></p> <p><i>Support us to push ourselves and love learning.</i></p>
Principles	<p>High expectations</p> <p>Learning to learn</p> <p>Inclusion</p> <p>Future Focus</p>	<p><i>Don't teach to the middle. We need challenge.</i></p> <p><i>Belief in us.</i></p> <p><i>Knowing about learning styles helps me to understand how I learn and it especially helps me with studying and as a result I use my time more effectively. Teachers gave us strategies to use depending on our learning styles.</i></p> <p><i>We learn best if teachers are passionate and not just teaching to the assessment.</i></p> <p><i>We know when the teacher cares about us and knows us as a learner.</i></p> <p><i>Connect the teaching to the real world. There needs to be relevance.</i></p>
Values	<p>Excellence</p> <p>Curiosity</p>	<p><i>We don't want to give up. This is much easier if the teacher cares and works with us.</i></p> <p><i>Being curious about what I am learning means I want to find out more and talk to my friends about it.</i></p>
Key Competencies. <i>Capabilities for living and lifelong learning</i>	<p>Managing Self</p> <p>Relating to others</p> <p>Participating & Contributing</p> <p>Thinking</p>	<p><i>It helps us when teachers work with us to set and monitor our goals.</i></p> <p><i>A positive relationship with my teacher means I am more self-motivated and more resilient.</i></p> <p><i>We need teachers working with us to develop our capabilities and give us strategies to meet challenges.</i></p> <p><i>We need an environment where it is ok to ask questions and make mistakes.</i></p> <p><i>Students want to be made to think. To be challenged, not swamped.</i></p>

Next thinking / Where to from here?

Twelve key messages have stood out for me:

- Growth mindset knowledge is one of the ingredients for learning success.
- Whole staff professional learning was key to building a growth mindset culture.
- Developing a common language helped to build a learning culture.
- Students having a common language to talk about their learning helps them to process their

learning experiences.

- Teachers have to come from a growth mindset position.
- Positive relationships between the teacher and the student are essential.
- Teachers seeing all students as learners and believing in each student is crucial.
- A safe environment where it is ok to make mistakes is essential. Students have to feel safe to have a go and make a mistake. This builds their confidence as learners.
- The importance of teacher passion.
- The learning must have relevance, challenge and clarity to engage and motivate the students.
- Before we can really embrace interdisciplinary teaching and learning, we must be clear about what learning is important in our learning area.
- Are we using The New Zealand Curriculum as part of future-focused planning conversations?

Conclusion

I hope my report has provided food for thought. I also hope I have successfully used both teacher and student voice to illustrate the impact a growth mindset has on learning and school culture – both for the teacher and the student.

It is key that all staff are involved in the learning, and time is set aside for collaboration. If so, a common language around learning develops and changes culture. If we want to see schools with a growth mindset culture and students who are confident and self-regulating, there must be a whole school approach not just something that happens in pockets within a school.

Through my interviews and meetings with students, teachers and other educators, my sabbatical has taken me from Carol Dweck's research on growth mindsets and the impact on school culture to looking at the big picture of what we teach and why? Learning about growth mindset undoubtedly made a difference for both teachers and students. As Dweck said at the Learning and the Brain Conference: *'Growth mindset is not a panacea'*. However, it provides valuable knowledge to enable an understanding about how learning happens.

The students familiar with growth mindsets have said knowledge about mindsets is important as it gave them belief in their ability. They could also articulate there were many other ingredients in the mix to help them learn. Some of these were: the passion of the teacher, the teacher's belief in the student, the teacher and student relationship, the relevance, challenge and clarity of the learning. When all of these things are present, students say, *'We will never miss this teacher's class'*. For them the teacher cares and that matters.

I always knew there wasn't going to be a simple answer to my sabbatical goal, but having the time to talk, read, learn and write has been a fabulous learning opportunity.

Thank you to the Ministry of Education and to the Auckland Girls' Grammar School Board for their support to make this possible.

Below are resources which could be used to help teachers with further development in their school.

Guy Claxton explains what we need to do as teachers to get students more interested in difficulty and to stretch themselves.

<http://nzcurriculum.tki.org.nz/Curriculum-stories/Media-gallery/Learning-to-learn/Learning-to-learn>

Michael Absolum explains that when the students know how to learn, the role of the teacher changes from teaching, to leading the learning. Students in these classes are more self-confident and self-regulating. They see themselves in partnership with the teacher and their peers.

<http://nzcurriculum.tki.org.nz/Curriculum-stories/Media-gallery/Learning-to-learn/What-is-learning-to-learn>

Kathleen Kryza explains that if we are to raise students who are empowered, responsible and accountable for themselves, teaching them about executive functioning is essential.

<https://www.youtube.com/watch?v=6s2VM6PshIM>

Formative assessment. Students have said the relationship with the teacher is crucial for their learning as is being actively involved in their learning. The Archway for Teaching and Learning provides an excellent framework.

<http://assessment.tki.org.nz/Assessment-in-the-classroom/Assessment-for-learning-in-practice>

Use the link below to access both the Resources and Inspiration sections of the Learning to Learn pages on the NZC website. There are excellent resources ranging from a video clip on how our brain works, to seeing the key competencies in action in Audri Rube's Monster Trap video.

<http://nzcurriculum.tki.org.nz/Principles/Learning-to-learn/Resources>

The link below about Universal Design for Learning is a helpful tool for teachers to help create a more inclusive, flexible environment to optimise their teaching and where barriers to learning are minimised.

<http://inclusive.tki.org.nz/guides/universal-design-for-learning/>

***The Age of Opportunity (2014).* Laurence Steinberg**

Zero to three years of age is a time when children's experiences make a major, lasting difference in how their brains develop. Adolescence is the second period of heightened malleability. (pg 9)

'If we expose our young people to positive, supportive environments, they will flourish'.

'We need to teach our adolescents how to thrive not just survive'.

<https://ww2.kqed.org/mindshift/2015/12/21/harnessing-the-incredible-learning-potential-of-the-adolescent-brain/>

Part of the reason school is so boring for teens is that it doesn't challenge them and they're bored. When we are not challenging our kids in high school, not only are we hindering their academic development, but we also aren't taking advantage of the plastic prefrontal cortex. The prefrontal cortex is strengthened by challenge and novelty.

This is when we want them to be challenged and pushed because this is when we can develop advanced thinking, as well as self-regulation.

References

- Absolum, M. What is learning to learn? (Video file).
Retrieved from <http://nzcurriculum.tki.org.nz/Curriculum-stories/Media-gallery/Learning-to-learn/What-is-learning-to-learn>
- Bolstad, R., Gilbert, J., McDowall, S., Bull, A., Boyd, S., Hipkins, R. (2015).
Supporting future-oriented learning and teaching: A New Zealand perspective. NZCER report for the Ministry of Education.
- Bolstad, R. (2011). *Taking a 'future focus' in education – what does this mean?*
An NZCER working paper from the Future-Focused Issues in Education (FFI) project.
- Bonne, L. (2016). *New Zealand Students' Mathematics – Related Beliefs and Attitudes: Recent Evidence*.
New Zealand Journal of Educational Studies.
- Claxton, G. Learning to Learn. (Video file). Retrieved from:
<http://nzcurriculum.tki.org.nz/Curriculum-stories/Media-gallery/Learning-to-learn/Learning-to-learn>
- Dumont, H., Istance, D., Benavides, F. (2012).
The Nature of Learning; using research to inspire practice. OECD.
- Dweck, C. (2006). *Mindset. The new psychology of success*. (USA).
- Hattie, J. (2009). *Visible learning : a synthesis of over 800 meta-analyses relating to achievement*.
- Hattie, J., Yates, G. (2013). *Visible Learning and the Science of How We Learn*.
- Hipkins, R. (2015). *Different ways of thinking about learning*. NZCER.
- Hipkins, R., Bolstad, R., Boyd, S., McDowall, S. (2014). *Key Competencies for the Future*. (NZ).
- Kecskemeti, M., Winslade, J. (2016). *Better classroom relationships*. (NZ).
- Learning and the Brain Conference. San Francisco. 2016.
Shaping student mindsets: Promoting academic attitudes, persistence and performance.
- Perkins, D. (20). *Future Wise. Educating our children for a changing world*.
- Ricci, M C. (2013). *Mindsets in the Classroom*.
Building a culture of success and student achievement in schools. (USA).
- Steinberg, L. (2014). *Age of opportunity*. Lessons from the new science of adolescence. USA.
- Toshalis, E., Nakkula, J. (2012). *Motivation, engagement and student voice*.
The Students at the Centre series. (USA).