Sabbatical Report – Peter Simpson

Inquiry Focus – Does digital learning create engagement and enhance learning and what are the implications for principals and schools around this, and in particular the achievement of priority learners.

A Priority Learner is defined as well below or below for one or more of the National Standards.

The idea to apply for a MOE Sabbatical came as a result of our school's involvement with two projects during 2013/14. The first one was a Teaching and Learning Research Initiative (TLRI) entitled "Extending Innovative Leadership To Enable E-Learning for Better Student Outcomes in Primary Schools." The project involved a group of principals partnering as co-researchers with a research team from the University of Canterbury to collaboratively research a case study of digital leadership at Tawa Intermediate and to contextualise their findings within our own school.

N.B The full report from this TLRI project can be found in the March 2015 New Zealand Principal magazine put out by the New Zealand Principals Federation.

The second project our school was involved with over the same two years was the MOE/NZPF and Te Akatea Maori Achievement project (MAC). As part of the research required for both projects I decided to combine them around a group of children, who were priority learners, in one class, some of whom were Maori children. The concept was to give these children full access to a digital device (Chrome Book) to support their learning and monitor their engagement and progress. The concept was explained to the class and they were in total support of the plan and understood why a small group of children had a device all the time. The outcome exceeded our expectations with initially the engagement of the children towards their work, their improved behaviour and their progress academically. All the children made significant progress with two of the seven children moving up two years in their reading ages, all the others raised their ages by one year. The time frame for the project was from term 2-4.

This was the launching pad for the research as part of my sabbatical. In discussion with the school's ICT lead teacher and one other teacher we

decided to run the same project across two classes with the following two changes;

1. We would use I-Pads as the device and this would allow applications to be down loaded that would be more specific in attempting to meet the learner's needs. This move required the purchase of some 12 I-Pads which required the support of the BOT however given that our Charter goals were around our priority learners and the possible impact that this study might have everyone was in agreement.
2. Any writing assessment would be done using the device, not paper and pen as we had done in 2014.
3. The work done would be able to be accessed by parents.

Both teachers also agreed that this project would be part of their Teaching as Inquiry for the year. As a school we also made the move to Google doc format for both written documents and for sharing pupil work.

The two classes involved were a Yr 3/4 (Class 1) and a Yr 5/6 (Class 2). The children to be involved in the project were identified during term 1 from their assessment data and the devices were presented to the children and the project was explained to both classes by me. Once again the response from the other children was very positive. Our thinking around this response was that the children involved in the project were usually the disruptive ones in the class and the other children knew this and what had emerged from the previous year was that their disruptive behaviour has decreased.

In class 1 six children were involved and in class 2 ten children were involved.

Class 1 Data.

	Reading/Writing/Maths/ Term 1	Reading/Writing/Maths Term 4
Child A	L.12 / 1P / Stage 3	L.20 / 2B / Stage 5
Child B	L. 12 / 1P / Stage 4	L.20 / 1A / Stage 5
Child C	L.12 / 1 B / Stage 2/3	L. 20 / 2B / Stage 4
Child D	L.16 / 1 P / Stage 4	L. 23 / 2P / Stage 5
Child E	L.16 / 1P / Stage 3	L.23 / 2P / Stage 5
Child F	L.16 / 1 P / Stage 3	L.23 / 2B / Stage 5

Spelling Age - Term 1   Term 4

All 6 children were below 6.5 years   Child A - 7.3 yrs

                                                               Child B – 7.2 yrs

                                                               Child C – 7.9 yrs

                                                               Child D – 7.8 yrs

                                                               Child E – 8.4 yrs

                                                               Child F – 8.0 yrs

As can be easily seen all the children have made significant progress across all the curriculum areas.

Class 2 Data for iPad/chrome Target Group

Pre data (Term 1 2015)					
Name	Device	Writing Level	Spelling Age	Reading Age	Maths Stage
Child 1	iPad	1iii	6.4-6.9	8.0	6
Child 2	iPad	2	8.2-9	8.0	5
Child 3	iPad	1iii	6.3-6.8	8.5	5
Child 4	iPad	1ii	6.4-6.9	6.5-7	5
Child 5	iPad	2	8.4-9.2	10.5-11	6
Child 6	chrome	2	9.2-10.2	11-12	6
Child 7	chrome	2	8.6-9.5	11-12	6
Child 8	chrome	2	8-8.9	10.5-11	5
Child 9	chrome	2	9-10	11.5-12.5	6

Post data (Term 4 2015)					
Name	Device	Writing Level	Spelling Age (on paper)	Reading Age	Maths Stage
Child 1	iPad	2	6.7-7.2	9.5-10	7
Child 2	iPad	3	9.7-10.7	12-13	7
Child 3	iPad	2	6.4-6.9	9.5-10	6
Child 4	iPad	1iii	6.5-7.1	8.0-8.5	6
Child 5	iPad	3	8.6-9.5	12-13	6
Child 6	chrome	3	9.5-10.5	12-13	7
Child 7	chrome	3	8.6-9.5	11.5-12.5	6
Child 8	chrome	3	9.2-10.2	10-11.5	6
Child 9	chrome	3	9.7-10.7	12.5-13.5	7

Once again it is easy to see that the children have made significant progress remembering that these children have been identified as priority learners.

2015 Class 2 Feedback for using Ipads

Child 1

"I found working on the iPads was fun because you had something to work towards on Reading Eggs and it was easier to write on the Ipads and do my writing and spelling on it. It was easier on the iPad because it helps you to know how to write the words. Sometimes, when I got stuck on a word, I could speak into it and it would predict my word or I could spell the first 3 letters and it would spell the word for me. It was faster to write on the iPad and I could write more in 10 minutes compared to on paper."

Child 4

"Ipads were fun, interesting and it's much easier to write. It's like a little book which I can read on using the Reading Eggs Library. It helped me write because it's more fun to type

and when I get stuck on a word it pops up for me. I could play my writing back using headphones to check my story and add words to make it make sense. I liked using the Ipad checklist for Reading because it was interesting. You can use technology for reading, so if you lose your reading book, it's always there."

Child 5

"I found the Ipads fun to work on because it's not as hard to type as on a Chrome because the keyboard is easy to type on and the screen is a good size. It's easier to type on because it predicts words and you can speak into it. I also like that I could search the internet to find facts. I think it made my writing better this year."

Child 2

"Having my own iPad was really cool to write on as it's really easy to write on and it will help me in the future when I use technology. I did the typing course with Karen and so now I'm really fast at typing on a device. I liked how if I made a mistake, it would help me to correct it so next time I'd remember how to spell it. I think I wrote longer, more intereting stories on it as you just click it, but with a pen it takes longer. I can write 50x as fast by just clicking it."

Child 3

"I liked using Reading Eggs on the Ipad this year because it made reading easy. It's easier to write on than pen and paper because I can click it fast. I liked using the iPad for Wordlab because I could use 'Explain Everything' to draw words word patterns and I'd search images for each new spelling word."

<u>Teacher feedback</u>

"Using the I-Pads for writing was a huge benefit for low learners as they were able to get their own ideas across to the audience without the worry of spelling always being a struggle and the process of using pen and paper to form letters was not slowing them down. They were able to share their work easily on the class blog or by e-mail for family to read and give feedback."

"Google Docs worked great on the I-Pads as well as the Chrome books so no one missed out on collaborative writing."

"Reading activities on the I-Pad meant that children could demonstrate comprehension of their reading in innovative ways, e.g. puppet shows, create a

book etc. It was easy to manage and check; also it could be shared on the blog easily."

"The speech to text and text to speech applications on I-Word (writing app) allowed those struggling writers write what they needed and play it back to check it was correct. Their spelling ages improved as I believe they were seeing and using the correct spelling more often, rather than misspelling the words themselves."

I had a number of informal chats with the students involved doing the year and the anecdotal feedback from the children included such findings as;

- The children were prepared to have a go and make a mistake and feel okay about that as they and their screen were the only ones who knew.
- They felt much more engaged as learners and part of the learning in their class rather than slightly isolated as they often needed to seek help.
- The boys were more prepared to share their writing on the class blog and were very focussed on completing writing for a chosen audience.
- They knew that their behaviour improved due to their better engagement with learning via the digital device which led to their classmates and themselves feeling more positive about their learning and their self-esteem.

In discussions with some other schools around this topic there was certainly no preferred device and it was also determined around whether the school has a BYOD policy. Some key elements around student engagement and achievement when using a device, particularly around writing were that; ideas and vocab came out more quickly from the children, there was better engagement, typing skills were better from the younger children and an external keyboard was quicker for typing when working with a tablet or I-Pad. Anecdotally these schools were noticing achievement for that time of the year to be above their norm. It was also interesting to note that some schools were also using the devices as an incentive for students to finish their work so they could have time on the device.

Perhaps the most influential professional readings around this area are to be found in 'Evidence-Based Strategies for leading 21st Century School' by

L.Schrum and B.B Levin 2012 and the TLRI report 'Extending innovative e-learning leadership' September 2015. In particular the role that the eight dimensions of technology leadership play for their importance and interconnectedness when a principal is considering implementing such an initiative. I recommend these two readings.

Summary

Given the results from the children around their academic achievement there does seem to be a compelling argument that constant access to a digital device lifts student achievement for priority learners. Whilst there will be a lot of 'holes' in the research the most compelling factor from the sabbatical is the attitude of the children towards their learning. They were prepared to make a mistake and learn from it and were engaged in their learning and when they saw the progress they made during the year their self-belief grew. Once that starts to happen anything can be achieved.

The implication for schools and principals is how do we manage to get a device into the hands of every priority learner if indeed this is the mechanism, and it would seem so judging from these results, that will assist in lifting their achievement?

Finally I would like to thank the Ministry of Education. My school's Board of Trustees, the two teachers who put up with my requests, suggestions etc and of course the children in the two classes who knowingly or not put up with being part of this research.

Peter Simpson.