infinity

WHERE THE LEARNING NEVER ENDS

Genesis of Infinity Maps

People have enjoyed mapping and telling stories about maps for millions of years.

Maps guide people into new places, show the way when directions are unclear and help them see things from different angles. They also give rise to interesting stories as people explore their world and reminisce over their journeys; cave maps, treasure maps, GPS maps, mind maps, thinking maps, concept maps, and now; Infinity Maps, where the learning never ends!

The genesis of Infinity Learning Maps came from our observations that children and young adults get considerable pleasure out of drawing maps of their learning situations and talking about their web of interactions with their peers, teachers and parents. They also enjoyed using digital devices to upload photos and videos of their maps.

There are no barriers for students who draw and talk about their learning situations. There is little jargon in the conversations about creating change in the way students learn, only…

enjoyment, confidence and discoveries of new possibilities

https://youtu.be/n6i9cV6uhWc

Infinity Maps Support Jargon free conversations, a teacher comments

Improving behavior

Experimentation of the drawing and storytelling of learning situations started in the 1990's at Edendale Primary School in central Auckland, New Zealand. At that stage, Brian Annan was principal of the school, and was focused on supporting a group of boys who used

negative and abusive behaviors

at school. Teachers and parents at the school applied considerable

pressure

to see the boys suspended because of their negative behaviors. After considerable discussion, they agreed to an alternative strategy whereby the boys would be kept in school to benefit from more

intensive learning

about positive behaviors.

The mapping activities helped redirect the boys to use socially acceptable behaviors in challenging circumstances.

A critical design principle of those early mapping exercises was to,

locate problems in the interactions between the boys and others, rather than view the boys as the problem (Epston & White, 1992)

The boys enjoyed the activities and learned alternative positive behaviors, which helped them to re-script the way they behaved and learned in and out of school. Most of the boys came to be accepted by their peers and teachers and made new friends.

Schooling improvement maps

A decade of schooling improvement projects followed in the new millennium. We became immersed in several national and international schooling improvement projects, which gave us new opportunities to experiment with a variety of mapping exercises.

We supported various school reform groups to map out their approaches and improve them, from

large systems-level strategies

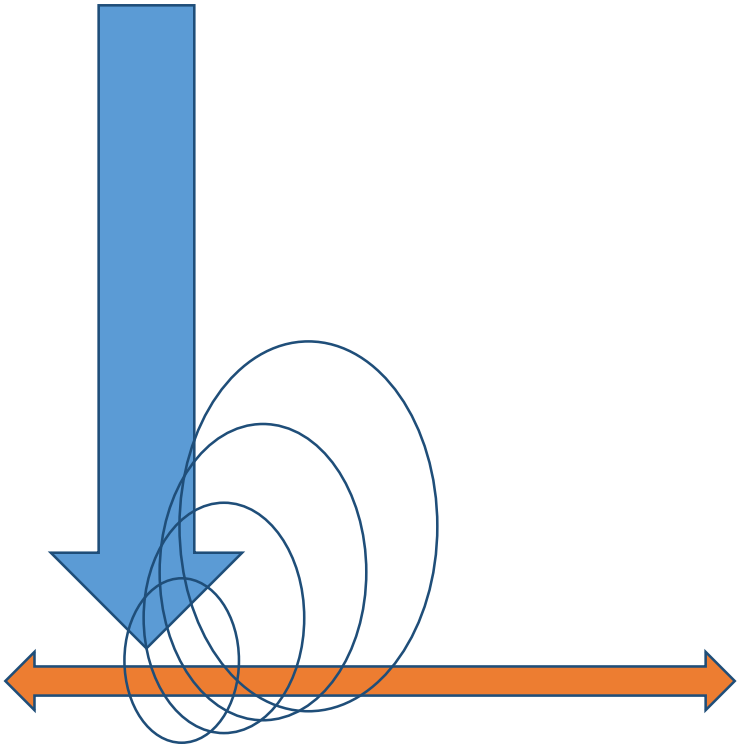
to

small local initiatives.

During this era, the mapping activities focused on the perspectives of teaching professionals.

Students' perspectives were not included

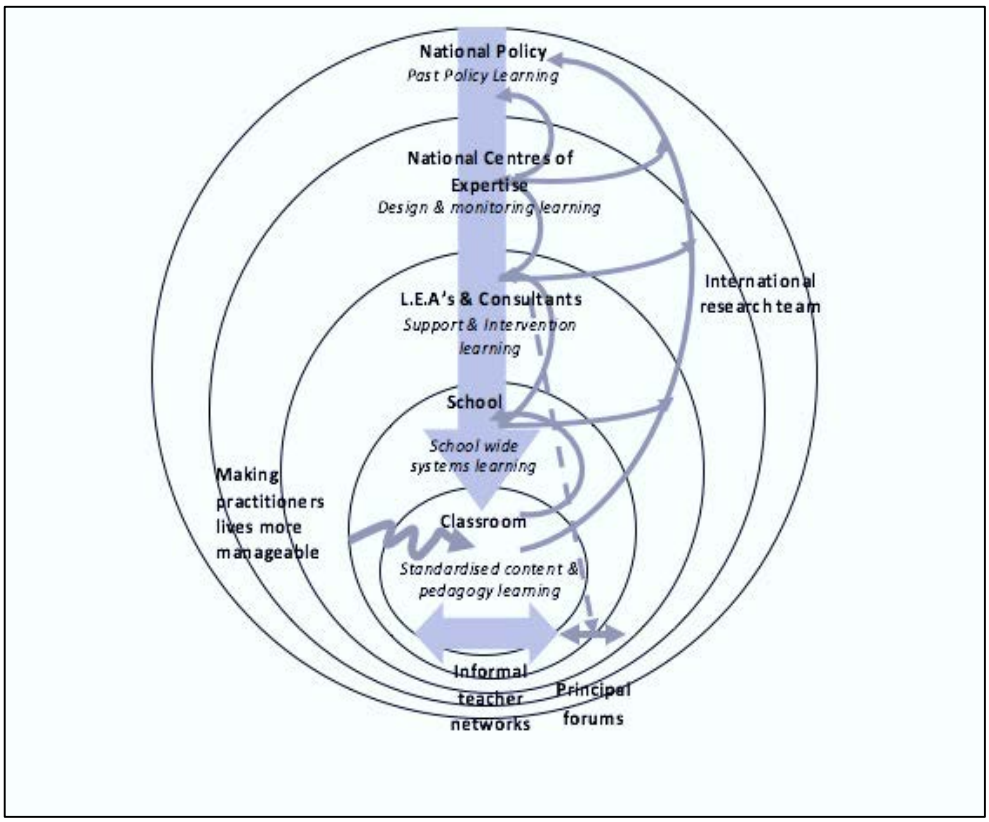
Two systems-level maps featured in doctoral research about the most effective schooling improvement strategies worldwide (Annan, 2007). Effectiveness focused on lifting student achievement in core curriculum areas. Concentric circles were used to show the tiers of activity from national to local. Arrows were also used to depict the interactive web that was operating across the tiers. The vertical arrows represented hierarchical interactions and the horizontal arrows represented lateral connections.



An analysis of the four most effective strategies showed strong hierarchical infrastructure with school leaders and teachers encouraged to comply with a set of predetermined and evidence-informed ways of going about leading, teaching and learning.

The first map below is a representation of the National Literacy and Numeracy Strategy in England, 1997-2002

Learning Map of English Literacy and Numeracy strategy



The main vertical arrow represents the transfer of a set of evidence-informed practices through the systemic hierarchy out to all primary schools in England.

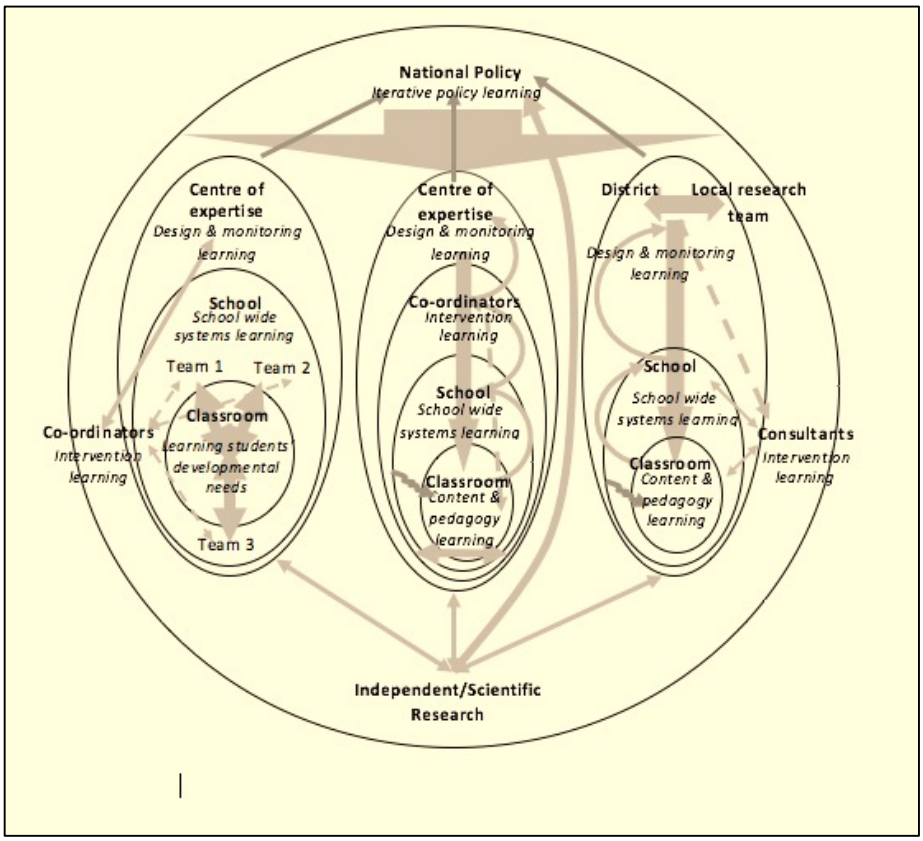
At the bottom of the system, there was some lateral learning occurring within informal teacher networks and in the principal forums focusing on the strategy. The thin arrows on the right show an international research team creating feedback loops to inform the policy team driving the strategy. On the left, the squiggly arrow indicates a tension created when previously autonomous principals and teachers were required to implement a package of evidence-informed materials. The intention for prescriptive materials was to achieve the challenging national targets in literacy and numeracy. Overall, that meant that the learning processes were geared towards practitioners adopting a standardized solution to the problem of underachievement in literacy and numeracy.

The second systems-level map represents the learning processes used in four of the most effective school reforms in the United States of America from 2000-2005;

Direct Instruction, Success for All, The School Development Program & a district strategy in New York District #2.

In this case, schools became affiliated with a preferred reform under Title 1 federal funding.

Learning Map of three USA Comprehensive School Reform Strategies in the United States



The vertical hierarchical learning dimension was prominent in all four strategies. A set of challenging national achievement standards were set in the policy context and there was a policy assumption that experts external to schools had the capacity to design and spread effective reform practices into schools.

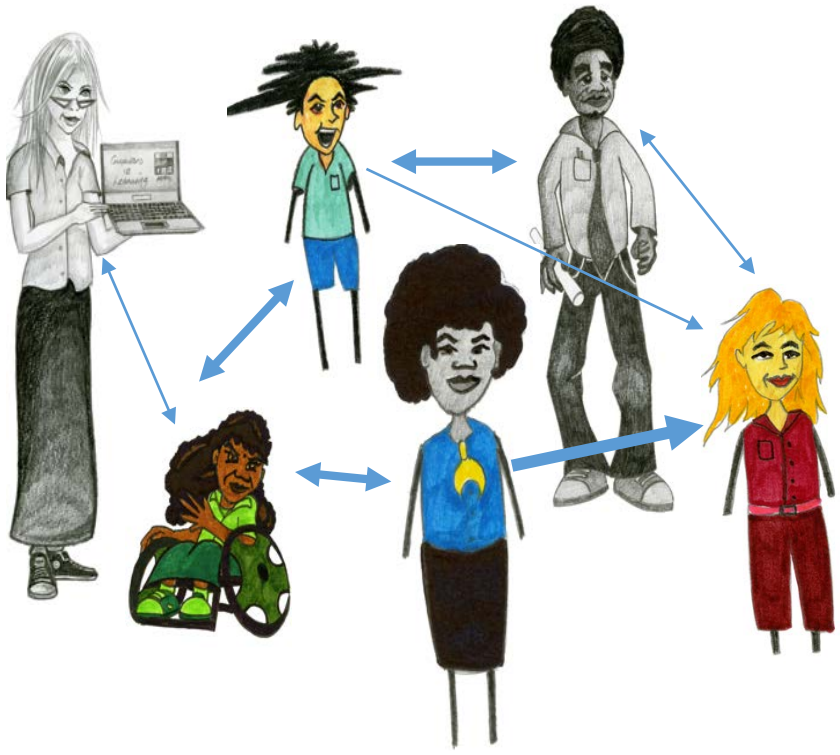
In this case, school leaders and teachers had support from district department of education offices and the research community to learn the standardized practices, rather than the policy community.

Feedback loops within the systems hierarchy focused on distributing leadership responsibilities. These checked that the school-wide systems and preferred teaching practices would be sustained once the external experts exited the schools after two or three years of support.

School leaders and teachers were once again considered implementation agents by the developers of the strategies. At the same time, the teacher professionals were also given greater responsibility to sustain the developments as their capability grew.

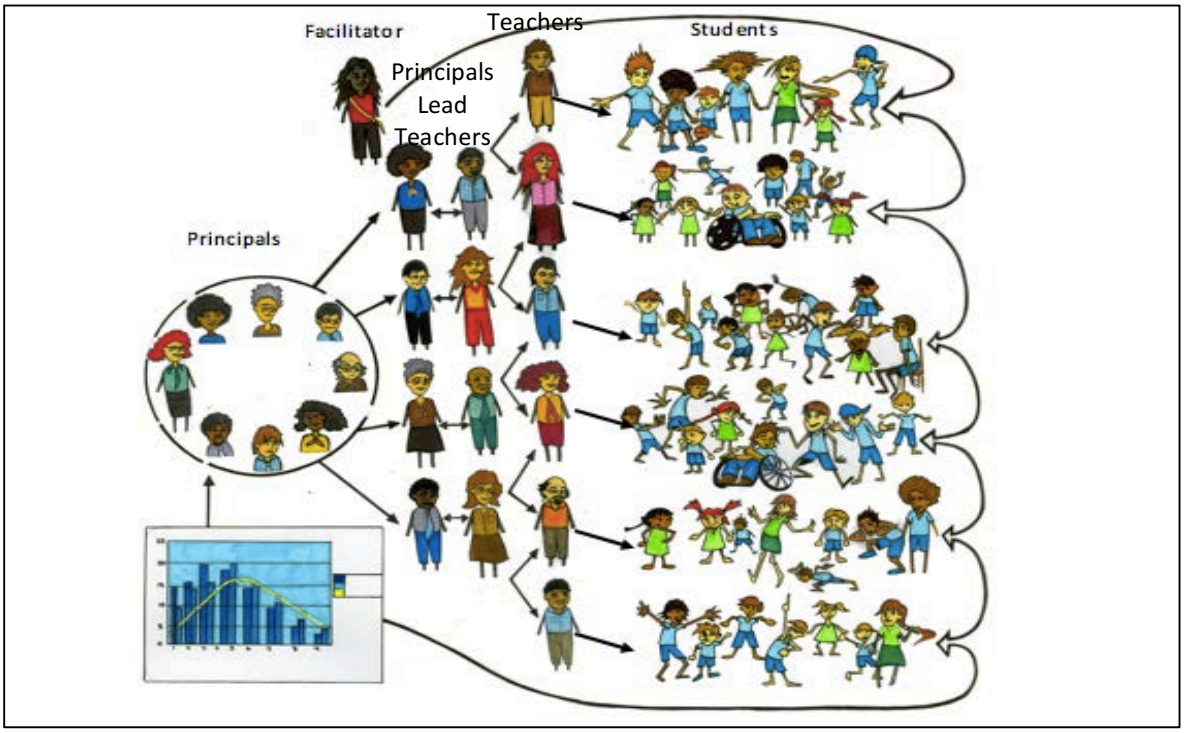
We used the design features from those systems-level maps to support leaders of small-scale school improvement strategies across New Zealand to map the learning processes they were using to lift student achievement.

Arrows were used to show the interactive web within the learning system. Drawings of interactions among principals, lead teachers, teachers and students involved in the learning and improvement activities replaced the concentric circles in the previous mapping exercises. Data-use was also represented in the learning system.



The map below shows the interactive web in a literacy strategy used by a cluster of six schools. The leaders wanted to change tack because their efforts had led to a plateau in student literacy achievement levels. From left to right, the map shows the principals meeting as a group to make decisions about their in-school literacy improvement strategies with a Ministry of Education advisor. The cluster contracted a professional development (PLD) facilitator to grow teacher capability in data-informed teaching practices.

Learning Map One of a Literacy Strategy for a Cluster of Six Schools.

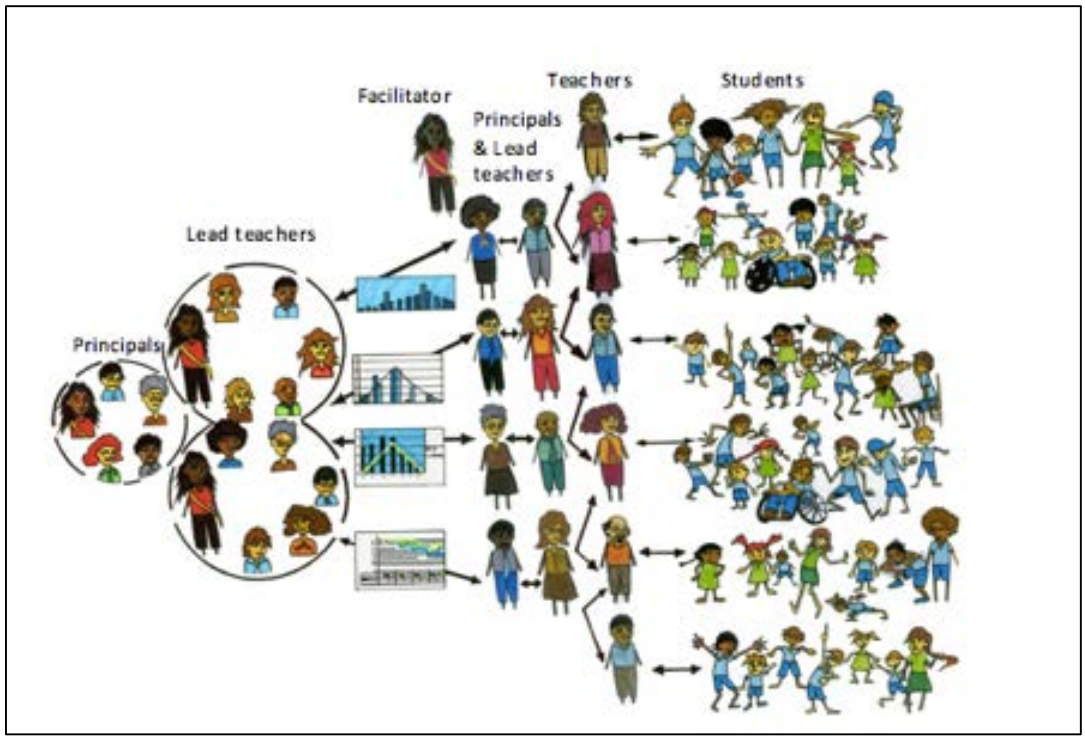


When the principals analyzed this first map of their approach, they noticed the following trends.

- Lead teachers and principals were one and two removed from their teachers,
- The PLD facilitator was growing teacher capability, analyzing data and reporting to the principals and lead teachers,
- The PLD facilitator held the knowledge about the literacy strategy, but did not attend principal meetings,
- Teachers passively learned from the PLD facilitator about literacy strategies that had generic research evidence of effectiveness.

The analysis of the first map was an eye-opener for the principals of the six schools. They realized that they had given away their instructional leadership role to the PLD provider. Furthermore, their teachers were not developing adaptive expertise as they passively accepted direction from the PLD facilitator.

Learning Map Two of a Literacy Strategy for a Cluster of Six Schools.



The second map below represented the principal's aspirational picture of what they wanted their literacy strategy to look like in the future. The leaders made the following adjustments to their learning system.

- They rearranged their own learning meetings to include the PLD facilitator as a critical friend.
- They became actively involved in their in-school literacy strategies by supporting their lead teachers and collating and presenting their data reports to one another at their meetings.
- They created learning meetings for their lead teachers and had the PLD facilitator attend as a critical friend.
- They re-positioned the PLD facilitator within their schools to support the lead teachers and principals to grow teacher capability in practice analysis conversations and adaptive expertise.

As we experimented with a variety of mapping exercises for teaching professionals, our attention shifted towards the way students take action to learn-how-to-learn.

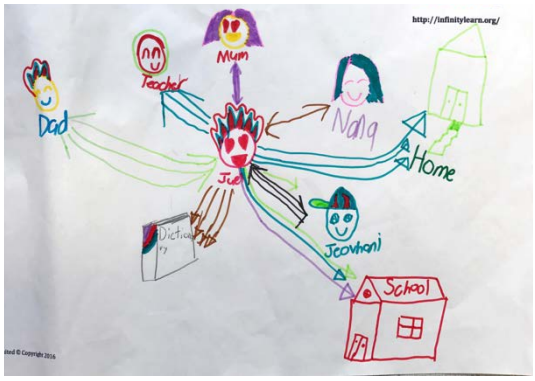
What aspects of their learning did students think they needed to improve? Did they make necessary changes? We found that schools sought student 'voice' and then used the students' perspectives to adjust teaching and leadership practices. Those developments were useful to improve teacher practice but

teachers did far too much ***for*** their students

Teachers and school leaders were talking about moving from student 'voice' to 'active and connected agency', but there appeared to be few tools available to shift mind-sets and take that next step.

We decided to formulate a set of mapping exercises that would draw more attention to the children's perspectives and encourage them to take responsibility for analyzing and improving the way they were going about learning-how-to-learn.

The aim was to draw out of students, their perspectives of the web of interactions surrounding their learning situations.

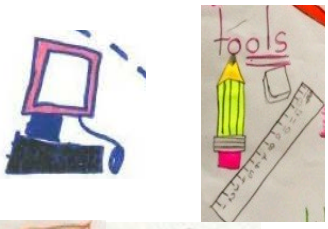


Our thinking was not to focus entirely on the perspectives of the students to the point that teachers and parents were ignored. Rather, we believed that the best strategy was for teachers and parents to position themselves as supporters rather than directors of children going about making learning-how-to-learn decisions.

A starting point was to develop and trial a set of prompts to draw learning maps. We selected four easy-to-understand prompts.

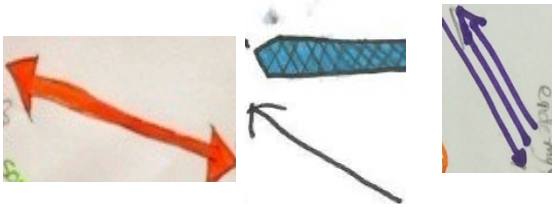
- Who are the people who help?
  me with my learning?

- What tools help me with my learning?



- What are the places that? help me learn?

- What are the interactions between the people, the tools and the places?



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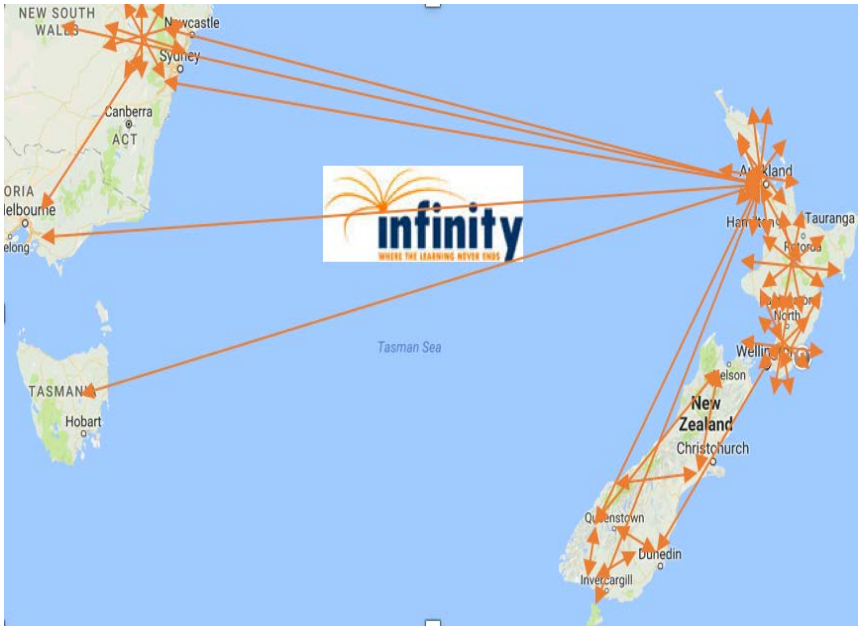

We introduced mapping into some early literacy strategies in Tasmania and New South Wales, Australia. Then, we trialed them again in the Waikato and Wellington, two regions in NZ with very high school suspension rates at the time. We then introduced the mapping exercises into NZ's national Learning and Change Networks (LCN) strategy, which involved 350 schools (Annan & Carpenter, 2015). The prompts were altered to suit the context each time we introduced the mapping exercises, but the overarching aim remained the same; to clarify the web of interactions surrounding the students' learning, engagement and behavioral situations. All the trials created a positive energy bubble among the students, teaching professionals and parents.

In each of the trials, data from the mapping exercises sat alongside other data sets to inform strategic development priorities for individual schools and/or networks of schools.

One network of schools settled on three priorities; growing student agency, engaging family and whānau in new ways and developing greater digital fluency http://bit.ly/InfinityMapsCaseStudies. Involvement of children, families and whānau in setting strategic priorities alongside teaching professionals was a new development, which had a significant positive impact on the children's learning outcomes. Learners below National Standards involved in the LCN strategy, for instance, made a staggering

24% shift towards National Standards.

(Ministry of Education, 2015)

which is significantly greater than the one to nine percent gain that has been the norm for several years. Learning Maps, even though one small aspect of the broad LCN strategy, promise a way of opening the window to personalized learning and developing student agency.

Introducing Infinity Learning Maps

Infinity Learning Maps followed on from the organizational and engagement maps providing an inroad into understanding each child's personalized approach to learning-how-to-learn.

Infinity Maps have a primary focus on

students

drawing their maps,
analyzing their maps,
making personalized decisions and
improving their learning situations.

Infinity Maps, therefore, foregrounds students making personalized decisions. We are not suggesting that strategic decision-making suddenly becomes unimportant. On the contrary, generic change strategies that benefit all children remain vital. We are simply suggesting that you can support your students to get on the front foot and activate themselves to make personalized changes and then co-create wraparound strategies to ensure they succeed.

‘Infinity’
Learning Maps

‘Infinity’ represents expansive learning, going places where the learning never ends.

All children can benefit from taking a more expansive view of learning and living. Too many of our children, particularly those attached to the equity challenge, have localized views of learning.

“Pushing out the boundaries of their learning” is a common catch phrase for future-focused learning. Infinity Mapping goes beyond that rhetoric and makes boundary pushing a practical activity.

It also activates children to become critical of learning activities. For instance, many children who explore options to become more connected in their learning find that a few high-quality learning connections can be far more valuable than many surface-level connections.

References

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