



The Wilkie Way

Newsletter May 2022

www.wilkieway.co.nz

Digging Deeper into the Maths Strategy Document

<https://www.education.govt.nz/our-work/changes-in-education/curriculum-and-assessment-changes/literacy-and-communication-and-maths-strategy/>

If you haven't already done so download a copy of the document and read it for yourself.

Firstly there is nothing new in the document that we haven't strived to achieve over the last 22 years I have been involved in education in New Zealand. As said last month it all looks good on paper. But will it actually achieve the changes?

Actions will be progressed over time - guidance for Te Whariki and the refresh of the NZ curriculum are already underway. Action plans will be developed noting the timing of some actions will be dependent on future funding and policy decisions.

So focusing on the actions that are already underway. Will these actions make a difference?

Evidence points to:

- **A wide variation of maths learning in early learning settings and that children often arrive at school with very different starting points.**

This was also true when more students spent most of their first 5 years within their family setting. It is still true within a group of children arriving from the same early learning setting. Their mathematical experiences are very dependent on effective dialogue - who is talking with the students. Early learning settings do not have the optimum teacher student ratios to effectively develop language as a thinking tool.

Recommended	21 - 36 months	1:4	with a group size of less than or equal to 8
	30 - 48 months	1:6	with a group size of less than or equal to 12

[Published online 2017 Jan 19. doi: 10.1371/journal.pone.0170256

Child-Staff Ratios in Early Childhood Education and Care Settings and Child Outcomes: A Systematic Review and Meta-Analysis
Michal Perlman, Brooke Fletcher, Olesya Falenchuk, Ashley Brunsek, Evelyn McMullen, and Prakesh S. Shah]

The current ratio in NZ for over 2 year olds is 1:10 with no limits on the number of children allowed in a group. When MOE was asked (via the Official Information Act) what the regulations were based on, they could not identify any evidence or research, pointing instead to the Child Care centre regulations 1960 and 1990. It appears these ratios are inherited rather than born out of best practice and evidence.

Anecdotal evidence in schools shows students' oral language (across all socioeconomic groups) has declined over the last 10 years as the number of students attending early learning establishments has risen.

The Governments 10 year Early Learning Action Plan (2020) acknowledges the current ratios need to change and commits to lowering the ratio for children under 2 from 1:5 to 1:4. it also says ratios for over twos would be dropped from 1:10 to 1:5 "as funding allows". It acknowledges the lack of regulation on groups sizes.

Money is being spent on designing tools that the early learning teachers will not actually be able to put into action because the group size and student teacher ratios will not allow for adequate implementation. If we cannot make a difference at the foundation of learning then everything built onto it is put at risk.

Evidence points to:

- ***Learners are not getting the teaching and learning they need to progress in line with the current curriculum due to the lack of opportunities to learn as opposed to content that is too demanding.***

The proposed fix is to rewrite the content. Maybe the rewriting of the content in the new understand, know, do model will help some teachers understand the content of the curriculum better than the current curriculum document. However if teachers have taken the time to look at the curriculum elaborations on the NZ Maths website they would have a much better idea of what the achievement statements mean in terms of what students need to be able to do, know and understand.

Will rewriting the content actually assist teachers to provide adequate learning opportunities with sufficient challenge to develop critical, creative, strategic and logical thinking individuals? Will it help students to develop perseverance and enjoy intellectual challenge.

A couple of weeks ago I returned to one of the schools I am providing PLD in and a year 4 student came up and stated "You are my favourite teacher because you give me challenges"

The most common response I receive from teachers when I am modelling in classes is they didn't know their students were capable of attempting some of the things I was asking them to do.

The report identified learners are capable of much more than we currently expect of them in early learning and junior classes.

How do we get teachers, many of whom are not mathematically confident themselves (especially at years 4 - 8) to provide students with challenge to engage in productive struggle?

Playing safe and giving students work they can achieve allows teachers to tick the box and give the illusion of progress.

Pre testing, post testing and timing students to recall knowledge at speed is no measure of mathematical progress and in many instances is harmful to student learning. A post test done immediately after the topic taught only assesses short term memory not deep learning. We can easily create the mindset of being no good at maths and having a negative attitude to maths and therefore perpetuate the societal perceptions around mathematics.

'Faced with the challenges - schools and teachers show a great variation in approaches to teaching maths - in some cases leading to reliance on harmful streaming and grouping practices. (numeracy project) It can prompt schools to turn to private providers who tend to champion one approach over others.'

Personally as a private provider I found the last sentence very insulting - all private providers who are maths specialists have become private providers to avoid delivering a one size fits all over the last 15 years. (Numeracy project).

"A binary mindset (a sense that there are clear right and wrong ways to teach maths) can limit the range of practices used, which in turn impacts the full range of learning experiences that should comprise a rich complete maths education."

So this brings us to the **Common practice model** - these words fall glibly of the tongue and will become part of education jargon that will be misinterpreted by the masses.

The words imply there is a right (and therefore a wrong) way to teach maths and many in education will continue to seek the golden bullet to improved student outcomes. There will be more initiatives, more money spent for little gain. If you fix the start point and provide quality ongoing professional learning opportunities and advisory support for teachers in all education settings maybe we will see an improvement.

We need to see action not more research papers and policy documents.

Resources for Wilkie Way Members

Subscriptions purchased at the online store at www.wilkieway.co.nz

Individual \$45 - paid via paypal

NZ School paid via invoice - complete form at online store

Up to 100 students \$150+GST

101 - 300 students \$250 + GST

300+ students \$350 + GST

Non NZ School \$400 - paid via paypal



The space problems from this newsletter are in the Graduated problems on a theme folder.

Now I have completed the rewrite of the Pearson mathematics to Maths Aotearoa I can refocus on Wilkie Way resource development.

I have a list of new resources under development - both teacher professional resources and resources to use with your students.



May Featured Resource

Planning the Maths Programme

Achieve consistency and continuity across the school and use Wilkie Way planning to help you develop an understanding of the concepts and key knowledge students need to build as they make progress towards becoming fully numerate.

Follow the **Planning** link from the directory on the home page of the members area

Select the folder relevant to your year group for example year 3 & 4 (covers year 1 - 8- four different folders))

In the year group folder select **folder 1 - Overview** to give you a two year coverage plan each term is labelled with a letter a - h

Select **folder 2** and select the **unit plan** identified by the letter on the overview plan. This is a plan for the term and is your guiding document for the term. It is in word for you to add in the resources you could use to achieve the desired outcomes. From this plan you can decide how you are going to deliver. My suggestion is to start the term with a whole class activity/experience to introduce topics. Story books are a good shared experience or perhaps some activity outside the classroom that sets up the need to learn new stuff.

There is no template for weekly planning - it is dependant on your students and their needs - one eye on the big picture and one eye on their current need.

Weekly planning becomes easier when you have a good understanding of the mathematics - and often as your confidence and knowledge grows your planning becomes more responsive as you go from day to day and you feel less of a need to record everything.

Folder 3 is there to help you **build your knowledge of progressions** within the topics. All the relevant documents available through Wilkie way in one place for your just in time learning.

Folder 4 has **student tracking sheets** to assist you in keeping track of student learning. Complete retrospectively as you think about each students progress. Maybe you have given a particular activity to check that they can - for example 'use a ruler' or you may complete some items on what you have observed and/or heard in class. Know all your students.



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Problems in Space

Five little men in a flying saucer - some went out to play on the moon and some stayed inside.

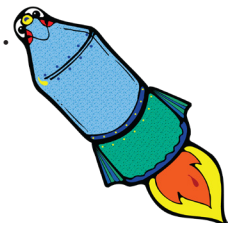
How many could be outside and how many inside.

Make a space man picture showing where your 5 space men are.



Peter built a rocket ship in three parts. Then he joined the parts together and wheeled them into the garage. The first part was 48cm long. The second part was 72cm long and the third part was 56cm long. The garage is 2 metres deep.

Can Peter close the garage doors?



A space ship visited 3 planets. it took 181 hours to travel from planet 1 to planet 2, 287 hours to travel from planet 2 to planet 3.

How many days did it take to travel from planet 1 to planet 3?



If the distance to the moon is 384,400km about how long does it take to reach the moon if a rocket is travelling at 30 000km per hour?

