The Wilkie Way
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www.wilkieway.co.nz

What is the teachers role in the mathematics classroom?

Your philosophy of education will determine alot of the role you take in a classroom - whatever the subject matter being taught.

The diagram on the next page attempts to show the different roles the teacher undertakes. I am of course using the learning area of mathematics but it works equally well for other learning areas.

I believe there is a place for every “box” on the diagram and teachers need to include an element of each box in their mathematics programme. Because of the nature of humans, students often “learn best” in the type of lessons in a specific box, but this can change. The skill of the teacher is to know which is best for this student and this learning today. There is **NO ONE SIZE FITS ALL.**
The teacher therefore needs a thorough knowledge of their students and the subject matter the student is learning.

When a teacher is not sure of the subject matter, or are in a state of learning themselves they are more likely to follow the cycle from deliberate acts of teacher through to maintenance, down the right hand side of the oval with perhaps using some games. (This was very apparent during the numeracy project professional learning). This is also a more traditional way of teaching mathematics which works well for many students but not for others.

With growing confidence in the subject matter (I am assuming teachers know their students) the teachers can step back let the control of the learning move towards student led. Exploration, inquiry, discovery, play based - the teacher will spend far more time observing and noticing when to contribute and when to jump to a deliberate act of teaching which could then lead to guided practice and independent practice. My own practice over the 40 years of teaching has definitely moved to the exploration, provocation side of the oval but then my subject knowledge is quite in depth which allows me to model in classrooms with minimal knowledge of the students. I can assess students as they work and make necessary adjustments immediately.

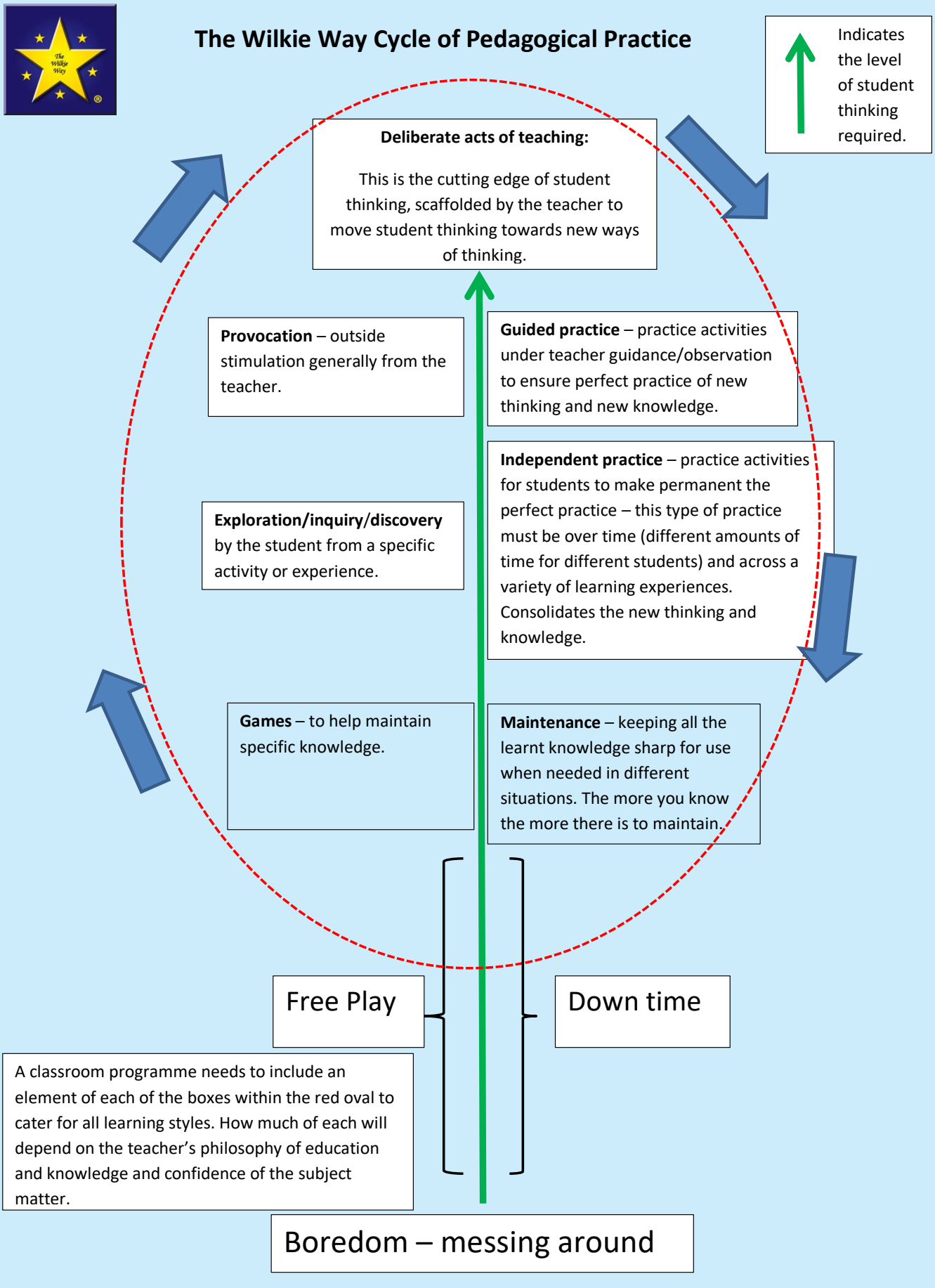
A provocation could be a problem given to the students to work on with minimal scaffolding. Create a situation requiring risk taking and perserverance. Allow it to remain unsolved if necessary.

Mathematics is hierarchical - missing foundations will have severe implications for later learning. The subject matter cannot be left to chance that all students will discover all the necessary stepping stones through play. The skill of the teaching is in knowing all the little stepping stones, tracking the students learning, building in checks. (Please don’t go down the route of BSM checkpoints - but you can see why they were there).

You may not have the subject knowledge to jump into all playbased, inquiry, discovery learning but as your knowledge increases then so should these “boxes” become an increasing part of your programme. My concern is teachers adopting a philosophy without the in depth subject knowledge to ensure student learning.

Free play and down time are outside the red oval as I see them as a necessary time for the brain to relax, uninterrupted - its funny how often things “click” when you are not consciously thinking about it.

The Wilkie Way Cycle of Pedagogical Practice



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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

What is new for Wilkie Way members

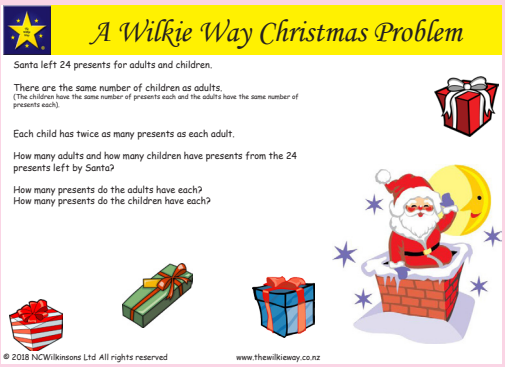
Student Resources:

- **New Folder Christmas** - games, problems & activities - meaningful practice for the run up to Christmas

Teacher Professional Resources

Teacher Professional Practice

pdf of the Wilkie Way Cycle of Pedegogical Practice



The Wilkie Way Teacher Challenge

Try this one for a party trick: Ask some one to add up these numbers up one at a time in their head. Slide a piece of paper down the column of figures.

1000
20
1030
1000
1030
20

I did this one numerous times and each time got the answer of 5000

The correct answer is 4100 (and I had to resorted to the calculator to prove myself wrong)

The power of misdirection in the place value system is too strong!

Changing schools next year -
don't forget to let me know a change of email address to continue receiving the Wilkie Way newsletter.

It is time to order Assessment Screens for 2021

Normal price for Pack of 35 student booklets + a teacher guide is $120.00

By pre-ordering I can offer a substantial discount through bulk printing:

A single pack for $100
Two packs of same level $175
Three packs of same level $225
Four packs of same level $300
Five packs of same level $350
Additional packs at same level $70 per pack.

For small schools who only have a few students at each level a pack of 5 student booklets at a level + teacher guide is available for $25

Use to identify a student's strengths and weaknesses in their mathematical knowledge and skills to enable targeted personalised teaching and ensure progression in thinking mathematically.

Screening	Level 1	Level 2	Level 3	Level 4
Whole number place value	Counting Sequences 1 after/before 10 more/less	Column names Additive structure Importance of 10 x Structure Rounding	Column names Larger numbers - use of zero Repeated x structure Rounding	Larger numbers - use of zero Repeated x structure Rounding x/÷ by tens Standard form
Addition & Subtraction	Doubles, 5+, within 10, 10+ +/- tens Additive structure of PV	Basic facts to ten, Basic facts to 20, Double digit +/- single digit Double digit +/- double digit	Recall of +/- facts. Use of signs & symbols in a linear equation Mental & Recorded strategies Estimation	Flexibility - rounding & compensating Written algorithms (inc. decimals) Inverse relationships Estimation
Multiplication & Division	Counting sequences 2s, 5s, 10s Equal sharing/ grouping PV groupings of 10 x2 x5 x10	Equal grouping/equal sharing Understanding × as repeated addition Array representation Understanding of ÷ Basic x facts	Recall of x/÷ facts Double digit by single digit multiplication Division of double or triple digit by single digit	Factors & Multiples Flexibility using PV Double digit x single digit Double/triple digit ÷ by single digit Double digit x double digit Estimation
Fractions	not assessed	Unit fraction - shape Unit fraction of a set Counting in halves Fractions as a result of sharing Fraction of a number	Fraction of a shape Fraction of a set Fractions as numbers Equivalent fractions Connecting fractions x/÷	Connecting fractions, x/÷ multiplication & division Equivalent fractions Fractions on a number line Addition/Subtraction of fractions
Decimals & %	not assessed	not assessed	Column names Ordering Multiplicative structure Common fraction decimal conversion Common fraction percentage conversions	Ordering Repeated multiplicative structure Fraction/decimal conversions Fraction/percentage conversions Mental addition/subtraction

