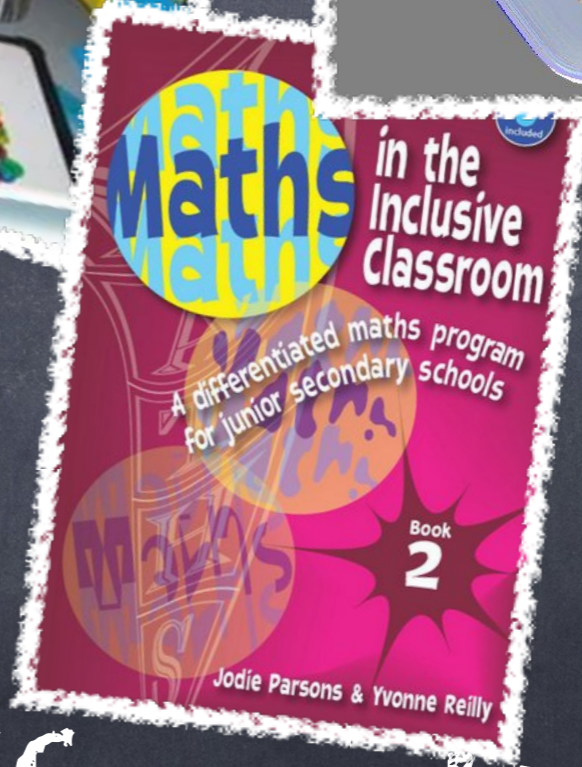
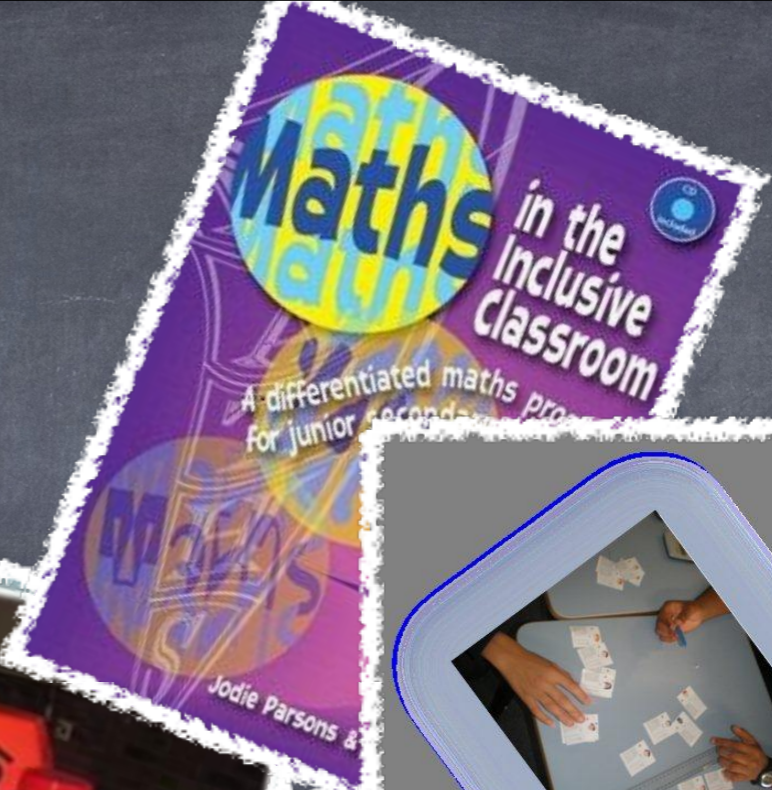


**DIFFERENTIATION**



Delivering Differentiation

# Introductions....

Yvonne Reilly & Jodie Parsons

Sunshine College.

Staughton College

Australia



How teachers  
provide the ZPD

## Withdrawal

Student targeted intervention

## Modification

Weaker students expected to do less

## Groups

Extension, Middle and Supported groups

## Streaming

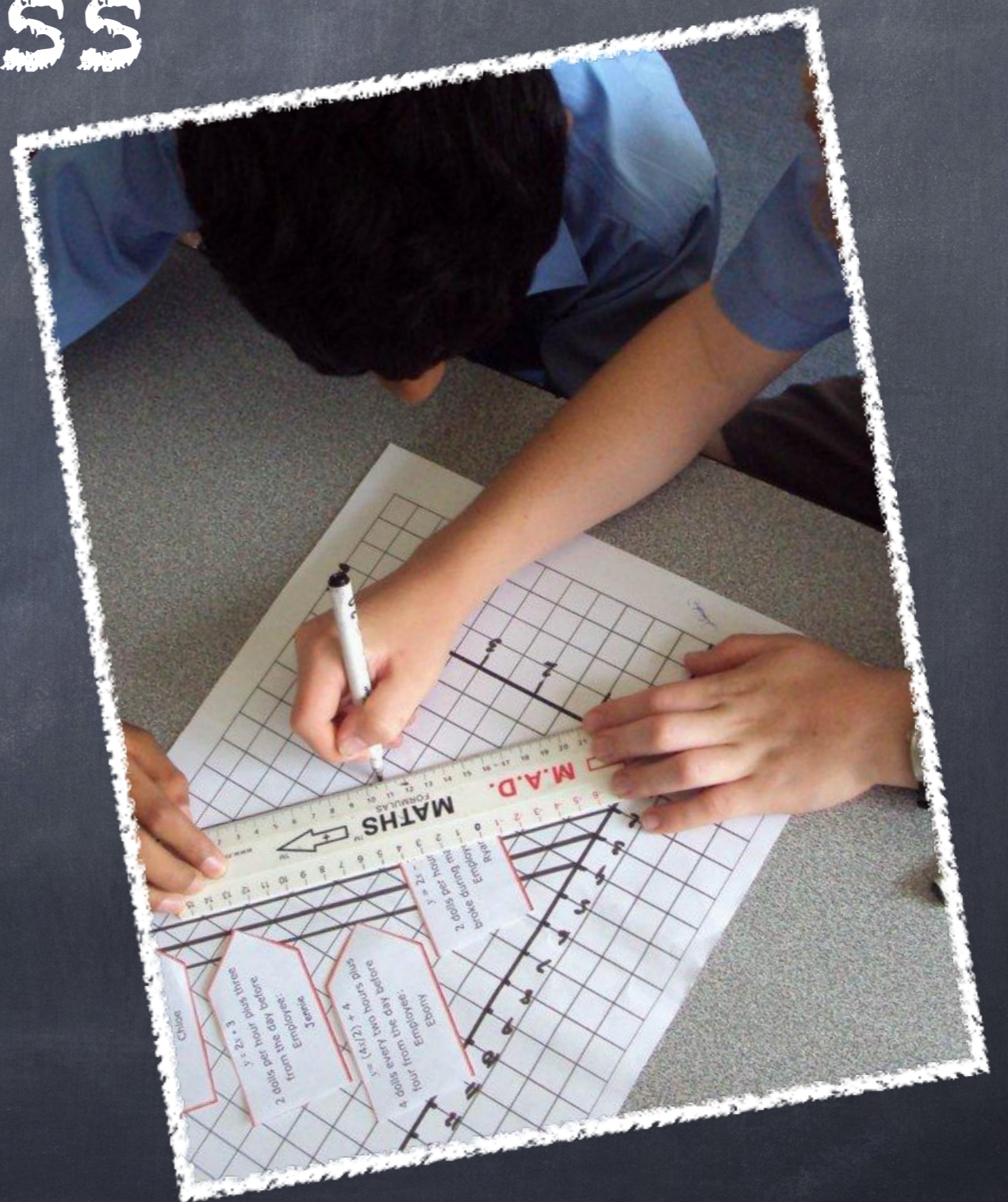
Ability-based permanent separation



How our model differs

# The Fully Inclusive Class

- Teacher provides a minimum of 3 levels of each task
- Students select a task that is "just right" for them
- Task is labelled, not the student
- Explicit teaching at point of need



Before Level	At Level	Beyond Level
<p>Students operating at this level will construct a container in the shape of a rectangular prism which will hold a nugget the same size as a Ping-Pong ball.</p> <p>Students may use either 1cm grid paper or 1cm cubes to determine the volume.</p> <p><b>BONUS:</b> Can you draw more than one net?</p>	<p>Students operating at this level will construct a rectangular prism which will hold a nugget the same size as a Ping-Pong ball. Is this the minimum sized container that could be used?</p> <p>What is the volume of the rectangular prism?</p> <p><b>BONUS:</b> Can you draw more than one net?</p>	<p>Students operating at this level will construct a rectangular prism which will hold a nugget the same size as a Ping-Pong ball. Students will then determine the volume of the container not taken up by the Ping-Pong ball sized nugget.</p> <p><b>BONUS:</b> If the Ping-Pong balls were to double in size what are the dimensions of the smallest rectangular prism it could be placed in?</p>

An example of a lesson



## Learning Intention:

Converting Fractions to decimals and percentages through representing data.

### "One Good Question"

Students create a valid survey question and collect data from their peers. This data is then tabulated as a fraction and converted to decimals and percentages. These values are then used to create a graphical representation of this data.

#### Before level

- Know place value names.
- Understand a fraction is a part of the whole
- Percentage means out of 100.
- Bar charts
- Strip graphs

#### At level

- Pie charts have  $360^\circ$
- Equivalent fractions
- Doubles and halves as proportions

#### Beyond Level

- Round decimal numbers
- Recognising the data as a whole and each individual as a part of that whole.
- Percentage of an amount.
- Fractions and percentages as a proportion

Planning differentiation

# Questions?

- How do you stop the students from choosing a task which is too easy?



# Thank you!

**DIFFERENTIATION**



[www.parsonsreilly.com](http://www.parsonsreilly.com)

[parsons.jodie.m@edumail.vic.gov.au](mailto:parsons.jodie.m@edumail.vic.gov.au)

[reilly.yvonne.c@edumail.vic.gov.au](mailto:reilly.yvonne.c@edumail.vic.gov.au)



# References..

- Dole, S. ( 2003)** Questioning numeracy programs for at risk students in the middle years of schooling. MERGA conference proceedings 2003
- Braathe, H.J. (2009)** dilemmas of streaming in the new curricula in Norway. Oslo university.
- Reilly, Y., Parsons, J. & Bortolot, E., (2009).** Reciprocal teaching in mathematics. *Mathematics of prime importance*. MAV Annual Conference 2009.
- Reilly, Y., Parsons, J., Bortolot, E., (2010),** An Effective Numeracy Program for the Middle Years. *New curriculum: New opportunities*. MAV Annual Conference 2010.
- Reilly, Y. and Parsons, J. (2011),** Delivering Differentiation in the Fully-Inclusive, Middle Years' Classroom. *Mathematics is Multi-Dimensional*. MAV Annual Conference, 2011.
- Vygotsky, L (1978) *Mind in Society*, Cambridge, MA, Harvard University Press. Pp 79-91
- Tate, W.F & Rousseau, C (2002),** Access and opportunity: The political and social context of mathematics education. *International handbook of research in mathematics education* (pp. 271 – 300). Mahwah, NJ: Lawrence Erlbaum
- Zevenbergen, R., (2001)** Is streaming an equitable practice: Students' experiences of streaming in the middle years of schooling. *Numeracy and beyond* (Proceedings of the 24<sup>th</sup> annual conference of Mathematics education Research group of Australasia, pp. 563 – 570) Sydney MERGA
- Zevenbergen, R., (2003)** Streaming in school mathematics: A Bourdieuan analysis. *For the Learning of Mathematics*, 23 (3). 5-10. Griffith University, Australia

