Delivering Differentiation
Introductions.....

Yvonne Reilly & Jodie Parsons

Sunshine College.            Staughton College
Australia
What the research tells us...

Vygotsky

Piaget

Learner’s Knowledge and Skills

Knowledge and Skills That Can Be Learned from Others
(Zone of Proximal Development)
How teachers provide the ZPD
Modification

Weaker students expected to do less

Groups

Extension, Middle and Supported groups

Streaming

Ability-based permanent separation

Withdrawal

Student targeted intervention
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
### An example of a lesson

<table>
<thead>
<tr>
<th>Before Level</th>
<th>At Level</th>
<th>Beyond Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>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. Students may use either 1cm grid paper or 1cm cubes to determine the volume. <strong>BONUS:</strong> Can you draw more than one net?</td>
<td>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? <strong>BONUS:</strong> Can you draw more than one net?</td>
<td>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. <strong>BONUS:</strong> If the Ping-Pong balls were to double in size what are the dimensions of the smallest rectangular prism it could be placed in?</td>
</tr>
</tbody>
</table>
**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.

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<td>• Know place value names.</td>
<td>• Pie charts have $360^\circ$</td>
<td>• Round decimal numbers</td>
</tr>
<tr>
<td>• Understand a fraction is a part of the whole</td>
<td>• Equivalent fractions</td>
<td>• Recognising the data as a whole and each individual as a part of that whole.</td>
</tr>
<tr>
<td>• Percentage means out of 100.</td>
<td>• Doubles and halves as proportions</td>
<td>• Percentage of an amount.</td>
</tr>
<tr>
<td>• Bar charts</td>
<td></td>
<td>• Fractions and percentages as a proportion</td>
</tr>
<tr>
<td>• Strip graphs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Questions?

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

www.parsonsreilly.com

parsons.jodie.m@edumail.vic.gov.au

reilly.yvonne.c@edumail.vic.gov.au
References..


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). Mawhwhah, NJ: Lawrence Erlbaum
