Data coaching to lift teacher capability

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Background

We came together to frame up a TLRI project.

Focus areas:

- What are the benefits and challenges of working across a Kāhui Ako?
- What does teacher data literacy in action in classrooms look like?
- How can teachers work as data coaches and change agents when working with colleagues?
Focus for this presentation...

- The importance of partnerships
- Understanding of data literacy and ideas for the coaching process
- Examples of how teachers have collaborated by sharing, analysing and action on data
Multiple Partnerships

Formal in-school coaching
Informal in-school coaching

Data Coaches
TLRI Team

University of Waikato
Kahui Ako
Governance Group

Kahui Ako School’s unpacking and moderating LPF
Action Plan

NZCER
Multiple partnerships... Supporting factors

- A clear and shared vision for and commitment to the use of data to inform teaching to enhance learning for students within and across schools
  - Trust for schools to share data with each other

- Trust between teachers to share, discuss and plan for action on their own classroom data
  - A shared commitment to generate ideas and information that can be shared with other teachers/schools

- Regular cycles of teacher inquiry, sharing and collaborative reflection
Developing a culture of data use and literacy definition

Teachers and researchers analysed some definitions for data literacy then co-developed a project definition for data literacy. This is being revisited and revised at each meeting. Revisiting and revisioning is necessary because:

- the concept of data literacy is challenging to define
- it was important that the group has a shared understanding
Our data literacy statement

A data use culture exists when everyone values data literacy by making regular use of data to inform teaching action, and views action on data as a shared responsibility and collective endeavour.

Data literacy provides a foundation for a data use culture across a school. Data literacy involves collecting/ gathering multiple sources and kinds of data, analysing and understanding it, and then using this understanding to take targeted action, including developing student agency. It includes the knowledge needed to decide if data is worthwhile and or valid. It includes the shared language and understanding needed to converse with different groups to achieve common expectations and goals (students, family/whānau, other teachers, principal, BOT, and other stakeholders).

Data use is part of ‘what we do here’ with the active support of leadership.
The coaching process

1. Building a relationship
2. Shared Understanding
3. Dig into the data at class level
4. Zoom out - cohort data
Thinking About Coaching

Building a relationship

- Sharing data success
- Data from coachees class
- Informal chat/coffee date
Thinking About Coaching

- Data literacy definition
- Theory of action
- Goals for coaching
- Data Conversation Protocol

Shared Understanding
Data conversation protocol

Here's what? Describe the data

So what? Interpret the data

Now what? Implications for teaching

So then? Evidence of student learning

How could this be useful in your context?
Thinking About Coaching

Dig into data at class level

- A narrow and specific focus
- Identify target students
- Plan small scale inquiry
- Share and celebrate success
Zooming into data

- Which answer do you think most children chose?
- **WHY** do you think they chose this answer?
- Can you think of a reason why a student might choose John's answer 0.09?

Only 21% of year 7 students get this correct at the beginning of the year nationally.

Question

Who is holding the sign with the **biggest** number?
Zooming into data

- Which answer do you think most children chose?
- WHY do you think they chose this answer?
- Can you think of a reason why a student might choose D - 12?

4 + 5 = □ + 3

What number should go in the □ to make the sentence true?

<table>
<thead>
<tr>
<th>Answer 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) 6</td>
</tr>
<tr>
<td>(B) 8</td>
</tr>
<tr>
<td>(C) 9</td>
</tr>
<tr>
<td>(D) 12</td>
</tr>
<tr>
<td>(E) none of these</td>
</tr>
</tbody>
</table>

Only 26% of year 7 students at the beginning of the year get this correct nationally.

- Test 4
Zooming into data

- Which answer do you think most children chose?
- Why do you think they chose this answer?
- Can you think of a reason why a student might choose B?

Only 34% of Year 9 students got this correct at the beginning of the year nationally

Year 9 - Test 6
The coaching process

Building a relationship

Shared Understanding

Dig into the data at class level

Zoom out - cohort data
Thinking About Coaching

Zooming out of cohort data

- Identify targets and trends
- A narrow and specific focus
- Plan large scale interventions, allocate resources, content workshops, PLD
Maths data dips

Progressive Achievement Test of Mathematics

Pupekohe Intermediate All Test 5 (Reference Group Used: Year 9, Number of students: 280)

<table>
<thead>
<tr>
<th>Questions</th>
<th>Questions type</th>
<th>Questions description</th>
<th>Percentage Correct (%)</th>
<th>National Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Number Strategies</td>
<td>Recognise an example of estimation</td>
<td>22.9</td>
<td>(41)</td>
</tr>
<tr>
<td>28</td>
<td>Number Strategies</td>
<td>Find how many tables are needed for 317 people at 8 per table</td>
<td>22.9</td>
<td>(36)</td>
</tr>
<tr>
<td>29</td>
<td>Number Strategies</td>
<td>Find x when 6.4 is equivalent to x:10 in a word problem</td>
<td>23.9</td>
<td>(32)</td>
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<tr>
<td>32</td>
<td>Algebra</td>
<td>Identify which distance-time graph matches a described journey</td>
<td>25</td>
<td>(32)</td>
</tr>
<tr>
<td>38</td>
<td>Geometry/Measurement</td>
<td>Identify which of 3 patterns can be completed by tessellating a shape</td>
<td>25.7</td>
<td>(33)</td>
</tr>
<tr>
<td>16</td>
<td>Geometry/Measurement</td>
<td>Identify which rotation will leave a star looking the same</td>
<td>28.6</td>
<td>(46)</td>
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<tr>
<td>37</td>
<td>Geometry/Measurement</td>
<td>Know that angle size is invariant under enlargement</td>
<td>40.7</td>
<td>(49)</td>
</tr>
<tr>
<td>27</td>
<td>Number Strategies</td>
<td>Find 15% of 300 in a word problem</td>
<td>41.4</td>
<td>(46)</td>
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<tr>
<td>41</td>
<td>Statistics</td>
<td>Identify a general trend in a scatter graph</td>
<td>41.4</td>
<td>(58)</td>
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</table>

Across Year 8 at one school
## Maths data dips

### Across school Kahui Ako data

<table>
<thead>
<tr>
<th>Maths</th>
<th>Well below</th>
<th></th>
<th>Below</th>
<th></th>
<th>At</th>
<th></th>
<th>Above</th>
<th></th>
<th>Total Number</th>
<th>No at or above</th>
<th>% at or above</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Proportion</td>
<td>Number</td>
<td>Proportion</td>
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<td>Proportion</td>
<td>Number</td>
<td>Proportion</td>
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<tr>
<td>End of Year 1</td>
<td>17</td>
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<td>49</td>
<td>11.8%</td>
<td>328</td>
<td>78.7%</td>
<td>23</td>
<td>5.5%</td>
<td>417</td>
<td>351</td>
<td>84.2%</td>
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<td>19.7%</td>
<td>228</td>
<td>62.5%</td>
<td>48</td>
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<td>365</td>
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<td>183</td>
<td>44.1%</td>
<td>90</td>
<td>21.7%</td>
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<td>273</td>
<td>65.8%</td>
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<td>End of Year 4</td>
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<td>22.3%</td>
<td>155</td>
<td>39.6%</td>
<td>103</td>
<td>26.3%</td>
<td>391</td>
<td>258</td>
<td>66.0%</td>
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<tr>
<td>End of Year 5</td>
<td>35</td>
<td>8.4%</td>
<td>95</td>
<td>22.8%</td>
<td>167</td>
<td>40.1%</td>
<td>119</td>
<td>28.6%</td>
<td>416</td>
<td>286</td>
<td>68.8%</td>
</tr>
<tr>
<td>End of Year 6</td>
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<td>105</td>
<td>26.6%</td>
<td>144</td>
<td>36.5%</td>
<td>114</td>
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<td>395</td>
<td>258</td>
<td>65.3%</td>
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<td>End of Year 7</td>
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<td>30.8%</td>
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<td>31.7%</td>
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<td>23.6%</td>
<td>110</td>
<td>24.0%</td>
<td>154</td>
<td>33.6%</td>
<td>86</td>
<td>18.8%</td>
<td>458</td>
<td>240</td>
<td>52.4%</td>
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</tbody>
</table>
Zooming out - looking at across school data

- Cohort data has helped us to better use our resources - across school, in-school etc
- Historical data dips in Year 3 and 7 have been identified
- Lead us to the across school moderation - use of uni at unpack
- PAT across all primary schools
- What gaps and strengths do we have as a collective?
What have we learnt?

- The coaching process is varied and different for everyone - use what works in your context.
  - Slow down and start small.
  - Celebrate the successes.
  - Take responsibility for your data and use it to move forward.
- Take time to build relationships and a shared understanding of data literacy and how that drives action to inform teaching and learning.