Optimising the power of data
Getting rid of the distractions

• No to more data - Schools are awash with data
• No to data literacy
• No to more mile wide – inch deep tests
• No to making NAPLAN more precise
• No to students needing to be tested to know if they have learnt
Teacher estimates of achievement

Collective teacher efficacy

Strategies emphasizing Feedback

Not labeling students

Strategies emphasizing testing (test taking, self-reported grades)

Strategies emphasizing Learning Intentions

Strategies emphasizing Success Criteria

Teacher expectations
Teaching is to die for.
Evaluation capacity building

Progress to Achievement
Progress to Proficiency

- **Cruising schools/students**
- **Optimal schools/students**
- **Unsatisfactory schools/students**
- **Growth schools/students**

- **Low Progress/Growth**
- **High Progress/Growth**
Progress to Proficiency

- Cruising schools/students
- Optimal schools/students
- Unsatisfactory schools/students
- Growth schools/students

- Low Progress/Growth
- High Progress/Growth
Progress to Proficiency

- **Secondary**
  - Cruising schools/students: 27%
  - Optimal schools/students: 45%
  - Unsatisfactory schools/students: 18%
  - Growth schools/students: 10%

- Low Progress/ Growth
- High Progress/ Growth
Progress and Proficiency

Low Progress High Progress
Proficiency
Low progress
Low Proficiency
Low progress
High Proficiency
CRUISING
MUST CHANGE
OPTIMAL SCHOOLS
HIGH PROGRESS
NOW ATTAINMENT

Growth Schools
Zoe
Drako
Ethan
Sheldon
Brislow
George
Growth Schools
Mary
Zach
Joanne
Dan
Joey
Low progress
Low Proficiency
Low progress
High Proficiency
Low progress
Low Proficiency
Low progress
High Proficiency
What is needed

**Impact information from assessments for teachers**

Back to the teacher

About their impact (progress/achievement)

Which can be triangulated with other student artefacts

That informs their Overall Teacher Judgements about impact

That is instant in preparation and in reporting

**Impact information from inside classrooms for teachers**

Back to the teachers

About their impact (and student perceptions of their learning)

Which can be triangulated with other student artefacts

That informs their Overall Teacher Judgements about impact

That is instant in preparation and in reporting
Assessment as Feedback to the teacher
Step 1: Test Details

Please specify the following settings for your test. Field marked with an asterisk [*] are mandatory.

**TEST DETAILS**

**Test Name**
Demonstration

**Description**
Medium Level processes & strategies with little or no requirements for ideas or language features.

**Test Duration**
45 Mins

**SUBJECT**

- Reading
- Writing
- Mathematics
- Panui
- Pangarau
- Tuhituhi

Quick Help:
- Enter a name for your test (20 chars).
- Provide a brief description of your test.
- Enter the duration of your test. This must be a whole number eg. 20, 30.
- Select the subject of your test. You will be able to specify the difficulty and Content Areas on the following screens.
Choose difficulty
Choose difficulty

**Step 2: Difficulty Level**

Please select up to 3 adjacent difficulty levels for your test.
Choose Curriculum Strands

Create Adaptive Test

Mathematics: Maths Adaptive Test 1

Use the sliders to select between 1 to 4 Curriculum Strands for your test.

<table>
<thead>
<tr>
<th>Curriculum Strands</th>
<th>Number Knowledge</th>
<th>Number Sense &amp; Operations</th>
<th>Algebra</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
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<td>None</td>
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</tr>
</tbody>
</table>

Use the sliders to select between 1 to 4 Curriculum Strands for your test.
### Create Custom Test

Please specify the delivery method and attitude domain of your test.

<table>
<thead>
<tr>
<th><strong>Attitude Domain</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude Domain:</td>
<td>Attitude - General</td>
</tr>
<tr>
<td>Delivery Method:</td>
<td>Engagement - General</td>
</tr>
<tr>
<td>Onscreen Administered</td>
<td>Motivation - General</td>
</tr>
<tr>
<td>Onscreen Options:</td>
<td>Interest - Reading</td>
</tr>
<tr>
<td>Test Duration:</td>
<td>45 mins</td>
</tr>
<tr>
<td>Time to Review Test:</td>
<td>2 mins</td>
</tr>
<tr>
<td>Time for Attitude Questions:</td>
<td>5 mins</td>
</tr>
<tr>
<td>Total Test Time:</td>
<td>52 mins</td>
</tr>
<tr>
<td>Closed Questions:</td>
<td>Few, Some, Many, Most</td>
</tr>
</tbody>
</table>

**Quick Help**

- **Attitude Domain**: The attitude domain that should be used for this test. For details on the attitude domains and questions included, select the Help button.

- **Review Test**: How long would you like the students to review the questions (but not answer) before commencing the test.

- **Attitude Questions**: How long you would like the students to spend responding to the attitude questions.

- **Closed Questions**: Proportion of closed questions in the test. Note: Selecting MOST does NOT guarantee the test to include all closed questions.
Create a test

Creating Test

Your test is being created.

This process may take some time, however, you can continue using this site while this process is occurring.
School level Report

Interaction Effects
Ethnicity: All
Year: 4, 5, 6, 7, 8
Gender: All

Language: All
Cluster: All Clusters
NZ Performance: 

Location: All NZ Schools
No. of Students: 195
Your Group Performance: 
No. of Results: [ n ]

Curriculum Functions
- Number Knowledge [156]
- Number Operations [156]
- Algebra [156]
- Measurement [9]

Depth of Thinking
- SURFACE
- DEEP

Mathematics Scale
- YEAR 4 [40]
- YEAR 5 [40]
- YEAR 6 [44]
- YEAR 7 [34]
- YEAR 8 [37]

Attitude
- NZ Mean

Curriculum Functions
- Geometric Knowledge [0]
- Geometric Operations [0]
- Probability [0]
- Statistics [0]
School level Report

View Multi-Test Reports

Subject: Mathematics
Tests: 2

Year

4 ☐ 5 ☐ 6 ☐ 7 ☑ 8 ☐ 9 ☐ 10 ☑ 11 ☐ 12 ☐

Demographic

Gender: All
Ethnicity: All
Language: All
Location: All

Schools Like Mine

Cluster: All

Quick Help

- You can select Year plus 2 Demographics or,
- Year plus Schools Like Mine.
Individual Learning Pathways

Learning Pathways Report for Test: Reading U, C, SF
Group: All Test Candidates
Student: Davis Crispeness
Date Tested: 22 October 2003

Correct

Strengths
- Make inferences: (15, 22, 33)
- Knowledge of vocabulary: (11, 20, 24, 28, 33)
- Respond using understandings & information: (11, 25)
- Skim/scan for information: (19, 25)
- Find, select, & retrieve information: (19, 25)
- Punctuation: (15, 24)
- Make links between aspects of text: (15)
- Make use of prior knowledge: (20)
- Identification and understanding of main ideas: (20)

Achieved
- Respond using understandings & information: (2, 6, 13, 21)
- Skim/scan for information: (2, 21)
- Find, select, & retrieve information: (2, 21)
- Knowledge of vocabulary: (5)
- Knowledge of semantic, syntactic, & visual grapho-phonetic cues: (6)
- Identification and understanding of main ideas: (13)
- Understand & organise or sequence material: (2)

aRs Score

Incorrect

To Be Achieved
- Make links between verbal & visual information: (4, 5, 18)
- Respond using understandings & Information: (10, 15, 23, 26, 29)
- Knowledge of poetic & figurative language: (10)
- Knowledge of vocabulary: (5, 7, 10, 31)
- Use grammatically correct structures: (7)
- Knowledge of semantic, syntactic, & visual grapho-phonetic cues: (7)
- Make use of prior knowledge: (20)
- Knowledge of publishing/text conventions (e.g., Index, Contents): (26)
- Make links between aspects of text: (27, 29, 32)

Gaps
- Respond using understandings & information: (1, 8, 9, 12, 16)
- Identification and understanding of main ideas: (1)
- Find, select, & retrieve Information: (1, 3, 16, 17)
- Use grammatically correct structures: (8, 9)
- Knowledge of semantic, syntactic, & visual grapho-phonetic cues: (3)
- Knowledge of vocabulary: (8, 9)
- Understand & organise or sequence material: (3)
- Make inferences: (12)
- Make links between verbal & visual information: (12)

This student
- aRs: 430
- Surface: 456
- Deep: 406
- Understanding: 419
- Connections: 414
- Grammar: 379

Level
- 2P

Year 5 mean
- 462
This report is designed to answer the question “Where are students relative to the targets of Curriculum Levels 2 to 6”? This report enables teachers to monitor the effect of teaching and learning activities on student progress within levels.
Target Setting/ Expectations

Teacher or student target

Polynomial regression target
# What Next Report

## What Next Report for Test: Geometry Y6 T3 2007

### Group: All Test Candidates

<table>
<thead>
<tr>
<th></th>
<th>Number Knowledge</th>
<th>Number Operations</th>
<th>Algebra</th>
<th>Measurement</th>
<th>Geometric Knowledge</th>
<th>Geometric Operations</th>
<th>Probability</th>
<th>Statistics</th>
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<tr>
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<td><strong>6 Proficient</strong></td>
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<td><strong>6 Basic</strong></td>
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<td><strong>4 Proficient</strong></td>
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<td><strong>3 Advanced</strong></td>
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<td><strong>3 Proficient</strong></td>
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<td><strong>3 Basic</strong></td>
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<td><strong>2 Advanced</strong></td>
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</tbody>
</table>

**Date Tested:** 20 July 2007

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**Level 3 Advanced: Geometric Operations**

Mathematics and Statistics achievement objectives - draft curriculum 2007

- **Shape**
  - Define plane shapes, prisms, pyramids, cones, and spheres by their spatial features.
  - Represent objects with drawings and models.

- **Position and orientation**
  - Create and use rectangular and rotation-based co-ordinate systems to specify locations and describe paths.

- **Transformation**
  - Describe the transformation (reflection, rotation, translation, or enlargement), that has mapped one object onto another.

**Assessment Resource Bank**

- Figure it out series

**Teacher resources**

- No resources found

---

Log on to the World Wide Web and go to http://asttle.org.nz/whatnext/mathematics

Please select resources in response to the average achievement of your group of students.
Imagine

- You had an accurate record of every lesson to reflect on what you actually said in the classroom.

- The process of teaching and learning was something you could touch, look at and reflect upon – a mirror.

- You received real feedback about how you’re progressing as a teacher in a non-punitive way.

- You did not need to have a video or person in the room recording and observing.
Real-time captioning

VISIBLE CLASSROOM

1. Audio to captioner
2. Text to user within 5 seconds
Teachers received a transcript at the end of their lesson.

Students

• delivered on tablets within 5 seconds
• 99%+ accurate
• interaction with transcript
• utilize at later date

TEACHER:
That is brilliant. The fact that you picked up on the language that tells us that it probably is fiction, isn't it.

What about the Duke of Disaster? [Q_Teacher] On the next page there is a story about the Duke of Disaster and I am going to ask you to...
Student Feedback on Learning
The Rubric

- Coding transcripts
  - Deepen understanding
  - Connect ideas
  - Scaffolded activities
  - Collaborate
  - Connections
  - Divergent
  - Convergent
  - Repeats comment
  - Positive classroom environment

- Review
  - Behaviour
  - Prompting
  - Instructions

- Summarize
- Feedback
- Resources
- Important
- Introduces & explains
- Goals
- Positive classroom environment
Learning and teaching analytics
Does it Work?
## Effect-sizes Overall: Preliminary findings

<table>
<thead>
<tr>
<th></th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides immediate, specific and corrective feedback</td>
<td>.41</td>
</tr>
<tr>
<td>Provides student with opportunity to deepen understanding,</td>
<td>.39</td>
</tr>
<tr>
<td>Sets clear behaviour expectations</td>
<td>.37</td>
</tr>
<tr>
<td>Students have opportunity to ask task-related questions</td>
<td>.31</td>
</tr>
<tr>
<td>Emphasises important points</td>
<td>.31</td>
</tr>
<tr>
<td>Concludes the lesson by recapitulating/summarising key points</td>
<td>.31</td>
</tr>
<tr>
<td>Repeats comment or question from student before answering</td>
<td>-.27</td>
</tr>
<tr>
<td>Asks closed questions or questions which have one correct answer</td>
<td>-.44</td>
</tr>
<tr>
<td>Provides step by step instructions on completing tasks/activities</td>
<td>-.47</td>
</tr>
<tr>
<td>Introduces and explains new/complicated vocabulary,</td>
<td>-.47</td>
</tr>
</tbody>
</table>
Optimizing the data

Optimizing the interpretation

It’s the interpretation, stupid (IT IS)