Using Data to Improve Student Achievement

A Practical Model That Works

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Current Practice

- What student data do you currently collect?
- How do you use this data to direct teaching and learning?
- Does current practice improve student achievement?

(Cooperative learning strategy Think – Pair – Share)
A practical model that works

~ Why collect data?

~ How to collect – suggested process - tests and assessment records

~ How to record data

~ What to do with data once collected

~ Policy and Procedure

~ Evidence
Why Collect Data?

• Best practice would dictate that we cannot meet students’ educational needs if we do not know what their needs are.

• What do the students already know? - What can they already do? What do they need to know, learn and do?

• Baseline data is used
  ~ to inform where a student is currently performing
  ~ for a comparison of knowledge gained to show growth
  ~ to provide guidance for teachers to plan future teaching and learning

• Result – IMPROVED STUDENT ACHIEVEMENT
How to Collect Data
~ Suggested Process

- Ask staff to list current assessment tools used in their classroom / school
- Evaluate these tools – which ones provide usable / valuable diagnostic data
- Where are the gaps? In what areas do we still need data eg. Year 4 reading - Year 3 Maths
- Develop an agreed practice
  ~ what tests in what year level – in what term/weeks?
  ~ how will they be administered?
  ~ how will the data be collected and recorded?
  ~ is there a budget to cover costs?
Example of an agreed practice

AGREED PRACTICE

Collecting Assessment Data

Related Policies
KLA Policies Assessment and Reporting

Purpose
This Agreed Practice outlines procedures and schedules for collecting assessment data and how this data is to be used to guide teaching and learning to improve student achievement.

Procedures

1. Assessment Schedule
An annual termly assessment schedule is presented across all grades. This ensures a consistent and progressive collection of compulsory data for each child. The data is transferred onto the Pyrmont Assessment Spreadsheet each term prior to the Intelligence Test.

Teachers must log their class data each term and analyse it to inform their teaching.

<table>
<thead>
<tr>
<th>Grades</th>
<th>Formal Assessment</th>
<th>Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Term 1 - Week 5</td>
</tr>
<tr>
<td></td>
<td>Marie Clay's Observational Survey</td>
<td>Letter /5</td>
</tr>
<tr>
<td></td>
<td>Test Identification Test</td>
<td>Word /5</td>
</tr>
<tr>
<td></td>
<td>Word Identification Test</td>
<td>Letter /5</td>
</tr>
<tr>
<td></td>
<td>Word Identification Test</td>
<td>Word /5</td>
</tr>
<tr>
<td></td>
<td>Early Reading Observation</td>
<td>Test Score:</td>
</tr>
<tr>
<td></td>
<td>Marie Clay Vocabulary Test</td>
<td>Term 5 - Week 5</td>
</tr>
<tr>
<td></td>
<td>Running Record from PM Benchmarking (normatively assessed)</td>
<td>T1/T2/T3/T4</td>
</tr>
<tr>
<td></td>
<td>SENA 1</td>
<td>T2 and T4</td>
</tr>
<tr>
<td></td>
<td>PAT-R Comprehension /18</td>
<td>T3 and T4</td>
</tr>
<tr>
<td></td>
<td>Peter Westwood 1 Minute Basic Number Test</td>
<td>T1/T2/T3/T4</td>
</tr>
</tbody>
</table>

Year 2
Running Record from PM Benchmarking (normatively assessed)

Peter's Spelling in Context
South Australian Spelling Test Test out of possible /70
AGAT
PAT-R Comprehension Year 1/18 Year 2/18
Nelson Numeracy Assessment
Peter Westwood 1 Minute Basic Number Test Total possible score /50
SENA 1

Year 3
Running Record from PM Benchmarking (normatively assessed)
South Australian Spelling Test Test out of possible /70
Peter's Spelling in Context
NAPLAN Year 9
AGAT
PAT-R Comprehension /28
PAT-R Vocabulary /35
Nelson Numeracy Assessment
Peter Westwood 1 Minute Basic Number Test Total possible score /50
PAT-R Math (As required)
SENA 1

Year 4, 5, & 6
Running Record from PM Benchmarking (normatively assessed)
South Australian Spelling Test Test out of possible /70
Peter's Spelling in Context
NAPLAN Year 9
AGAT
PAT-R Comprehension /28
PAT-R Vocabulary /35
PAT-R Math (As required)
Nelson Numeracy Assessment
Peter Westwood 1 Minute Basic Number Test Total possible score /50

Collecting Data Agreed Practice Timetable/Grade Here
Example of an agreed practice

2. Recording Data

Classroom teachers are responsible for administering the assessment activities in accordance with the Assessment Schedule and logging their class data each term. It is important for classroom teachers to administer the test as Learning Support Assistants are qualified to do this. In administering the test, classroom teachers also gain an insight into how each student thinks and learns.

3. Using Data

The data collected is used by teachers to guide teaching and learning and as such should be reviewed and analyzed on a regular basis and at a minimum once a term.

At the beginning of each school year, one professional development day will be put aside for teachers to use this baseline data as a means of learning about the students in the class and their individual and collective learning needs.

Teachers are reminded also to access other sources of data including NAPLAN results, SMART Data and Multiple Intelligence learning checklists.

When planning and programming teachers should follow the Planning Framework Flowchart.

Data can also be used as evidence of learning in interviews with parents.
How to Record Data

- Data needs to be accessible yet secure
  ~ all teaching staff need to have easy access
  ~ for privacy reasons it needs to be stored so it can only be accessed by approved staff

- Data needs to be meaningful
  ~ raw scores linked to school benchmarks
  ~ teachers test to gain an insight into how each student thinks and learns

- Data needs to be easily recorded
  ~ to be user friendly and time efficient eg number only

- This data does not replace the teachers’ own assessment records – this still needs to happen consistently across the school
School Sample of Data

- This is what suits our school – other schools will have different needs/ideas
- It meets the requirements of School Agreed Practice
- From experience we know that it is user friendly
- This format has evolved over the past three years

- 2009 Data
Using the Data

• The purpose for collecting the data is to use it to improve student achievement.
• Process needs to be clear and effective if the end result is to be achieved.
• Agreed practice is aligned to classroom programming and planning agreed practice.
PROGRAMMING & PLANNING FRAMEWORK

Initial Planning: Developing the intent

Base-line Data
- Literacy & Numeracy
- Inquiry & Skills in other KLA's

Generate General Topic
What is a broad, general topic that would be a useful vehicle for teaching/developing these observed needs?
What KLA's are we required to cover?

Base-line Data
- Student Background Knowledge

Use this feedback and the ELA assessment to refine the topic and provide focus for the where the core activities are developed.

Assessment Task(s)
- What task(s) will best assess the Foundation/KLA's outcome?

Practical Planning: Developing the observable

Assessment Criteria
- Rubric: What will you be looking for in the assessment tasks(s)?

Evaluate Unit Plan - QT
Before teaching, evaluate each aspect of the unit plan against QT:
Do we need to make any changes?

Teaching / Learning Tasks
- What core tasks will need students towards the Assessment Task?
- What independent tasks will provide extension or enrichment opportunities for students?

Notes about Initial Planning Phase

BASE - LINE DATA: Literacy and Numeracy
What ICT, literacy and numeracy concepts/skills do the students already have to use effectively to learn in this unit? (These can be the basis of some independent tasks)

What ICT, literacy and numeracy concepts/skills do the students need to learn and can be taught/deepened/consolidated through this unit? (These can be the basis of core activities/focus teaching)

Some sources of data:
- School progressive assessment data
- ICT skills checklists
- NAPLAN results
- SMART Data

BASE - LINE DATA: Inquiry & Skills in other KLA's
What independent inquiry strategies are the students already familiar or successful with? (become Independent activities)

What independent inquiry strategies are the need for students to learn? (Core activities/Focus teaching)

What discipline specific skills do the students have or need to develop further? (e.g. styles of artistic representation, scientific inquiry/measurement, historical inquiry/measurement)

Some sources of data and for reference:
- Evaluation of previous units
- Assessment / Observations from stand alone aspects of programme
- School Curriculum Policy Documents with skills charts

GENERAL TOPIC:
At this point choose a general topic area that would be a useful vehicle for developing the observed needs.

Some sources for topic ideas:
- Class discussions on topics the students are interested in learning about that year.
- Current events
- Excellent excursions/local events/curriculum available at that particular time.
- Resources available from the Resource Centre

Important: Choose the general topic based on its usefulness to learning the observed needs.

BASE - LINE DATA: Student’s Background Knowledge
What concepts/knowledge do students have about this general topic?
What vocabulary do they already have to bring to the topic?
What misunderstandings do the students have that need to be unravel?

Activities for collecting information:
- Piazza: MI Grid
- Keith Murdoch: Elements of Learning [http://www.net.edu.au/English/planning.html#essential]
- Other thinking/collaborative strategies
Practicalities

- Take time - a process that will take a year or two to implement and refine
- Help staff to acknowledge that while there is work involved, the results are worth it
- The data collected will not only help to improve student achievement but will provide data that gives evidence about your teaching and learning program
- Remember to budget for costs
Evidence it Works

The following tables show the school’s results in the national testing of literacy and numeracy (NAPLAN) in 2009.

**School and National Mean Scale Scores**

<table>
<thead>
<tr>
<th>YEAR 3</th>
<th>Reading</th>
<th>Writing</th>
<th>Spelling</th>
<th>Grammar &amp; Punctuation</th>
<th>Numeracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>411</td>
<td>414</td>
<td>405</td>
<td>420</td>
<td>394</td>
</tr>
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<td>School</td>
<td>438</td>
<td>421</td>
<td>407</td>
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<td>411</td>
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<table>
<thead>
<tr>
<th>YEAR 5</th>
<th>Reading</th>
<th>Writing</th>
<th>Spelling</th>
<th>Grammar &amp; Punctuation</th>
<th>Numeracy</th>
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<tr>
<td>National</td>
<td>494</td>
<td>485</td>
<td>487</td>
<td>500</td>
<td>487</td>
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<tr>
<td>School</td>
<td>515</td>
<td>491</td>
<td>496</td>
<td>520</td>
<td>511</td>
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The above tables show overall, St Anthony’s Primary School is performing very well in NAPLAN testing with these results indicating that we are achieving around or above the National Mean Scale Scores in all areas of Literacy and Numeracy across Years 3 and 5.
Evidence it Works

Proportion of students at or above the National Minimum Standard

<table>
<thead>
<tr>
<th>YEAR 3</th>
<th>Reading</th>
<th>Writing</th>
<th>Spelling</th>
<th>Grammar &amp; Punctuation</th>
<th>Numeracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>94%</td>
<td>96%</td>
<td>92%</td>
<td>93%</td>
<td>94%</td>
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<tr>
<td>School</td>
<td>98%</td>
<td>97%</td>
<td>92%</td>
<td>100%</td>
<td>98%</td>
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<table>
<thead>
<tr>
<th>YEAR 5</th>
<th>Reading</th>
<th>Writing</th>
<th>Spelling</th>
<th>Grammar &amp; Punctuation</th>
<th>Numeracy</th>
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<tbody>
<tr>
<td>National</td>
<td>92%</td>
<td>93%</td>
<td>92%</td>
<td>92%</td>
<td>94%</td>
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<tr>
<td>School</td>
<td>96%</td>
<td>93%</td>
<td>96%</td>
<td>99%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The above tables show that St Anthony's has a very high proportion of students in Years 3 and 5 at or above the National Minimum Standard in all areas. All Year 3 students in Grammar & Punctuation and Year 5 students in Numeracy are at or above the Standard.
Evidence it Works

Proportion of students in each Achievement Band

<table>
<thead>
<tr>
<th>YEAR 3</th>
<th>Reading</th>
<th>Writing</th>
<th>Spelling</th>
<th>Grammar &amp; Punctuation</th>
<th>Numeracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Band 6</td>
<td>30%</td>
<td>20%</td>
<td>22%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Band 5</td>
<td>23%</td>
<td>31%</td>
<td>20%</td>
<td>37%</td>
<td>28%</td>
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<tr>
<td>Band 4</td>
<td>25%</td>
<td>31%</td>
<td>35%</td>
<td>28%</td>
<td>32%</td>
</tr>
<tr>
<td>Band 3</td>
<td>12%</td>
<td>14%</td>
<td>8%</td>
<td>8%</td>
<td>17%</td>
</tr>
<tr>
<td>Band 2</td>
<td>8%</td>
<td>2%</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Band 1</td>
<td>2%</td>
<td>3%</td>
<td>8%</td>
<td>0%</td>
<td>2%</td>
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</table>

<table>
<thead>
<tr>
<th>YEAR 5</th>
<th>Reading</th>
<th>Writing</th>
<th>Spelling</th>
<th>Grammar &amp; Punctuation</th>
<th>Numeracy</th>
</tr>
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<tbody>
<tr>
<td>Band 8</td>
<td>17%</td>
<td>6%</td>
<td>6%</td>
<td>18%</td>
<td>12%</td>
</tr>
<tr>
<td>Band 7</td>
<td>26%</td>
<td>20%</td>
<td>22%</td>
<td>19%</td>
<td>25%</td>
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<tr>
<td>Band 6</td>
<td>25%</td>
<td>39%</td>
<td>40%</td>
<td>32%</td>
<td>31%</td>
</tr>
<tr>
<td>Band 5</td>
<td>19%</td>
<td>19%</td>
<td>21%</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>Band 4</td>
<td>9%</td>
<td>9%</td>
<td>7%</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>Band 3</td>
<td>4%</td>
<td>7%</td>
<td>4%</td>
<td>1%</td>
<td>0%</td>
</tr>
</tbody>
</table>

The above tables show that St Anthony’s has a very high percentage of students performing in the top two bands in Year 3 and a majority of our Year 5 students are performing in the top three bands.
Just give it a go!