Analysis of NAPLAN results 2012
Numeracy

Year 7

Analysis of Band Distributions vs National/State/Similar Schools

<table>
<thead>
<tr>
<th>Band</th>
<th>GMAS</th>
<th>State</th>
<th>National</th>
<th>Similar Schools</th>
</tr>
</thead>
<tbody>
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<td>Exempt</td>
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<td>9</td>
<td>6.4</td>
<td>9.2</td>
<td>10.4</td>
<td>8.9</td>
</tr>
</tbody>
</table>

NB: Band 9 is highest level of achievement.
The table shows a distribution closely reflecting that of ‘Similar Schools’.
The distribution is similar to the National and State distributions, though with slightly higher numbers in band 8 and less in band 9. GMAS also recorded lower numbers in the lower (weaker) bands 4 and 5.

Of the cohort of 94 students, 82 were rated above the National minimum standard with 10 students at the minimum standard for Year 7. Two students were rated below the minimum standard.

The mean score for GMAS was 540, with the State mean being 535 and the National mean 538.

The overall distribution for this cohort sees 15% in the top 20% nationally, 72% in the middle 60% and 13% in the bottom 20%.

The Mathematics department introduced the content of the Australian Curriculum to our programs in year 7 in 2011. This has exposed our students to similar content at this time to that of other states. There has been a noticeable increase in the level of Academic rigour offered by this program. Over time we would aim for a higher percentage of students in band 9 as a result. 2012 also saw the continuation of our extension students’ involvement in programs such as The Australian Problem Solving Maths Olympiad and the Mathematics Challenge for Young Australians.

Formal assessments throughout the year include a Calculator Allowed and Non-Calculator component to reflect the requirements of NAPLAN and WACE courses.
Analysis of Performance by Strand

Number
In 13 of 19 questions the percentage of GMAS students successfully completing the question met or exceeded the expected percentage. In 13 of the 19 questions the percentage of GMAS students answering the questions correctly equalled or exceeded the percentage of students Australia wide who answered the question correctly.

Areas requiring attention
- C22 – Calculate the value of an expression represented as a fraction
- NC4 – Adds decimals with one decimal place
- NC 24 – Predicts the change of multiplying a number by 0.1

Areas of Strength
- C1 – uses division to solve a word equation
- NC11 – Identifies the missing prime number from a sequence
- C16 – Calculates and applies a simple rate

Algebra
In 8 out of 12 questions the percentage of GMAS students successfully completing the question met or exceeded the expected percentage. In 8 of the 12 questions the percentage of GMAS students answering the questions correctly equalled or exceeded the percentage of students Australia wide who answered the question correctly.

Areas requiring attention
- C10 – Find the missing number in a multiplication number sequence
- NC12 – Identifies the informal rule that could generate ordered pairs
- NC14 – Find the next term of a pattern with increasing difference

Areas of Strength
- C12 – Applies inverse operations to find numbers that fit two rules
- C23 – Applies knowledge of rate to find a term in a repeating pattern
- NC22 – Solves a word problem involving proportional reasoning
Measurement/Chance & Data

In 10 out of 14 questions the percentage of GMAS students successfully completing the question met or exceeded the expected percentage. In 13 of the 14 questions the percentage of GMAS students answering the questions correctly equalled or exceeded the percentage of students Australia wide who answered the question correctly.

Areas requiring attention

- NC 20 – used given times to convert between time zones

Areas of Strength

- NC6 – Recognises the event with equally likely outcomes
- C4 – Interprets a pie graph and identifies the category representing a quarter

Space

In 10 out of 16 questions the percentage of GMAS students successfully completing the question met or exceeded the expected percentage. In 13 of the 16 questions the percentage of GMAS students answering the questions correctly equalled or exceeded the percentage of students Australia wide who answered the question correctly.

Areas requiring attention

- C30 – Determining angle moved by clock hands between times

Areas of Strength

- C8 – identifying 3D objects using correct names
- C9 – Degrees in Rotations
- C21 – Following directions and using scale to locate a position on a map
**Analysis of Band Distributions vs National/State/Similar Schools**

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<tr>
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<td>14.7</td>
<td>8.5</td>
<td>9.1</td>
<td>9.2</td>
</tr>
</tbody>
</table>

NB: Band 10 is highest level of achievement.

No students were achieving less than Band 6 compared to Similar Schools, which indicates that our students are achieving at a good level of achievement. The data also shows that from band 6 to 9 the distribution is similar to the State, National and Similar schools distributions. A high number in Band 7 and 8 which is comparable to similar schools and above state and National Distribution. Our GMAS Band 10 is well above the State, National and similar schools which shows a very good a high of number achieving at a high standard.

Of the cohort of 78 students, 70 were rated above the National minimum standard with 8 students at the minimum standard for Year 9. No students were rated below the minimum standard.

The overall distribution for this cohort sees 27% in the top 20% nationally, 65% in the middle 60% and 8% in the bottom 20%.

The Mathematics department will continue implementing the Australian Curriculum programs in year 9 in 2013. This will continue to expose our students to similar content at this time to that of other states. We have encouraged our extension students to participate in activities such as The Mathematics Challenge for Young Australians in order to improve their higher order problem solving skills. We are pleased with the increased number of students achieving in Band 10 and will continue with these types of strategies. The following Strand analysis gives an indication of areas of strength and areas requiring attention.
Analysis of Performance by Strand

Number
In 12 of 19 questions the percentage of GMAS students successfully completing the question met or exceeded the expected percentage. In 15 of 19 questions the percentage of GMAS students successfully completing the question met or exceeded the National percentage.

Areas requiring attention
- Identifying equivalent form of mixed number

Areas of Strength
- Converts fraction to decimal and round to 1 decimal place
- Identifies position of $\sqrt{80}$ on a number line
- Calculate and applies % to solve multi-step problem

Algebra
In only 4 of 15 questions the percentage of GMAS students successfully completing the question met or exceeded the expected percentage, although another 4 questions were only 2 percent below the expected percentage. It should be noted that in 12 of the 15 questions the percentage of GMAS students answering the questions correctly equalled or exceeded the percentage of students Australia wide who answered the question correctly.

Areas requiring attention
- Identifies and applies a linear rule between 2 variables
- Completes a linear rule using a table of values
- Identifies the expansion of an expression with indices
- Identifies the equation that models a problem involving division
- Identifies missing fractional values in an equation

Areas of Strength
- Substitution of a value into a linear rule to solve a problem
- Solving simple linear equations
- Identifies an equation that is not an identity
Measurement/Chance & Data
In 11 of 15 questions the percentage of GMAS students successfully completing the question met or exceeded the expected percentage. In 14 of the 15 questions the percentage of GMAS students answering the questions correctly equalled or exceeded the percentage of students Australia wide who answered the question correctly.

Areas requiring attention
- Identifying categories which match a scatterplot
- Calculate elapsed time in hours and minutes

Areas of Strength
- Calculate the difference between travel times
- Interpreting pie graphs
- Calculating relationships between distances as fractions

Space
In 10 of 15 questions the percentage of GMAS students successfully completing the question met or exceeded the expected percentage. In all of the 15 questions the percentage of GMAS students answering the questions correctly equalled or exceeded the percentage of students Australia wide who answered the question correctly.

Areas requiring attention
- Identifying quadrilaterals with perpendicular bisectors
- Identifying the number of edges in an irregular prism
- Finding the volume of an irregular prism

Areas of Strength
- Identifying compass directions on a map
- Rotational Symmetry