Presentation outline

- Learning progression
- SDG4.1.1
- Updates to MPL
- Rationale and goals
- Participants and procedures
- Outcomes
- Applications and next steps
Estimate quantities (e.g., lengths, volumes, angles, areas, and time intervals) in familiar contexts.

Compare lengths of objects where mental or physical manipulation is required.

Compare heights or lengths of objects that are aligned to a common base.

Use trigonometry to find the area of a triangle.

Learning progression:

- SDG4.1.1 c
  
- SDG4.1.1 b
  
- SDG4.1.1 a

Empirical scale

Levels with meaningful descriptions

Globally accepted benchmarks

Map populations

Map items

Investigate growth
Proportion of children and young people:

(a) in grades 2/3;

(b) at the end of primary; and

(c) at the end of lower secondary

achieving at least a minimum proficiency level in

(i) reading and

(ii) mathematics,

by sex
Updates to MPL

Main changes to the Minimum Proficiency Levels Unpacked document since 2020 (GAML 7)

- Revised and extended sample items for the Reading MPLs
- A summary description of changes to the MPLs from 2018 to 2022
- Statement on alignment between the SDG 4.1.1 MPLs and the Global Proficiency Framework
- Domains and constructs (main structural features) are well aligned for both mathematics and reading

<table>
<thead>
<tr>
<th>MPLs unpacked</th>
<th>MPL / GPF alignment closest to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>End of lower primary (SDG 4.1.1a)</td>
<td>Grade 2</td>
</tr>
<tr>
<td>End of primary (SDG 4.1.1b)</td>
<td>Grade 5</td>
</tr>
<tr>
<td>End of lower secondary (SDG 4.1.1c)</td>
<td>Grade 8</td>
</tr>
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</table>
To further develop approaches to harmonise quantitative data across assessment programs, and to provide substantive information about children’s learning levels and progress benchmarked against international standards.
The goal of the International Standard Setting Exercise (ISSE) was to place thresholds on empirical reading and mathematics Learning Progression Scales for:

- The Minimum Proficiency Level at the end of lower primary education
- The Minimum Proficiency Level at the end of primary education
- The Minimum Proficiency Level at the end of lower secondary education
Participants

Participant requirements

Expert or master teachers of reading or mathematics

Reading or mathematics subject matter experts, with experience in one of: assessment development, curriculum development, or pedagogical training.
Procedural:

1. Introduction, briefing (1 hr)
2. Review MPL, complete items (4 hr)
3. MPL descriptors (2 hr)
4. Preliminary bookmark review, panel bookmark placement (2 hr)
5. Item map completion, preliminary bookmark placement (3 hr)
6. Bookmark introduction, item maps (2 hr)
7. Panel bookmark review, bookmark placement consens (2 hr)
8. Participation feedback (1 hr)

Total: 17 hours commitment per person
Bookmark Method

Examiner

Instructions | Hide Dashboard | Comment on an Item | Summary | Submit my judgement | Sign out

10 / 15

Place Bookmark

If the drinking water in a particular area is naturally low in minerals, sodium fluoride can be added to the water supply in order to help children develop healthy teeth. The following passage is adapted from a magazine article on fluoridation of drinking water:

The pro-fluoride lobby tends to be passionate about fluoridating water supplies because they believe the benefits — in reducing cavities — are so self-evident. The anti-fluoride brigade can be just as passionate in putting their concerns, which often reflect mistrust of scientific assurances about the safety of fluoridation.

Ironically, public support for fluoridation seems to have fallen at the same time as cavity rates in children have declined — in 1975, 90% of 12-year-old Australian children had cavities, compared with 4% in 1995. Water fluoridation can’t take all the credit for this improvement, but a comparison of cavity rates in Brisbane (the only capital city not to fluoridate water) with fluoridated Townsville highlights an important role.

Caries tooth decay

Which one of the following claims about fluoridation in Australia is supported by evidence presented in the passage?

A. The anti-fluoride lobby claims that fluoridation increases cavities.
B. The pro-fluoride lobby represents wealthy and powerful interests.
C. Caries rates in children have declined in most capital cities since 1975.
D. Advocates of fluoridation place too much trust in scientific assurances.
E. The number of Australians supporting fluoridation has fallen by 4% since 1975.

Judgement:
Outcomes: quantitative [reliability]

Table 8: Cut-score location statistics across the standards and learning areas

<table>
<thead>
<tr>
<th>Learning area</th>
<th>Experts</th>
<th>MPL</th>
<th>Mean</th>
<th>N</th>
<th>Median</th>
<th>Mode</th>
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</table>

Figure 2: Cut-score location across standards and learning areas
Table 9: MPLb cut-scores comparisons

<table>
<thead>
<tr>
<th>Learning area</th>
<th>MILO MPLb on LPS</th>
<th>Mean MPLb</th>
<th>SD MPLb</th>
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</thead>
<tbody>
<tr>
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<td>4.5</td>
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<td>Mathematics</td>
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<td>104</td>
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</table>
Outcomes: quantitative

Theses are the proposed cuts scores as locations on the Learning Progression Scale. The Learning Progression Scales were transformed to have a mean of 120 and standard deviation of 10 scale score points.

<table>
<thead>
<tr>
<th>Learning area</th>
<th>MPL</th>
<th>cut-score</th>
<th>cut-score SD</th>
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</tr>
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</table>

![Diagram of Learning Progression Scales with quantitative outcomes](image)
Outcomes: operations

Remote operation worked well

Positive feedback from participants
Conclusion

Successful quantitative method

Successful remote operation

User-friendly process
Applications and next steps

The process of constructing Learning Progression Scales and locating MPLs in language other than English.

- A bilingual exercise could also be considered where items are translated into rather than sourced from other languages.

The use of Pairwise Comparison Method incorporating items from a national or regional assessment alongside items from the Learning Progression Scales used in the ISSE.

- This would facilitate the placement of the MPLs onto the national or regional scale.
The International Standard Setting Exercise is a step closer to building a high quality global framework for countries around the world to use their own regional or national learning assessments for monitoring progress towards achieving SDG 4.
Thank you