

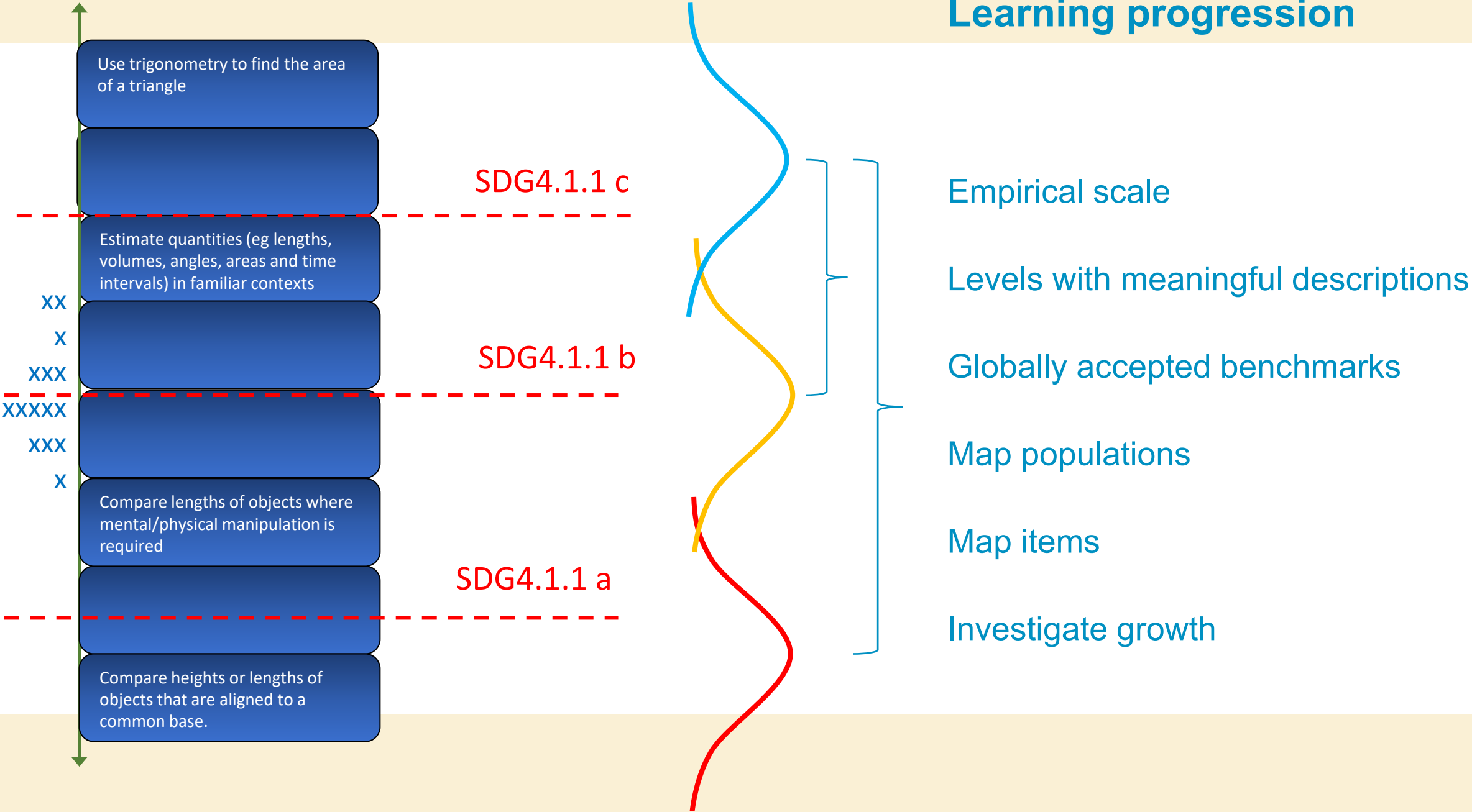
International Standard Setting Exercise

Presentation outline

- Learning progression
- SDG4.1.1
- Updates to MPL
- Rationale and goals
- Participants and procedures
- Outcomes
- Applications and next steps

The screenshot displays the ACER Reading Panellist Group interface. At the top, there is a navigation bar with the ACER logo, the text 'Reading Panellist Group ab', and several menu items: 'Instructions', 'Hide Dashboard', 'Comment on an Item', 'Summary', 'Submit my judgements', and 'Sign out'. Below the navigation bar, a sequence of 10 items is shown, numbered 1 to 10, with a '2 / 73' indicator and 'MPLa' and 'MPLb' status boxes. Item 2 is highlighted. To the right, a detailed view of item 2 is shown, featuring the 'MPLb' logo, the ID '19R03003', and the question: 'The question is read aloud to the student. The student answers orally. What is the last sound in dog?'. Below the question, there is a 'Key/Task Solution: /g/' and a 'Judgement: N' field. A green arrow points from the 'Submit my judgements' button in the navigation bar to the 'Judgement: N' field. At the bottom right, there is a logo for the Global Education Monitoring Centre, Australian Government, Department of Foreign Affairs and Trade, and the ACER logo with the text 'Australian Council for Educational Research'.

Learning progression



SDG 4.1.1

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

MPLs unpacked	MPL / GPF alignment closest to:
End of lower primary (SDG 4.1.1a)	Grade 2
End of primary (SDG 4 1.1b)	Grade 5
End of lower secondary (SDG 4.1.1c)	Grade 8

ISSE rationale

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.

ISSE goal

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

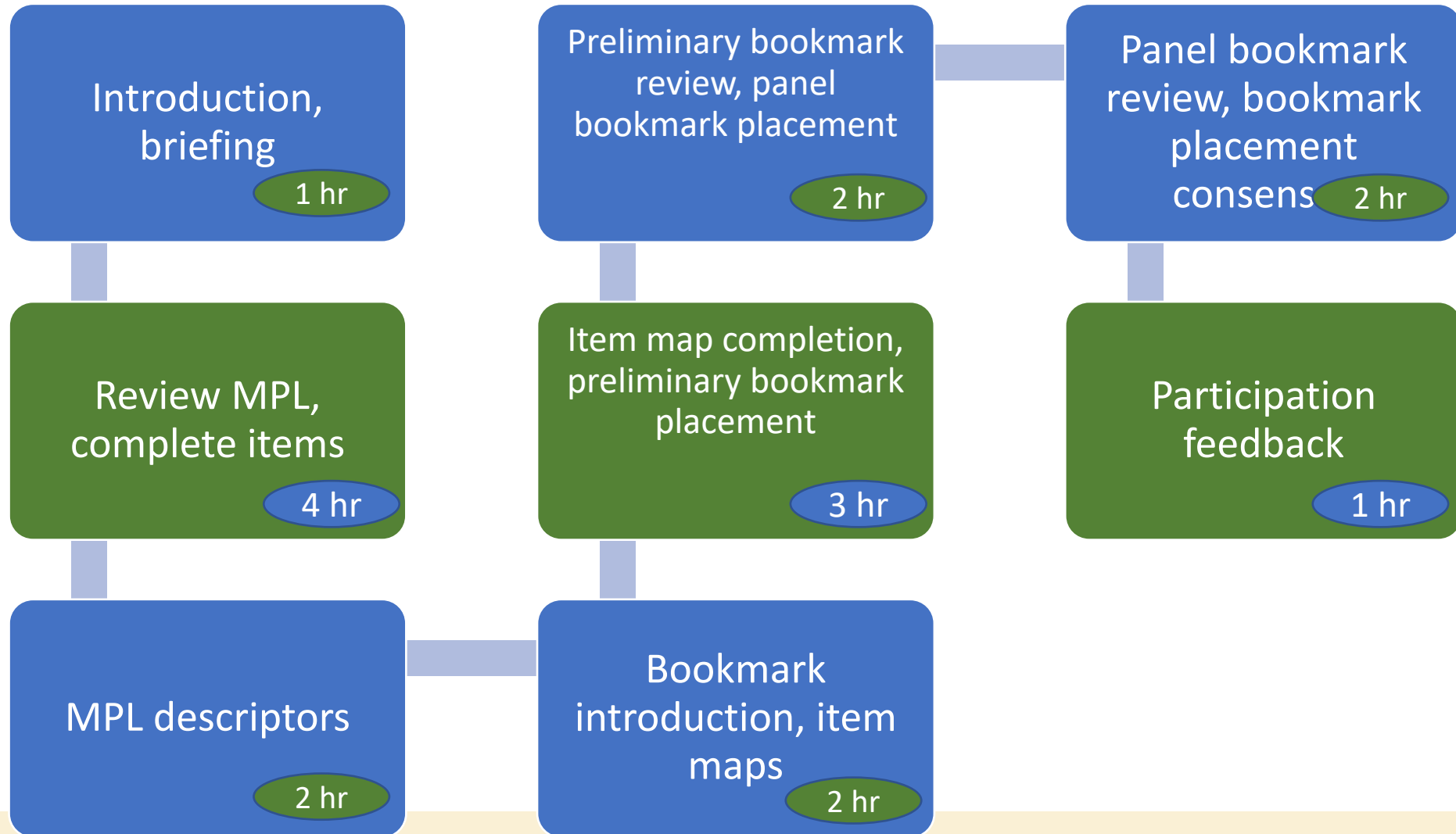
Reading or mathematics subject matter experts, with experience in one of: assessment development, curriculum development, or pedagogical training.

Gender	Mathematics	Reading
Female	18	24
Male	11	7
Total	29	31

Region	Mathematics	Reading
Africa	10	15
Asia	2	4
Europe	0	6
Oceania	14	8
Americas	3	5
Total	31	38

Educational learning area	Mathematics	Reading
Curriculum development	19	15
National or standardised assessment development	25	23
Teacher training, pedagogical development	18	19
Total	62	55

Procedure



Bookmark Method

The screenshot shows the ACER Examiner interface. At the top, the logo "ACER Examiner" is on the left, and navigation links "Instructions", "Hide Dashboard", "Comment on an Item", "Summary", "Submit my judgement", and "Sign out" are on the right. Below the navigation bar, there is a progress indicator showing "10 / 15" and two checkboxes labeled "MPLa" (checked) and "MPLb".

The main area displays a stack of 15 document thumbnails numbered 5 to 15. Item 10 is highlighted in purple. To the right of the thumbnails is a detailed view of item 10. The view is titled "Place Bookmark" and "Judgement:". The text of the item is as follows:

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 caries¹ — are so self-evident. The anti-fluoride brigade can be just as fervent in putting these 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 caries rates in children have declined — in 1977, 90% of 12-year-old Australian children had caries, compared with 46% in 1994. Water fluoridation can't take all the credit for this improvement, but a comparison of caries rates in Brisbane (the only capital city not to fluoridate water) with fluoridated Townsville highlights its important role.

¹ 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 denies that fluoridation reduces caries.
- B The pro-fluoride lobby represents wealthy and powerful interests.
- C Caries rates in children have declined in most capital cities since 1977.
- D Advocates of fluoridation place too much trust in scientific assurances.
- E The number of Australians supporting fluoridation has fallen by 44% since 1977.

On the right side of the detailed view, there are two numerical input fields for "Judgement:", with the top one containing the number "5" and the bottom one containing "10". Navigation arrows are visible at the bottom of the detailed view.

Outcomes: quantitative [reliability]

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

Learning area	Experts	MPL	Mean	N	Median	Mode
Reading	ACER	MPLa	72	1	72	72
Reading	Participants	MPLa	73	11	72	72
Reading	ACER	MPLb	91	4	89.5	88
Reading	Participants	MPLb	90	22	88.5	88
Reading	ACER	MPLc	116	3	116	112
Reading	Participants	MPLc	119	11	120	120
Mathematics	ACER	MPLa	86	3	85	85
Mathematics	Participants	MPLa	87	10	88	88
Mathematics	ACER	MPLb	102	5	104	104
Mathematics	Participants	MPLb	104	24	103	103
Mathematics	ACER	MPLc	133	2	133	132
Mathematics	Participants	MPLc	129	14	132	132

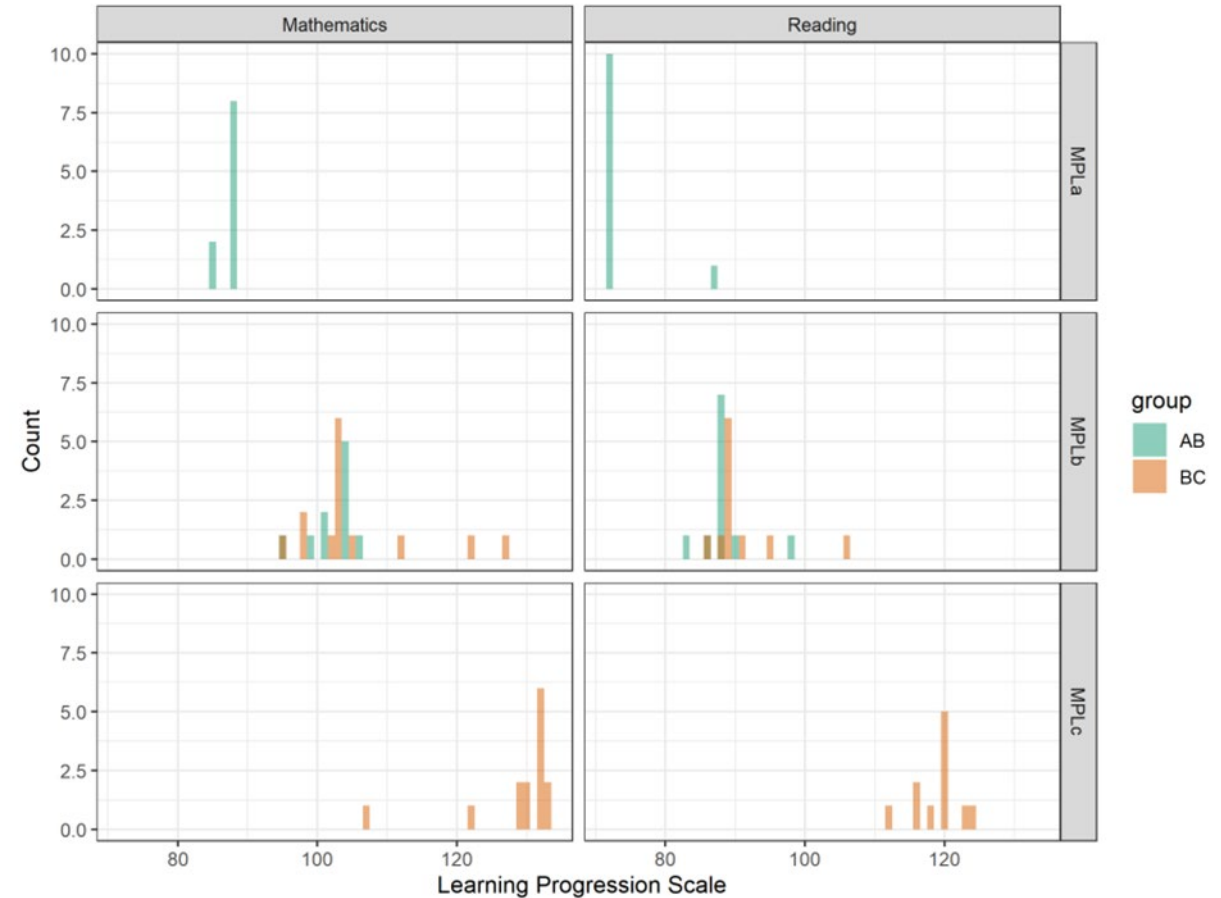


Figure 2: Cut-score location across standards and learning areas

Outcomes: quantitative [validation]

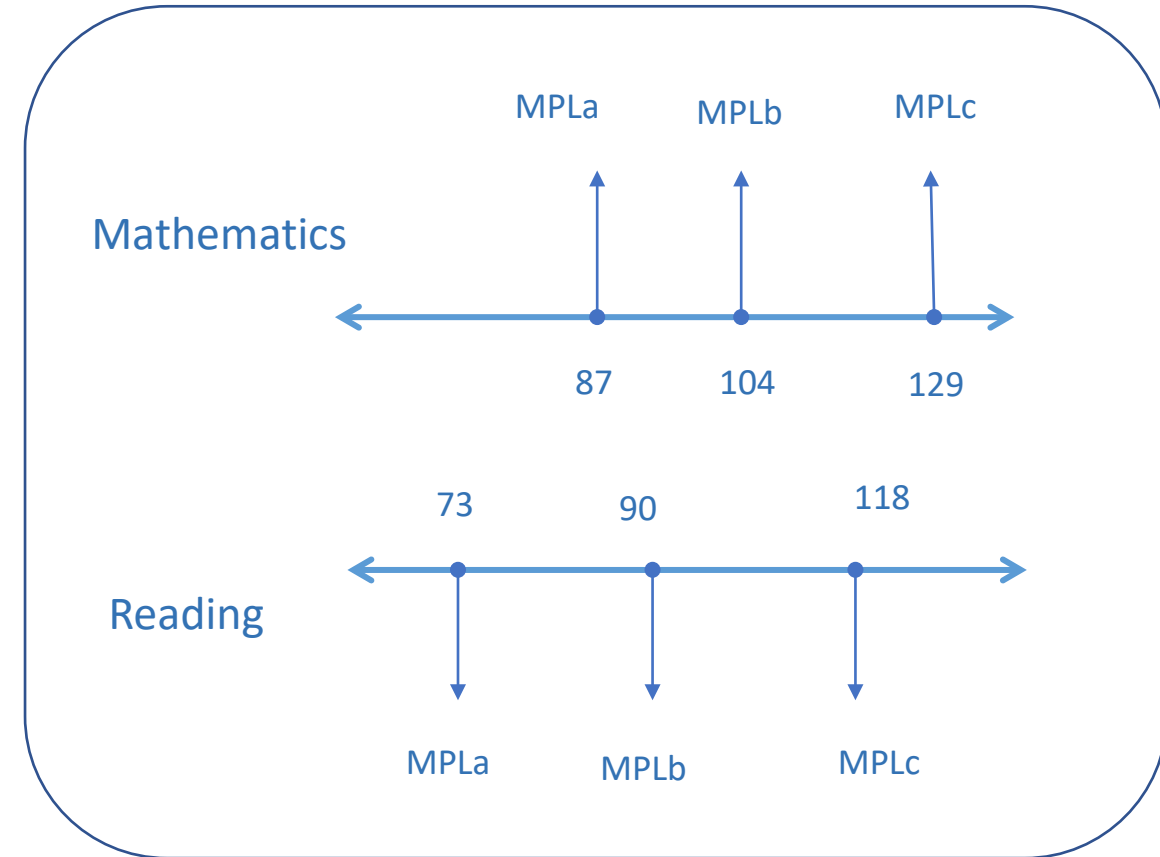
Table 9: MPLb cut-scores comparisons

Learning area	MILO MPLb on LPS	Mean MPLb	SD MPLb
Reading	93	90	4.5
Mathematics	100	104	6.7

Outcomes: quantitative

These 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.

Learning area	MPL	cut-score	cut-score SD
Reading	MPLa	73	4.3
Reading	MPLb	90	4.5
Reading	MPLc	118	3.6
Mathematics	MPLa	87	1.4
Mathematics	MPLb	104	6.7
Mathematics	MPLc	129	6.6



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.

Global Education Monitoring Centre



Australian Government
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Thank you

