



UNESCO  
INSTITUTE  
FOR  
STATISTICS



GLOBAL  
ALLIANCE  
TO MONITOR  
LEARNING



# Minimum proficiency levels (MLPs): outcomes of the consensus building meeting

17-18 October 2018  
Hamburg, Germany

**GAML5/4.1.1/4**



We very much appreciate your participation in this meeting. We ask that you please provide UIS with feedback by completing the questions that follow. Thank you.

Your country (please print): \_\_\_\_\_

Your name (please print): \_\_\_\_\_

Name of your organization: \_\_\_\_\_

A. One of the UIS Goals is:

In order to report on the three education levels [*in Grade 2 or 3 (4.1.1a), at the end of primary education (4.1.1b), and at the end of lower secondary education (4.1.1c)*] in two subject areas (Reading and Mathematics) as specified in indicator 4.1.1, there is a need to define performance or skills needed to achieve proficiency.

**Do you agree** that defining a *proficiency scale* based on the PLDs of different tests is a useful way for UIS to identify skills and abilities needed to achieve proficiency in order to report on the three education levels?

	Strongly disagree	Disagree	Agree	Strongly agree
(1) In Mathematics?				
(2) In Reading?				

B. Another UIS goal is:

To support the use of existing national assessments and cross-national assessments to facilitate measurement and reporting for learning outcomes.

**Do you agree that** the processes and the outputs presented are a useful way for UIS to support the use of existing regional assessments and cross-national assessments for *reporting student learning outcomes* on the three education levels?

	Strongly disagree	Disagree	Agree	Strongly agree
(3) In Mathematics?				
(4) In Reading?				

C. Minimum Proficiency Level:

**Do you agree that** the *minimum proficiency levels* presented for the three educational levels are appropriate for UIS to use in helping countries to report progress on SDG 4.1.1?

	Strongly disagree	Disagree	Agree	Strongly agree
(5) In Mathematics?				
(6) In Reading?				

D. We would appreciate any comments that you wish to make:

## Proposal for Minimum Proficiency Levels

### *Minimum Proficiency Levels for Mathematics*

Educational Level	Descriptor	Assessment PLD's that align with the descriptor	MPL's in the Assessments
<b>Grades 2-3</b>	Students demonstrate skills in number sense and computation, shape recognition and spatial orientation.	PASEC 2014 – Level 1 PASEC 2014 – Level 2 TERCE 2014 – Level 2	Level 2  Level 2
<b>Grades 4-6</b>	Students demonstrate skills in number sense and computation, basic measurement, reading, interpreting, and constructing graphs, spatial orientation, and number patterns.	PASEC 2014 – Level 1 SACMEQ 2007 – Level 3 SACMEQ 2007 – Level 4 PILNA 2015 – Level 6 TERCE 2014 – Level 1 TIMSS 2015 – Intermediate International	Level 2 Level 3  Level 5 Level 2 Intermediate International
<b>Grades 8 &amp; 9</b>	Students demonstrate skills in computation, application problems, matching tables and graphs, and making use of algebraic representations.	PISA 2015 – Level 2 TIMSS 2015 – Low International	Level 2 Intermediate International

#### **Unpacking of the general descriptors**

- Number sense: skills such as reading, writing, comparing, and ordering numbers.
- Computation: math problems presented without context, in arithmetic form, such as  $38 + 67$  or  $23 \times 92$ .
- Spatial orientation: position and direction on a diagram, map, or graph, often described by words such as “above”, “below”, “left”, “right”, “inside”, “outside”, etc.
- Application problems: also known as “word problems” or “story problems”, these are problems that are presented in context, without explicitly telling students *which* mathematical operation(s) to use.
- Algebraic representations: examples include expressions, equations, and inequalities, all of which contain one or more variables.

### Minimum Proficiency Levels for Mathematics

Educational Level	Descriptor	Assessment PLDs that align with the descriptor	MPL in the assessment, if available
<b>Grade 2</b>	They read and comprehend most of written words, particularly familiar ones, and extract explicit information from sentences.	<ul style="list-style-type: none"> <li>• PASEC (Gr. 2) – Level 3</li> </ul>	<ul style="list-style-type: none"> <li>• Level 3</li> </ul>
<b>Grade 3</b>	Students read aloud written words accurately and fluently. They understand the overall meaning of sentences and short texts. Students identify the texts' topic.	<ul style="list-style-type: none"> <li>• PISA-D – Level 1c</li> </ul>	<ul style="list-style-type: none"> <li>• Level 2</li> </ul>
		<ul style="list-style-type: none"> <li>• Uwezo – Std. 2 (Story with meaning)</li> </ul>	<ul style="list-style-type: none"> <li>• Std. 2 (Story with meaning)</li> </ul>
		<ul style="list-style-type: none"> <li>• PASEC 2014 (Gr. 2) – Level 4</li> </ul>	<ul style="list-style-type: none"> <li>• Level 3</li> </ul>
		<ul style="list-style-type: none"> <li>• TERCE (Gr. 3) – Level 1</li> </ul>	<ul style="list-style-type: none"> <li>• Level 2</li> </ul>
		<ul style="list-style-type: none"> <li>• UNICEF MICS 6 – Foundational Reading Skills</li> </ul>	<ul style="list-style-type: none"> <li>• Foundational Reading Skills</li> </ul>
		<ul style="list-style-type: none"> <li>• EGRA – Level 9</li> </ul>	<ul style="list-style-type: none"> <li>• Not specified</li> </ul>
		<ul style="list-style-type: none"> <li>• ASER – Std. 2 (story)</li> </ul>	<ul style="list-style-type: none"> <li>• Std. 2 (story)</li> </ul>
<b>Grades 4 &amp; 6</b>	Students interpret and give some explanations about the main and secondary ideas in different types of texts. They establish connections between main ideas on a text and their personal experiences as well as general knowledge.	<ul style="list-style-type: none"> <li>• SACMEQ 2007 – Level 3</li> </ul>	<ul style="list-style-type: none"> <li>• Level 3</li> </ul>
		<ul style="list-style-type: none"> <li>• PASEC 2014 (Gr. 6) – Level 2</li> </ul>	<ul style="list-style-type: none"> <li>• Level 3</li> </ul>
		<ul style="list-style-type: none"> <li>• PIRLS 2011 – Low</li> </ul>	<ul style="list-style-type: none"> <li>• Low</li> </ul>
		<ul style="list-style-type: none"> <li>• SERCE 2006 (Gr. 6) – Level 2</li> </ul>	<ul style="list-style-type: none"> <li>• Level 1 (appears that way from Technical reports)</li> </ul>
<b>Grades 8 &amp; 9</b>	Students establish connections between main ideas on different text types and the author's intentions. They reflect and draw conclusions based on the text.	<ul style="list-style-type: none"> <li>• PISA 2015 – Level 2</li> </ul>	<ul style="list-style-type: none"> <li>• Level 2</li> </ul>
		<ul style="list-style-type: none"> <li>• PILNA 2015 – Level 6</li> </ul>	<ul style="list-style-type: none"> <li>• Level 4 (grade 4) and Level 5 (grade 5)</li> </ul>
		<ul style="list-style-type: none"> <li>• TERCE 2014 (Gr. 3) – Level 3</li> </ul>	<ul style="list-style-type: none"> <li>• Level 2</li> </ul>
		<ul style="list-style-type: none"> <li>• PIRLS 11/16 – Intermediate</li> </ul>	<ul style="list-style-type: none"> <li>• Low</li> </ul>
		<ul style="list-style-type: none"> <li>• SACMEQ 2007 – Level 6</li> </ul>	<ul style="list-style-type: none"> <li>• Level 3</li> </ul>

Educational Level	Descriptor	Assessment PLDs that align with the descriptor	MPL in the assessment, if available
		<ul style="list-style-type: none"> <li>• TERCE 2014 (Gr. 6) – Level 1</li> </ul>	<ul style="list-style-type: none"> <li>• Level 2</li> </ul>

### **Unpacking of the general descriptors**

- Familiar words: words that are part of the students' vocabulary and that have been read before more than once.
- Explicit information: information that is presented in the text.
- Accuracy/Precision (in decoding): Correct recognition of the phonological form of a word based on its orthographic form.
- Fluency (in decoding): Presupposes accuracy and speed in word recognition. It can also include qualities such as volume (reading at a volume that is adequate to the instructions given or the audience), pace (adjusting the pace to the instructions, to improve precision or comprehension), expressiveness and tone (adjusting it to the audience' characteristics, to the content and the characters).
- Short texts: texts that are between 60-80 words in length.
- Overall meaning of a text or sentence: refers to the most relevant information of the text.
- Topic of a text: an identified theme or subject.
- Interpret: Extract and recognize implicit and explicit information from a written sentence or text to relate it with other information or apply it to new situations or problem solving.
- Text types: narrative, descriptive, expository, procedural, verbal interaction, that report a central paragraph and complementary information and reference texts.
- General knowledge: previous knowledge that the student has in reference to everyday life and world affairs.
- Author's intentions: may include the author's choices (literary resources, title, words, etc.); the author's feelings or motivations when/for writing, the author's aim when writing, the author's intentions when sharing a text in social media or publishing online.
- Reflect: Critically analyze and give an opinion about the information presented in a written sentence or text and the consequences the information may have.
- Draw conclusions: Generate conclusions from a text; generate conclusions about a topic considering different sources of information; generate conclusions about a character's motivations or intentions.

# Report of the Consensus Building Meeting on Proficiency Levels

## *Preamble*

The UNESCO Institute for Statistics' (UIS) goal as a custodian agency for reporting against the Sustainable Development Goals in Education (SDG4) is to develop standards, methodology and guidelines to enable countries in the production of data for the reporting of indicators. Indicator 4.1.1 requires member countries to report on the "*proportion of children and young people in Grade 2 or 3 (4.1.1a), at the end of primary education (4.1.1b), and at the end of lower secondary education (4.1.1c) to achieve at least a minimum proficiency level in reading and mathematics*".

This will include the establishment of the reporting mechanism that will enable national governments to effectively report the indicator in a comparable manner; to support the global education community and national governments to measure and monitor students' learning outcomes in mathematics and reading against SDG indicator 4.1.1 over time, and to utilize the data for making informed policy decisions. It is a further goal to support the use of existing national assessments and cross-national assessments to facilitate measurement and reporting for learning outcomes.

In order to report on the three education levels (*in Grade 2 or 3 (4.1.1a), at the end of primary education (4.1.1b), and at the end of lower secondary education (4.1.1c)*) in two subject areas (Reading and Mathematics) as specified in indicator 4.1.1, there is a need to define performance or skills needed to achieve proficiency.

## *Date and venue of the meeting*

The meeting took place **on 10-11 September 2018 in Paris, France** and was kindly hosted by the UNESCO headquarter, 7, place de Fontenoy, 75352 PARIS 07 SP, France

## *Objectives of the meeting*

The purposes of the meeting were for the participants to assist UIS to:

- Seek consensus for the reading and mathematics proficiency scales.
- Seek consensus for the alignment of the educational levels (Grades 2-3, Grades 4-6, Grades 8-9) to the respective reading and mathematics proficiency scales.
- Seek consensus for the proficiency levels of each educational level in reading and mathematics, respectively.
- Seek consensus for the placement of the "minimum proficiency level" for each educational level in reading and mathematics, respectively.

## ***Meeting agenda and participants***

The meeting agenda is shown in Appendix A. The list of participants and partners attending is shown in Appendix B.

## ***Meeting procedures and processes leading to the recommendations***

1. Prior to the meeting UIS conducted an analysis of the proficiency level descriptors (PLDs) of cross-national, regional, and community-led tests in mathematics and reading. The tests they analyzed are shown in Appendix C. The analysis resulted in:
  - An ordered list (proficiency scale) for mathematics and for reading of essentially all of the proficiencies that were represented in the tests shown in Appendix C.
  - An alignment of each of the tests' proficiency reporting levels in relation to the ordered proficiency scale.
  - Ordered lists of proficiencies that are aligned to each of the three levels of education (lower primary, upper primary, and lower secondary).
  - A suggested description of minimum proficiency at each of the three levels of education.
2. During the meeting the participant partners reviewed and discussed the methodology and each of the above results, offering suggestions for improvement as appropriate.
3. After review, discussions, and suggestions the participants reached consensus on the following:
  - The proposed methodology was deemed adequate and pragmatic.
  - The reading and mathematics proficiency scales were developed in a logical and systematic manner and are reasonable ways to relate the many cross-national, regional, and community-led tests that are now in use to a common ordered list of proficiencies against which users of these tests may come to understand the proficiencies that each assesses.
  - The alignment of the different tests reporting levels to the proficiency scale allows countries to use those alignments to help them report attainment of SDG 4.1.1 using one or more of the existing tests shown in Appendix C.
  - Minimum proficiency level at each of the three education levels can be demonstrated by reaching the level taken as minimum in either of the alternatives shown in Appendix D.
  - The minimum proficiency level content descriptions that were drafted at the meeting are appropriate but should be (a) rewritten for clarity and appropriate level of content detail and (b) reviewed by the meeting participants before presenting them at the GAML meeting.

## ***Concluding Consensus***

At the end of the meeting a formal questionnaire was administered to the participants. The results are summarized in Appendix E. The table shows that the participants reached a consensus

that the proficiency scale, the alignment of the assessment program levels, and the minimum proficiency levels defined were satisfactory and after a final review by the partner participants, they should be brought to the GAML meeting.

### ***Next Steps***

The work will encompass two additional steps. First, one is the unpacking of the general PLD into examples of tasks that could help to operationalize the concept. The second steps is to add examples of items in current assessment that embed the proficiency that is required in the PLD with the potentiality to add some generic items as examples as well.

## Appendix A. Agenda for the Paris Meeting September 2018

### Day 1: Monday, 10 September 2018

13:00 – 13:30	Registration
13:30 – 14:00	<b>1.</b> Opening session <ol style="list-style-type: none"> <li>Welcome</li> <li>Introduction of participants</li> <li>Objectives of the meeting</li> <li>Work plan for the meeting</li> </ol> <b>Chair:</b> Silvia Montoya, UIS
14:00-15:30	<b>2.</b> Status of the work <ol style="list-style-type: none"> <li>Overview of what has been done thus far, Dr. Anthony Nitko</li> <li>Review of reading proficiency scales, Ms. Carola Ruiz</li> <li>Review of mathematics proficiency scales, Mr. Michael Bell</li> </ol> DISCUSSION and CONSENSUS <b>Moderators:</b> Dr. Anthony Nitko
15:30-16:00	Coffee Break
16:00-17:00	<b>3.</b> Educational levels alignments to the proficiency scales <ol style="list-style-type: none"> <li>Review of reading alignment, Ms. Carola Ruiz</li> <li>Review of mathematics alignment, Mr. Michael Bell</li> </ol> DISCUSSION and CONSENSUS <b>Moderators:</b> Dr. Anthony Nitko, Mr. Michael Bell, Carola Ruiz

### Day 2: Tuesday, 11 September 2018

09:15 – 10:45	<b>4.</b> Proficiency Level Descriptors, Suggested performance levels and descriptors for each educational level <ol style="list-style-type: none"> <li>Introduction, Dr. Anthony Nitko</li> <li>Mathematics, Mr. Michael Bell</li> <li>Reading, Ms. Carola Ruiz</li> </ol> DISCUSSION and CONSENSUS <b>Moderator:</b> Dr. Anthony Nitko, Mr. Michael Bell, Ms. Carola Ruiz
10:45 – 11:00	Coffee Break
11:00 – 13:30	<b>5.</b> Minimum proficiency at each educational level <ol style="list-style-type: none"> <li>Minimum proficiency levels for mathematics, Mr. Michael Bell</li> <li>Minimum proficiency levels for reading, Ms. Carola Ruiz</li> </ol> DISCUSSION Moderator: Dr. Anthony Nitko
	<b>6.</b> Summary of consensus DISCUSSION Moderator: Dr. Anthony Nitko
	<b>7.</b> Concluding discussion <ol style="list-style-type: none"> <li>Value of these inputs</li> <li>Next steps</li> <li>Concluding remarks</li> </ol> <b>Chair:</b> Silvia Montoya, UIS

## Appendix B List of Participants at the Paris Consensus Meeting September 2018

First Name	Last Name	Organization
Maurice	Walker	ACER
Ketan	Verma	ASER Centre
Baela	Jamil	ASER/ITA
Juliane	Hencke	IEA
Oliver	Neuschmidt	IEA
Michael	Ward	OECD (Pfd)
Miyako	Ikeda	OECD (Pfd)
Hilaire	Hounkpodote	PASEC/CONFEMEN
Labass	Lamine	PASEC/CONFEMEN
Ethel Agnes	Pascua-Valenzuela	SEAMEO
Silvia	Montoya	UIS
Friedrich	Huebler	UIS
Ariel	Cuadro Cawen	UIS consultant
Carola	Ruiz Hornblas	UIS consultant
Anna Laura	Palombo Segredo	UIS consultant
Michael	Bell	UIS consultant
Anthony	Nitko	UIS consultant
Atilio	Pizarro	UNESCO Santiago (OREALC)
Camilla	Woeldike	UNICEF (SEA-PLM Secretariat)
Manuel	Cardoso	UNICEF
Marguerite	Clarke	World Bank
Caine	Rolleston	Young Lives

### Appendix C. Assessment Programs whose PLDs were Analyzed

	Assessment Name	Type of Assessment	Level of Assessment
ASER	Annual Status of Education Report	National Citizen-Led	Grades 2-3
EGRA	Early Grade Reading Assessment	Cross-national	Grades 2-3
PASEC	The Analysis Program of the CONFEMEN Education Systems	Regional	Grades 2-3
TERCE	Third regional Comparative and Exploratory Study	Regional	Grades 2-3
UNICEF MICS6	UNICEF Multiple Indicator Cluster Service	Household Survey	Grades 2-3
Uwezo	Capacity Annual Learning Assessment	National Citizen-Led	Grades 2-3
PASEC	The Analysis Program of the CONFEMEN Education Systems	Regional	Grades 4-6
PILNA	Pacific Islands Literacy and Numeracy Assessment	Regional	Grades 4-6
PIRLS	Progress in International Reading Literacy Study	Regional	Grades 4-6
SACMEQ	Southern and Eastern African Consortium for Monitoring Educational Quality	Regional	Grades 4-6
PILNA	Pacific Islands Literacy and Numeracy Assessment	Regional	Grades 4-6
PIRLS	Progress in International Reading Literacy Study	Cross-national	Grades 4-6
TERCE	Third regional Comparative and Exploratory Study	Regional	Grades 4-6
TIMSS	Trends in International Mathematics and Science Study	Cross-national	Grades 4-6
PISA, PISA -D	Progress in International Reading Literacy Study	Cross-national	Grades 8-9
TIMSS	Trends in International Mathematics and Science Study	Cross-national	Grades 8-9

### Appendix D. Minimum Proficiency in Reading and in Mathematics in relation to Results on Existing Cross-national, Regional, and Citizen-led Tests.

READING			
Edu. Level	Descriptor	Assessment PLDs that align with the descriptor	MPL in the assessment, if available
Grades 8 & 9	Students establish connections between main ideas on different text types and the author's intentions. They reflect and draw conclusions based on the text.	• PISA 2015 – Level 2	• Level 2
		• PILNA 2015 – Level 6	• Level 4 (grade 4) and Level 5 (grade 5)
		• TERCE 2014 (Gr. 3) – Level 3	• Level 2
		• PIRLS 2011/16 – Intermediate	• Low
		• SACMEQ 2007 – Level 6	• Level 3
		• TERCE 2014 (Gr. 6) – Level 1	• Level 2
Grades 4 & 6	Students interpret and give some explanations about the main and secondary ideas in different types of texts. They establish connections between main ideas on a text and their personal experiences as well as general knowledge.	• SACMEQ 2007 – Level 3	• Level 3
		• PASEC 2014 (Gr. 6) – Level 2	• Level 3
		• PIRLS 2011 – Low	• Low
		• SERCE 2006 (Gr. 6) – Level 2	• Level 1 (appears that way from Technical reports)
Grade 3	Students read aloud written words accurately and fluently. They understand the overall meaning of sentences and short texts. Students identify the texts' topic.	• PISA-D – Level 1c	• Level 2
		• Uwezo – Std. 2 (Story with meaning)	• Std. 2 (Story with meaning)
		• PASEC 2014 (Gr. 2) – Level 4	• Level 3
		• TERCE (Gr. 3) – Level 1	• Level 2
		• UNICEF MICS 6 – Foundational Reading Skills	• Foundational Reading Skills
		• EGRA – Level 9	• Not specified
• ASER – Std. 2 (story)	• Std. 2 (story)		
Grade 2	Students read and comprehend most written words, particularly familiar ones, and extract explicit information from sentences.	• PASEC (Gr. 2) – Level 3	• Level 3

MATHEMATICS			
Edu. Level	Descriptor	Assessment PLDs that align with the descriptor	Minimum Proficiency Level in the assessment
Grades 8 & 9	Students demonstrate skills in computation, application problems, matching tables and graphs, and making use of algebraic representations.	• PISA 2015 -- Level 2	• Level 2
		• TIMSS 2015 -- Low International	• Intermediate International
Grades 4 & 6	Students demonstrate skills in number sense and computation, basic measurement, reading, interpreting, and constructing graphs, spatial orientation, and number patterns.	• SACMEQ 2007 -- Level 3	• Level 3
		• SACMEQ 2007 -- Level 4	
		• PASEC 2014 -- Level 1	• Level 2
		• PILNA 2015 -- Level 6	• Level 5
		• TERCE 2014 -- Level 1	• Level 2
		• TIMSS 2015 -- intermediate international benchmark	• Intermediate international
Grade 2/3	Students demonstrate skills in number sense and computation, shape recognition and spatial orientation.	• TERCE 2014 -- Level 2	• Level 2
		• PASEC 2014 -- Level 1	• Level 2
		• PASEC 2014 -- Level 2	

### Appendix E. Rating Results of Questionnaire and Feedback from Participants at the Consensus Meeting, Paris, 10-11 September 2018

		Total Number	Omit	Strongly disagree	Disagree	Agree	Strongly agree
Do you agree that in general, after discussions and your suggestions, that the processes and the outputs presented in the past two days are a useful way for UIS to identify skills and abilities needed to achieve proficiency in order to report on the three education levels?	(1) In Mathematics?	13	8%	8%	0	62%	23%
	(2) In Reading?	13	8%	8%	0	62%	31%
Do you agree that in general, after discussions and your suggestions, that the processes and the outputs presented in the past two days are a useful way for UIS to support the use of existing national assessments and cross-national assessments for measuring and reporting student learning outcomes in order to report on the three education levels?	(3) In Mathematics?	13	0	8%	0	77%	15%
	(4) In Reading?	13	0	8%	0	77%	15%
Do you agree that the <i>minimum proficiency levels</i> for the three educational levels appropriate for UIS to use in helping countries to report progress on SDG 4.1.1?	(5) In Mathematics?	13	8%	8%	0	69%	15%
	(6) In Reading?	13	8%	8%	0	69%	15%