

## Appendix B: Reading proficiency scale, statistical tables and model characteristics

### Reading proficiency scale

Figure B1: SEA-PLM 2019 described proficiency scale for reading literacy, showing percentage of children in each band across all 6 countries

Band and % of students	Description of what students can typically do
<b>Band 6 and above</b> 317 points and above  29%	<b>Understand texts with familiar structures and manage competing information</b> Children are able to understand texts with familiar structures and manage competing information when locating ideas and details.  They are able to find multiple pieces of related information in texts with familiar structures and make connections between details and ideas to draw inferences.  They are able to use clues and explicit information to support inferences even when there is competing information. They are also able to identify the most likely reasons for events and the reactions of characters in narratives, where that information is only implied in the text.
<b>Band 5</b> 304 to less than 317 points  13%	<b>Make connections to understand key ideas</b> Children are able to connect pieces of related information across sections of texts, including tables and diagrams, enabling them to understand key ideas. The context and ideas in the texts that they can access may not be wholly familiar to the student.  They can recognize phrases and sentences that convey the same meaning and make simple inferences when there is some competing information. They can identify the purpose of prominent textual features in short, familiar texts and can use textual features to aid them in locating information.
<b>Band 4</b> 289 to less than 304 points  18%	<b>Understand simple texts</b> Children can understand simple texts that contain some ideas and information that are partly outside of their personal experience.  Children can locate different, short expressions that have the same meaning and use textual features to locate information in tables and other familiar text types. They can connect prominent information across adjacent sentences. They can make simple inferences when obvious clues are provided, in a range of simple texts of different types. Children are able to make plausible interpretations of information in a text and can identify the purpose of familiar text types.  In matching words to an image, they are able to choose between words that have similar but distinct meanings, and they can identify longer sentences that describe an image.
<b>Band 3</b> 274 to less than 289 points  19%	<b>Read a range of everyday texts fluently and begin to engage with their meaning</b> Children are able to read a range of everyday texts, such as simple narratives and personal opinions, and begin to engage with their meaning. They are able to locate prominent details in everyday texts, as well as connect related information where it is obvious and there is minimal competing information. They are typically able to make simple inferences from prominent information.
<b>Band 2 and below</b> less than 274 points  21%	<b>Identify relationships between words and their meanings</b> There were only a few items in SEA-PLM 2019 below Band 3, so it is not possible to create a general description of what children below Band 3 know and can do in reading. However, the items that were included indicate that children in Band 2, and possibly below Band 2, are typically able to match 1 of 4 given words to an illustration of a familiar object, place or symbol, where the task is simple, direct and repetitive. This demonstrates that children below Band 3 are able to identify the meaning of some words.

## Statistical tables

**Table B1: Logistic regression model for predicting low-performing students in reading**

Country	Female		Urban		Speaks language of test at home		Low SES		High SES		Household responsibilities		Preschool		Grade repetition	
Cambodia	<b>-0.51</b>	(0.1)	<b>-1.74</b>	(0.5)	<b>-0.82</b>	(0.2)	<b>0.27</b>	(0.1)	<b>-0.80</b>	(0.1)	<b>0.64</b>	(0.1)	-0.14	(0.1)	<b>0.54</b>	(0.1)
Lao PDR	-0.09	(0.1)	-0.42	(0.4)	<b>-0.81</b>	(0.1)	<b>0.41</b>	(0.1)	<b>-1.05</b>	(0.1)	0.14	(0.1)	-0.04	(0.1)	<b>0.49</b>	(0.1)
Malaysia	<b>-0.73</b>	(0.1)	0.04	(0.2)	<b>-0.93</b>	(0.2)	<b>0.81</b>	(0.1)	<b>-0.94</b>	(0.1)	<b>0.32</b>	(0.1)	-0.50	(0.3)	0.30	(0.5)
Myanmar	<b>-0.19</b>	(0.1)	<b>-0.43</b>	(0.2)	<b>-1.26</b>	(0.2)	<b>0.28</b>	(0.1)	<b>-0.55</b>	(0.1)	0.07	(0.1)	-0.08	(0.1)	<b>0.79</b>	(0.1)
Philippines	<b>-0.77</b>	(0.1)	<b>-0.73</b>	(0.2)	0.30	(0.2)	<b>0.93</b>	(0.1)	<b>-1.25</b>	(0.1)	<b>0.67</b>	(0.1)	-0.19	(0.1)	<b>0.75</b>	(0.1)
Viet Nam	<b>-0.31</b>	(0.1)	-0.27	(0.2)	<b>-1.24</b>	(0.2)	<b>0.58</b>	(0.1)	<b>-0.99</b>	(0.1)	0.13	(0.1)	<b>-0.34</b>	(0.2)	<b>0.81</b>	(0.2)
Average 6 countries	<b>-0.43</b>	(0.0)	<b>-0.59</b>	(0.1)	<b>-0.79</b>	(0.1)	<b>0.55</b>	(0.0)	<b>-0.93</b>	(0.1)	<b>0.33</b>	(0.0)	<b>-0.22</b>	(0.1)	<b>0.61</b>	(0.1)

Note: ( ) Standard errors appear in parentheses; statistically significant ( $p < 0.05$ ) coefficients in bold.

**Table B2 : Percent of students with at least one daily or weekly household responsibilities by country**

Country	Low performing readers		All students	
Cambodia	64.1	(1.8)	52.9	(1.3)
Lao PDR	77.3	(2.4)	77.2	(1.2)
Malaysia	54.4	(1.9)	45.2	(1.4)
Myanmar	52.1	(2.8)	45.3	(1.8)
Philippines	82.7	(1.3)	72.2	(1.1)
Viet Nam	59.1	(2.6)	48.8	(1.5)
Average 6 countries	64.9	(0.9)	56.9	(0.6)

Note: ( ) Standard errors appear in parentheses.

**Table B3: Percentage of students who have been offered extra reading support in the language of instruction**

Country	Support offered					
	Yes, for free		Yes, paid for by parent		No	
<b>Cambodia</b>	10.6	(2.4)	4.2	(1.6)	85.2	(2.7)
<b>Lao PDR</b>	51.6	(3.4)	9.1	(1.8)	39.3	(3.3)
<b>Malaysia</b>	55.8	(3.7)	14.9	(2.7)	29.3	(3.6)
<b>Myanmar</b>	28.5	(3.5)	0.8	(0.6)	70.7	(3.6)
<b>Philippines</b>	79.2	(3.1)	6.9	(1.7)	13.9	(2.7)
<b>Viet Nam</b>	32.0	(4.0)	1.9	(1.1)	66.1	(4.0)
<b>Average 6 countries</b>	43.0	(1.4)	6.3	(0.7)	50.7	(1.4)

Note: ( ) Standard errors appear in parentheses.

**Table B4: Percentage of students who have a language textbook**

Country	Language textbooks							
	No textbooks		One per student		2 students sharing		More than 2 students sharing	
<b>Cambodia</b>	2.9	(1.3)	93.8	(2.0)	3.3	(1.5)	0.0	(0.0)
<b>Lao PDR</b>	4.8	(1.9)	54.7	(3.9)	25.2	(3.6)	15.3	(2.6)
<b>Malaysia</b>	0.0	(0.0)	100.0	(0.0)	0.0	(0.0)	0.0	(0.0)
<b>Myanmar</b>	0.0	(0.0)	100.0	(0.0)	0.0	(0.0)	0.0	(0.0)
<b>Philippines</b>	1.9	(1.1)	73.8	(3.4)	16.8	(2.7)	7.5	(2.5)
<b>Viet Nam</b>	1.9	(1.1)	97.5	(1.3)	0.7	(0.0)	0.0	(0.0)
<b>Average 6 countries</b>	1.9	(0.5)	86.6	(1.0)	7.7	(0.8)	3.8	(0.6)

Note: ( ) Standard errors appear in parentheses.

**Table B5: Percentage of students by availability of school library**

Country	Yes		No	
<b>Cambodia</b>	74.6	(2.8)	25.4	(2.8)
<b>Lao PDR</b>	35.1	(3.5)	64.9	(3.5)
<b>Malaysia</b>	100.0	(0.0)	0.0	(0.0)
<b>Myanmar</b>	87.9	(2.4)	12.1	(2.4)
<b>Philippines</b>	50.6	(3.9)	49.4	(3.9)
<b>Viet Nam</b>	94.6	(1.8)	5.4	(1.8)
<b>Average 6 countries</b>	73.8	(1.1)	26.2	(1.1)

Note: ( ) Standard errors appear in parentheses.

Table B6: Total and explained variance in reading scores for each of the 4 multilevel models

Country	Variance estimates (Model 0)				Percent of variance explained by:					
					Model 1		Model 2		Model 3	
	Total variance	Within schools	Between schools	Percent between schools	Within schools	Between schools	Within schools	Between schools	Within schools	Between schools
Cambodia	467	331	135	29	12	34	3	55	12	60
Lao PDR	422	242	181	43	4	39	1	49	5	59
Malaysia	546	341	206	38	8	34	0	41	9	52
Myanmar	413	285	128	31	12	53	2	31	12	59
Philippines	422	220	202	48	2	78	2	78	23	83
Viet Nam	496	329	167	34	4	44	1	60	6	65
Average 6 countries	-	-	-	37	7	47	1	52	11	63

Table B7: Student-level regression coefficient factors explaining reading scores

Country	Student characteristics													
	Students' age		Students' gender (female)		Speaks language of instruction at home		Household responsibilities		Parental engagement		Parental report on students' capabilities		SES background at home	
	Model 1	Model 3	Model 1	Model 3	Model 1	Model 3	Model 1	Model 3	Model 1	Model 3	Model 1	Model 3	Model 1	Model 3
Cambodia	<b>-1.1</b> (0.3)	<b>-1.1</b> (0.3)	<b>6.2</b> (0.6)	<b>5.8</b> (0.6)	<b>7.0</b> (1.3)	<b>7.8</b> (1.3)	<b>-5.0</b> (0.6)	<b>-3.7</b> (0.6)	<b>0.2</b> (0.0)	<b>0.2</b> (0.0)	<b>0.1</b> (0.0)	<b>0.1</b> (0.0)	<b>4.1</b> (0.4)	<b>3.6</b> (0.4)
Lao PDR	-0.3 (0.3)	-0.1 (0.3)	<b>1.5</b> (0.6)	<b>1.3</b> (0.7)	<b>3.9</b> (0.8)	<b>4.1</b> (0.9)	<b>-2.1</b> (0.9)	-1.0 (0.9)	<b>0.2</b> (0.0)	<b>0.2</b> (0.0)	0.0 (0.0)	0.0 (0.0)	<b>3.9</b> (0.5)	<b>3.3</b> (0.5)
Malaysia	<b>3.3</b> (1.2)	<b>3.3</b> (1.2)	<b>4.9</b> (0.7)	<b>4.8</b> (0.7)	<b>9.4</b> (1.4)	<b>9.0</b> (1.4)	<b>-1.8</b> (0.7)	<b>-2.2</b> (0.7)	<b>0.2</b> (0.0)	<b>0.2</b> (0.0)	<b>0.2</b> (0.1)	<b>0.2</b> (0.1)	<b>3.2</b> (0.4)	<b>2.8</b> (0.4)
Myanmar	<b>-1.3</b> (0.3)	<b>-1.5</b> (0.3)	<b>2.0</b> (0.5)	<b>1.9</b> (0.6)	<b>7.6</b> (1.1)	<b>7.6</b> (1.3)	<b>-2.4</b> (0.6)	<b>-3.4</b> (0.7)	<b>0.3</b> (0.0)	<b>0.2</b> (0.0)	<b>0.1</b> (0.0)	0.1 (0.0)	<b>4.9</b> (0.4)	<b>4.6</b> (0.4)
Philippines	<b>-0.9</b> (0.3)	<b>-0.9</b> (0.3)	<b>4.8</b> (0.5)	<b>4.6</b> (0.5)	-1.9 (1.0)	-1.8 (0.9)	<b>-5.0</b> (0.5)	<b>-4.4</b> (0.5)	<b>0.5</b> (0.0)	<b>0.5</b> (0.0)	<b>0.1</b> (0.0)	<b>0.0</b> (0.0)	<b>5.1</b> (0.3)	<b>4.8</b> (0.3)
Viet Nam	-0.5 (0.8)	-0.6 (0.9)	<b>3.2</b> (0.6)	<b>3.1</b> (0.6)	3.1 (1.9)	2.3 (1.8)	-0.2 (0.7)	-0.8 (0.7)	<b>0.2</b> (0.0)	<b>0.2</b> (0.0)	0.0 (0.0)	0.0 (0.0)	<b>5.2</b> (0.4)	<b>4.5</b> (0.4)
Average 6 countries	-0.1 (0.3)	-0.1 (0.3)	<b>3.8</b> (0.2)	<b>3.6</b> (0.2)	4.9 (0.5)	4.8 (0.5)	<b>-2.7</b> (0.3)	<b>-2.6</b> (0.3)	<b>0.3</b> (0.0)	<b>0.2</b> (0.0)	<b>0.1</b> (0.0)	<b>0.1</b> (0.0)	<b>4.4</b> (0.2)	<b>3.9</b> (0.2)

Note: ( ) Standard errors appear in parentheses; statistically significant ( $p < 0.05$ ) coefficients in bold.

**Table B8: School-level regression coefficient factors explaining reading scores**

Country	School-level factors															
	School location (urban)				School support for tuition in language of instruction				Weekly lessons in language of instruction				School average of students' SES background			
	Model 2		Model 3		Model 2		Model 3		Model 2		Model 3		Model 2		Model 3	
Cambodia	5.5	(4.7)	3.8	(5.0)	-2.4	(2.1)	-3.2	(1.8)	3.2	(0.3)	2.6	(0.3)	0.3	(0.0)	0.2	(0.0)
Lao PDR	2.7	(4.0)	3.3	(3.5)	1.8	(1.5)	2.0	(1.5)	2.0	(0.3)	1.8	(0.4)	0.4	(0.0)	0.3	(0.0)
Malaysia	-4.4	(2.0)	-3.4	(1.8)	-1.4	(2.0)	-1.2	(1.9)	2.5	(1.5)	1.9	(1.4)	0.6	(0.1)	0.4	(0.1)
Myanmar	4.5	(2.6)	2.8	(2.0)	-4.4	(2.1)	-3.7	(1.5)	2.3	(0.3)	1.4	(0.3)	0.2	(0.0)	0.0	(0.0)
Philippines	4.5	(1.5)	4.3	(1.4)	-2.4	(1.7)	-2.3	(1.6)	2.5	(0.2)	1.3	(0.2)	0.5	(0.0)	0.3	(0.0)
Viet Nam	-4.1	(1.9)	-4.0	(2.0)	-4.4	(1.8)	-3.8	(1.6)	3.2	(0.4)	2.6	(0.5)	0.4	(0.0)	0.3	(0.0)
Average 6 countries	1.4	(1.2)	1.1	(1.2)	-2.2	(0.8)	-2.0	(0.7)	2.6	(0.3)	1.9	(0.3)	0.4	(0.0)	0.2	(0.0)

Note: ( ) Standard errors appear in parentheses; statistically significant (p<0.05) coefficients in bold.

**Table B9: Logistic regression model student-level coefficients for predicting high performers in reading from low SES background**

Country	Student-level factors											
	Female		Urban		Speaks language of instruction at home		Household responsibilities		Preschool		Grade repetition	
<b>Cambodia</b>	<b>0.53</b>	(0.2)	SNR	SNR	<b>1.19</b>	(0.5)	<b>-0.53</b>	(0.1)	0.07	(0.2)	<b>-0.49</b>	(0.2)
<b>Lao PDR</b>	-0.03	(0.3)	SNR	SNR	<b>0.60</b>	(0.3)	<b>-0.54</b>	(0.3)	0.03	(0.3)	<b>-0.68</b>	(0.2)
<b>Malaysia</b>	<b>0.45</b>	(0.2)	0.13	(0.3)	<b>0.54</b>	(0.3)	-0.32	(0.2)	0.50	(0.6)	SNR	SNR
<b>Myanmar</b>	0.14	(0.2)	0.65	(0.6)	<b>1.25</b>	(0.4)	<b>-0.35</b>	(0.2)	0.08	(0.3)	<b>-0.58</b>	(0.3)
<b>Philippines</b>	<b>0.83</b>	(0.3)	<b>0.71</b>	(0.3)	-1.10	(1.2)	<b>-1.17</b>	(0.3)	0.67	(0.7)	<b>-1.23</b>	(0.3)
<b>Viet Nam</b>	0.15	(0.2)	0.66	(0.3)	<b>1.31</b>	(0.4)	-0.07	(0.2)	0.58	(0.5)	<b>-1.03</b>	(0.4)
<b>Average 6 countries</b>	<b>0.34</b>	(0.1)	<b>0.54</b>	(0.1)	<b>0.63</b>	(0.2)	<b>-0.50</b>	(0.1)	0.32	(0.2)	<b>-0.80</b>	(0.1)

Note: ( ) Standard errors appear in parentheses; significant differences (p<0.05) in bold; SNR: statistics not reliable, category sample size <30.

**Table B10: Logistic regression model school-level coefficients for predicting high performers in reading from low SES background**

Country	School-level factors													
	School provision language of instruction support (0=No, 1=Yes)		One lesson per week in language of instruction		2–5 lessons per week in language of instruction		Ratio of teachers in school who received professional development in the past year (0=less than 30%, 1=30–60%)		Ratio of teachers in school who received professional development in the past year (0=less than 30%, 1=>60%)		School library (0=No, 1=Yes)		Textbook (0=No textbook or shared)	
<b>Cambodia</b>	0.04	(0.4)	<b>0.77</b>	(0.4)	<b>1.08</b>	(0.3)	0.41	(0.4)	0.30	(0.2)	-0.23	(0.2)	0.53	(0.3)
<b>Lao PDR</b>	0.08	(0.3)	0.74	(0.5)	<b>1.65</b>	(0.4)	0.17	(0.4)	<b>1.12</b>	(0.4)	0.38	(0.5)	0.46	(0.3)
<b>Malaysia</b>	-0.08	(0.3)	SNR	SNR	SNR	SNR	0.09	(0.8)	-0.06	(0.8)	SNR	SNR	SNR	SNR
<b>Myanmar</b>	-0.48	(0.3)	-0.05	(0.2)	<b>0.68</b>	(0.2)	-0.29	(0.5)	0.17	(0.3)	<b>0.63</b>	(0.3)	0.29	(0.6)
<b>Philippines</b>	0.80	(0.7)	0.53	(0.4)	<b>1.19</b>	(0.4)	-0.67	(0.8)	-0.54	(0.6)	<b>0.92</b>	(0.4)	0.33	(0.4)
<b>Viet Nam</b>	<b>-0.66</b>	(0.3)	1.12	(0.8)	1.41	(0.8)	0.26	(0.4)	0.18	(0.3)	0.33	(0.3)	SNR	SNR
<b>Average 6 countries</b>	-0.05	(0.2)	<b>0.62</b>	(0.2)	<b>1.20</b>	(0.2)	0.00	(0.2)	0.19	(0.2)	<b>0.41</b>	(0.1)	<b>0.40</b>	(0.1)

Note: ( ) Standard errors appear in parentheses; significant differences ( $p < 0.05$ ) in bold; SNR: statistics not reliable, category sample size <30.

## Model characteristics

### *Binary logistic model characteristics*

A set of binary logistic regressions were computed for each country to estimate the likelihood of a child being low-performing given some background variables. Each predictor variable was coded dichotomously as 0 or 1, where the reference category was assigned a value of 0 and the category of interest assigned a value of 1. For example, for the predictor variable 'gender', the reference category was 'female', and the category of interest was 'male'. The outcome variable modelled was whether the child was considered to be a low performer in reading.

For each predictor variable or student characteristic, the odds ratio (OR) can be interpreted in the following way:

- $OR = 1$ : student characteristic does not affect the odds of being a low performer in reading
- $OR < 1$ : student characteristic in the category of interest (i.e., code 1) is associated with lower odds of being a low performer in reading
- $OR > 1$ : student characteristic in the category of interest (i.e., code 1) is associated with higher odds of being a low performer in reading.