

Appendix D

Percentage of Students with Achievement Too Low for Estimation

Appendix D.1: Percentage of Students with Achievement Too Low for Estimation*

Country	Percentage of Students with Achievement Too Low for Estimation	Average Percent Correct
Armenia	8 (0.7)	34 (0.6)
Australia	2 (0.3)	52 (0.5)
Austria	0 (0.1)	55 (0.6)
Azerbaijan	5 (0.5)	40 (0.9)
Bahrain	5 (0.4)	41 (0.5)
Belgium (Flemish)	1 (0.1)	49 (0.4)
Chile	3 (0.3)	45 (0.4)
Chinese Taipei	0 (0.1)	59 (0.4)
Croatia	1 (0.1)	51 (0.4)
Czech Republic	0 (0.1)	56 (0.5)
Denmark	1 (0.2)	54 (0.5)
England	2 (0.2)	54 (0.6)
Finland	0 (0.1)	63 (0.4)
Georgia	4 (0.5)	41 (0.6)
Germany	1 (0.2)	54 (0.5)
Hong Kong SAR	1 (0.4)	56 (0.7)
Hungary	2 (0.3)	56 (0.7)
Iran, Islamic Rep. of	5 (0.5)	42 (0.6)
Ireland	2 (0.3)	52 (0.6)
Italy	1 (0.2)	53 (0.5)
Japan	0 (0.1)	60 (0.3)
Kazakhstan	2 (0.3)	48 (1.0)
Korea, Rep. of	0 (0.1)	65 (0.3)
Ψ Kuwait	18 (0.8)	28 (0.5)
Lithuania	1 (0.2)	52 (0.5)
Malta	6 (0.4)	40 (0.3)
✱ Morocco	28 (0.9)	21 (0.4)
Netherlands	0 (0.1)	54 (0.4)
New Zealand	2 (0.3)	48 (0.5)
Northern Ireland	2 (0.3)	52 (0.5)
Norway	1 (0.3)	47 (0.4)
Oman	13 (0.6)	32 (0.5)
Poland	2 (0.2)	49 (0.5)
Portugal	1 (0.2)	53 (0.8)
Qatar	11 (0.6)	34 (0.6)
Romania	5 (1.0)	51 (1.0)
Russian Federation	0 (0.1)	59 (0.7)
Saudi Arabia	6 (0.5)	38 (0.8)
Serbia	2 (0.3)	52 (0.6)
Singapore	1 (0.1)	66 (0.7)
Slovak Republic	1 (0.3)	55 (0.7)
Slovenia	1 (0.2)	53 (0.4)
Spain	1 (0.2)	50 (0.5)
Sweden	1 (0.2)	55 (0.5)
Thailand	4 (0.7)	44 (0.9)
Ψ Tunisia	21 (1.1)	26 (0.6)
Turkey	4 (0.6)	43 (0.7)
United Arab Emirates	7 (0.4)	38 (0.3)
United States	1 (0.1)	57 (0.4)
✱ Yemen	39 (1.5)	17 (0.4)

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2011

- * Students were considered to have achievement too low for estimation if their performance on the assessment was no better than could be achieved by simply guessing on the multiple choice assessment items. However, such students were assigned scale scores (plausible values) by the achievement scaling procedure, despite concerns about their reliability.
- ✱ Average achievement not reliably measured because the percentage of students with achievement too low for estimation exceeds 25%.
- Ψ Reservations about reliability of average achievement because the percentage of students with achievement too low for estimation does not exceed 25% but exceeds 15%.
- () Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

**Appendix D.1: Percentage of Students with Achievement Too Low for Estimation*
(Continued)**

Country	Percentage of Students with Achievement Too Low for Estimation	Average Percent Correct
Sixth Grade Participants		
Botswana	14 (0.8)	31 (0.7)
Honduras	6 (0.9)	37 (0.9)
Yemen	15 (1.3)	28 (0.7)
Benchmarking Participants		
Alberta, Canada	1 (0.2)	57 (0.5)
Ontario, Canada	1 (0.2)	54 (0.6)
Quebec, Canada	0 (0.1)	52 (0.5)
Abu Dhabi, UAE	8 (0.8)	36 (0.7)
Dubai, UAE	5 (0.4)	44 (0.3)
Florida, US	1 (0.1)	58 (0.7)
North Carolina, US	1 (0.2)	56 (0.9)

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2011

Appendix D.2: Percentage of Students with Achievement Too Low for Estimation*

Country	Percentage of Students with Achievement Too Low for Estimation	Average Percent Correct
Armenia	7 (0.5)	35 (0.5)
Australia	2 (0.3)	49 (1.0)
Bahrain	7 (0.4)	38 (0.3)
Chile	3 (0.3)	37 (0.4)
Chinese Taipei	1 (0.2)	59 (0.5)
England	2 (0.4)	52 (1.0)
Finland	1 (0.1)	56 (0.5)
Georgia	7 (0.5)	32 (0.4)
Ψ Ghana	21 (0.9)	21 (0.4)
Hong Kong SAR	1 (0.3)	52 (0.7)
Hungary	1 (0.2)	50 (0.6)
Indonesia	8 (0.8)	28 (0.5)
Iran, Islamic Rep. of	3 (0.3)	41 (0.7)
Israel	3 (0.3)	49 (0.8)
Italy	1 (0.2)	45 (0.4)
Japan	1 (0.1)	57 (0.5)
Jordan	6 (0.6)	37 (0.6)
Kazakhstan	2 (0.3)	43 (0.9)
Korea, Rep. of	0 (0.1)	58 (0.4)
Lebanon	10 (0.8)	29 (0.7)
Lithuania	1 (0.2)	48 (0.5)
Macedonia, Rep. of	10 (0.8)	32 (0.8)
Malaysia	7 (0.8)	33 (0.9)
Morocco	13 (0.5)	25 (0.2)
New Zealand	2 (0.3)	48 (0.9)
Norway	2 (0.3)	43 (0.5)
Oman	10 (0.5)	33 (0.4)
Palestinian Nat'l Auth.	9 (0.5)	33 (0.5)
Qatar	10 (0.5)	34 (0.5)
Romania	4 (0.5)	38 (0.7)
Russian Federation	1 (0.2)	54 (0.7)
Saudi Arabia	5 (0.6)	34 (0.6)
Singapore	1 (0.2)	64 (0.9)
Slovenia	1 (0.2)	54 (0.5)
Sweden	2 (0.2)	47 (0.5)
Syrian Arab Republic	6 (0.5)	32 (0.6)
Thailand	4 (0.4)	36 (0.7)
Tunisia	3 (0.3)	33 (0.4)
Turkey	3 (0.2)	43 (0.7)
Ukraine	2 (0.3)	45 (0.7)
United Arab Emirates	5 (0.2)	39 (0.4)
United States	1 (0.2)	50 (0.5)

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2011

- * Students were considered to have achievement too low for estimation if their performance on the assessment was no better than could be achieved by simply guessing on the multiple choice assessment items. However, such students were assigned scale scores (plausible values) by the achievement scaling procedure, despite concerns about their reliability.
- Ψ Reservations about reliability of average achievement because the percentage of students with achievement too low for estimation does not exceed 25% but exceeds 15%.
- () Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

**Appendix D.2: Percentage of Students with Achievement Too Low for Estimation*
(Continued)**

Country	Percentage of Students with Achievement Too Low for Estimation	Average Percent Correct
Ninth Grade Participants		
Botswana	9 (0.4)	30 (0.4)
Honduras	12 (0.8)	24 (0.5)
ψ South Africa	20 (0.6)	22 (0.3)
Benchmarking Participants		
Alberta, Canada	1 (0.1)	54 (0.5)
Ontario, Canada	1 (0.2)	49 (0.5)
Quebec, Canada	1 (0.3)	48 (0.6)
Abu Dhabi, UAE	5 (0.4)	38 (0.7)
Dubai, UAE	4 (0.4)	43 (0.4)
Alabama, US	3 (0.5)	43 (1.2)
California, US	2 (0.3)	45 (0.9)
Colorado, US	1 (0.3)	53 (1.0)
Connecticut, US	1 (0.4)	52 (1.0)
Florida, US	1 (0.3)	51 (1.5)
Indiana, US	1 (0.2)	52 (1.1)
Massachusetts, US	1 (0.5)	59 (1.1)
Minnesota, US	0 (0.2)	56 (1.1)
North Carolina, US	1 (0.3)	51 (1.3)

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2011

