Appendix D

Percentage of Students with Achievement Too Low for Estimation

TIMSS 2011 Mathematics 4th Grade

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

Country	Percentage of Students with Achievement Too Low for Estimation	Average Percent Correct
Armenia	8 (0.6)	40 (0.8)
Australia	3 (0.4)	54 (0.6)
Austria	1 (0.2)	52 (0.7)
Azerbaijan	7 (0.6)	44 (1.2)
Bahrain	9 (0.6)	37 (0.6)
Belgium (Flemish)	0 (0.1)	62 (0.5)
Chile	6 (0.4)	41 (0.5)
Chinese Taipei	0 (0.1)	71 (0.4)
Croatia	3 (0.3)	48 (0.4)
Czech Republic	2 (0.3)	52 (0.6)
Denmark	1 (0.3)	58 (0.6)
England	2 (0.3)	60 (0.8)
Finland	1 (0.2)	60 (0.6)
Georgia	9 (0.6)	40 (0.6)
Germany	1 (0.2)	57 (0.6)
Hong Kong SAR	0 (0.2)	74 (0.8)
Hungary	4 (0.4)	55 (0.7)
Iran, Islamic Rep. of	11 (0.6)	37 (0.7)
Ireland	2 (0.3)	56 (0.6)
Italy	2 (0.3)	52 (0.7)
Japan	0 (0.1)	70 (0.4)
Kazakhstan	3 (0.4)	52 (1.1)
Korea, Rep. of	0 (0.1)	74 (0.4)
Ж Kuwait	28 (0.9)	23 (0.4)
Lithuania	1 (0.2)	58 (0.6)
Malta	4 (0.3)	49 (0.3)
Ж Morocco	27 (0.8)	24 (0.6)
Netherlands	0 (0.2)	59 (0.4)
New Zealand	5 (0.4)	46 (0.5)
Northern Ireland	2 (0.3)	65 (0.6)
Norway	3 (0.5)	48 (0.7)
Ψ Oman	19 (0.7)	30 (0.4)
Poland	4 (0.4)	45 (0.5)
Portugal	1 (0.3)	59 (0.8)
Qatar	15 (0.7)	34 (0.6)
Romania	8 (1.1)	47 (1.2)
Russian Federation	1 (0.1)	61 (0.9)
Saudi Arabia	14 (1.0)	33 (0.9)
Serbia	4 (0.4)	54 (0.7)
Singapore	1 (0.1)	74 (0.7)
Slovak Republic	3 (0.5)	52 (0.8)
Slovenia	2 (0.3)	53 (0.5)
Spain	3 (0.4)	45 (0.6)
Sweden	2 (0.3)	50 (0.5)
Thailand	6 (0.9)	41 (1.0)
Ψ Tunisia	25 (1.2)	25 (0.5)
Turkey	6 (0.6)	45 (0.8)
United Arab Emirates	11 (0.4)	37 (0.4)
United States	1 (0.1)	60 (0.5)
Ж Yemen	48 (1.6)	16 (0.4)

* 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.

Ж 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.

TIMSS & PIRLS
International Study Center
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TIMSS 2011
Mathematics **4th Grade**

Country	Percentage of Students with Achievement Too Low for Estimation	Average Percent Correct
Sixth Grade Participants		
Botswana	11 (0.6)	35 (0.7)
Ψ Honduras	17 (1.5)	29 (0.9)
Җ Yemen	26 (1.5)	24 (0.6)
Benchmarking Participants		
Alberta, Canada	2 (0.3)	51 (0.6)
Ontario, Canada	2 (0.3)	54 (0.8)
Quebec, Canada	0 (0.1)	58 (0.6)
Abu Dhabi, UAE	14 (1.0)	34 (0.8)
Dubai, UAE	8 (0.3)	44 (0.4)
Florida, US	1 (0.2)	61 (0.7)
North Carolina, US	1 (0.2)	63 (1.0)

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

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Country	Percentage of Students with Achievement Too Low for Estimation	Average Percent Correct
Armenia	11 (0.7)	38 (0.6)
Australia	4 (0.4)	48 (1.3)
Ψ Bahrain	19 (0.6)	29 (0.3)
Chile	15 (0.7)	29 (0.4)
Chinese Taipei	2 (0.2)	72 (0.6)
England	4 (0.7)	48 (1.4)
Finland	2 (0.3)	49 (0.7)
Georgia	15 (0.8)	33 (0.6)
Ж Ghana	33 (1.2)	19 (0.4)
Hong Kong SAR	2 (0.4)	68 (0.9)
Hungary	5 (0.6)	49 (0.8)
Ψ Indonesia	21 (1.2)	24 (0.6)
Ψ Iran, Islamic Rep. of	16 (0.8)	30 (0.8)
Israel	6 (0.5)	51 (1.0)
Italy	4 (0.5)	46 (0.6)
Japan	1 (0.2)	64 (0.6)
Ψ Jordan	18 (0.9)	29 (0.5)
Kazakhstan	7 (0.7)	43 (1.0)
Korea, Rep. of	1 (0.1)	74 (0.5)
Lebanon	8 (0.7)	34 (0.8)
Lithuania	5 (0.4)	47 (0.6)
Ψ Macedonia, Rep. of	19 (1.1)	32 (0.9)
Malaysia	12 (1.1)	34 (1.0)
Ж Morocco	27 (0.7)	22 (0.2)
New Zealand	6 (0.6)	44 (1.4)
Norway	5 (0.5)	39 (0.6)
Ψ Oman	25 (0.7)	24 (0.3)
Ψ Palestinian Nat'l Auth.	17 (0.7)	29 (0.6)
Ψ Qatar	19 (0.6)	30 (0.5)
Romania	12 (0.7)	38 (0.8)
Russian Federation	2 (0.3)	56 (0.9)
Ψ Saudi Arabia	19 (1.0)	26 (0.7)
Singapore	1 (0.1)	73 (0.9)
Slovenia	3 (0.3)	47 (0.5)
Sweden	5 (0.4)	41 (0.5)
Ψ Syrian Arab Republic	23 (1.1)	25 (0.6)
Thailand	13 (0.8)	31 (0.9)
Tunisia	14 (0.7)	29 (0.6)
Turkey	12 (0.6)	38 (0.8)
Ukraine	7 (0.6)	42 (0.9)
United Arab Emirates	9 (0.3)	37 (0.5)
United States	3 (0.3)	48 (0.7)

* 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.

Ж 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.

TIMSS 2011
Mathematics **8th Grade**

Country	Percentage of Students with Achievement Too Low for Estimation	Average Percent Correct
Ninth Grade Participants		
Ψ Botswana	19 (0.6)	25 (0.4)
Җ Honduras	39 (1.3)	17 (0.5)
Җ South Africa	32 (0.9)	20 (0.4)
Benchmarking Participants		
Alberta, Canada	3 (0.4)	47 (0.7)
Ontario, Canada	3 (0.4)	49 (0.6)
Quebec, Canada	1 (0.2)	54 (0.7)
Abu Dhabi, UAE	10 (0.7)	35 (0.8)
Dubai, UAE	8 (0.5)	42 (0.5)
Alabama, US	8 (1.0)	38 (1.4)
California, US	4 (0.6)	45 (1.2)
Colorado, US	2 (0.4)	51 (1.2)
Connecticut, US	4 (0.6)	51 (1.3)
Florida, US	3 (0.7)	49 (1.7)
Indiana, US	2 (0.5)	51 (1.4)
Massachusetts, US	1 (0.3)	62 (1.5)
Minnesota, US	1 (0.3)	58 (1.3)
North Carolina, US	2 (0.4)	55 (1.8)

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

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