TIMSS 2011 The TIMSS 2011 Students Engaged in Science Lessons Scale, Fourth Grade

Source So

Exhibit 1: Items in the TIMSS 2011 Students Engaged in Science Lessons Scale, Fourth Grade

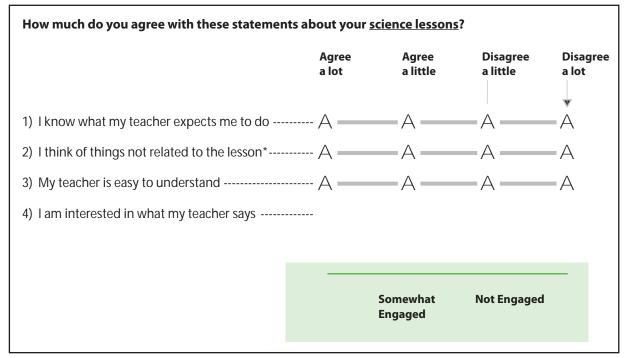


Exhibit 2: Item Parameters for the TIMSS 2011 Students Engaged in Science Lessons Scale, Fourth Grade

Item	delta	tau_1	tau_2	tau_3
ASBS05A	-1.21885	0.02395	-0.46687	0.44292
ASBS05B*	-0.54515	-0.34931	0.33456	0.01475
ASBS05C	-1.46142	-0.06779	-0.36569	0.43348
ASBS05D	-1.46652	0.01094	-0.31419	0.30325
ASBS05E	-1.23817	-0.03374	-0.21880	0.25254

*Reverse coded

Exhibit 3: Scale Transformation Constants

Scale Transformation Constants	
A = 10.12775	Transformed Scale Score - 10,12775 + 2,07021 + Logit Scale Score
B = 2.07921	Transformed Scale Score = 10.12775 + 2.07921 · Logit Scale Score

Exhibit 4: Equivalence Table of the Raw Score and the Transformed Scale Score

Raw Score	Transformed Scale Score	Cutpoint	Raw Score	Transformed Scale Score	Cutpoint
0	2.73756		8	7.74862	
1	4.45419		9	8.12296	
2	5.25563		10	8.52955	
3	5.81227		11	8.98589	
4	6.26556		12	9.51210	
5	6.66102		13	10.16210	10.1
6	7.02850		14	11.07233	
7	7.37908	7.4	15	13.03107	



	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
Country			ASBS05A	ASBS05B*	ASBS05C	ASBS05D	ASBS05E
Kazakhstan	0.50	40	0.54	0.22	0.69	0.76	0.78
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TIMSS & PIRLS METHODS AND PROCEDURES



Exhibit 6: Relationship Between the TIMSS 2011 Students Engaged in Science Lessons Scale, Fourth Grade, and TIMSS 2011 Science Achievement (Continued)

TIMSS 2011 Science Achievement (Continued)						
Country		Correlation with Achievement	Variance in Science Achievement Accounted for by Difference Between Regions			
			of the Scale (2)			
Netherlands	0.10	0.01	0.01			
New Zealand	0.09	0.01	0.01			
Northern Ireland	0.15	0.02	0.03			
Norway	0.08	0.01	0.01			
Oman	0.294	0.09	0.10			
Poland	6.11	0.01	0.02			
Portugal	0.23	0.05	0.04			
Qatar	0.29	0.08	0.10			
Romania	0.28	0.08	0.08			
Russian Federation	0.08	0.01	0.01			

TIMSS & PIRLS METHODS AND PROCEDURES