

TIMSS 2011

The TIMSS 2011 School Emphasis on Academic Success–Principal Reports Scale, Fourth Grade

The School Emphasis on Academic Success–Principal Reports (EAS-P) scale was created based on principals’ responses to the five statements described below. See [Creating and Interpreting TIMSS and PIRLS 2011 Context Questionnaire Scales](#) for more information on how the scales were formed.

Exhibit 1: Items in the TIMSS 2011 School Emphasis on Academic Success–Principal Reports Scale, Fourth Grade

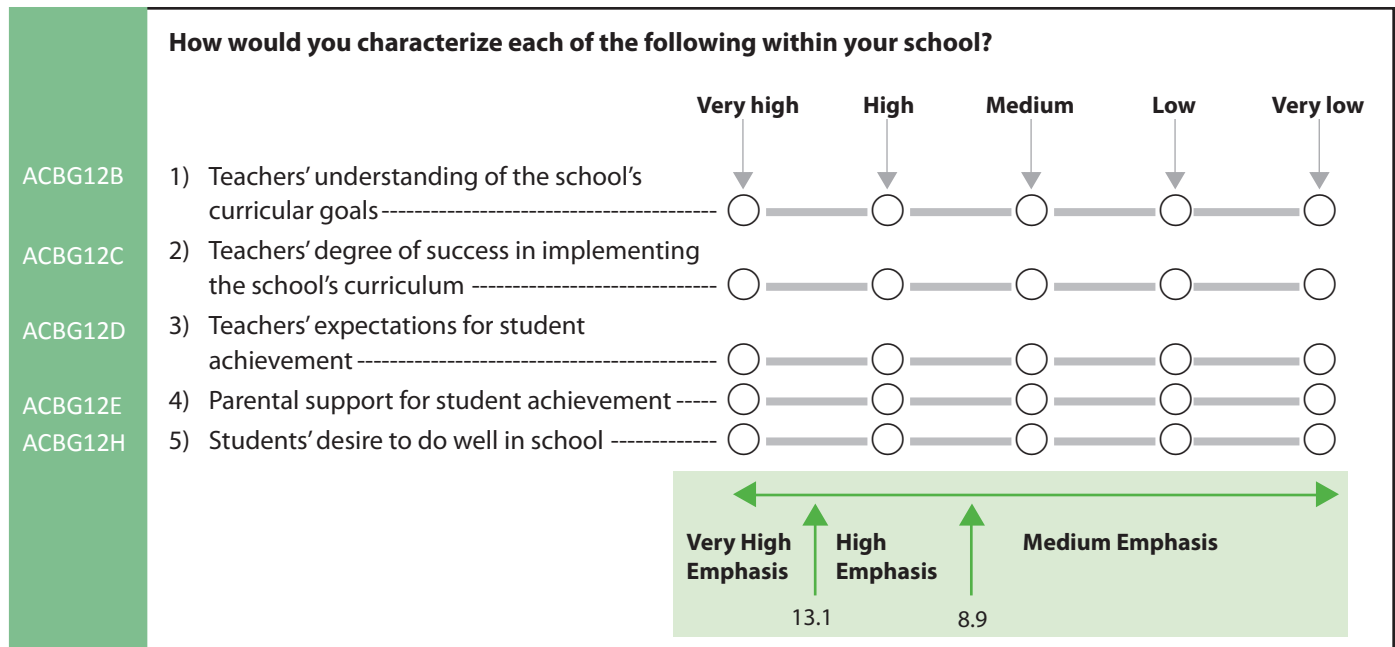


Exhibit 2: Item Parameters for the TIMSS 2011 School Emphasis on Academic Success–Principal Reports, Fourth Grade¹

Item	delta	tau_1	tau_2	tau_3
ACBG12B	0.01247	-1.87129	1.87129	
ACBG12C	0.51576	-1.84968	1.84968	
ACBG12D	0.66176	-1.83170	1.83170	
ACBG12E	0.71847	-2.84422	0.14139	2.70283
ACBG12H	-0.45173	-3.32324	0.05911	3.26413

¹ For the purpose of scaling, categories in which there were very few respondents were combined for several of the variables. The categories “Medium,” “Low,” and “Very low” were combined for variables ACBG12B, ACBG12C, and ACBG12D, and the categories of “Low” and “Very low” were combined for variables ACBG12E and ACBG12H, respectively.

Exhibit 3: Scale Transformation Constants

Scale Transformation Constants

$$A = 9.98925$$

$$B = 1.05242$$

$$\text{Transformed Scale Score} = 9.98925 + 1.05242 \cdot \text{Logit Scale Score}$$

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	4.71421		7	11.10261	
1	6.38629		8	11.81494	
2	7.38641		9	12.48141	
3	8.15267		10	13.16581	13.1
4	8.84870	8.9	11	13.98361	
5	9.55973		12	15.39023	
6	10.32653				

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS 2011 School Emphasis on Academic Success—Principal Reports Scale, Fourth Grade

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ACBG12B	ACBG12C	ACBG12D	ACBG12E	ACBG12H
Armenia	0.67	43	0.62	0.49	0.64	0.73	0.77
Australia	0.81	58	0.75	0.83	0.81	0.71	0.72
Austria	0.72	47	0.64	0.69	0.66	0.72	0.72
Azerbaijan	0.76	53	0.70	0.73	0.75	0.69	0.76
Bahrain	0.80	56	0.72	0.75	0.79	0.77	0.71
Belgium (Flemish)	0.55	36	0.57	0.68	0.63	0.59	0.53
Chile	0.83	61	0.75	0.82	0.81	0.75	0.76
Chinese Taipei	0.82	59	0.75	0.75	0.85	0.75	0.73
Croatia	0.78	53	0.69	0.79	0.73	0.68	0.76
Czech Republic	0.68	44	0.66	0.74	0.68	0.60	0.63
Denmark	0.80	56	0.61	0.75	0.80	0.75	0.82
England	0.74	52	0.72	0.80	0.81	0.49	0.74
Finland	0.74	50	0.69	0.77	0.78	0.66	0.64
Georgia	0.71	48	0.67	0.79	0.71	0.57	0.69
Germany	0.60	39	0.38	0.64	0.65	0.74	0.65
Hong Kong SAR	0.77	53	0.64	0.81	0.80	0.73	0.65
Hungary	0.78	53	0.58	0.80	0.64	0.83	0.75
Iran, Islamic Rep. of	0.69	46	0.70	0.70	0.66	0.61	0.70
Ireland	0.78	54	0.66	0.71	0.78	0.78	0.73
Italy	0.68	44	0.72	0.73	0.62	0.62	0.61
Japan	0.79	55	0.75	0.75	0.79	0.75	0.68
Kazakhstan	0.76	51	0.58	0.80	0.72	0.73	0.73
Korea, Rep. of	0.84	64	0.84	0.79	0.85	0.68	0.84

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS 2011 School Emphasis on Academic Success—Principal Reports Scale, Fourth Grade (Continued)

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ACBG12B	ACBG12C	ACBG12D	ACBG12E	ACBG12H
Kuwait	0.80	57	0.68	0.81	0.82	0.73	0.73
Lithuania	0.77	52	0.70	0.76	0.78	0.69	0.68
Malta	0.79	55	0.66	0.75	0.76	0.77	0.75
Morocco	0.84	62	0.84	0.88	0.78	0.72	0.72
Netherlands	0.71	47	0.72	0.74	0.75	0.49	0.69
New Zealand	0.78	55	0.73	0.85	0.79	0.64	0.66
Northern Ireland	0.83	62	0.79	0.85	0.83	0.74	0.73
Norway	0.67	44	0.69	0.74	0.65	0.63	0.58
Oman	0.71	47	0.77	0.74	0.68	0.62	0.61
Poland	0.81	57	0.77	0.84	0.82	0.65	0.69
Portugal	0.75	51	0.50	0.77	0.82	0.71	0.73
Qatar	0.80	57	0.81	0.82	0.75	0.65	0.75
Romania	0.78	54	0.72	0.78	0.74	0.69	0.75
Russian Federation	0.70	46	0.59	0.76	0.72	0.71	0.60
Saudi Arabia	0.82	59	0.76	0.82	0.78	0.73	0.74
Serbia	0.73	48	0.67	0.77	0.65	0.70	0.68
Singapore	0.84	61	0.64	0.85	0.85	0.73	0.84
Slovak Republic	0.62	40	0.67	0.70	0.37	0.69	0.68
Slovenia	0.75	50	0.67	0.77	0.69	0.70	0.70
Spain	0.73	48	0.65	0.75	0.71	0.72	0.64
Sweden	0.75	50	0.63	0.74	0.83	0.67	0.67
Thailand	0.77	53	0.78	0.82	0.71	0.76	0.55
Tunisia	0.76	53	0.80	0.82	0.79	0.56	0.64
Turkey	0.77	53	0.71	0.78	0.66	0.72	0.76
United Arab Emirates	0.82	59	0.78	0.79	0.78	0.75	0.75
United States	0.81	59	0.75	0.81	0.84	0.70	0.73
Yemen	0.72	47	0.70	0.79	0.65	0.69	0.61
Sixth Grade Participants							
Botswana	0.75	51	0.70	0.78	0.67	0.70	0.71
Honduras	0.81	58	0.80	0.82	0.74	0.71	0.72
Yemen	0.74	49	0.67	0.79	0.69	0.75	0.61
Benchmarking Participants							
Alberta, Canada	0.79	56	0.74	0.80	0.80	0.72	0.67
Ontario, Canada	0.80	57	0.74	0.82	0.83	0.69	0.67
Quebec, Canada	0.80	57	0.71	0.79	0.77	0.75	0.74
Abu Dhabi, UAE	0.81	58	0.80	0.82	0.74	0.76	0.69
Dubai, UAE	0.87	67	0.82	0.85	0.87	0.73	0.81
Florida, US	0.84	63	0.74	0.85	0.84	0.81	0.73
North Carolina, US	0.78	55	0.64	0.78	0.84	0.74	0.68

Exhibit 6: Relationship Between the TIMSS 2011 School Emphasis on Academic Success–Principal Reports Scale, Fourth Grade, and TIMSS 2011 Achievement

Country	Pearson's Correlation with Achievement				Variance in Achievement Accounted for by Difference Between Regions of the Scale (η^2)	
	(r)		(r ²)		Mathematics	Science
	Mathematics	Science	Mathematics	Science		
Armenia	0.08	0.09	0.01	0.01	0.01	0.01
Australia	0.25	0.27	0.06	0.07	0.06	0.06
Austria	0.11	0.11	0.01	0.01	0.01	0.01
Azerbaijan	0.02	0.05	0.00	0.00	0.00	0.01
Bahrain	0.20	0.18	0.04	0.03	0.04	0.03
Belgium (Flemish)	0.07	0.09	0.01	0.01	0.01	0.01
Chile	0.25	0.25	0.06	0.06	0.05	0.05
Chinese Taipei	0.10	0.10	0.01	0.01	0.00	0.01
Croatia	0.09	0.07	0.01	0.00	0.01	0.01
Czech Republic	0.07	0.07	0.00	0.00	0.00	0.00
Denmark	0.06	0.07	0.00	0.00	0.00	0.00
England	0.11	0.10	0.01	0.01	0.02	0.01
Finland	0.13	0.12	0.02	0.01	0.01	0.01
Georgia	0.11	0.09	0.01	0.01	0.01	0.00
Germany	0.24	0.25	0.06	0.06	0.05	0.06
Hong Kong SAR	0.04	0.04	0.00	0.00	0.00	0.00
Hungary	0.25	0.25	0.06	0.06	0.05	0.05
Iran, Islamic Rep. of	0.14	0.14	0.02	0.02	0.02	0.02
Ireland	0.14	0.15	0.02	0.02	0.02	0.02
Italy	0.05	0.06	0.00	0.00	0.02	0.02
Japan	0.13	0.13	0.02	0.02	0.01	0.01
Kazakhstan	-0.01	-0.05	0.00	0.00	0.00	0.00
Korea, Rep. of	0.07	0.08	0.00	0.01	0.00	0.01
Kuwait	0.08	0.07	0.01	0.00	0.01	0.01
Lithuania	0.15	0.15	0.02	0.02	0.02	0.02
Malta	0.17	0.19	0.03	0.04	0.03	0.05
Morocco	0.16	0.17	0.02	0.03	0.03	0.03
Netherlands	0.08	0.10	0.01	0.01	0.01	0.01
New Zealand	0.24	0.25	0.06	0.06	0.04	0.04
Northern Ireland	0.13	0.16	0.02	0.02	0.02	0.03
Norway	0.11	0.09	0.01	0.01	0.01	0.01
Oman	0.09	0.08	0.01	0.01	0.01	0.01
Poland	0.15	0.14	0.02	0.02	0.02	0.02
Portugal	0.13	0.14	0.02	0.02	0.01	0.01
Qatar	0.23	0.21	0.06	0.04	0.03	0.02
Romania	0.20	0.19	0.04	0.04	0.03	0.02
Russian Federation	0.01	0.03	0.00	0.00	0.02	0.03

Exhibit 6: Relationship Between the TIMSS 2011 School Emphasis on Academic Success–Principal Reports Scale, Fourth Grade, and TIMSS 2011 Achievement (Continued)

Country	Pearson's Correlation with Achievement				Variance in Achievement Accounted for by Difference Between Regions of the Scale (η^2)	
	(r)		(r ²)		Mathematics	Science
	Mathematics	Science	Mathematics	Science		
Saudi Arabia	0.15	0.23	0.02	0.06	0.02	0.05
Serbia	0.08	0.08	0.01	0.01	0.01	0.01
Singapore	0.17	0.18	0.03	0.03	0.02	0.02
Slovak Republic	0.17	0.17	0.03	0.03	0.02	0.02
Slovenia	0.06	0.03	0.00	0.00	0.00	0.00
Spain	0.19	0.19	0.04	0.04	0.03	0.03
Sweden	0.14	0.14	0.02	0.02	0.01	0.01
Thailand	-0.01	-0.02	0.00	0.00	0.01	0.01
Tunisia	0.12	0.12	0.02	0.01	0.01	0.01
Turkey	0.29	0.28	0.09	0.08	0.03	0.03
United Arab Emirates	0.21	0.22	0.04	0.05	0.04	0.04
United States	0.17	0.17	0.03	0.03	0.03	0.04
Yemen	0.09	0.12	0.01	0.01	0.01	0.01
International Median	0.13	0.12	0.02	0.02	0.01	0.01
Sixth Grade Participants						
Botswana	0.30	0.31	0.09	0.10	0.08	0.09
Honduras	-0.02	-0.03	0.00	0.00	0.00	0.01
Yemen	0.14	0.16	0.02	0.02	0.03	0.04
Benchmarking Participants						
Alberta, Canada	0.11	0.11	0.01	0.01	0.01	0.01
Ontario, Canada	0.14	0.14	0.02	0.02	0.02	0.02
Quebec, Canada	0.16	0.16	0.02	0.03	0.02	0.02
Abu Dhabi, UAE	0.13	0.15	0.02	0.02	0.01	0.01
Dubai, UAE	0.31	0.32	0.10	0.10	0.11	0.11
Florida, US	0.21	0.23	0.04	0.05	0.07	0.08
North Carolina, US	0.21	0.22	0.04	0.05	0.04	0.04