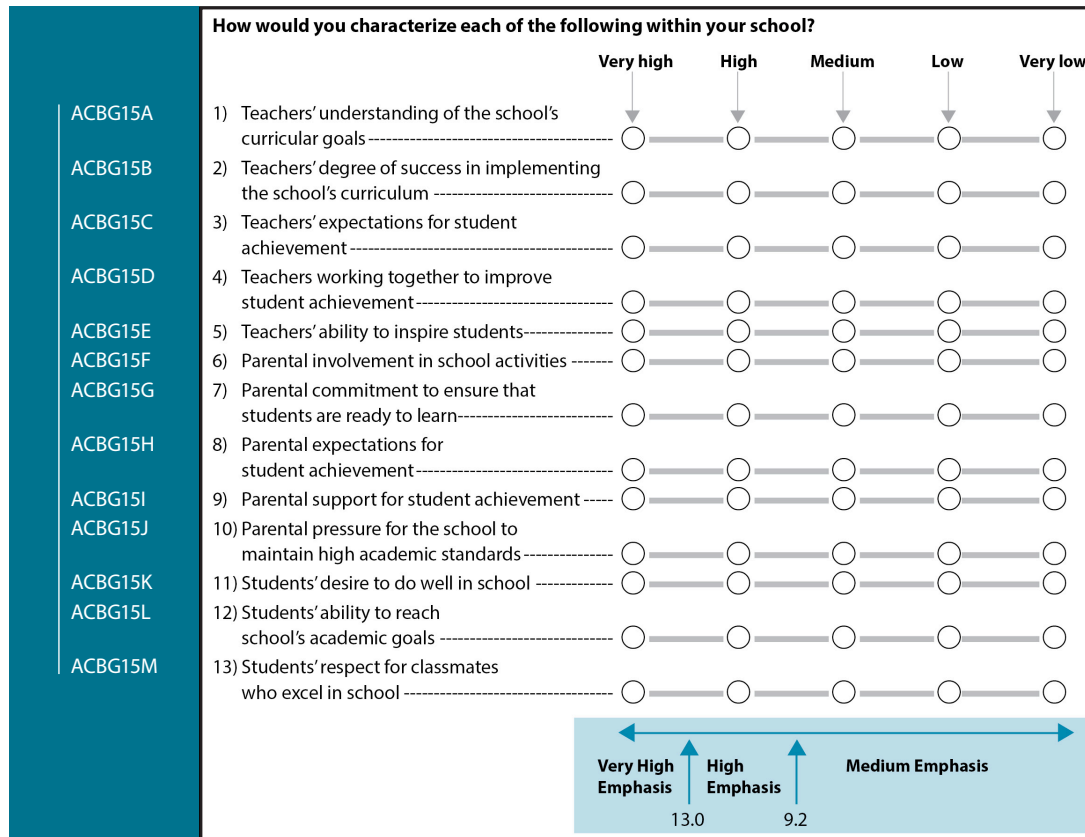


School Emphasis on Academic Success–Principals’ Reports Scale, Fourth Grade

The School Emphasis on Academic Success–Principals’ Reports (EAS) scale was created based on principals’ responses characterizing the thirteen aspects described below.

Items in the TIMSS 2015 School Emphasis on Academic Success–Principals’ Reports Scale, Fourth Grade¹



¹ For the purpose of scaling, categories in which there were very few respondents were combined. The categories “Low” and “Very low” were combined for all variables. The scale statistics that are reported herein reflect analysis of the items following collapsing.

Item Parameters for the TIMSS 2015 School Emphasis on Academic Success - Principals' Reports Scale, Fourth Grade

Item	delta	tau_1	tau_2	tau_3	Infit
ACBG15A	-1.49153	-3.26339	0.01543	3.24796	1.11
ACBG15B	-1.14521	-3.76020	0.21124	3.54896	0.95
ACBG15C	-0.95253	-3.19800	-0.09325	3.29125	0.94
ACBG15D	-0.84577	-2.65178	-0.07563	2.72741	1.11
ACBG15E	-0.77543	-3.34641	0.10015	3.24626	0.95
ACBG15F	1.23139	-2.36291	0.07932	2.28359	1.08
ACBG15G	1.35745	-2.55669	0.11018	2.44651	0.82
ACBG15H	-0.12575	-2.38828	-0.21068	2.59896	1.05
ACBG15I	1.17337	-2.68711	0.13967	2.54744	0.86
ACBG15J	0.95539	-2.12628	-0.10531	2.23159	1.30
ACBG15K	0.25637	-3.18819	0.01950	3.16869	0.87
ACBG15L	0.45531	-3.64831	0.12426	3.52405	0.87
ACBG15M	-0.09306	-2.86040	-0.25037	3.11077	1.11

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

Scale Transformation Constants for the TIMSS 2015 School Emphasis on Academic Success - Principals' Reports Scale, Fourth Grade

Scale Transformation Constants	
A = 9.225455	Transformed Scale Score = 9.225455 + 1.162825 • Logit Scale Score
B = 1.162825	

**Equivalence Table of Raw and Transformed Scale Scores for the TIMSS
2015 School Emphasis on Academic Success - Principals' Reports Scale,
Fourth Grade**

Raw Score	Transformed Scale Score	Cutpoint
0	1.11861	
2	3.38565	
3	3.98611	
4	4.49199	
5	4.94072	
6	5.35139	
7	5.73260	
8	6.08989	
9	6.42657	
10	6.74506	
11	7.04762	
12	7.33657	
13	7.61508	
14	7.88540	
15	8.15003	
16	8.41127	
17	8.67110	
18	8.93106	
19	9.19207	9.2
20	9.45487	
21	9.71913	
22	9.98452	
23	10.25046	
24	10.51641	
25	10.78212	
26	11.04771	
27	11.31374	
28	11.58121	
29	11.85159	
30	12.12605	
31	12.40830	
32	12.70126	
33	13.00978	13.0
34	13.34166	
35	13.70576	
36	14.12459	
37	14.63845	
38	15.34805	
39	16.73753	

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015



Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS 2015 School Emphasis on Academic Success - Principals' Reports Scale, Fourth Grade

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item													
			ACBG15A	ACBG15B	ACBG15C	ACBG15D	ACBG15E	ACBG15F	ACBG15G	ACBG15H	ACBG15I	ACBG15J	ACBG15K	ACBG15L	ACBG15M	
Australia	0.93	57	0.68	0.75	0.74	0.66	0.72	0.66	0.83	0.79	0.80	0.76	0.84	0.81	0.72	
Bahrain	0.91	48	0.63	0.78	0.75	0.75	0.79	0.56	0.72	0.63	0.70	0.53	0.80	0.70	0.60	
Belgium (Flemish)	0.80	32	0.07	0.34	0.58	0.29	0.39	0.66	0.79	0.64	0.72	0.59	0.65	0.72	0.48	
Bulgaria	0.92	53	0.54	0.72	0.75	0.66	0.71	0.83	0.85	0.72	0.80	0.66	0.74	0.79	0.65	
Canada	0.94	58	0.71	0.77	0.82	0.71	0.75	0.76	0.84	0.78	0.82	0.70	0.77	0.76	0.65	
Chile	0.91	48	0.67	0.75	0.63	0.63	0.68	0.68	0.79	0.71	0.74	0.68	0.70	0.72	0.65	
Chinese Taipei	0.92	53	0.73	0.82	0.74	0.64	0.76	0.75	0.67	0.67	0.80	0.67	0.76	0.81	0.63	
Croatia	0.90	47	0.69	0.73	0.67	0.77	0.73	0.67	0.71	0.55	0.74	0.72	0.68	0.57	0.62	
Cyprus	0.91	50	0.40	0.64	0.72	0.53	0.65	0.78	0.86	0.79	0.82	0.73	0.76	0.76	0.61	
Czech Republic	0.84	35	0.41	0.48	0.51	0.52	0.67	0.63	0.67	0.64	0.61	0.69	0.66	0.64	0.52	
Denmark	0.89	44	0.74	0.70	0.77	0.67	0.63	0.59	0.76	0.72	0.68	0.37	0.72	0.62	0.60	
England	0.91	49	0.63	0.72	0.74	0.67	0.72	0.65	0.76	0.69	0.74	0.66	0.68	0.78	0.69	
Finland	0.85	36	0.54	0.63	0.66	0.57	0.67	0.59	0.70	0.65	0.60	0.45	0.63	0.52	0.57	
France	0.80	32	0.29	0.40	0.40	0.29	0.49	0.45	0.83	0.64	0.75	0.46	0.71	0.71	0.61	
Georgia	0.90	47	0.60	0.66	0.72	0.68	0.72	0.75	0.73	0.58	0.75	0.67	0.72	0.67	0.64	
Germany	0.80	32	0.23	0.39	0.61	0.30	0.41	0.64	0.80	0.63	0.78	0.51	0.54	0.71	0.40	
Hong Kong SAR	0.92	53	0.66	0.77	0.65	0.60	0.75	0.66	0.81	0.79	0.83	0.69	0.76	0.82	0.60	
Hungary	0.90	45	0.54	0.65	0.53	0.49	0.69	0.61	0.74	0.77	0.76	0.67	0.74	0.71	0.71	
Indonesia	0.92	51	0.63	0.70	0.55	0.69	0.67	0.77	0.79	0.76	0.79	0.71	0.77	0.72	0.69	
Iran, Islamic Rep. of	0.90	47	0.73	0.73	0.53	0.61	0.71	0.70	0.71	0.63	0.72	0.64	0.78	0.74	0.62	
Ireland	0.90	48	0.50	0.69	0.67	0.51	0.67	0.67	0.81	0.82	0.80	0.64	0.75	0.73	0.63	
Italy	0.85	37	0.56	0.65	0.65	0.57	0.73	0.71	0.66	0.51	0.60	0.57	0.69	0.62	0.27	
Japan	0.89	43	0.57	0.57	0.60	0.49	0.62	0.70	0.81	0.82	0.75	0.60	0.68	0.70	0.50	
Jordan	0.91	49	0.67	0.68	0.60	0.74	0.67	0.70	0.82	0.75	0.73	0.58	0.74	0.78	0.63	
Kazakhstan	0.92	51	0.59	0.65	0.63	0.68	0.78	0.71	0.82	0.68	0.83	0.73	0.76	0.73	0.66	
Korea, Rep. of	0.92	51	0.57	0.57	0.66	0.61	0.61	0.83	0.85	0.76	0.78	0.64	0.81	0.82	0.72	
Kuwait	0.93	56	0.75	0.79	0.85	0.81	0.78	0.61	0.79	0.77	0.63	0.52	0.75	0.84	0.75	
Lithuania	0.88	41	0.43	0.59	0.60	0.62	0.69	0.74	0.77	0.72	0.68	0.36	0.71	0.62	0.70	
Morocco	0.90	45	0.62	0.67	0.62	0.72	0.62	0.67	0.75	0.72	0.73	0.66	0.67	0.71	0.51	
Netherlands	0.81	32	0.45	0.59	0.58	0.20	0.56	0.49	0.61	0.64	0.71	0.63	0.64	0.52	0.58	
New Zealand	0.92	52	0.59	0.68	0.68	0.53	0.67	0.75	0.80	0.83	0.80	0.75	0.76	0.73	0.72	
Northern Ireland	0.87	39	0.27	0.42	0.51	0.48	0.48	0.68	0.74	0.77	0.76	0.68	0.68	0.75	0.66	
Norway (5)	0.88	43	0.54	0.64	0.64	0.58	0.59	0.74	0.75	0.67	0.79	0.68	0.65	0.64	0.52	
Oman	0.89	44	0.52	0.59	0.69	0.68	0.64	0.74	0.77	0.69	0.76	0.40	0.69	0.71	0.62	
Poland	0.87	40	0.52	0.56	0.57	0.48	0.70	0.65	0.79	0.64	0.77	0.62	0.71	0.61	0.58	
Portugal	0.89	45	0.55	0.70	0.73	0.57	0.68	0.68	0.81	0.77	0.80	0.55	0.68	0.62	0.52	
Qatar	0.92	55	0.66	0.76	0.80	0.71	0.82	0.68	0.78	0.69	0.82	0.58	0.80	0.78	0.71	
Russian Federation	0.82	36	0.57	0.63	0.60	0.53	0.62	0.75	0.67	0.38	0.77	0.00	0.71	0.65	0.51	
Saudi Arabia	0.91	48	0.68	0.70	0.64	0.72	0.67	0.72	0.74	0.74	0.72	0.60	0.74	0.70	0.61	
Serbia	0.87	41	0.64	0.65	0.54	0.68	0.76	0.69	0.77	0.28	0.73	0.47	0.69	0.67	0.53	
Singapore	0.93	55	0.66	0.78	0.79	0.67	0.71	0.73	0.81	0.74	0.83	0.66	0.80	0.79	0.62	
Slovak Republic	0.85	37	0.60	0.66	0.56	0.64	0.61	0.57	0.65	0.49	0.59	0.53	0.64	0.69	0.61	
Slovenia	0.83	35	0.75	0.79	0.63	0.76	0.74	0.48	0.53	0.46	0.57	0.46	0.46	0.35	0.43	
South Africa (5)	0.89	43	0.64	0.63	0.58	0.66	0.69	0.66	0.75	0.55	0.69	0.56	0.74	0.75	0.56	
Spain	0.91	49	0.54	0.74	0.77	0.65	0.59	0.74	0.82	0.80	0.78	0.61	0.68	0.70	0.61	
Sweden	0.90	46	0.60	0.65	0.76	0.57	0.68	0.64	0.74	0.74	0.72	0.66	0.74	0.71	0.51	
Turkey	0.90	46	0.56	0.69	0.61	0.48	0.62	0.71	0.79	0.73	0.79	0.73	0.72	0.77	0.50	
United Arab Emirates	0.93	54	0.73	0.75	0.77	0.75	0.74	0.71	0.79	0.68	0.77	0.62	0.75	0.79	0.71	
United States	0.94	59	0.64	0.74	0.74	0.67	0.75	0.85	0.86	0.81	0.85	0.80	0.80	0.75	0.67	
Benchmarking Participants																
Buenos Aires, Argentina	0.92	53	0.71	0.80	0.74	0.63	0.65	0.72	0.82	0.73	0.84	0.74	0.68	0.71	0.62	
Ontario, Canada	0.92	52	0.60	0.68	0.80	0.60	0.66	0.76	0.82	0.78	0.85	0.70	0.75	0.77	0.54	
Quebec, Canada	0.90	47	0.63	0.78	0.75	0.75	0.71	0.63	0.80	0.64	0.66	0.64	0.63	0.59	0.62	
Norway (4)	0.88	43	0.60	0.66	0.69	0.57	0.61	0.72	0.74	0.66	0.76	0.69	0.65	0.64	0.46	
Abu Dhabi, UAE	0.92	51	0.73	0.82	0.78	0.73	0.70	0.65	0.74	0.56	0.70	0.59	0.75	0.79	0.69	
Dubai, UAE	0.94	60	0.75	0.73	0.82	0.76	0.78	0.79	0.80	0.77	0.82	0.65	0.84	0.83	0.76	
Florida, US	0.90	47	0.47	0.64	0.46	0.36	0.51	0.81	0.87	0.82	0.83	0.72	0.79	0.78	0.59	

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

Relationship Between the TIMSS 2015 School Emphasis on Academic Success - Principals' Reports Scale, Fourth Grade, and TIMSS 2015 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		
Australia	0.30	0.28	0.09	0.08	0.06	0.06
Bahrain	0.15	0.16	0.02	0.03	0.02	0.02
Belgium (Flemish)	0.21	0.23	0.04	0.05	0.02	0.03
Bulgaria	0.26	0.32	0.07	0.10	0.06	0.10
Canada	0.22	0.12	0.05	0.02	0.04	0.01
Chile	0.25	0.23	0.06	0.06	0.03	0.02
Chinese Taipei	0.16	0.15	0.03	0.02	0.03	0.02
Croatia	0.05	0.04	0.00	0.00	0.00	0.00
Cyprus	0.13	0.13	0.02	0.02	0.02	0.02
Czech Republic	0.11	0.10	0.01	0.01	0.01	0.00
Denmark	0.09	0.10	0.01	0.01	0.00	0.00
England	0.20	0.23	0.04	0.05	0.03	0.04
Finland	0.06	0.04	0.00	0.00	0.00	0.00
France	0.19	0.19	0.04	0.04	0.01	0.01
Georgia	0.15	0.13	0.02	0.02	0.01	0.00
Germany	0.18	0.19	0.03	0.04	0.02	0.03
Hong Kong SAR	0.27	0.26	0.07	0.07	0.06	0.05
Hungary	0.32	0.33	0.10	0.11	0.06	0.06
Indonesia	0.09	0.11	0.01	0.01	0.02	0.02
Iran, Islamic Rep. of	0.11	0.11	0.01	0.01	0.01	0.01
Ireland	0.15	0.15	0.02	0.02	0.02	0.02
Italy	0.09	0.08	0.01	0.01	0.00	0.00
Japan	0.10	0.10	0.01	0.01	0.01	0.01
Jordan	0.23	-	0.05	-	0.02	-
Kazakhstan	0.14	0.12	0.02	0.01	0.00	0.00
Korea, Rep. of	0.14	0.13	0.02	0.02	0.02	0.01
Kuwait	0.19	0.20	0.04	0.04	0.04	0.04
Lithuania	0.20	0.17	0.04	0.03	0.02	0.01
Morocco	0.18	0.20	0.03	0.04	0.02	0.03
Netherlands	0.06	0.08	0.00	0.01	0.00	0.00
New Zealand	0.26	0.26	0.07	0.07	0.05	0.05
Northern Ireland	0.12	0.09	0.01	0.01	0.01	0.01
Norway (5)	0.15	0.14	0.02	0.02	0.01	0.01
Oman	-0.01	-0.01	0.00	0.00	0.00	0.00
Poland	0.12	0.11	0.01	0.01	0.01	0.01
Portugal	0.22	0.18	0.05	0.03	0.05	0.03
Qatar	0.20	0.21	0.04	0.05	0.03	0.04
Russian Federation	0.13	0.14	0.02	0.02	0.00	0.01
Saudi Arabia	0.12	0.14	0.02	0.02	0.01	0.01
Serbia	0.19	0.19	0.04	0.03	0.04	0.03
Singapore	0.22	0.23	0.05	0.05	0.04	0.05
Slovak Republic	0.23	0.23	0.05	0.05	0.04	0.04
Slovenia	0.02	0.02	0.00	0.00	0.00	0.00
South Africa (5)	0.17	-	0.03	-	0.00	-
Spain	0.27	0.27	0.07	0.07	0.06	0.06
Sweden	0.22	0.22	0.05	0.05	0.03	0.03
Turkey	0.35	0.33	0.13	0.11	0.07	0.07
United Arab Emirates	0.35	0.35	0.12	0.12	0.11	0.11
United States	0.28	0.29	0.08	0.08	0.08	0.08
International Median	0.18	0.16	0.03	0.03	0.02	0.02
Benchmarking Participants						
Buenos Aires, Argentina	0.28	0.30	0.08	0.09	0.06	0.08
Ontario, Canada	0.19	0.13	0.03	0.02	0.03	0.01
Quebec, Canada	0.12	0.07	0.01	0.01	0.01	0.00
Norway (4)	0.10	0.10	0.01	0.01	0.01	0.01
Abu Dhabi, UAE	0.34	0.34	0.11	0.12	0.09	0.09
Dubai, UAE	0.38	0.37	0.15	0.14	0.12	0.12
Florida, US	0.21	0.16	0.04	0.03	0.02	0.01

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

A dash (-) indicates comparable data not available.