

# Challenges Facing Teachers Scale, Eighth Grade

The Challenges Facing Teachers (CFT) scale was created based on teachers' degree of agreement with the eight statements described below.

## Items in the TIMSS 2015 Challenges Facing Teachers Scale, Eighth Grade

Indicate the extent to which you agree or disagree with each of the following statements.

	Disagree a lot	Disagree a little	Agree a little	Agree a lot
BTBG11A 1) There are too many students in the classes -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BTBG11B 2) I have too much material to cover in class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BTBG11C 3) I have too many teaching hours -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BTBG11D 4) I need more time to prepare for class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BTBG11E 5) I need more time to assist individual students -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BTBG11F 6) I feel too much pressure from parents -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BTBG11G 7) I have difficulty keeping up with all the changes to the curriculum-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BTBG11H 8) I have too many administrative tasks -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Few Challenges      Some Challenges      Many Challenges  
10.3      6.7

**Item Parameters for the TIMSS 2015 Challenges Facing Teachers Scale, Eighth Grade**

Item	delta	tau_1	tau_2	tau_3	Infit
BTBG11A	0.26540	-0.81039	0.24920	0.56119	1.11
BTBG11B	0.52937	-1.30760	0.16072	1.14688	1.02
BTBG11C	-0.28947	-0.97083	-0.04654	1.01737	0.99
BTBG11D	0.28900	-1.29421	0.29118	1.00303	0.92
BTBG11E	1.32631	-1.39494	0.63027	0.76467	0.97
BTBG11F	-0.97546	-1.30536	-0.17929	1.48465	1.08
BTBG11G	-0.91502	-1.36767	0.12377	1.24390	1.02
BTBG11H	-0.23013	-0.80736	0.14004	0.66732	1.04

**Scale Transformation Constants for the TIMSS 2015 Challenges Facing Teachers Scale, Eighth Grade**

Scale Transformation Constants	
A = 10.279046	Transformed Scale Score = 10.279046 + 2.114581 • Logit Scale Score
B = 2.114581	

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

**Equivalence Table of Raw and Transformed Scale Scores for the TIMSS  
2015 Challenges Facing Teachers Scale, Eighth Grade**

Raw Score	Transformed Scale Score	Cutpoint
0	1.29542	
1	3.81029	
2	5.08204	
3	5.97972	
4	6.69800	6.7
5	7.30575	
6	7.84015	
7	8.32300	
8	8.76809	
9	9.18765	
10	9.58747	
11	9.97417	
12	10.35346	10.3
13	10.73076	
14	11.11149	
15	11.50149	
16	11.90744	
17	12.33708	
18	12.79739	
19	13.30313	
20	13.87094	
21	14.52876	
22	15.32951	
23	16.43759	
24	18.66344	

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 Challenges Facing Teachers Scale, Eighth Grade**

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item							
			BTBGT1A	BTBGT1B	BTBGT1C	BTBGT1D	BTBGT1E	BTBGT1F	BTBGT1G	BTBGT1H
Australia	0.81	44	0.56	0.66	0.72	0.78	0.70	0.57	0.61	0.66
Bahrain	0.74	36	0.64	0.70	0.73	0.76	0.48	0.37	0.45	0.58
Botswana (9)	0.50	24	0.56	0.54	0.41	0.69	0.59	0.09	0.37	0.44
Canada	0.75	37	0.52	0.62	0.60	0.72	0.63	0.50	0.57	0.66
Chile	0.68	34	0.42	0.56	0.67	0.78	0.75	0.38	0.29	0.65
Chinese Taipei	0.73	36	0.62	0.66	0.67	0.69	0.58	0.67	0.42	0.40
Egypt	0.64	29	0.60	0.61	0.71	0.57	0.44	0.44	0.48	0.38
England	0.80	43	0.58	0.70	0.74	0.79	0.72	0.43	0.60	0.63
Georgia	0.66	31	0.45	0.62	0.51	0.69	0.55	0.49	0.56	0.51
Hong Kong SAR	0.69	33	0.60	0.68	0.32	0.70	0.62	0.56	0.47	0.56
Hungary	0.76	39	0.43	0.63	0.63	0.75	0.74	0.63	0.54	0.61
Iran, Islamic Rep. of	0.62	28	0.44	0.42	0.42	0.63	0.56	0.48	0.64	0.56
Ireland	0.80	42	0.59	0.68	0.71	0.75	0.67	0.51	0.58	0.68
Israel	0.72	34	0.51	0.52	0.52	0.72	0.57	0.66	0.57	0.58
Italy	0.71	34	0.56	0.75	0.32	0.68	0.47	0.46	0.70	0.57
Japan	0.76	38	0.53	0.49	0.60	0.69	0.66	0.63	0.62	0.69
Jordan	0.74	36	0.54	0.58	0.73	0.70	0.54	0.62	0.53	0.53
Kazakhstan	0.67	31	0.43	0.31	0.57	0.63	0.50	0.64	0.66	0.62
Korea, Rep. of	0.82	45	0.65	0.72	0.76	0.78	0.71	0.48	0.59	0.63
Kuwait	0.74	36	0.53	0.54	0.66	0.72	0.59	0.65	0.59	0.49
Lebanon	0.81	42	0.62	0.68	0.67	0.77	0.71	0.47	0.60	0.62
Lithuania	0.66	30	0.46	0.57	0.43	0.65	0.57	0.56	0.58	0.52
Malaysia	0.59	27	0.36	0.21	0.60	0.71	0.44	0.53	0.49	0.66
Malta	0.77	39	0.57	0.59	0.67	0.68	0.65	0.54	0.63	0.65
Morocco	0.66	30	0.58	0.66	0.76	0.61	0.49	0.38	0.42	0.34
New Zealand	0.78	40	0.50	0.56	0.70	0.79	0.72	0.54	0.51	0.68
Norway (9)	0.78	40	0.61	0.63	0.68	0.77	0.62	0.48	0.50	0.70
Oman	0.73	35	0.61	0.65	0.67	0.66	0.56	0.53	0.50	0.52
Qatar	0.74	36	0.54	0.54	0.66	0.69	0.61	0.66	0.56	0.48
Russian Federation	0.66	30	0.49	0.57	0.64	0.69	0.55	0.45	0.59	0.35
Saudi Arabia	0.71	33	0.60	0.58	0.65	0.71	0.55	0.48	0.52	0.46
Singapore	-	-	-	-	-	-	-	-	-	-
Slovenia	0.72	34	0.48	0.63	0.66	0.73	0.58	0.55	0.53	0.50
South Africa (9)	0.70	34	0.49	0.46	0.58	0.72	0.66	0.51	0.59	0.58
Sweden	0.72	35	0.47	0.53	0.73	0.77	0.63	0.52	0.42	0.55
Thailand	0.74	37	0.46	0.63	0.73	0.68	0.54	0.62	0.59	0.56
Turkey	0.72	35	0.49	0.81	0.78	0.70	0.64	0.33	0.42	0.35
United Arab Emirates	0.82	45	0.61	0.71	0.74	0.78	0.69	0.65	0.53	0.64
United States	0.80	42	0.60	0.66	0.66	0.76	0.70	0.51	0.64	0.64
<b>Benchmarking Participants</b>										
Buenos Aires, Argentina	0.79	41	0.58	0.53	0.58	0.83	0.80	0.57	0.51	0.65
Ontario, Canada	0.73	36	0.42	0.61	0.61	0.70	0.60	0.57	0.56	0.68
Quebec, Canada	0.71	34	0.44	0.53	0.64	0.73	0.67	0.38	0.55	0.63
Norway (8)	0.78	40	0.61	0.66	0.67	0.75	0.62	0.54	0.56	0.61
Abu Dhabi, UAE	0.78	41	0.62	0.64	0.72	0.78	0.70	0.55	0.48	0.62
Dubai, UAE	0.84	48	0.51	0.71	0.78	0.79	0.68	0.73	0.64	0.64
Florida, US	0.79	42	0.48	0.64	0.69	0.75	0.76	0.51	0.69	0.64

A dash (-) indicates comparable data not available.

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

**Relationship Between the TIMSS 2015 Challenges Facing Teachers Scale, Eighth Grade, and  
TIMSS 2015 Achievement**

Country	Pearson's Correlation with Achievement				Variance in Achievement Accounted for by Difference Between Regions of the Scale ( $\eta^2$ )	
	(r)		(r <sup>2</sup> )		Mathematics	Science
	Mathematics	Science	Mathematics	Science		
Australia	0.03	0.03	0.00	0.00	0.00	0.00
Bahrain	0.08	0.09	0.01	0.01	0.01	0.00
Botswana (9)	0.02	0.09	0.00	0.01	0.00	0.01
Canada	0.02	0.06	0.00	0.00	0.00	0.00
Chile	0.05	0.04	0.00	0.00	0.00	0.02
Chinese Taipei	-0.02	-0.05	0.00	0.00	0.00	0.01
Egypt	0.10	0.09	0.01	0.01	0.01	0.02
England	0.09	0.12	0.01	0.01	0.01	0.02
Georgia	-0.01	0.04	0.00	0.00	0.00	0.00
Hong Kong SAR	-0.01	-0.01	0.00	0.00	0.01	0.01
Hungary	0.01	-0.06	0.00	0.00	0.01	0.01
Iran, Islamic Rep. of	0.01	-0.09	0.00	0.01	0.01	0.01
Ireland	-0.06	0.04	0.00	0.00	0.00	0.00
Israel	-0.01	0.01	0.00	0.00	0.01	0.00
Italy	-0.02	-0.03	0.00	0.00	0.00	0.00
Japan	0.03	0.06	0.00	0.00	0.00	0.00
Jordan	0.03	0.08	0.00	0.01	0.00	0.00
Kazakhstan	0.14	0.09	0.02	0.01	0.01	0.00
Korea, Rep. of	-0.02	-0.03	0.00	0.00	0.00	0.00
Kuwait	0.05	0.07	0.00	0.00	0.01	0.00
Lebanon	0.11	0.07	0.01	0.00	0.01	0.00
Lithuania	-0.12	-0.06	0.02	0.00	0.00	0.00
Malaysia	0.04	0.03	0.00	0.00	0.01	0.01
Malta	-0.13	0.12	0.02	0.01	0.01	0.01
Morocco	0.06	0.09	0.00	0.01	0.00	0.01
New Zealand	-0.07	-0.03	0.01	0.00	0.02	0.00
Norway (9)	-0.01	-0.05	0.00	0.00	0.00	0.00
Oman	0.02	0.03	0.00	0.00	0.00	0.00
Qatar	0.08	-0.01	0.01	0.00	0.00	0.01
Russian Federation	0.06	0.02	0.00	0.00	0.00	0.00
Saudi Arabia	0.15	-0.01	0.02	0.00	0.01	0.00
Singapore	-	-	-	-	-	-
Slovenia	0.04	0.02	0.00	0.00	0.00	0.00
South Africa (9)	0.28	0.23	0.08	0.05	0.11	0.03
Sweden	-0.05	-0.06	0.00	0.00	0.00	0.00
Thailand	0.04	0.04	0.00	0.00	0.01	0.01
Turkey	0.04	0.01	0.00	0.00	0.00	0.01
United Arab Emirates	0.17	0.17	0.03	0.03	0.01	0.01
United States	-0.02	0.01	0.00	0.00	0.01	0.00
International Median	0.03	0.00	0.00	0.00	0.00	0.00
<b>Benchmarking Participants</b>						
Buenos Aires, Argentina	0.14	-0.08	0.02	0.01	0.04	0.01
Ontario, Canada	0.01	0.00	0.00	0.00	0.00	0.00
Quebec, Canada	0.03	0.11	0.00	0.01	0.01	0.01
Norway (8)	-0.04	-0.09	0.00	0.01	0.00	0.01
Abu Dhabi, UAE	0.16	0.16	0.03	0.03	0.00	0.01
Dubai, UAE	0.20	0.13	0.04	0.02	0.02	0.01
Florida, US	0.04	0.02	0.00	0.00	0.01	0.01

A dash (-) indicates comparable data not available.

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