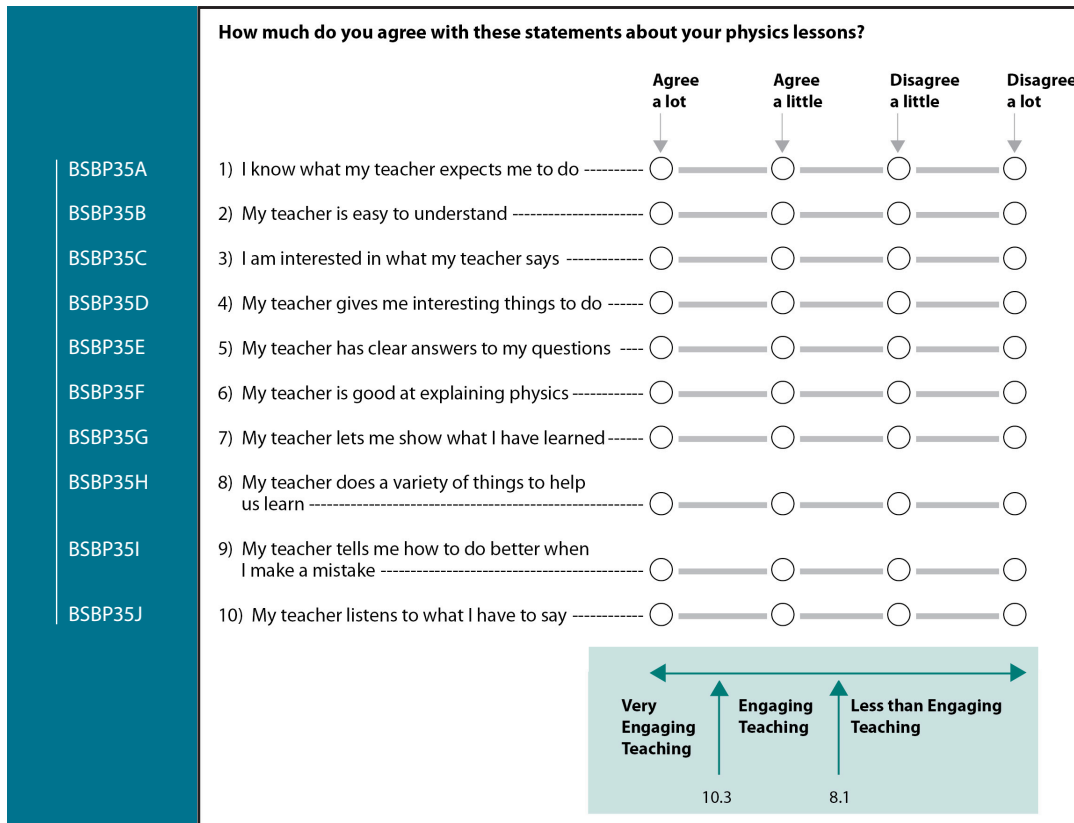


Students' Views on Engaging Teaching in Physics Lessons Scale, Eighth Grade

The Students' Views on Engaging Teaching in Physics Lessons (EPL) scale was created based on students' degree of agreement with the ten statements described below.

Items in the TIMSS 2015 Students' Views on Engaging Teaching in Physics Lessons Scale, Eighth Grade



Item Parameters for the TIMSS 2015 Students' Views on Engaging Teaching in Physics Lessons Scale, Eighth Grade

Item	delta	tau_1	tau_2	tau_3	Infit
BSBP35A	0.02582	-1.84518	-0.67504	2.52022	1.46
BSBP35B	0.22966	-1.85433	-0.64159	2.49592	0.96
BSBP35C	0.05918	-1.72396	-0.58921	2.31317	1.06
BSBP35D	0.44841	-1.95198	-0.48476	2.43674	1.03
BSBP35E	-0.08867	-1.60947	-0.74617	2.35564	0.81
BSBP35F	-0.23221	-1.42369	-0.73236	2.15605	0.85
BSBP35G	0.12388	-1.89124	-0.70918	2.60042	1.06
BSBP35H	-0.15481	-1.68435	-0.69214	2.37649	0.92
BSBP35I	-0.15098	-1.72057	-0.72485	2.44542	0.92
BSBP35J	-0.26028	-1.44319	-0.89555	2.33874	1.04

Scale Transformation Constants for the TIMSS 2015 Students' Views on Engaging Teaching in Physics Lessons Scale, Eighth Grade

Scale Transformation Constants	
A = 8.36096	Transformed Scale Score = 8.36096 + 0.800724 • Logit Scale Score
B = 0.800724	

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

Equivalence Table of Raw and Transformed Scale Scores for the TIMSS 2015 Students' Views on Engaging Teaching in Physics Lessons Scale, Eighth Grade

Raw Score	Transformed Scale Score	Cutpoint
0	4.57253	
1	5.47234	
2	5.90450	
3	6.20036	
4	6.43141	
5	6.62544	
6	6.79626	
7	6.95186	
8	7.09747	
9	7.23679	
10	7.37186	
11	7.50715	
12	7.64349	
13	7.78312	
14	7.92841	
15	8.08240	8.1
16	8.24702	
17	8.42679	
18	8.62451	
19	8.84363	
20	9.08172	
21	9.33294	
22	9.58877	
23	9.84380	
24	10.09848	
25	10.35833	10.3
26	10.63329	
27	10.93727	
28	11.30073	
29	11.79730	
30	12.75728	

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 Students' Views on Engaging Teaching in Physics Lessons Scale, Eighth Grade

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item									
			BS8P35A	BS8P35B	BS8P35C	BS8P35D	BS8P35E	BS8P35F	BS8P35G	BS8P35H	BS8P35I	BS8P35J
Georgia	0.95	69	0.68	0.84	0.76	0.82	0.87	0.87	0.86	0.87	0.88	0.85
Hungary	0.95	68	0.75	0.83	0.81	0.84	0.87	0.86	0.82	0.82	0.84	0.81
Kazakhstan	0.95	71	0.69	0.81	0.86	0.86	0.88	0.87	0.87	0.83	0.87	0.84
Lebanon	0.95	67	0.70	0.84	0.84	0.83	0.86	0.84	0.81	0.84	0.84	0.80
Lithuania	0.95	71	0.78	0.88	0.85	0.84	0.89	0.85	0.80	0.85	0.84	0.84
Malta	0.95	70	0.78	0.87	0.84	0.83	0.89	0.88	0.80	0.84	0.84	0.81
Morocco	0.92	58	0.56	0.70	0.73	0.78	0.82	0.81	0.80	0.82	0.78	0.78
Russian Federation	0.95	70	0.72	0.84	0.86	0.82	0.88	0.86	0.82	0.86	0.86	0.83
Slovenia	0.96	71	0.78	0.82	0.82	0.84	0.88	0.87	0.85	0.87	0.86	0.83
Sweden	0.94	66	0.72	0.86	0.75	0.79	0.87	0.86	0.79	0.85	0.80	0.81

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

Relationship Between the TIMSS 2015 Students' Views on Engaging Teaching in Physics Lessons Scale, Eighth Grade, and TIMSS 2015 Science Achievement

Country	Pearson's Correlation with Science Achievement		Variance in Science Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Georgia	0.13	0.02	0.02
Hungary	0.06	0.00	0.01
Kazakhstan	0.15	0.02	0.02
Lebanon	0.14	0.02	0.02
Lithuania	0.10	0.01	0.01
Malta	0.21	0.05	0.05
Morocco	0.08	0.01	0.01
Russian Federation	0.12	0.01	0.02
Slovenia	0.14	0.02	0.01
Sweden	0.09	0.01	0.01
International Median	0.12	0.02	0.01

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