

PIRLS 2011

The PIRLS 2011 Collaborate to Improve Teaching Scale

The Collaborate to Improve Teaching (CIT) scale was created based on teachers' responses to how often they interacted with other teachers in each of five teaching areas 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 PIRLS 2011 Collaborate to Improve Teaching Scale

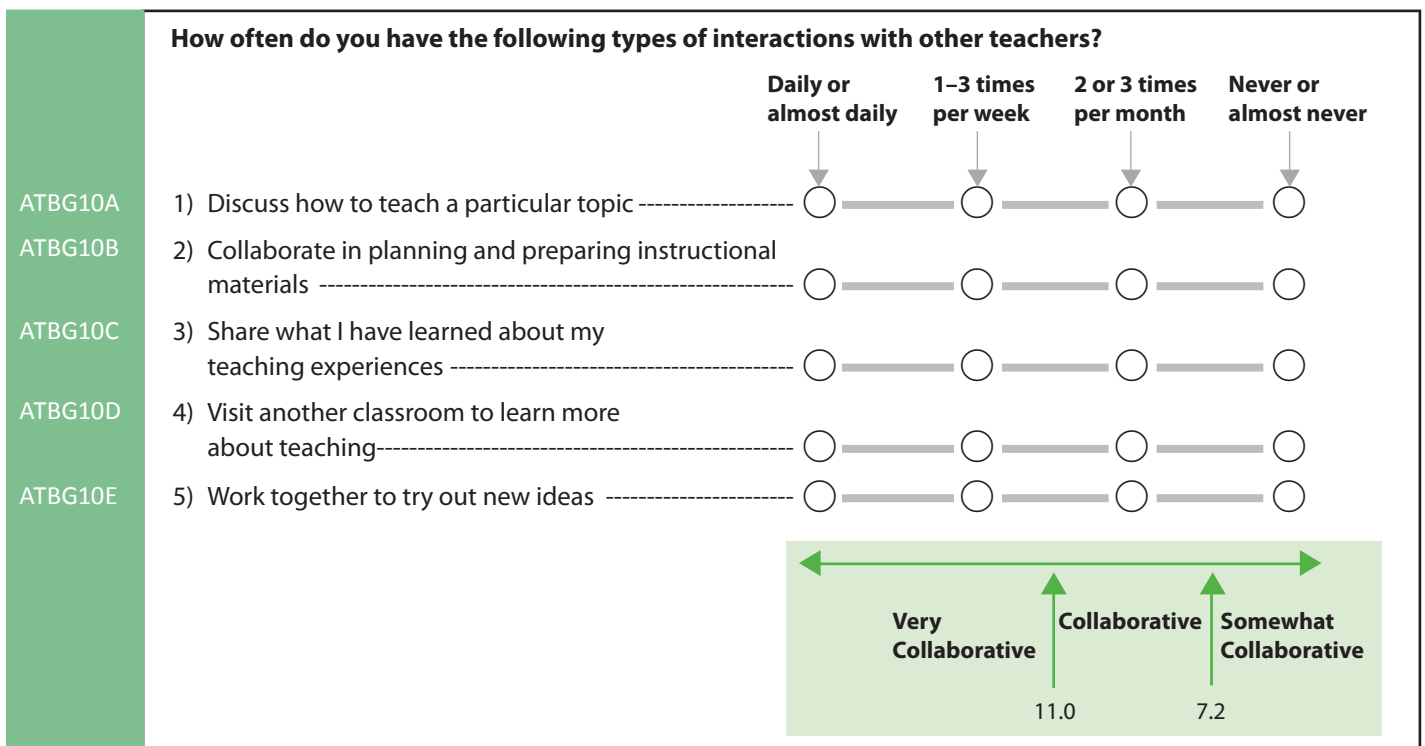


Exhibit 2: Item Parameters for the PIRLS 2011 Collaborate to Improve Teaching Scale

Item	delta	tau_1	tau_2	tau_3
ATBG10A	-0.26709	-2.14510	0.40083	1.74427
ATBG10B	0.19470	-2.17957	0.37029	1.80928
ATBG10C	-0.51766	-2.19151	0.62710	1.56441
ATBG10D	2.10503	-1.53267	0.50664	1.02603
ATBG10E	0.58146	-2.21396	0.85770	1.35626

Exhibit 3: Scale Transformation Constants

Scale Transformation Constants

A = 10.00606

B = 1.23112

Transformed Scale Score = 10.00606 + 1.23112 • 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	4.51299		8	11.03972	11.0
1	6.17940		9	11.48340	
2	7.17968	7.2	10	11.92886	
3	8.03469		11	12.39149	
4	8.82201		12	12.89946	
5	9.50587		13	13.48858	
6	10.07929		14	14.23413	
7	10.57946		15	15.59368	

Exhibit 5: Cronbach’s Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Collaborate to Improve Teaching Scale

Country	Cronbach’s Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ATBG10A	ATBG10B	ATBG10C	ATBG10D	ATBG10E
Australia	0.85	62	0.80	0.84	0.85	0.59	0.83
Austria	0.78	54	0.84	0.82	0.79	0.40	0.72
Azerbaijan	0.64	42	0.67	0.66	0.63	0.67	0.59
Belgium (French)	0.78	54	0.75	0.81	0.81	0.43	0.79
Bulgaria	0.66	43	0.79	0.60	0.75	0.47	0.61
Canada	0.83	60	0.81	0.82	0.79	0.58	0.84
Chinese Taipei	0.88	68	0.81	0.86	0.81	0.78	0.86
Colombia	0.70	47	0.33	0.76	0.77	0.70	0.76
Croatia	0.78	53	0.76	0.79	0.74	0.61	0.73
Czech Republic	0.75	51	0.80	0.82	0.70	0.61	0.63
Denmark	0.80	56	0.81	0.85	0.73	0.58	0.77
England	0.76	51	0.74	0.80	0.76	0.51	0.73
Finland	0.81	57	0.81	0.79	0.79	0.57	0.79
France	0.78	54	0.82	0.82	0.80	0.25	0.81
Georgia	0.78	54	0.75	0.80	0.74	0.67	0.70
Germany	0.76	51	0.82	0.81	0.78	0.18	0.78
Hong Kong SAR	0.85	62	0.80	0.81	0.81	0.72	0.80
Hungary	0.71	47	0.75	0.80	0.70	0.53	0.61
Indonesia	0.76	51	0.69	0.78	0.75	0.66	0.68
Iran, Islamic Rep. of	0.81	57	0.82	0.79	0.78	0.60	0.76

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Collaborate to Improve Teaching Scale (Continued)

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ATBG10A	ATBG10B	ATBG10C	ATBG10D	ATBG10E
Ireland	0.82	59	0.82	0.79	0.79	0.64	0.80
Israel	0.80	56	0.79	0.81	0.78	0.54	0.79
Italy	0.79	55	0.76	0.82	0.82	0.43	0.79
Lithuania	0.75	51	0.76	0.76	0.71	0.64	0.68
Malta	0.82	58	0.87	0.88	0.72	0.44	0.82
Morocco	0.85	62	0.79	0.82	0.86	0.64	0.80
Netherlands	0.69	45	0.80	0.76	0.71	0.16	0.70
New Zealand	0.82	58	0.78	0.79	0.79	0.66	0.79
Northern Ireland	0.84	62	0.84	0.81	0.82	0.62	0.81
Norway	0.76	51	0.78	0.79	0.75	0.36	0.80
Oman	0.69	44	0.73	0.75	0.74	0.39	0.66
Poland	0.59	39	0.74	0.55	0.72	0.41	0.62
Portugal	0.78	54	0.74	0.78	0.77	0.61	0.76
Qatar	0.83	59	0.81	0.81	0.76	0.68	0.78
Romania	0.77	52	0.76	0.83	0.78	0.44	0.75
Russian Federation	0.64	42	0.70	0.77	0.68	0.40	0.61
Saudi Arabia	0.63	41	0.68	0.74	0.72	0.34	0.63
Singapore	0.83	61	0.80	0.86	0.81	0.59	0.80
Slovak Republic	0.76	51	0.81	0.75	0.80	0.48	0.67
Slovenia	0.70	46	0.73	0.66	0.72	0.59	0.67
Spain	0.80	57	0.78	0.82	0.81	0.60	0.74
Sweden	0.87	65	0.83	0.83	0.83	0.68	0.86
Trinidad and Tobago	0.82	59	0.78	0.81	0.73	0.67	0.83
United Arab Emirates	0.75	50	0.76	0.77	0.73	0.53	0.72
United States	0.86	64	0.85	0.86	0.86	0.54	0.85
Sixth Grade Participants							
Botswana	0.84	61	0.81	0.76	0.72	0.79	0.82
Honduras	0.82	58	0.71	0.81	0.74	0.73	0.82
Kuwait	0.78	55	0.57	0.82	0.81	0.73	0.74
Morocco	0.84	61	0.78	0.86	0.89	0.53	0.81
Benchmarking Participants							
Alberta, Canada	0.84	61	0.82	0.83	0.79	0.62	0.83
Ontario, Canada	0.83	60	0.78	0.83	0.80	0.61	0.83
Quebec, Canada	0.81	57	0.83	0.76	0.77	0.59	0.82
Maltese - Malta	0.82	59	0.86	0.87	0.75	0.46	0.83
Eng/Afr (5) - RSA ^a	0.84	62	0.83	0.84	0.85	0.57	0.82

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Collaborate to Improve Teaching Scale (Continued)

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ATBG10A	ATBG10B	ATBG10C	ATBG10D	ATBG10E
Andalusia, Spain	0.81	57	0.79	0.79	0.79	0.68	0.73
Abu Dhabi, UAE	0.76	51	0.76	0.77	0.72	0.59	0.73
Dubai, UAE	0.78	53	0.77	0.80	0.76	0.55	0.74
Florida, US	0.87	67	0.87	0.87	0.90	0.48	0.90
prePIRLS Participants							
Botswana	0.88	67	0.83	0.78	0.85	0.80	0.84
Colombia	0.70	47	0.33	0.76	0.77	0.70	0.76
South Africa	0.83	60	0.78	0.76	0.77	0.72	0.82

◊ Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

Exhibit 6: Relationship Between the PIRLS 2011 Collaborate to Improve Teaching Scale and PIRLS 2011 Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.06	0.00	0.00
Austria	-0.04	0.00	0.00
Azerbaijan	0.03	0.00	0.01
Belgium (French)	-0.07	0.00	0.01
Bulgaria	0.10	0.01	0.01
Canada	-0.01	0.00	0.00
Chinese Taipei	0.04	0.00	0.00
Colombia	0.01	0.00	0.00
Croatia	0.09	0.01	0.01
Czech Republic	-0.04	0.00	0.01
Denmark	0.01	0.00	0.00
England	0.01	0.00	0.00
Finland	0.04	0.00	0.00
France	0.00	0.00	0.00
Georgia	0.05	0.00	0.01
Germany	-0.01	0.00	0.00
Hong Kong SAR	-0.03	0.00	0.00
Hungary	-0.01	0.00	0.00
Indonesia	0.04	0.00	0.00
Iran, Islamic Rep. of	-0.05	0.00	0.00
Ireland	-0.03	0.00	0.01
Israel	0.07	0.00	0.01
Italy	-0.02	0.00	0.00

Exhibit 6: Relationship Between the PIRLS 2011 Collaborate to Improve Teaching Scale and PIRLS 2011 Achievement (Continued)

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Lithuania	0.02	0.00	0.00
Malta	0.09	0.01	0.00
Morocco	0.06	0.00	0.00
Netherlands	-0.02	0.00	0.00
New Zealand	-0.02	0.00	0.01
Northern Ireland	0.01	0.00	0.00
Norway	0.06	0.00	0.00
Oman	-0.04	0.00	0.00
Poland	-0.01	0.00	0.00
Portugal	-0.03	0.00	0.00
Qatar	0.01	0.00	0.00
Romania	-0.08	0.01	0.00
Russian Federation	-0.06	0.00	0.00
Saudi Arabia	0.07	0.00	0.00
Singapore	0.00	0.00	0.00
Slovak Republic	0.05	0.00	0.01
Slovenia	-0.02	0.00	0.00
Spain	0.06	0.00	0.00
Sweden	-0.06	0.00	0.01
Trinidad and Tobago	-0.05	0.00	0.00
United Arab Emirates	0.09	0.01	0.01
United States	0.01	0.00	0.00
International Median	0.01	0.00	0.00
Sixth Grade Participants			
Botswana	-0.10	0.01	0.02
Honduras	-0.08	0.01	0.01
Kuwait	0.08	0.01	0.00
Morocco	0.10	0.01	0.01
Benchmarking Participants			
Alberta, Canada	0.02	0.00	0.00
Ontario, Canada	0.02	0.00	0.00
Quebec, Canada	-0.06	0.00	0.00
Maltese - Malta	-0.03	0.00	0.00
Eng/Afr (5) - RSA ^a	0.04	0.00	0.03
Andalusia, Spain	0.01	0.00	0.00
Abu Dhabi, UAE	0.04	0.00	0.00
Dubai, UAE	0.12	0.01	0.02

Exhibit 6: Relationship Between the PIRLS 2011 Collaborate to Improve Teaching Scale and PIRLS 2011 Achievement (Continued)

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
prePIRLS participants			
Botswana	0.02	0.00	0.01
Colombia	0.03	0.00	0.00
South Africa	-0.04	0.00	0.01

◊ Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).