

Exhibit P10.1: Students' Views on Engaging Teaching in Physics Lessons

Reported by Physics Students

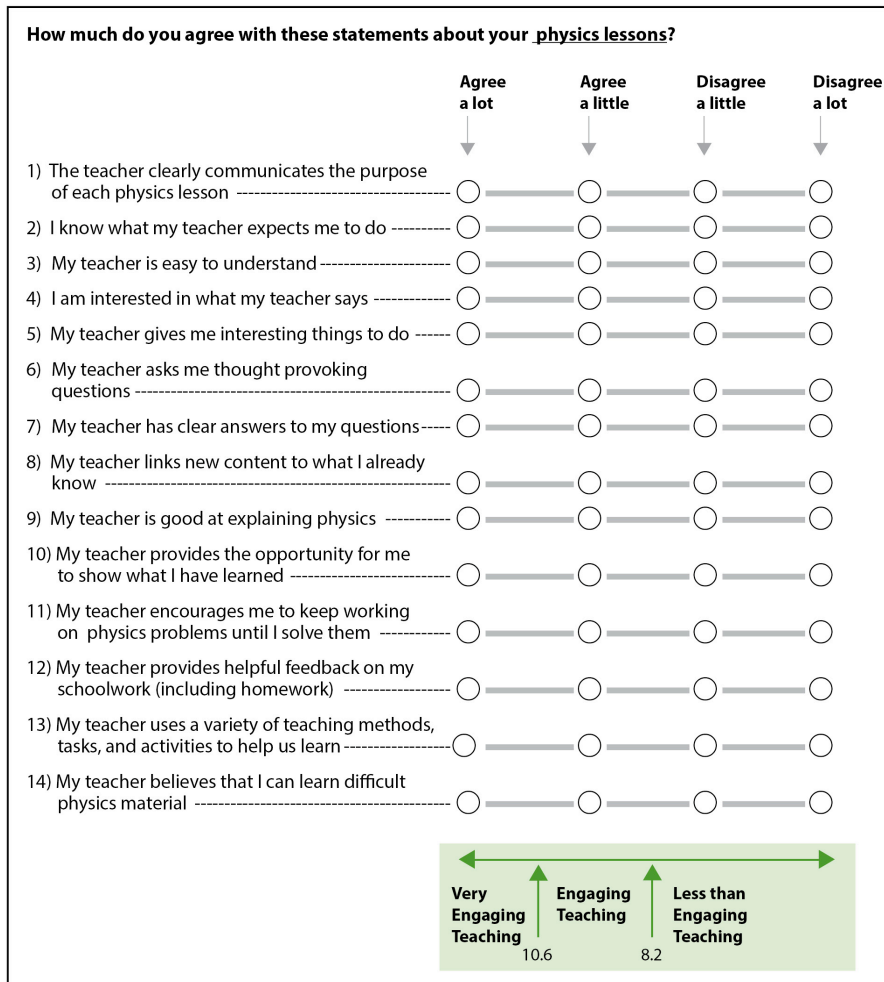
Students were scored according to their degree of agreement with fourteen statements on the *Students' Views on Engaging Teaching in Physics Lessons* scale. Students who experienced **Very Engaging Teaching** in physics lessons had a score on the scale of at least 10.6, which corresponds to their "agreeing a lot" with seven of the fourteen statements and "agreeing a little" with the other seven, on average. Students who experienced teaching that was **Less than Engaging** had a score no higher than 8.2, which corresponds to their "disagreeing a little" with seven of the fourteen statements and "agreeing a little" with the other seven, on average. All other students experienced **Engaging Teaching** in physics lessons.

Country	Very Engaging Teaching		Engaging Teaching		Less than Engaging Teaching		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Lebanon	56 (2.9)	419 (5.2)	33 (1.7)	409 (6.9)	10 (2.1)	378 (16.2)	10.8 (0.17)
Russian Federation	55 (1.8)	526 (8.1)	37 (1.1)	493 (7.4)	8 (1.3)	452 (13.5)	10.8 (0.09)
United States	45 (2.6)	452 (10.1)	38 (1.5)	442 (9.9)	17 (1.7)	390 (14.1)	10.3 (0.13)
Portugal	44 (3.2)	466 (6.4)	41 (2.0)	470 (5.4)	15 (2.1)	460 (9.2)	10.2 (0.14)
Norway	43 (1.9)	529 (4.5)	46 (1.7)	500 (5.8)	11 (0.9)	451 (7.6)	10.3 (0.07)
Sweden	26 (1.4)	491 (8.1)	54 (1.1)	456 (6.1)	21 (1.5)	406 (9.5)	9.5 (0.07)
France	23 (1.5)	402 (7.1)	59 (1.4)	373 (3.9)	18 (1.5)	339 (4.6)	9.5 (0.07)
Slovenia	23 (1.7)	570 (7.1)	61 (2.1)	534 (4.2)	16 (2.0)	468 (7.1)	9.5 (0.09)
Italy	20 (1.4)	387 (14.0)	50 (1.4)	381 (7.0)	31 (1.7)	356 (8.7)	9.1 (0.08)
International Avg.	37 (0.7)	471 (2.8)	47 (0.5)	451 (2.2)	16 (0.6)	411 (3.6)	

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

This TIMSS Advanced questionnaire scale was established in 2015 based on the combined response distribution of all countries that participated in TIMSS Advanced 2015. To provide a point of reference for country comparisons, the scale centerpoint of 10 was located at the mean of the combined distribution. The units of the scale were chosen so that 2 scale score points corresponded to the standard deviation of the distribution.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.



**Exhibit P10.1: Students' Views on Engaging Teaching in Physics Lessons
(Continued)**

Students' Views on Engaging Teaching in Physics Lessons by Gender

Reported by Physics Students

Country	Very Engaging Teaching		Engaging Teaching		Less than Engaging Teaching	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Lebanon						
Females	64 (3.7)	421 (5.7)	28 (2.5)	416 (8.8)	8 (2.6)	405 (23.8)
Males	52 (3.5)	417 (7.1)	36 (2.5)	406 (10.0)	12 (2.1)	367 (19.1)
Russian Federation						
Females	54 (2.2)	519 (9.4)	37 (1.6)	481 (9.3)	9 (1.4)	448 (15.4)
Males	55 (2.0)	531 (8.0)	37 (1.4)	502 (8.2)	7 (1.2)	456 (18.1)
United States						
Females	40 (3.3)	425 (13.9)	41 (1.9)	414 (13.0)	20 (2.3)	370 (20.7)
Males	48 (2.8)	467 (10.4)	36 (1.9)	462 (9.4)	16 (2.1)	407 (13.9)
Portugal						
Females	51 (4.4)	449 (7.6)	35 (3.5)	465 (11.6)	14 (2.7)	460 (15.6)
Males	42 (3.2)	473 (6.8)	43 (2.1)	471 (5.8)	16 (2.2)	459 (10.2)
Norway						
Females	35 (2.8)	509 (7.3)	51 (2.5)	486 (8.5)	14 (1.7)	452 (11.0)
Males	47 (2.1)	536 (4.8)	44 (1.9)	507 (5.9)	9 (0.9)	451 (9.7)
Sweden						
Females	23 (1.6)	483 (10.7)	52 (1.8)	455 (7.2)	26 (2.4)	404 (8.8)
Males	28 (1.7)	496 (8.9)	55 (1.4)	457 (6.5)	17 (1.3)	408 (13.6)
France						
Females	21 (1.5)	382 (8.2)	60 (1.6)	354 (4.3)	19 (1.7)	327 (6.2)
Males	24 (1.9)	418 (8.5)	58 (1.7)	391 (4.7)	18 (1.6)	351 (5.7)
Slovenia						
Females	19 (2.2)	564 (11.8)	62 (3.1)	509 (7.9)	19 (3.0)	461 (15.8)
Males	24 (2.3)	572 (9.4)	61 (2.4)	545 (4.4)	15 (2.2)	473 (9.2)
Italy						
Females	19 (1.7)	360 (16.1)	50 (1.7)	361 (8.0)	31 (1.9)	349 (8.5)
Males	21 (1.6)	407 (15.9)	49 (1.7)	398 (8.8)	30 (2.0)	363 (10.8)
International Avg.						
Females	36 (0.9)	457 (3.5)	46 (0.8)	438 (3.0)	18 (0.8)	408 (5.0)
Males	38 (0.8)	480 (3.1)	47 (0.6)	460 (2.4)	16 (0.6)	415 (4.3)

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

This TIMSS Advanced questionnaire scale was established in 2015 based on the combined response distribution of all countries that participated in TIMSS Advanced 2015. To provide a point of reference for country comparisons, the scale centerpoint of 10 was located at the mean of the combined distribution. The units of the scale were chosen so that 2 scale score points corresponded to the standard deviation of the distribution.

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