

Using TIMSS items to evaluate the effectiveness of different instructional practices

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Online Source Table 1. Fixed effects with standard errors from multilevel (class and student) analysis of math achievement for each of the 45 countries in TIMSS 2003.

	Intercept		Gender		SES		ClassSES		ClassDaily		ClassListen	
Country	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Armenia	435.7	24.1	-8.0	2.1	7.9	0.9	21.5	4.8	-0.6	9.8	-20.3	13.7
Australia	190.1	43.2	3.4	2.0	9.9	0.9	58.3	7.4	35.9	10.7	-19.8	10.3
Bahrain	207.0	34.5	-16.4	4.7	9.5	0.9	36.5	7.3	44.3	15.3	-8.3	14.5
Botswana	347.7	27.4	-3.5	2.0	6.3	1.4	35.9	4.7	-13.2	10.5	-16.1	11.1
Bulgaria	330.3	33.2	5.0	2.3	10.2	0.9	22.0	5.2	18.4	11.7	-10.1	11.4
Chile	146.3	16.2	12.3	2.2	10.1	0.9	86.2	3.6	0.2	7.6	-1.0	7.9
Chinese Taipei	464.5	43.6	1.3	2.5	21.2	1.0	50.5	5.6	9.4	12.8	-68.3	8.3
Cyprus	232.0	36.7	-12.7	2.7	17.6	1.2	40.1	8.6	11.8	8.4	24.0	8.7
Egypt	259.3	32.6	6.0	3.2	4.9	1.0	83.2	6.7	-11.2	13.2	-9.5	13.3
England	282.4	64.5	-0.5	2.0	4.0	0.8	50.8	8.1	41.6	19.6	-49.1	15.3
Estonia	284.2	34.9	-6.8	2.1	11.6	0.9	42.3	6.6	11.6	8.3	5.2	8.9
Ghana	270.2	47.4	26.7	2.1	-0.7	1.0	47.3	10.8	-59.9	16.4	-14.2	13.0
Hong Kong	573.3	58.4	11.6	2.0	1.8	0.6	58.5	6.7	13.0	19.7	-108.9	12.7
Hungary	249.2	22.5	12.6	2.4	17.8	1.2	41.2	4.4	11.1	7.6	10.5	8.6
Indonesia	331.2	77.4	2.8	2.0	1.2	1.2	67.7	17.5	42.4	23.3	-125.1	26.0
Iran	290.2	24.2	-4.7	5.3	7.8	1.0	45.3	4.4	8.5	9.1	-1.0	11.8
Israel	379.1	35.9	4.3	2.7	8.8	1.0	40.7	7.5	13.9	11.8	-58.3	14.6
Italy	326.8	24.7	12.0	2.4	13.5	0.9	22.1	6.1	20.4	8.0	-16.2	7.8
Japan	369.8	36.0	2.8	2.2	14.3	1.0	32.8	6.5	39.1	10.8	-45.7	12.2
Jordan	333.0	41.3	-10.1	6.8	10.3	1.3	50.7	8.9	9.5	12.1	-43.2	16.1
Korea	451.3	35.6	6.0	2.7	22.8	0.9	32.4	5.0	-7.0	9.2	-16.0	8.1
Latvia	293.6	34.4	0.9	2.5	9.6	1.2	35.7	6.5	7.9	9.5	15.6	6.4
Lebanon	229.5	24.5	11.6	2.3	3.4	0.9	53.4	6.2	19.8	9.0	1.4	5.7
Lithuania	328.0	26.2	2.3	2.4	13.8	1.0	39.0	4.7	17.8	8.5	-22.6	10.3
Macedonia	316.1	35.3	-6.0	2.4	13.2	1.4	37.0	9.1	41.0	11.0	-68.5	15.4
Malaysia	420.1	44.3	0.0	1.7	5.6	0.8	71.3	7.2	-29.2	15.8	-28.2	20.8
Moldova	419.3	31.9	-8.3	2.7	7.8	1.1	24.1	6.7	-1.2	10.4	-13.3	14.5

Morocco	304.8	27.7	15.6	2.8	0.7	1.5	17.6	6.9	23.3	7.8	-18.0	9.9
Netherlands	293.3	34.8	11.8	1.5	2.1	0.7	70.8	5.7	13.5	12.0	-31.2	7.0
New Zealand	229.2	27.8	-1.0	2.5	9.3	0.9	65.1	5.5	18.2	9.3	-17.8	8.5
Norway	329.6	31.1	1.7	2.2	16.1	1.1	23.0	5.0	0.0	8.4	-4.6	7.4
Palestine	405.2	43.5	-11.6	6.4	10.0	1.2	20.5	10.6	-32.1	11.9	0.6	8.5
Philippines	397.7	45.6	-2.0	2.0	-0.7	0.8	92.2	10.3	3.9	22.3	-132.8	23.1
Romania	399.5	35.9	-1.5	2.4	15.4	1.3	30.4	5.3	0.2	10.9	-36.2	16.8
Russia	400.1	27.9	2.4	2.2	10.2	1.0	28.5	5.3	-27.2	7.1	22.6	7.8
Saudi Arabia	146.2	30.8	18.2	5.5	5.8	1.2	35.0	5.9	9.3	8.1	15.5	5.6
Scotland	249.8	39.8	5.5	1.6	8.1	0.7	51.7	6.9	44.8	14.1	-44.9	13.5
Serbia	346.4	17.3	-3.5	2.6	19.9	1.3	35.0	4.8	3.9	7.2	-4.3	6.9
Singapore	281.3	45.3	5.9	1.5	0.3	0.5	82.6	7.7	45.1	17.3	-21.9	15.3
Slovakia	216.1	21.8	8.2	2.2	19.5	1.1	71.4	6.0	13.9	8.0	-22.3	8.0
Slovenia	407.7	21.7	-2.8	2.4	16.0	1.3	19.1	5.6	9.6	6.7	-25.8	7.3
South Africa	107.9	33.2	-1.8	2.0	0.7	0.9	112.9	8.8	13.9	15.4	-58.0	16.4
Sweden	264.4	35.6	3.9	1.8	14.3	0.9	38.5	5.6	11.4	10.8	-0.9	7.7
Tunisia	290.0	25.0	24.8	1.8	7.6	0.9	31.5	5.1	-4.6	7.1	4.5	6.6
United States	230.7	25.8	7.2	1.1	7.2	0.5	62.1	4.2	19.7	7.2	-4.9	9.1

Online Source Table 2. Fixed effects with standard errors from multilevel (class and student) analysis of math achievement for each of the 50 countries in TIMSS 2007.

Country	Intercept		Gender		SES		ClassSES		ClassMemo		ClassDaily		ClassListen	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Algeria	404.4	19.6	6.3	1.6	4.8	1.0	4.0	5.3	-6.4	6.4	-8.9	5.7	-6.6	4.9
Armenia	428.3	31.6	-3.4	2.4	8.1	1.0	-2.7	4.9	5.0	11.9	4.3	9.2	30.3	11.8
Australia	274.0	32.2	7.9	2.2	10.2	0.9	65.2	5.0	-33.7	8.9	22.3	7.8	-10.0	7.3
Bahrain	211.2	30.2	-9.1	4.9	10.0	1.4	42.3	6.4	-17.3	9.3	35.7	8.3	10.0	8.0
Bosnia-Herzegovina	363.6	23.3	0.7	2.2	12.2	1.3	32.7	6.7	-0.8	8.0	4.8	7.0	-9.3	10.0
Botswana	293.3	35.3	-13.8	3.1	0.9	1.6	64.2	7.5	-32.6	8.5	15.5	10.4	8.7	10.3
Bulgaria	334.5	29.5	-0.8	2.5	8.8	1.2	39.4	5.3	-11.1	11.3	17.5	11.2	-21.7	11.8
Chinese Taipei	484.1	44.3	1.1	3.2	22.0	1.4	46.0	5.3	24.4	10.8	-22.1	13.7	-51.6	8.7
Colombia	208.5	25.8	27.7	2.1	6.6	1.2	58.2	5.8	-41.7	10.2	33.3	11.0	4.0	13.6
Cyprus	412.8	22.1	-14.4	3.0	20.8	1.2	9.7	4.9	-19.3	6.4	0.8	5.4	10.4	4.4
Czech Republic	256.9	25.1	5.9	1.9	14.7	1.1	59.1	5.4	9.1	7.0	1.2	7.5	-9.8	8.3
Egypt	342.3	35.6	2.6	3.8	4.4	1.1	58.3	7.8	14.1	13.1	22.2	11.7	-97.2	14.0
El Salvador	170.1	25.1	24.1	2.2	4.0	1.5	38.6	6.4	-31.6	8.9	35.3	9.3	24.5	12.1
England	284.2	41.4	5.6	1.6	7.1	0.7	54.8	5.4	-38.2	11.7	67.4	10.4	-32.9	9.2
Georgia	398.4	37.9	0.5	3.0	14.8	1.2	9.6	6.0	8.5	17.3	11.3	11.7	-75.8	22.8
Ghana	222.2	42.2	25.5	2.4	-2.3	1.2	56.9	10.3	-33.5	12.7	-1.4	15.0	8.7	7.9
Hong Kong	324.0	75.0	15.4	2.9	2.1	1.0	90.9	9.4	43.6	20.1	29.7	24.1	-99.5	15.8
Hungary	322.2	27.6	7.3	2.1	18.6	1.1	50.7	3.8	-2.2	7.8	-15.6	7.7	-6.2	6.6
Indonesia	161.5	59.1	-0.8	2.8	2.2	1.5	117.1	15.7	-21.0	18.0	35.1	19.6	-35.1	28.2
Iran	205.3	30.9	5.4	5.5	6.3	1.4	59.9	4.3	0.7	5.9	15.2	8.4	14.8	8.5
Israel	389.0	42.0	-4.0	3.4	13.0	1.5	33.7	7.6	-7.7	15.1	33.7	13.1	-89.8	17.9
Italy	345.4	18.8	9.0	2.3	11.9	0.9	24.4	3.9	6.7	4.8	13.1	5.7	-26.4	6.2
Japan	547.1	37.5	3.8	2.9	14.7	1.0	35.0	6.3	-27.8	12.0	-26.2	8.1	-2.7	6.4
Jordan	456.9	39.8	4.6	6.9	11.8	1.4	43.8	8.9	-75.6	16.9	14.0	12.2	-65.3	17.1
Korea	536.4	38.0	5.7	2.9	25.9	1.2	26.0	4.4	-19.1	8.1	-13.6	10.2	-19.9	7.1
Kuwait	335.0	31.9	-12.9	6.1	3.5	1.1	38.9	8.1	-29.2	13.5	23.7	11.1	-41.0	13.4
Lebanon	331.2	30.8	10.3	2.1	2.6	0.9	40.6	5.6	-28.9	8.2	30.5	8.5	-8.4	5.3
Lithuania	382.8	20.9	-3.8	2.2	15.3	1.1	44.6	4.3	1.8	6.2	-1.8	6.2	-25.9	8.1
Malaysia	444.9	40.4	3.0	1.8	4.9	0.8	71.6	7.8	-60.5	12.2	-7.2	13.9	-14.4	13.0
Malta	153.7	38.7	3.7	4.4	6.6	0.9	102.3	6.6	-43.9	10.4	31.7	8.8	-0.8	7.6
Mongolia	210.3	33.8	6.0	2.2	7.5	1.2	64.7	7.6	-11.4	15.5	33.2	13.2	11.8	13.1
Morocco	271.0	42.8	6.0	3.0	6.6	1.4	36.1	8.5	-27.3	12.2	21.1	12.5	10.2	8.7
Norway	293.8	21.7	1.7	2.0	15.5	0.8	24.3	3.4	5.4	5.5	-2.9	5.5	14.6	4.6
Oman	399.7	36.7	-24.1	6.3	12.4	1.5	9.4	7.0	-57.5	16.3	11.3	13.0	16.8	6.6
Palestine	363.2	36.4	-27.8	7.1	10.9	1.3	22.8	10.5	-8.4	10.9	-12.0	10.2	6.6	6.1
Qatar	104.7	36.5	-23.9	5.4	7.5	0.9	63.2	7.0	-4.0	12.1	31.1	11.7	-11.0	11.0
Romania	289.7	24.9	-7.5	2.5	17.8	1.3	49.1	4.8	-15.7	9.1	16.6	7.4	-6.8	8.3
Russia	302.5	29.2	-1.3	2.1	7.9	1.1	54.7	6.0	-19.0	11.1	8.6	8.2	14.0	10.1
Saudi Arabia	245.6	31.0	-11.4	5.5	8.3	1.2	34.2	5.2	-6.5	6.9	5.1	7.9	1.9	6.9
Scotland	381.5	24.6	5.6	1.9	8.0	0.8	48.4	3.8	-53.1	7.3	50.6	7.0	-35.5	7.8

Serbia	318.5	22.5	-5.7	2.7	17.2	1.4	36.9	4.9	11.7	5.0	11.3	6.8	-8.5	6.8
Singapore	291.2	29.1	4.9	1.8	1.4	0.7	90.2	5.2	-54.1	9.9	49.1	9.2	5.7	10.1
Slovenia	414.0	18.5	2.7	2.6	19.7	1.0	20.6	4.3	-10.9	5.7	5.1	5.0	-18.7	5.8
Sweden	405.9	20.9	0.1	2.0	15.5	0.8	20.9	3.1	-17.1	6.3	15.6	5.8	-18.9	4.5
Syria	446.7	53.9	12.2	4.0	4.5	1.0	20.3	12.2	-78.9	16.6	12.5	12.4	-8.0	15.6
Thailand	415.9	51.7	-5.8	2.4	6.8	1.0	72.1	8.1	-22.8	19.0	34.3	19.5	-95.2	19.0
Tunisia	316.4	19.3	21.6	2.2	12.1	1.3	34.2	4.6	-17.3	5.8	1.3	5.6	3.4	3.9
Turkey	39.6	42.7	9.4	2.7	16.9	1.4	80.7	7.3	41.8	12.6	-2.7	13.4	36.4	12.1
Ukraine	299.7	32.6	-2.8	2.3	12.9	1.2	56.5	6.5	-8.0	12.0	-11.2	9.0	0.5	10.1
United States	317.9	16.6	9.6	1.4	7.1	0.5	45.7	2.8	-40.2	4.9	31.0	4.7	8.2	4.6