

## CHAPTER 6

# International Comparisons of Education

This chapter offers a broad perspective on education across the nations of the world. It also provides an international context for examining the condition of education in the United States. Insights into the educational practices and outcomes of the United States are obtained by comparing them with those of other countries. NCES carries out a variety of these activities to provide statistical data for international comparisons of education.

In the early 1990s, the National Center for Education Statistics (NCES) expanded its role in collecting international data by serving as the national research center for the International Association for the Evaluation of Educational Achievement (IEA) Reading Literacy Study. In addition, NCES has provided funding for international research studies comparing mathematics and science education, including the Third International Mathematics and Science Study (TIMSS) and the Second International Assessment of Educational Progress. NCES is also cooperating with international agencies in the compilation of statistics and the development of education indicators.

Some of the data in this chapter were drawn from materials prepared by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the Institute of International Education, the Organization for Economic Cooperation and Development (OECD), and the International Assessment of Educational Progress (IAEP). The basic summary data on enrollments, teachers, enrollment ratios, and finances were synthesized from information appearing in *Education at a Glance* published by OECD. Even though OECD tabulations are very carefully prepared, international data users should be cautioned about the many problems of definition and reporting involved in the collection of data about the educational systems in the world.

This chapter provides information from TIMSS, carried out by the IEA. Data were collected for the two adjacent grades containing the most 9-year-olds (Population 1) and the two adjacent grades containing the most 13-year-olds (Population 2). Data are reported for the higher grade for each population, which was 4th grade in most nations for Population 1 and 8th grade in most nations for Population 2. The mathematics and science performance of 8th

grade students in 41 countries, and 4th grade students in 26 countries, was studied through assessments administered during 1994–95. The mathematics and science performance of students at the end of secondary schooling (12th grade in the U.S.) was also assessed at the same time in 21 countries.

The role that the United States plays in the world of higher education is illuminated by data on foreign students enrolled in U.S. institutions of higher education. The Institute of International Education provides estimates of the number of foreign students and their countries of origin.

Further information on survey methodologies is in the “Guide to Sources” in the appendix and in the publications cited in the source notes.

## Population

The percent of young people in a population can influence the proportion of national income spent per student. Countries with a greater proportion of young people must set aside larger proportions of domestic product for their education. Among the OECD countries, Turkey had the largest percentage of young people ages 5 to 14—at 21 percent in 1998. The closest followers were Ireland, Iceland and the Russian Federation (in 1996) at 16 percent. Countries with relatively small numbers of persons in this age group included Italy at 10 percent, and Denmark, Germany, Greece, Japan, and Spain at 11 percent. The proportion of 5- to 13-year-olds in the U.S. was 14 percent, which was higher than most other industrialized OECD countries (table 390).

## Enrollments

In 1997, 1.2 billion students were enrolled in schools around the world. Of these students, 668 million were in elementary-level programs, 398 million were in secondary programs, and 88 million were in higher education programs (table 392). Between 1990 and 1997, enrollment changes varied from region to region. Elementary enrollment changes ranged from increases of 24 percent in Africa and 12 percent in Central and South America to a 5 percent decrease in Europe. Enrollment increases at the secondary level outpaced increases at the primary (elementary) level, especially in Africa

(38 percent), Oceania (68 percent), Asia (31 percent), and Central and South America (31 percent). Secondary-level enrollment increased in Europe by 10 percent. Enrollment in Northern America (defined in Unesco tabulations as including U.S., Canada, and Greenland) rose by 15 percent (table 392).

At the postsecondary level, developing areas of the world had substantial increases in enrollment between 1990 and 1997. Postsecondary enrollment rose by 68 percent in Africa and by 49 percent in Asia. Postsecondary enrollment in Oceania increased by 99 percent, Central and South America increased by 30 percent, followed by Europe at 15 percent and Northern America at 3 percent. These increases are due to growth both in the proportion of the people attending postsecondary institutions and increases in the populations (tables 392 and 393).

Postsecondary enrollment varied among countries partially due to differing definitions of postsecondary education and at what age it begins. In 1998, among the OECD countries, Belgium reported the largest proportion of 18- to 21-year-olds enrolled in postsecondary education at 41 percent, followed by the United States (37 percent), France (36 percent), and Ireland (33 percent). For the 22 to 25 age group, Finland's enrollment rate was highest at 33 percent, with Norway following at 27 percent, Denmark at 26 percent, Spain at 22, and Sweden at 21 (table 391).

In 1998-99 there were about 491,000 foreign students studying at U.S. colleges and universities. Approximately 56 percent of these students were from Asian countries (table 413). Between 1990 and 1997, the proportion of students at U.S. colleges who were nonresident aliens, rose from 2.8 to 3.2 percent (table 208).

## Achievement

TIMSS is the largest, most comprehensive comparative study of education that has ever been undertaken, testing a half million students. The study was designed to focus on students at different stages in school: midway through elementary school (3rd or 4th grade in most countries), midway through lower secondary school (7th or 8th grade in most countries), and at the end of upper secondary school. Results from the fourth and eighth grade levels were released in late 1996 and 1997, respectively. Findings for students at the end of secondary school were released in early 1998.

The results of the 1994-95 TIMSS show U.S. 4th-graders performing above the international average in both mathematics and science. U.S. 4th-graders showed a stronger standing relative to other countries than U.S. 8th- and 12th-graders in both subjects. In addition, U.S. students perform better in science overall than in mathematics compared to

their international counterparts at the 4th and 8th grade levels.

## Mathematics

In the 1994-95 TIMSS assessment in mathematics, U.S. 4th-graders scored above the international average of the 26 countries that participated. Fourth-graders performed below students in 7 countries, not significantly different from students in 6 countries, and above students in 12 countries. U.S. 4th-graders scored below Japan, not significantly different from Canada, and above England (table 402). U.S. 8th-graders scored below the international average of the 41 countries that were tested. In mathematics, U.S. 8th-graders scored below their counterparts in 20 countries, including top performer Singapore, but not significantly different from England and Germany (table 396). U.S. 12th-graders performed below the international average, and among the lowest of the 21 TIMSS countries on the assessment of mathematics general knowledge. U.S. students were outperformed by those in 14 countries, outperformed students in 2 countries, and were not significantly different from those in 4 countries (Table 404).

## Science

U.S. 4th-graders performed above the international average of the 26 countries assessing fourth grade students in science. Only Korea scored above the U.S., with U.S. 4th-graders outperforming 19 other countries, including England and Canada. The remaining countries' scores, including Japan's, were not significantly different from those of U.S. fourth grade students (table 403). U.S. 8th-graders compared more favorably with other countries in science than in mathematics, scoring above the international average of 41 countries. U.S. 8th grade students scored below their peers in nine countries, not significantly different from 16 countries, including Canada, England, and Germany, and outperformed students in 15 nations (table 398). U.S. 12th-graders performed below the international average and among the lowest scoring of the 21 TIMSS countries on the assessment of general science knowledge. U.S. students were outperformed by students in 11 countries, outperformed students in 2 countries, and did not score significantly different from students in 7 countries (table 405).

U.S. 4th grade students were above the international average in all four science content areas studied by TIMSS. Among the five science content areas assessed at the 8th grade level in TIMSS, U.S. students performed above the international average in earth science, life science, and environmental issues, and no different from the international average in chemistry and physics (table 398).

## Degrees

Ratios of bachelor's degrees conferred per hundred persons at the typical year of graduation in 1996 ranged from 9 in Switzerland and 11 in Austria to 36 in Australia and 35 percent in the United States. In 1996, women had higher bachelor's degree ratios than men in 14 out of 19 countries reporting data (table 408).

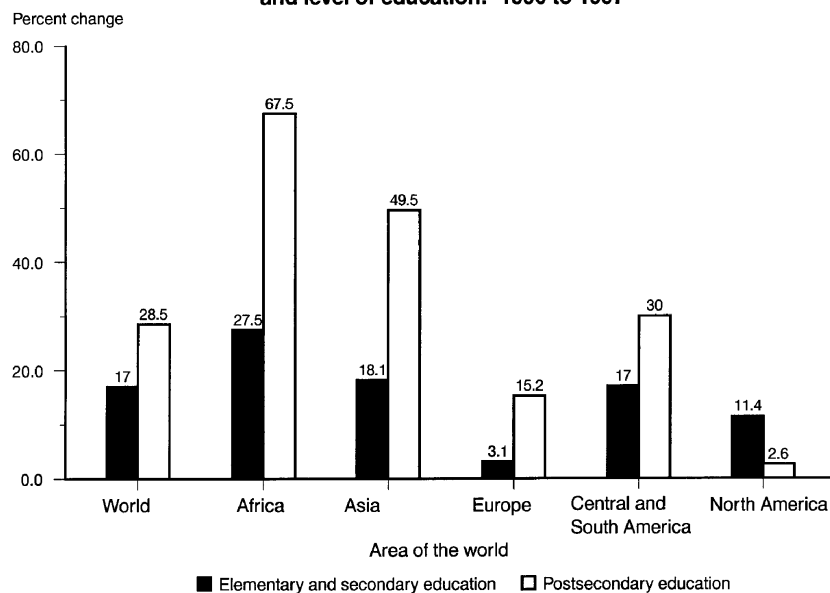
Countries pay careful attention to the percent of graduates in the fields of mathematics and science. Regarding the percent of undergraduate degrees awarded in science fields (including natural sciences, mathematics and computer science, and engineering), OECD countries reported rates from 15 to 36 percent for 1996. Finland and Germany were over 30 percent, while Norway, Portugal, the Netherlands, the United States, Canada, Spain, Denmark, and Italy were 20 percent or less (table 409). The proportion of graduate degrees awarded in science fields also ranged widely across countries in 1996. Among the countries with the highest proportions were Switzerland (40 percent), Austria and Germany (39 percent), and Norway (38 percent). Among the countries with the lowest proportions were Denmark (12 percent) and the United States and Australia (14 percent) (table 410).

## Finances

In general, higher income countries spend more public funds per student than lower income countries. At the primary level of education, Denmark, Austria, Switzerland, and the United States ranked at the upper end of public per pupil expenditures in 1997. For primary education per student, Denmark spent about \$6,913 per student, Austria spent \$6,258, Switzerland spent 6,237, and the United States spent \$5,961 per student. At the secondary level, Belgium, Austria, the United States, Denmark, Switzerland, and France had expenditures over \$7,000 per student. The governments of Japan, Switzerland, the United States, and Canada spent relatively large amounts per student in higher education. Japan spent \$18,914, Switzerland spent \$16,376, the United States spent \$14,864, and Canada spent \$14,816 (table 411). These expenditures were adjusted to U.S. dollars using the purchasing-power-parity (PPP) index. This index is considered more stable and comparable than using currency exchange rates.

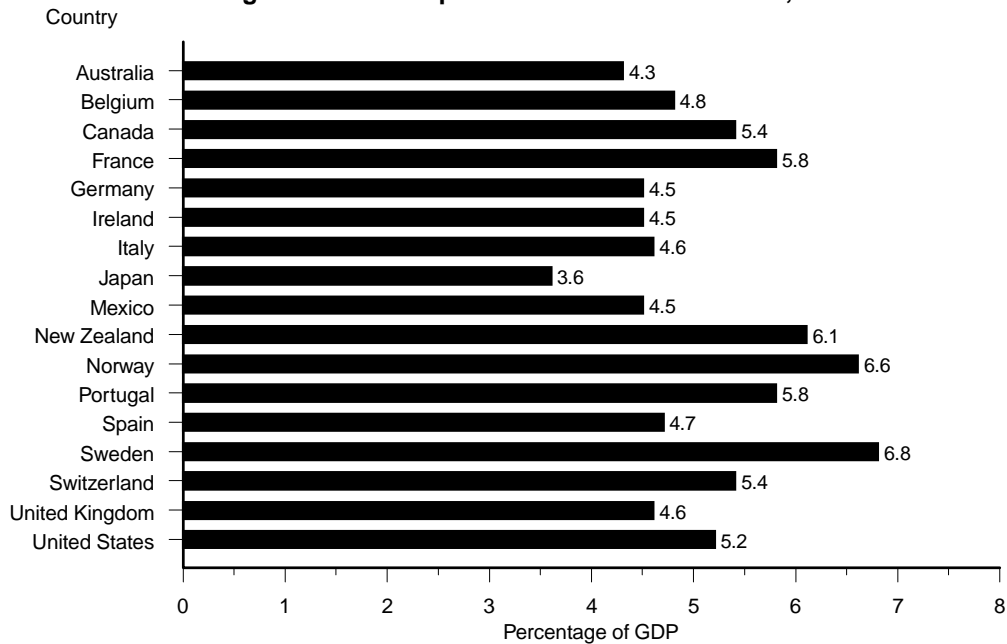
A comparison of public expenditures on education as a percent of gross domestic product (GDP) in OECD countries shows that national investment in education in 1997 ranged from 3.5 percent of GDP in Greece to 5.2 percent in the United States to 6.8 percent in Sweden (table 412).

**Figure 28.—Women Percent change in enrollment, by area of the world and level of education: 1990 to 1997**



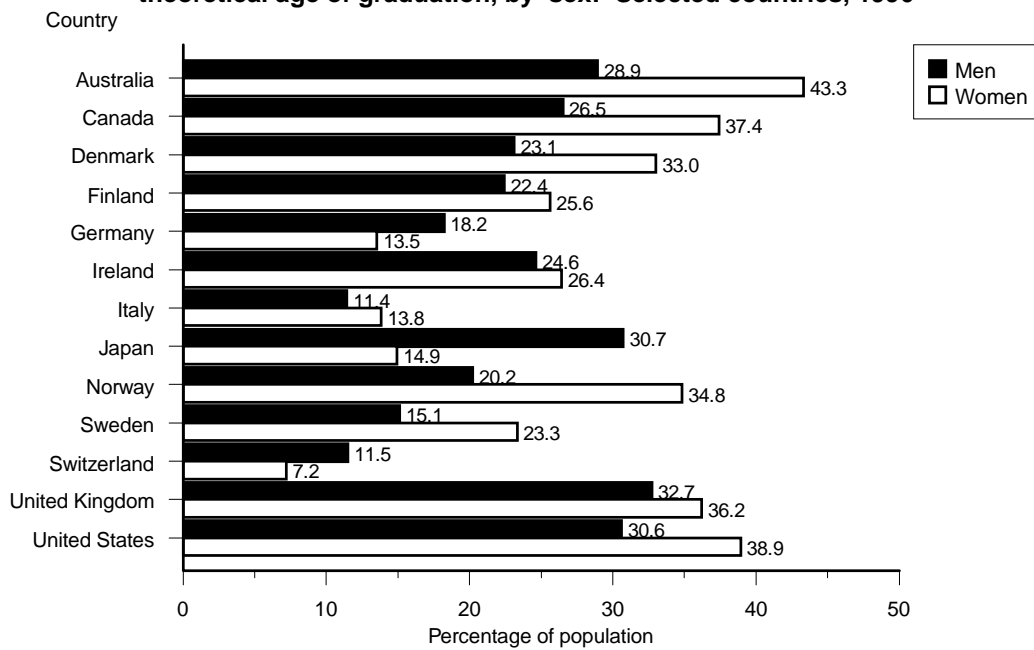
SOURCE: United Nations Educational, Scientific, and Cultural Organization, Paris, *Statistical Yearbook*, various years.

**Figure 29.—Public direct expenditures for education as a percentage of the gross domestic product: Selected countries, 1997**



SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance*, 2000.

**Figure 30.—Bachelor's degree recipients as a percentage of the theoretical age of graduation, by sex: Selected countries, 1996**



SOURCE: Organization for Economic Cooperation and Development, unpublished data.

**Figure 31.—Average mathematics performance of other countries compared with the United States: 1995**

Fourth grade (in most nations)			End of secondary education		
Average scores significantly higher than the United States			Average scores significantly higher than the United States		
Singapore			(Netherlands)	(Norway)	(Austria)
Korea			Sweden	(France)	(Slovenia)
Japan			(Denmark)	New Zealand	(Germany)
Hong Kong			Switzerland	(Australia)	Hungary
(Netherlands)			(Iceland)	(Canada)	
Czech Republic					
(Austria)					
Average scores not significantly different from the United States			Average scores not significantly different from the United States		
(Slovenia)	Canada		(Italy)		
Ireland	(Israel)		(Russian Federation)		
(Hungary)			(Lithuania)		
(Australia)			Czech Republic		
Average scores significantly lower than the United States			Average scores significantly lower than the United States		
(Latvia)	Norway	Portugal	(Cyprus)		
Scotland	New Zealand	Iceland	(South Africa)		
England	Greece	Iran, Islamic Republic			
Cyprus	(Thailand)	(Kuwait)			

NOTE.—Nations not meeting international guidelines are shown in parentheses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Pursuing Excellence: A Study of U.S. Fourth-Grade Mathematics and Science Achievement in International Context*, 1997 and *Pursuing Excellence: A Study of U.S. Twelfth-Grade Mathematics and Science Achievement in International Context*, 1998.

**Figure 32.—Average science performance of other countries compared with the United States: 1995**

Fourth grade (in most nations)			End of secondary education		
Average scores significantly higher than the United States			Average scores significantly higher than the United States		
Korea			Sweden	(Canada)	(Austria)
			(Netherlands)	New Zealand	(Slovenia)
			(Iceland)	(Australia)	(Denmark)
			(Norway)	Switzerland	
Average scores not significantly different from the United States			Average scores not significantly different from the United States		
Japan			(Germany)	(Italy)	
(Austria)			(France)	Hungary	
(Australia)			Czech Republic	(Lithuania)	
(Netherlands)			(Russian Federation)		
Czech Republic					
Average scores significantly lower than the United States			Average scores significantly lower than the United States		
England	Hong Kong	Iceland	(Cyprus)		
Canada	(Hungary)	Greece	(South Africa)		
Singapore	New Zealand	Portugal			
(Slovenia)	Norway	Cyprus			
Ireland	(Latvia)	(Thailand)			
Scotland	(Israel)	Iran, Islamic Republic			
		(Kuwait)			

NOTE.—Nations not meeting international guidelines are shown in parentheses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Pursuing Excellence: A Study of U.S. Fourth-Grade Mathematics and Science Achievement in International Context*, 1997 and *Pursuing Excellence: A Study of U.S. Twelfth-Grade Mathematics and Science Achievement in International Context*, 1998.

**Table 390.—School-age populations as a percent of total population:  
Selected countries, 1985, 1990, 1995, 1996, and 1998**

Country	5- to 13-year-olds as a percent of total population					14- to 17-year-olds as a percent of total population				
	1985	1990	1995	1996 <sup>1</sup>	1998 <sup>1</sup>	1985	1990	1995	1996 <sup>2</sup>	1998 <sup>2</sup>
1	2	3	4	5	6	7	8	9	10	11
Australia .....	14.5	13.1	12.9	14.0	14.0	6.6	6.4	5.6	7.0	7.0
Belgium .....	11.4	10.9	10.7	12.0	12.0	5.8	5.1	4.9	6.0	6.0
Canada .....	12.8	12.4	12.2	13.0	14.0	6.1	5.5	5.4	7.0	7.0
Czech Republic .....	—	—	11.6	13.0	13.0	—	—	6.5	8.0	8.0
Denmark .....	12.0	10.1	9.7	11.0	11.0	5.8	5.7	4.7	6.0	6.0
Finland .....	11.5	11.8	11.4	13.0	13.0	5.6	4.9	5.1	6.0	6.0
France .....	12.8	12.1	12.0	13.0	13.0	6.2	5.8	5.3	7.0	7.0
Germany <sup>3</sup> .....	9.1	8.7	10.0	11.0	11.0	6.1	4.1	4.3	5.0	6.0
Greece .....	—	—	10.7	12.0	11.0	—	5.5	5.8	7.0	7.0
Iceland .....	15.7	15.0	14.3	16.0	16.0	6.7	6.8	6.4	8.0	8.0
Ireland .....	17.9	17.5	15.2	17.0	16.0	7.7	8.0	7.8	9.0	9.0
Italy .....	12.7	10.3	9.1	10.0	10.0	6.5	6.0	4.8	6.0	6.0
Japan .....	14.0	11.8	10.2	11.0	11.0	6.2	6.5	5.4	7.0	6.0
Korea .....	—	—	14.5	15.0	14.0	—	—	7.1	9.0	9.0
Luxembourg .....	10.2	10.1	10.5	12.0	12.0	5.5	4.4	4.4	5.0	6.0
Netherlands .....	12.0	10.7	10.8	12.0	12.0	6.8	5.4	4.8	6.0	6.0
New Zealand .....	15.3	13.5	13.5	15.0	15.0	7.5	6.7	5.7	7.0	7.0
Norway .....	12.5	11.0	11.2	13.0	13.0	6.4	5.8	4.9	6.0	6.0
Portugal .....	15.3	14.3	10.9	12.0	12.0	6.9	6.8	6.1	8.0	7.0
Russian Federation .....	—	—	14.3	16.0	—	—	—	5.8	7.0	—
Spain .....	15.0	12.9	10.2	11.0	11.0	6.8	6.8	6.2	8.0	7.0
Sweden .....	11.3	10.2	10.8	12.0	13.0	5.4	5.2	4.6	6.0	6.0
Switzerland .....	10.6	10.1	10.4	12.0	12.0	5.8	4.8	4.5	6.0	6.0
Turkey .....	20.6	20.6	19.7	20.0	21.0	8.7	8.9	8.8	11.0	11.0
United Kingdom .....	11.4	11.1	11.6	13.0	13.0	6.3	5.2	4.8	6.0	6.0
United States .....	12.6	12.8	13.0	15.0	14.0	6.2	5.4	5.5	7.0	7.0

—Not available.

<sup>1</sup> Data are for the 5-14 year old population.<sup>2</sup> Data are for the 15-19 year old population.<sup>3</sup> Data for 1985 are for the former West Germany.SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance*, various years; and unpublished data. (This table was prepared July 2000.)**Table 391.—Percent of population enrolled in secondary and postsecondary institutions, by age group:  
Selected countries, 1985, 1990, and 1998**

Country	Secondary schools, 16 years old <sup>1</sup>			Secondary schools, 17 years old <sup>1</sup>			Postsecondary institutions								
	1985	1990	1998	1985	1990	1998	18 to 21 years old			22 to 25 years old			26 to 29 years old		
							1985	1990	1998	1985	1990	1998	1985	1990	1998
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Belgium <sup>2</sup> .....	90.0	—	94.0	80.9	—	93.0	24.5	—	41.0	7.2	—	13.5	1.5	—	2.5
Canada .....	—	—	99.0	—	—	83.0	—	—	26.6	—	—	17.3	—	—	6.2
Denmark .....	31.2	34.6	93.0	69.3	73.1	82.0	7.4	7.4	8.1	16.3	17.9	25.5	8.2	9.3	13.4
Finland .....	74.6	89.7	89.0	80.5	81.7	93.0	9.3	13.6	22.8	17.3	20.7	33.4	7.9	10.2	16.0
France .....	67.0	68.2	95.0	72.4	79.7	88.0	19.3	24.6	36.0	10.0	11.8	19.0	4.3	3.9	4.3
Germany <sup>3</sup> .....	52.3	46.5	96.0	82.7	81.2	91.0	8.8	8.5	11.2	—	15.9	18.2	8.9	10.3	10.9
Ireland .....	—	79.2	91.0	—	68.0	73.0	—	20.5	32.7	—	—	11.8	—	—	2.4
Japan .....	—	93.5	96.0	—	88.6	94.0	—	—	—	—	—	—	—	—	—
Netherlands .....	41.7	45.0	96.0	55.6	58.5	85.0	14.4	17.9	25.6	11.9	13.4	18.9	5.7	4.7	4.7
New Zealand .....	—	79.9	88.0	—	57.2	69.0	—	20.7	28.4	—	14.8	13.5	—	—	6.9
Norway .....	83.4	90.4	94.0	76.1	82.6	93.0	8.6	13.5	19.3	13.9	17.4	26.8	6.2	7.5	10.9
Portugal .....	18.0	—	84.0	22.3	—	81.0	5.9	—	22.9	5.4	—	16.7	2.3	—	6.3
Spain .....	58.2	70.6	85.0	50.9	62.1	73.0	15.0	21.3	30.6	10.7	13.5	22.3	4.0	4.5	6.8
Sweden .....	86.7	83.1	98.0	82.4	84.6	97.0	7.8	8.7	13.4	11.3	11.4	20.6	6.5	6.1	9.4
Switzerland .....	58.1	61.9	90.0	78.8	81.7	85.0	5.7	6.4	9.5	10.6	12.1	16.2	5.2	6.4	7.6
Turkey .....	20.5	27.3	43.0	12.7	17.3	22.0	—	7.3	12.3	—	4.3	7.7	—	2.2	3.4
United Kingdom .....	67.0	75.6	81.0	45.9	57.4	66.0	15.0	16.1	28.5	7.4	10.6	10.3	—	—	5.3
United States <sup>4</sup> .....	83.6	84.8	84.0	78.1	78.4	74.0	33.2	35.6	37.3	14.6	17.3	20.2	8.2	8.6	9.4

—Not available.

<sup>1</sup> Includes full-time and part-time enrollment.<sup>2</sup> Data for Flemish Belgium only.<sup>3</sup> Data for 1985 are for the former West Germany.<sup>4</sup> Postsecondary includes higher education only.

NOTE: Some increases in enrollment rates may be due to more complete reporting by countries.

SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance*, various years; and unpublished data. (This table was prepared July 2000.)

**Table 392.—Estimated population, school enrollment, and teachers in major areas of the world: 1980, 1990, 1995, 1996, and 1997**

Item	World total <sup>1</sup>	Major areas of the world					
		Africa <sup>2</sup>	Asia <sup>3</sup>	Europe <sup>4</sup>	Central and South America <sup>5</sup>	Northern America <sup>5</sup>	Oceania <sup>6</sup>
1	2	3	4	5	6	7	8
<b>1980</b>							
Population, all ages, <sup>7</sup> in thousands .....	4,447,090	475,714	2,641,312	693,075	359,307	255,109	22,573
Enrollment, all levels, in thousands .....	856,971	78,036	495,155	131,633	87,291	60,041	4,815
First (primary) level <sup>8</sup> .....	541,556	62,134	336,174	52,471	65,414	22,611	2,752
Second level <sup>9</sup> .....	264,379	14,360	144,755	62,734	16,969	23,913	1,647
Third level <sup>10</sup> .....	51,037	1,542	14,227	16,428	4,908	13,516	416
Teachers, all levels, in thousands .....	38,285	2,338	19,641	8,225	3,730	4,079	272
First (primary) level <sup>8</sup> .....	19,044	1,661	10,874	2,541	2,260	1,580	129
Second level <sup>9</sup> .....	15,398	584	7,554	4,387	1,083	1,679	112
Third level <sup>10</sup> .....	3,843	94	1,213	1,297	387	820	31
Public expenditures on education, in millions of U.S. dollars .....	\$516,400	\$22,900	\$93,800	\$200,600	\$33,500	\$155,100	\$10,400
As a percent of gross national product .....	4.8	5.3	4.0	<sup>11</sup> 5.1	3.8	5.2	5.6
<b>1990</b>							
Population, all ages, <sup>7</sup> in thousands .....	5,281,986	629,389	3,184,342	722,109	437,822	282,020	26,304
Enrollment, all levels, in thousands .....	980,474	107,871	569,179	131,255	104,968	62,007	5,194
First (primary) level <sup>8</sup> .....	596,853	80,640	364,213	48,968	75,505	24,810	2,717
Second level <sup>9</sup> .....	315,008	24,378	181,652	63,366	22,194	21,569	1,849
Third level <sup>10</sup> .....	68,613	2,853	23,314	18,922	7,269	15,628	628
Teachers, all levels, in thousands .....	47,105	3,791	24,455	9,398	5,131	4,000	330
First (primary) level <sup>8</sup> .....	22,626	2,390	12,692	2,812	3,006	1,582	143
Second level <sup>9</sup> .....	19,380	1,241	9,947	5,076	1,520	1,449	146
Third level <sup>10</sup> .....	5,100	160	1,816	1,509	605	969	41
Public expenditures on education, in millions of U.S. dollars .....	\$986,500	\$25,700	\$199,800	\$367,500	\$44,600	\$330,300	\$18,600
As a percent of gross national product .....	4.8	5.6	3.7	<sup>11</sup> 5.1	4.1	5.4	5.6
<b>1995</b>							
Population, all ages, <sup>7</sup> in thousands .....	5,686,775	719,497	3,437,791	728,034	476,641	296,644	28,168
Enrollment, all levels, in thousands .....	1,105,367	130,308	646,855	137,836	116,672	66,511	7,186
First (primary) level <sup>8</sup> .....	650,876	95,667	395,725	47,367	82,490	26,500	3,127
Second level <sup>9</sup> .....	373,200	30,698	220,333	69,453	25,841	23,984	2,891
Third level <sup>10</sup> .....	81,291	3,944	30,796	21,016	8,342	16,026	1,167
Teachers, all levels, in thousands .....	52,081	4,474	26,977	10,104	5,816	4,269	439
First (primary) level <sup>8</sup> .....	24,340	2,802	13,515	2,848	3,366	1,649	161
Second level <sup>9</sup> .....	21,759	1,468	11,283	5,561	1,703	1,528	217
Third level <sup>10</sup> .....	5,981	205	2,180	1,696	747	1,092	61
<b>1996</b>							
Population, all ages, <sup>7</sup> in thousands .....	5,767,443	738,740	3,488,028	728,561	484,309	299,250	28,555
Enrollment, all levels, in thousands .....	1,130,667	134,843	663,394	137,522	120,429	67,122	7,357
First (primary) level <sup>8</sup> .....	659,106	98,356	400,405	46,866	83,596	26,736	3,147
Second level <sup>9</sup> .....	386,386	32,127	229,981	69,103	27,815	24,355	3,005
Third level <sup>10</sup> .....	85,175	4,360	33,008	21,554	9,018	16,031	1,204
Teachers, all levels, in thousands .....	53,081	4,642	27,596	10,107	5,983	4,305	447
First (primary) level <sup>8</sup> .....	24,622	2,881	13,630	2,842	3,446	1,661	162
Second level <sup>9</sup> .....	22,375	1,538	11,719	5,556	1,785	1,552	224
Third level <sup>10</sup> .....	6,084	223	2,247	1,709	752	1,093	61
<b>1997</b>							
Population, all ages, <sup>7</sup> in thousands .....	—	—	—	—	—	—	—
Enrollment, all levels, in thousands .....	1,154,721	138,714	679,366	137,645	123,778	67,689	7,528
First (primary) level <sup>8</sup> .....	668,450	100,226	406,661	46,304	85,177	26,906	3,176
Second level <sup>9</sup> .....	398,116	33,708	237,861	69,547	29,153	24,746	3,101
Third level <sup>10</sup> .....	88,156	4,780	34,844	21,794	9,448	16,038	1,251
Teachers, all levels, in thousands .....	54,120	4,754	28,288	10,141	6,138	4,342	456
First (primary) level <sup>8</sup> .....	24,818	2,927	13,763	2,814	3,474	1,674	165
Second level <sup>9</sup> .....	23,017	1,585	12,185	5,568	1,874	1,577	228
Third level <sup>10</sup> .....	6,284	242	2,339	1,759	789	1,092	62

—Not available.

<sup>1</sup> Enrollment and teacher data exclude the Democratic People's Republic of Korea.<sup>2</sup> Excludes Rodrigues and other small islands.<sup>3</sup> Includes 5 countries of the former U.S.S.R., the Democratic People's Republic of Korea, Arab states, and both the Asian and the European portions of Turkey.<sup>4</sup> Includes all countries of the former U.S.S.R. except Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, and Turkmenistan.<sup>5</sup> Northern America includes Bermuda, Canada, Greenland, St. Pierre and Miquelon, and the United States of America. Hawaii is included in Northern America rather than Oceania. Central and South America includes Latin America and the Caribbean.<sup>6</sup> Includes American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Norfolk Island, Pacific Islands, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, and the Republic of Vanuatu.<sup>7</sup> Estimate of midyear population.<sup>8</sup> First level enrollment generally consists of elementary school, grades 1–6.<sup>9</sup> Second level enrollment includes general education, teacher training (at the second level), and technical and vocational education. This level generally corresponds to secondary education in the United States, grades 7–12.<sup>10</sup> Third level enrollment includes college and university enrollment, and technical and vocational education beyond the high school level. There is considerable variation in reporting from country to country.<sup>11</sup> This figure is for Europe, not including the former U.S.S.R.

NOTE: Detail may not sum to totals due to rounding.

SOURCE: United Nations Educational, Scientific, and Cultural Organization, Paris, 1999 Statistical Yearbook. (This table was prepared July 2000.)

**Table 393.—Selected statistics for countries with populations over 10 million, by continent: 1980, 1990, and 1997**

Country <sup>1</sup>	Population in millions			Persons per square kilometer in 1997	First level <sup>2</sup>					
	1980	1990	1997		Enrollment in thousands			Enrollment ratio <sup>5</sup>		
					1980	1990	1997	1980	1990	1997
1	2	3	4	5	6	7	8	9	10	11
<b>World total<sup>6</sup></b>	<b>4,447.1</b>	<b>5,282.0</b>	<b>5,817.2</b>	<b>45</b>	<b>541,556</b>	<b>596,853</b>	<b>668,450</b>	<b>96</b>	<b>99</b>	<b>102</b>
<b>Africa</b>										
Algeria <sup>7</sup>	18.7	24.9	29.3	12	3,119	4,189	<sup>8</sup> 4,675	94	100	<sup>8</sup> 107
Angola	7.0	9.2	11.7	9	1,301	<sup>10</sup> 990	—	175	92	—
Burkina Faso	6.9	9.1	10.5	38	202	504	<sup>9</sup> 701	17	33	<sup>9</sup> 40
Cameroon	8.7	11.5	13.9	30	1,379	1,964	<sup>8</sup> 1,921	98	101	<sup>8</sup> 85
Cote d'Ivoire	8.2	11.7	14.2	45	1,025	1,415	<sup>8</sup> 1,738	75	67	<sup>8</sup> 71
Democratic Rep of the Congo	27.0	37.4	46.7	21	4,196	4,562	<sup>10</sup> 5,418	92	70	<sup>10</sup> 72
Egypt <sup>7</sup>	43.7	56.3	60.4	61	4,663	6,964	7,499	73	94	101
Ethiopia	36.4	48.1	59.8	60	2,131	2,466	<sup>8</sup> 4,008	37	33	<sup>8</sup> 43
Ghana <sup>7</sup>	10.8	15.0	18.0	79	<sup>12</sup> 1,378	1,945	<sup>10</sup> 2,155	79	75	<sup>10</sup> 79
Kenya <sup>7</sup>	16.6	23.5	28.6	50	3,927	5,392	<sup>9,15</sup> 5,545	115	95	<sup>9</sup> 85
Madagascar	9.1	12.6	14.2	24	1,724	1,571	<sup>9</sup> 1,638	130	103	<sup>9</sup> 92
Malawi	6.2	9.3	10.3	109	810	1,401	<sup>9,2</sup> 887	60	68	<sup>9</sup> 134
Mali	6.9	7.9	10.3	8	291	395	863	26	26	49
Morocco <sup>7</sup>	19.4	24.0	27.3	61	2,172	2,484	<sup>8</sup> 3,161	83	67	<sup>8</sup> 86
Mozambique <sup>7</sup>	12.1	14.2	16.6	21	<sup>19</sup> 1,387	1,260	<sup>9</sup> 1,415	—	67	<sup>9</sup> 60
Nigeria <sup>8</sup>	72.0	96.2	117.7	129	12,117	13,607	<sup>10</sup> 16,191	109	91	<sup>10</sup> 98
South Africa	29.2	37.1	40.7	33	<sup>15,4</sup> 3,353	6,952	<sup>9,8</sup> 1,599	90	122	<sup>9</sup> 133
Sudan <sup>7</sup>	18.7	24.1	27.7	12	1,464	2,043	<sup>8</sup> 3,000	50	53	<sup>8</sup> 51
Uganda	13.1	16.6	20.3	102	<sup>23</sup> 1,292	<sup>15,23</sup> 2,470	<sup>9,2</sup> 912	50	74	<sup>9</sup> 74
United Republic of Tanzania	18.6	25.5	31.3	35	3,368	3,379	4,058	93	70	66
Zimbabwe	7.1	9.9	11.5	30	1,235	2,116	2,511	85	116	112
<b>Asia</b>										
Afghanistan <sup>7</sup>	16.1	14.8	24.1	37	1,116	623	<sup>9</sup> 1,312	34	27	<sup>9</sup> 49
Bangladesh	88.2	109.8	123.6	950	8,240	11,940	—	61	72	—
Cambodia	6.5	8.7	11.2	64	1,328	1,330	2,012	—	121	113
China	998.9	1,155.3	1,227.2	132	146,270	122,414	139,954	113	125	123
Hong Kong	5.0	5.7	6.5	6568	540	525	<sup>9</sup> 468	107	102	<sup>9</sup> 94
India	688.9	850.8	962.4	324	73,873	99,118	<sup>8</sup> 110,390	83	97	<sup>8</sup> 100
Indonesia	151.0	182.8	200.4	111	25,537	29,754	<sup>8</sup> 29,236	107	115	<sup>8</sup> 113
Iran, Islamic Republic of	39.3	59.2	60.9	38	4,799	9,370	<sup>8,9</sup> 2,338	<sup>26</sup> 98	112	<sup>8</sup> 98
Iraq	13.0	18.1	21.9	50	2,616	3,328	<sup>9,2</sup> 904	113	111	<sup>9</sup> 85
Japan	116.8	123.5	126.1	335	11,827	9,373	7,855	101	100	101
Kazakhstan	14.9	16.7	15.8	6	1,064	1,197	<sup>8</sup> 1,342	84	87	<sup>8</sup> 98
Korea, North (DPR)	17.7	20.4	22.9	190	—	—	—	—	—	—
Korea, South (Republic of)	38.1	42.9	46.0	466	5,658	4,869	3,794	110	105	94
Malaysia	13.8	17.9	21.7	66	2,009	2,456	<sup>15,2</sup> 841	93	94	101
Myanmar	33.8	41.4	43.9	67	4,148	5,385	<sup>9,5</sup> 4,414	91	106	<sup>9</sup> 121
Nepal <sup>7</sup>	14.5	18.8	22.3	156	1,068	2,789	<sup>8,3</sup> 4,448	86	108	<sup>8</sup> 113
Pakistan	85.3	119.1	128.5	167	<sup>28</sup> 5,474	<sup>28</sup> 11,451	—	40	61	—
Philippines	48.3	60.8	73.5	247	<sup>12,8</sup> 0,34	10,427	12,159	112	111	117
Saudi Arabia	9.6	16.0	20.1	9	927	1,877	<sup>8,2</sup> 2,256	61	73	<sup>8</sup> 76
Sri Lanka <sup>7</sup>	14.8	17.1	18.6	287	2,081	2,112	<sup>8,1</sup> 844	103	106	<sup>8</sup> 109
Syrian Arab Republic	8.7	12.4	14.9	81	1,556	2,452	<sup>8,2</sup> 6,900	100	108	<sup>8</sup> 101
Thailand	46.7	55.6	60.6	119	7,393	6,957	5,928	99	99	<sup>8</sup> 87
Turkey	44.4	56.1	62.5	81	5,656	6,862	<sup>8,6</sup> 3,889	96	99	<sup>8</sup> 107
Uzbekistan	16.0	20.5	23.7	57	1,391	1,778	<sup>10</sup> 1,906	81	81	<sup>10</sup> 78
Viet Nam	53.7	66.7	75.5	232	7,887	8,862	10,431	109	103	113
Yemen	8.2	11.6	16.1	31	—	<sup>21</sup> 2,679	<sup>8,2</sup> 700	—	<sup>21</sup> 79	<sup>8</sup> 70
<b>Europe</b>										
Belarus <sup>7</sup>	9.7	10.3	10.3	49	750	615	<sup>8</sup> 625	104	95	<sup>8</sup> 98
Belgium	9.9	10.0	10.2	310	842	719	<sup>9</sup> 743	104	101	<sup>9</sup> 103
Czech Republic	10.3	10.3	10.3	133	647	546	<sup>9</sup> 542	96	96	<sup>9</sup> 104
France	53.9	56.7	58.6	107	4,610	4,149	<sup>9,4</sup> 0,005	111	108	<sup>8</sup> 105
Germany <sup>31</sup>	78.3	79.4	82.1	235	3,636	3,431	<sup>8,3</sup> 859	—	101	<sup>8</sup> 104
Greece	9.6	10.2	10.5	81	901	813	<sup>8</sup> 652	103	98	<sup>8</sup> 93
Hungary <sup>7</sup>	10.7	10.4	10.2	110	1,162	1,131	<sup>9</sup> 507	96	95	<sup>9</sup> 103
Italy <sup>7</sup>	56.4	57.0	57.5	196	4,423	3,056	<sup>8,2</sup> 810	100	103	<sup>8</sup> 101
Netherlands <sup>7</sup>	14.1	15.0	15.6	460	1,333	1,082	<sup>8,1</sup> 231	100	102	<sup>8</sup> 108
Poland <sup>7</sup>	35.6	38.1	38.7	127	4,167	5,189	<sup>9,5</sup> 0,211	100	98	<sup>9</sup> 96
Romania <sup>7</sup>	22.2	23.2	22.6	98	3,308	1,253	<sup>8,1</sup> 405	104	91	<sup>8</sup> 103
Russian Federation	138.7	148.3	147.3	9	6,009	7,596	<sup>10,7</sup> 849	102	109	<sup>10</sup> 107
Spain <sup>7</sup>	37.5	39.3	39.3	79	3,610	2,820	<sup>15,2</sup> 610	109	109	<sup>8</sup> 109
Ukraine <sup>7</sup>	50.0	51.9	50.7	88	3,592	3,991	<sup>21,2</sup> 659	102	89	<sup>21</sup> 87
United Kingdom <sup>7</sup>	56.3	57.6	59.0	244	4,911	4,533	<sup>8,5</sup> 328	103	104	<sup>8</sup> 116
Yugoslavia, Federal Republic <sup>7</sup>	9.5	10.2	10.6	104	—	<sup>32</sup> 467	<sup>8</sup> 438	—	72	<sup>8</sup> 69
<b>North America</b>										
Canada	24.6	27.8	30.0	3	2,185	2,376	<sup>9,2</sup> 448	99	103	<sup>9</sup> 102
Cuba	9.7	10.6	11.1	101	1,469	888	<sup>8,1</sup> 095	106	98	<sup>8</sup> 106
Guatemala	6.9	9.2	10.5	97	803	1,165	1,545	71	78	88
Mexico	67.6	83.2	94.3	49	14,666	14,402	<sup>8</sup> 14,651	120	114	<sup>8</sup> 114
United States	230.4	254.1	267.7	29	20,420	22,429	<sup>9,24</sup> 046	99	102	<sup>9</sup> 102
<b>South America</b>										
Argentina	28.1	32.5	35.7	13	3,917	4,965	5,153	106	106	<sup>8</sup> 113
Brazil	121.7	148.0	163.7	19	22,598	28,944	34,229	98	106	125
Chile	11.1	13.1	14.6	20	2,185	1,991	<sup>8,2</sup> 242	109	100	<sup>8</sup> 101
Colombia	26.5	32.6	40.0	39	4,168	4,247	<sup>8,15</sup> 4,917	112	102	<sup>8</sup> 113
Ecuador	8.0	10.3	11.9	43	1,534	1,846	<sup>8,32</sup> 1,888	117	116	<sup>8</sup> 127
Peru	17.3	21.6	24.4	19	3,161	3,855	4,163	114	118	123
Venezuela	15.1	19.5	22.8	26	3,158	4,053	<sup>8</sup> 4,262	93	96	<sup>8</sup> 91
<b>Oceania</b>										
Australia <sup>7</sup>	<sup>40</sup> 14.6	16.9	18.5	2	1,718	1,583	1,856	112	108	101

—Not available.

<sup>1</sup> Selection based on total population for midyear 1997.

<sup>2</sup> First level enrollment generally consists of elementary school, grades 1–6.

<sup>3</sup> Second level enrollment includes general education, teacher training (at the second level), and technical and vocational education. This level generally corresponds to secondary education in the United States, grades 7–12.

<sup>4</sup> Third level enrollment includes college and university enrollment, and technical and vocational education beyond the high school level. There is considerable variation in reporting from country to country.

<sup>5</sup> Data represent the total enrollment of all ages in the school level divided by the population of the specific age groups that correspond to the school level. Adjustments have been made for the varying lengths of first and second level programs. Ratios may exceed 100 because some countries have many students from outside the normal age range.

<sup>6</sup> Enrollment totals and ratios exclude Democratic People's Republic of Korea. Data do not include adult education or special education provided outside regular schools.

<sup>7</sup> Classification or data coverage of levels have been revised. Data by level may not be comparable over time.

<sup>8</sup> Data for 1996–97.

<sup>9</sup> Data for 1995–96.

<sup>10</sup> Data for 1994–95.

<sup>11</sup> Data for 1991–92.

<sup>12</sup> Excludes private institutions.

<sup>13</sup> Data refer to universities and exclude Al Azhar.

<sup>14</sup> Excludes non-university institutions (such as teacher training colleges and technical colleges) and excludes distance-learning universities.

<sup>15</sup> Estimated.



Table 393.—Selected statistics for countries with populations over 10 million, by continent:  
1980, 1990, and 1997—Continued

Second level <sup>3</sup>						Third level <sup>4</sup>						Age for compulsory attendance
Enrollment in thousands			Enrollment ratio <sup>5</sup>			Enrollment in thousands			Enrollment ratio <sup>6</sup>			
1980	1990	1997	1980	1990	1997	1980	1990	1997	1980	1990	1997	
12	13	14	15	16	17	18	19	20	21	22	23	
264,379	315,008	398,116	47	52	60	51,037	68,613	88,156	12	14	17	—
1,029	2,176	<sup>8</sup> 2,618	33	61	<sup>8</sup> 63	79	286	<sup>9</sup> 347	6	11	<sup>9</sup> 12	6-15
191	186	—	21	12	—	2	7	—	0.4	1	—	7-15
28	99	—	3	7	—	2	5	<sup>8</sup> 9	0.3	1	<sup>8</sup> 1	—
234	500	—	18	28	<sup>10</sup> 27	12	33	—	2	3	—	6-12
198	361	<sup>8</sup> 534	19	22	25	20	<sup>11</sup> 30	<sup>10</sup> 52	3	—	—	7-13
862	<sup>11</sup> 1,097	<sup>10</sup> 1,514	24	<sup>11</sup> 21	<sup>10</sup> 26	28	80	<sup>10</sup> 83	1	2	<sup>10</sup> 2	—
2,929	5,507	<sup>8</sup> 6,727	50	76	78	716	12,13,628	12,13,850	16	16	<sup>9</sup> 20	6-14
426	866	<sup>9</sup> 819	9	14	<sup>8</sup> 12	14	34	<sup>8</sup> 42	0.4	1	<sup>8</sup> 1	7-13
693	—	—	41	36	—	8	14	—	2	—	—	6-14
428	<sup>16</sup> 618	<sup>9,15</sup> 632	20	24	<sup>9</sup> 24	13	14,35	—	1	2	—	6-14
—	<sup>16</sup> 323	<sup>16</sup> 302	—	18	<sup>9</sup> 16	23	36	27	3	3	<sup>9</sup> 2	6-13
26	61	<sup>9</sup> 142	5	8	<sup>9</sup> 17	3	5	<sup>9</sup> 6	1	1	<sup>9</sup> 1	—
—	84	188	8	7	13	17	4	14	1	1	—	—
<sup>8</sup> 797	1,194	<sup>8</sup> 1,442	26	35	<sup>8</sup> 39	112	256	<sup>8</sup> 312	6	11	<sup>8</sup> 11	7-16
<sup>16</sup> 90	160	<sup>9</sup> 185	5	8	<sup>9</sup> 7	15	20	<sup>9</sup> 7	1	3	<sup>8</sup> 1	7-14
1,865	2,908	<sup>10</sup> 4,451	18	25	<sup>10</sup> 33	150	220,208	—	3	20,21	4	6-12
—	2,742	<sup>10</sup> 3,571	—	74	<sup>9</sup> 95	—	22,439	—	—	13	<sup>9</sup> 19	7-16
384	732	<sup>8</sup> 406	16	24	<sup>8</sup> 21	29	14,60	—	2	3	—	6-13
<sup>16,23</sup> 73	<sup>16,23</sup> 245	<sup>16,23</sup> 256	5	13	<sup>9</sup> 12	6	18	<sup>8,24</sup> 35	1	1	<sup>8</sup> 2	—
79	167	235	3	5	6	—	11	18	0.3	0.3	1	7-14
75	661	806	8	50	50	8	49	<sup>8,12</sup> 47	1	5	<sup>8</sup> 7	7-15
137	182	<sup>9</sup> 513	10	9	<sup>8</sup> 22	—	24	—	—	2	—	7-13
2,659	3,593	—	18	19	—	240	434	—	3	4	—	5-10
<sup>16</sup> 18	264	313	—	32	24	1	7	9	—	1	1	—
56,778	52,386	71,883	46	49	70	1,663	3,822	6,075	2	3	6	7-15
469	<sup>16,25</sup> 431	<sup>9</sup> 474	64	80	<sup>9</sup> 73	14	11,85	<sup>21</sup> 97	10	<sup>11</sup> 19	<sup>21</sup> 22	—
32,748	<sup>16</sup> 54,180	<sup>8</sup> 68,872	30	44	<sup>8</sup> 49	3,545	4,951	<sup>8</sup> 6,060	5	6	<sup>8</sup> 7	6-14
5,722	10,965	<sup>8</sup> 14,210	29	44	<sup>8</sup> 56	543	<sup>11</sup> 1,773	<sup>9</sup> 2,303	4	9	<sup>8</sup> 11	7-15
2,718	5,085	<sup>8</sup> 8,777	26,45	55	<sup>8</sup> 77	12,26	184	<sup>12</sup> 312	26,5	10	<sup>8</sup> 18	6-11
1,033	<sup>16</sup> 1,024	<sup>9</sup> 1,160	57	47	<sup>9</sup> 42	107	26	170	9	26	12	6-12
9,558	11,026	<sup>10</sup> 9,879	93	97	<sup>9</sup> 103	2,412	<sup>11</sup> 2,899	<sup>10</sup> 3,918	31	30	<sup>10</sup> 41	6-15
1,996	2,144	<sup>8</sup> 1,921	93	98	<sup>8</sup> 107	525	537	<sup>10</sup> 483	34	40	<sup>9</sup> 33	6-17
—	—	—	—	—	—	—	—	—	—	—	—	5-15
4,286	4,560	<sup>8</sup> 4,662	78	90	<sup>8</sup> 102	648	1,691	<sup>8</sup> 2,542	15	39	68	6-15
1,084	1,456	<sup>12</sup> 1,795	48	56	64	58	121	<sup>9</sup> 211	4	7	<sup>9</sup> 12	—
1,066	1,281	<sup>16</sup> 1,923	22	23	<sup>10</sup> 30	163	<sup>11</sup> 196	<sup>10,27</sup> 245	5	4	<sup>10</sup> 5	5-10
512	709	<sup>8</sup> 1,121	22	33	<sup>8</sup> 42	12,34	94	<sup>8</sup> 106	3	5	<sup>8</sup> 5	6-11
2,166	4,345	—	14	23	—	<sup>26</sup> 268	—	—	26	3	—	—
2,929	4,034	4,980	64	73	78	1,276	1,709	<sup>9</sup> 2,022	24	28	<sup>9</sup> 29	6-12
349	893	<sup>8</sup> 1,543	29	44	<sup>8</sup> 61	62	154	<sup>8</sup> 274	7	12	<sup>8</sup> 16	—
1,267	2,082	<sup>9</sup> 2,314	55	74	<sup>9</sup> 75	26,59	11,29	<sup>9,29</sup> 64	3	5	<sup>9</sup> 5	5-15
604	914	<sup>8</sup> 958	46	52	<sup>8</sup> 42	140	222	<sup>10</sup> 216	17	18	<sup>10</sup> 16	6-12
1,920	2,230	4,097	29	30	<sup>8</sup> 56	17,911	20	1,156	15	20	<sup>19</sup> 19	7-15
2,218	3,808	<sup>8</sup> 4,761	35	47	<sup>8</sup> 58	246	750	<sup>8</sup> 1,434	5	13	<sup>8</sup> 21	6-14
2,879	3,195	<sup>10</sup> 3,319	105	99	<sup>10</sup> 94	516	603	—	28	30	—	—
<sup>16</sup> 3,847	<sup>6</sup> 3,236	<sup>16</sup> 6,642	42	32	57	115	130	<sup>8</sup> 509	2	2	<sup>8</sup> 7	6-11
—	<sup>21</sup> 212	<sup>8</sup> 354	—	<sup>21</sup> 23	<sup>8</sup> 34	—	11,53	<sup>8</sup> 66	—	11,4	<sup>8</sup> 4	6-15
760	968	<sup>8</sup> 1,065	98	93	<sup>8</sup> 93	340	335	<sup>8</sup> 329	39	48	<sup>8</sup> 44	6-15
836	769	<sup>9</sup> 1,059	91	103	<sup>9</sup> 146	196	276	<sup>9</sup> 358	26	40	<sup>9</sup> 56	6-18
<sup>26</sup> 1,161	1,268	<sup>9</sup> 1,191	99	91	<sup>9</sup> 99	<sup>30</sup> 118	<sup>30</sup> 118	<sup>8</sup> 207	17	16	<sup>8</sup> 24	6-15
5,014	5,522	<sup>8</sup> 5,980	85	99	<sup>8</sup> 111	1,077	1,699	<sup>8</sup> 2,062	25	40	<sup>8</sup> 51	6-16
8,457	7,398	<sup>8</sup> 8,382	—	98	<sup>8</sup> 104	1,624	2,049	<sup>8</sup> 2,132	27	34	<sup>8</sup> 47	6-18
740	851	<sup>8</sup> 818	81	93	<sup>8</sup> 95	121	283	<sup>8</sup> 363	17	36	<sup>8</sup> 47	6-15
357	514	<sup>9</sup> 1,112	70	79	<sup>9</sup> 98	101	102	<sup>9</sup> 195	14	14	<sup>9</sup> 24	6-16
5,308	5,118	<sup>8</sup> 4,602	72	83	<sup>8</sup> 95	1,118	1,452	<sup>8</sup> 1,893	27	32	<sup>8</sup> 47	6-14
1,391	1,402	<sup>8</sup> 1,416	93	120	<sup>8</sup> 132	360	479	<sup>9</sup> 469	29	40	<sup>8</sup> 47	5-18
1,674	1,888	<sup>9</sup> 2,539	77	81	<sup>9</sup> 98	589	545	<sup>9</sup> 720	18	22	<sup>9</sup> 25	7-15
1,148	2,838	<sup>8</sup> 2,212	94	92	<sup>8</sup> 78	193	193	<sup>8</sup> 412	12	10	<sup>8</sup> 23	7-14
12,991	13,956	<sup>21</sup> 13,732	96	93	<sup>21</sup> 87	5,700	5,100	<sup>10</sup> 4,458	46	52	<sup>10</sup> 43	6-15
3,977	4,755	<sup>8</sup> 3,852	87	104	<sup>8</sup> 120	698	1,222	<sup>8</sup> 1,684	23	37	<sup>8</sup> 51	6-16
3,406	3,408	<sup>21</sup> 4,731	94	93	<sup>21</sup> 91	1,684	1,652	<sup>9</sup> 1,541	42	47	<sup>9</sup> 42	6-15
5,342	4,336	<sup>8</sup> 6,549	83	85	<sup>8</sup> 129	827	1,258	<sup>9</sup> 1,821	19	30	<sup>8</sup> 52	5-16
—	788	<sup>8</sup> 815	—	63	<sup>8</sup> 62	—	<sup>11</sup> 133	<sup>8</sup> 172	—	11,18	<sup>8</sup> 22	7-15
2,323	2,292	<sup>9</sup> 2,505	88	101	<sup>9</sup> 105	<sup>33</sup> 1,173	1,917	<sup>9</sup> 1,763	57	95	<sup>9</sup> 88	6-16
1,146	1,002	<sup>8</sup> 713	81	89	<sup>8</sup> 81	152	242	<sup>8</sup> 112	17	21	<sup>8</sup> 12	6-16
172	<sup>11</sup> 295	385	19	<sup>11</sup> 23	26	51	<sup>20</sup> 70	<sup>9</sup> 80	8	8	<sup>20</sup> 8	7-14
4,742	6,704	<sup>8</sup> 7,914	49	53	<sup>8</sup> 64	930	1,311	<sup>8</sup> 1,612	14	15	<sup>8</sup> 16	6-14
21,585	19,270	<sup>9</sup> 21,474	91	93	<sup>9</sup> 97	12,097	13,710	<sup>9</sup> 14,262	56	75	<sup>9</sup> 81	6-16
1,327	2,160	<sup>8</sup> 2,594	56	71	<sup>8</sup> 77	491	<sup>11</sup> 1,008	<sup>10</sup> 1,070	22	<sup>11</sup> 38	<sup>10</sup> 36	6-14
2,819	3,499	6,405	33	38	62	1,409	<sup>34</sup> 1,540	<sup>8,34</sup> 1,869	11	11	<sup>8</sup> 15	7-14
538	720	<sup>8</sup> 739	53	73	<sup>8</sup> 75	145	<sup>11</sup> 262	381	12	<sup>11</sup> 21	31	6-13
1,733	<sup>11</sup> 2,378	<sup>8</sup> 3,318	39	50	<sup>8</sup> 67	272	487	<sup>8</sup> 644	9	13	<sup>8</sup> 17	6-12
592	<sup>16,35</sup> 786	—	53	55	<sup>10</sup> 50	270	207	—	35	20	—	5-15
1,203	1,698	1,970	59	67	72	306	678	658	17	30	26	6-12
222	281	<sup>8</sup> 378	21	35	<sup>8</sup> 40	307	550	—	21	29	—	6-15
1,100	1,278	2,368	71	82	153	<sup>36</sup> 324	36,485	1,042	25	36	80	6-15

<sup>14</sup>Excludes non-university institutions (such as teacher training colleges and technical colleges) and excludes distance-learning universities.

<sup>15</sup>Estimated.

<sup>16</sup>General education enrollment only. Excludes teacher training and vocational education enrollments.

<sup>17</sup>Data for 1981-82

<sup>18</sup>Does not include professional schools.

<sup>19</sup>Includes initiation classes where students learn Portuguese.

<sup>20</sup>Data for 1992-93.

<sup>21</sup>Data for 1993-94.

<sup>22</sup>Not including the former Independent States of Transkei, Bophuthatswana, Venda, and Ciskei.

<sup>23</sup>Data refer to government aided and maintained schools only.

<sup>24</sup>Not including private non-university institutions.

<sup>25</sup>Day schools only.

<sup>26</sup>Data for 1985-86

<sup>27</sup>Does not include medical science.

<sup>28</sup>Includes preprimary education.

<sup>29</sup>Excludes some non-university institutions.

<sup>30</sup>Includes full-time students only.

**Table 394.—Pupils per teacher in public and private elementary and secondary schools, by level of education: Selected countries, 1985 to 1998**

Country	Elementary					Junior high schools (lower secondary)					Senior high schools (upper secondary)				
	1985	1990	1994	1996	1998	1985	1990	1994	1996	1998	1985	1990	1994	1996	1998
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Australia .....	113.8	—	18.5	18.1	17.9	—	—	—	—	14.7	3.2	—	—	—	16.8
Austria .....	11.3	11.6	11.9	12.7	12.7	9.2	7.7	8.3	9.2	9.3	15.2	12.4	7.8	8.5	9.7
Belgium .....	—	—	13.3	—	14.0	—	—	—	—	—	—	—	—	—	—
Canada .....	18.1	17.1	16.5	17.0	21.0	16.0	15.5	19.1	20.0	21.0	16.0	15.3	19.1	19.5	23.1
Denmark .....	12.7	11.2	11.0	11.2	—	10.2	9.3	9.0	10.1	—	14.8	13.3	9.1	12.1	—
France .....	—	—	19.6	19.5	—	—	—	—	—	—	—	—	—	—	—
Germany <sup>2</sup> .....	20.7	20.3	20.5	20.9	21.6	16.9	14.6	15.7	16.0	16.3	23.7	21.0	12.0	13.1	13.6
Ireland .....	—	—	24.3	22.6	22.6	—	—	—	—	—	7.2	8.3	—	—	—
Italy .....	12.8	10.7	10.2	11.2	—	9.6	8.5	8.0	10.8	—	10.8	10.7	8.9	9.8	—
Japan .....	—	20.8	19.2	19.7	21.4	—	18.6	16.2	16.2	17.3	—	16.2	15.8	15.6	14.4
Netherlands .....	20.2	19.2	22.4	20.0	17.8	12.7	12.4	16.9	—	—	—	—	16.5	—	—
New Zealand .....	20.1	19.1	20.2	22.0	24.7	—	—	16.7	18.1	25.9	—	—	13.2	14.1	16.8
Norway .....	—	—	—	—	12.6	—	—	—	—	10.1	—	—	—	—	8.1
Portugal .....	—	—	12.2	—	—	—	—	—	—	—	—	—	—	—	—
Spain .....	26.8	21.2	19.2	18.0	16.0	21.4	18.8	18.2	17.8	—	15.3	14.8	14.8	14.2	—
Sweden .....	11.6	10.6	12.5	12.7	13.4	10.8	10.2	10.9	12.2	13.2	13.1	11.9	14.6	15.2	17.0
Turkey .....	31.1	30.6	27.4	—	—	41.3	48.4	45.6	—	—	11.0	12.1	14.1	—	—
United Kingdom .....	19.7	22.0	20.7	21.3	22.0	—	18.5	16.9	16.0	16.7	11.1	13.9	15.1	15.3	16.7
United States .....	17.0	15.6	—	16.9	16.5	16.5	15.9	—	17.5	17.1	16.2	15.8	—	14.7	14.7

—Not available.

<sup>1</sup> Public schools only.<sup>2</sup> Data for 1985 are for the former West Germany.SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance*, various years; and unpublished data. (This table was prepared July 2000.)**Table 395.—Geography proficiency of 13-year-olds in educational systems participating in the International Assessment of Educational Progress: 1991**

Country	Average percent correct			
	All geography items <sup>1</sup>	Geographic skills and tools <sup>2</sup>	Physical geography items <sup>3</sup>	Cultural geography items <sup>4</sup>
1	2	3	4	5
Hungary .....	69.8 (0.6)	76.3 (0.5)	67.8 (0.7)	65.0 (0.7)
Slovenia .....	65.3 (0.6)	67.9 (0.5)	63.6 (0.7)	64.3 (0.9)
Canada <sup>5</sup> .....	63.0 (0.5)	69.5 (0.4)	61.0 (0.6)	58.2 (0.6)
Former U.S.S.R. <sup>6</sup> .....	62.6 (1.1)	72.2 (0.9)	61.2 (1.0)	53.4 (1.8)
United States <sup>7</sup> .....	61.9 (0.8)	69.4 (0.6)	58.3 (1.0)	58.1 (1.0)
Spain <sup>8</sup> .....	60.1 (0.7)	62.4 (0.9)	58.9 (0.7)	58.9 (1.1)
Korea .....	59.7 (0.5)	67.8 (0.5)	52.1 (0.7)	60.3 (0.6)
Ireland .....	58.5 (0.6)	62.7 (0.6)	59.5 (0.8)	52.3 (0.8)
Scotland <sup>7</sup> .....	58.3 (0.6)	66.2 (0.5)	57.1 (0.8)	50.6 (0.8)

<sup>1</sup> All 24 geography items.<sup>2</sup> Eight items testing ability to use maps, charts, and globes.<sup>3</sup> Nine items testing knowledge of location of physical features and concepts of climate.<sup>4</sup> Seven items testing knowledge of cultural entities and interactions between people and their environment.<sup>5</sup> Eight provinces.<sup>6</sup> Schools in 14 republics where instruction is in Russian.<sup>7</sup> Combined school and student participation rate below 80 percent but at least 70 percent.<sup>8</sup> Schools where instruction is in Spanish, in all regions except Cataluna.

NOTE: Standard errors appear in parentheses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, International Assessment of Educational Progress, *Learning About The World*, 1992. (This table was prepared May 1993.)

**Table 396.—Average 8th-grade mathematics scores by content areas, and average time spent studying out of school, by country: 1994–95**

Country	Average percent correct by content area							Distribution of daily out-of-school study time in all subjects, with mean mathematics scores							
	Mathematics overall	Fractions and number sense	Geometry	Algebra	Data representation, analysis and probability	Measurement	Proportionality	Less than 1 hour		At least 1, but less than 2 hours		2 to 3 hours		More than 3 hours	
								Percent	Mean score	Percent	Mean score	Percent	Mean score	Percent	Mean score
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>International average percent correct<sup>1</sup></b>	<b>55 (0.1)</b>	<b>58 (0.1)</b>	<b>56 (0.1)</b>	<b>52 (0.2)</b>	<b>62 (0.1)</b>	<b>51 (0.1)</b>	<b>45 (0.2)</b>	—	—	—	—	—	—	—	—
Australia <sup>2</sup>	58 (0.9)	61 (0.9)	57 (1.0)	55 (1.0)	67 (0.8)	54 (1.0)	47 (0.9)	15 (0.9)	486 (5.7)	46 (1.0)	541 (4.4)	22 (0.6)	543 (5.2)	17 (0.7)	532 (4.8)
Austria <sup>2</sup>	62 (0.8)	66 (0.8)	57 (1.0)	59 (0.8)	68 (0.8)	62 (1.0)	49 (0.9)	9 (0.8)	524 (6.7)	46 (1.3)	551 (4.1)	21 (0.9)	544 (4.5)	24 (1.2)	528 (5.3)
Belgium (Flemish)	66 (1.4)	71 (1.2)	64 (1.5)	63 (1.7)	73 (1.3)	60 (1.3)	53 (1.8)	2 (0.4)	—	25 (1.3)	552 (8.9)	28 (1.1)	592 (5.9)	45 (1.6)	560 (4.6)
Belgium (French) <sup>2</sup>	59 (0.9)	62 (1.0)	58 (1.0)	53 (1.1)	68 (1.0)	56 (1.0)	48 (0.9)	7 (0.8)	466 (7.4)	32 (1.0)	543 (4.6)	21 (1.3)	544 (5.5)	40 (1.5)	519 (4.5)
Bulgaria <sup>2</sup>	60 (1.2)	60 (1.4)	65 (1.3)	62 (1.5)	62 (1.1)	54 (1.6)	47 (1.5)	—	—	—	—	—	—	—	—
Canada	59 (0.5)	64 (0.6)	58 (0.6)	54 (0.7)	69 (0.5)	51 (0.7)	48 (0.7)	14 (1.2)	514 (5.6)	47 (1.1)	538 (2.8)	18 (0.7)	534 (3.7)	21 (1.1)	511 (3.6)
Colombia <sup>2</sup>	29 (0.8)	31 (0.9)	29 (0.9)	28 (0.9)	37 (1.0)	25 (1.5)	23 (0.9)	2 (0.4)	—	17 (1.1)	394 (5.2)	20 (1.2)	389 (3.6)	61 (1.9)	390 (3.5)
Cyprus	48 (0.5)	50 (0.6)	47 (0.6)	48 (0.7)	53 (0.6)	44 (0.9)	40 (0.7)	9 (0.5)	442 (5.8)	19 (0.7)	475 (3.9)	26 (0.8)	491 (4.0)	46 (0.9)	475 (2.9)
Czech Republic	66 (1.1)	69 (1.1)	66 (1.1)	65 (1.3)	68 (0.9)	62 (1.2)	52 (1.3)	13 (1.1)	551 (7.1)	57 (1.1)	571 (5.1)	17 (0.9)	568 (8.2)	13 (0.8)	542 (7.6)
Denmark <sup>2</sup>	52 (0.7)	53 (0.9)	54 (0.9)	45 (0.7)	67 (0.9)	49 (1.0)	41 (0.8)	39 (1.6)	517 (4.4)	39 (1.4)	508 (3.8)	13 (0.8)	479 (4.1)	9 (0.7)	468 (6.9)
England <sup>2</sup>	53 (0.7)	54 (0.8)	54 (1.0)	49 (0.9)	66 (0.7)	50 (0.9)	41 (1.1)	—	—	—	—	—	—	—	—
France	61 (0.8)	64 (0.8)	66 (0.8)	54 (1.0)	71 (0.8)	57 (0.9)	49 (0.9)	8 (0.7)	505 (8.0)	33 (1.2)	545 (3.6)	28 (1.0)	547 (4.5)	31 (1.2)	537 (3.7)
Germany <sup>2</sup>	54 (1.1)	58 (1.1)	51 (1.4)	48 (1.3)	64 (1.2)	51 (1.1)	42 (1.3)	14 (1.1)	476 (6.7)	51 (1.2)	521 (4.3)	18 (1.0)	524 (7.0)	17 (0.9)	498 (5.0)
Greece <sup>2</sup>	49 (0.7)	53 (0.8)	51 (0.7)	46 (0.8)	56 (0.8)	43 (0.9)	39 (1.1)	6 (0.6)	450 (7.4)	14 (0.7)	483 (5.2)	21 (0.7)	485 (3.9)	59 (1.2)	491 (3.3)
Hong Kong	70 (1.4)	72 (1.4)	73 (1.5)	70 (1.5)	72 (1.3)	65 (1.7)	62 (1.4)	13 (1.0)	539 (9.3)	32 (0.9)	586 (6.6)	25 (0.9)	607 (6.1)	30 (1.1)	604 (7.2)
Hungary	62 (0.7)	65 (0.8)	60 (0.8)	63 (0.9)	66 (0.7)	56 (0.8)	47 (0.9)	4 (0.4)	483 (11.3)	33 (1.1)	536 (5.0)	22 (0.9)	541 (5.2)	41 (1.3)	545 (3.7)
Iceland	50 (1.1)	54 (1.2)	51 (1.4)	40 (1.3)	63 (1.1)	45 (1.4)	38 (1.4)	5 (1.0)	450 (12.0)	46 (1.7)	501 (5.1)	25 (1.3)	489 (5.4)	23 (1.4)	477 (7.3)
Iran, Islamic Republic	38 (0.6)	39 (0.6)	43 (0.8)	37 (0.8)	41 (0.6)	29 (1.2)	36 (0.8)	1 (0.2)	—	5 (0.5)	428 (5.6)	12 (1.0)	436 (4.8)	82 (1.3)	431 (2.4)
Ireland	59 (1.2)	65 (1.2)	51 (1.3)	53 (1.3)	69 (1.1)	53 (1.3)	51 (1.2)	5 (0.6)	465 (8.8)	29 (1.0)	517 (5.3)	40 (1.1)	547 (5.5)	26 (1.2)	533 (5.7)
Israel <sup>2</sup>	57 (1.3)	60 (1.4)	57 (1.4)	61 (1.6)	63 (1.3)	48 (1.6)	43 (1.6)	5 (0.6)	539 (10.9)	36 (2.2)	546 (6.3)	26 (1.5)	521 (6.8)	33 (2.1)	502 (6.3)
Japan	73 (0.4)	75 (0.4)	80 (0.4)	72 (0.6)	78 (0.4)	67 (0.5)	61 (0.5)	13 (0.8)	578 (5.3)	39 (0.8)	607 (2.6)	20 (0.6)	609 (4.0)	28 (1.0)	612 (2.7)
Korea	72 (0.5)	74 (0.5)	75 (0.6)	69 (0.6)	78 (0.6)	66 (0.7)	62 (0.6)	15 (0.9)	582 (4.9)	32 (1.1)	604 (3.5)	25 (0.8)	607 (4.0)	29 (1.2)	628 (4.3)
Kuwait <sup>2</sup>	30 (0.7)	27 (0.8)	38 (1.0)	30 (1.0)	38 (1.0)	23 (1.0)	21 (0.7)	3 (0.6)	358 (10.3)	13 (1.5)	401 (5.5)	19 (1.3)	397 (5.1)	65 (1.8)	392 (2.0)
Latvia (Latvian-speaking schools) <sup>2</sup>	51 (0.8)	53 (0.9)	57 (0.8)	51 (0.9)	56 (0.8)	47 (0.9)	39 (0.9)	4 (0.5)	467 (9.4)	35 (1.1)	507 (4.4)	32 (1.2)	497 (4.9)	29 (1.2)	487 (3.4)
Lithuania <sup>2</sup>	48 (0.9)	51 (1.0)	53 (1.1)	47 (1.2)	52 (1.0)	43 (0.9)	35 (0.9)	5 (0.6)	453 (9.4)	39 (1.4)	487 (3.9)	28 (1.0)	481 (4.6)	28 (1.4)	474 (5.4)
Netherlands <sup>2</sup>	60 (1.6)	62 (1.6)	59 (1.8)	53 (1.6)	72 (1.7)	57 (1.6)	51 (1.9)	3 (0.9)	492 (16.2)	54 (1.7)	539 (9.0)	27 (1.7)	562 (7.0)	16 (0.8)	524 (6.0)
New Zealand	54 (1.0)	57 (1.1)	54 (1.1)	49 (1.1)	66 (1.0)	48 (1.2)	42 (1.0)	12 (0.9)	472 (5.6)	51 (1.2)	519 (4.7)	21 (1.0)	518 (6.1)	17 (0.9)	495 (5.6)
Norway	54 (0.5)	58 (0.6)	51 (0.6)	45 (0.7)	66 (0.6)	51 (0.6)	40 (0.6)	6 (0.5)	481 (6.8)	50 (1.2)	514 (2.9)	24 (0.9)	510 (3.6)	21 (0.9)	483 (3.6)
Portugal	43 (0.7)	44 (0.7)	44 (0.8)	40 (0.8)	54 (0.7)	39 (0.7)	32 (0.8)	3 (0.3)	458 (8.1)	41 (1.1)	463 (3.1)	18 (0.7)	455 (3.3)	38 (1.2)	448 (3.0)
Romania <sup>2</sup>	49 (1.0)	48 (1.0)	52 (0.9)	52 (1.3)	49 (1.0)	48 (1.1)	42 (1.2)	9 (0.7)	459 (10.4)	16 (1.0)	464 (7.0)	15 (0.7)	481 (5.4)	60 (1.6)	494 (4.2)
Russian Federation	60 (1.3)	62 (1.2)	63 (1.4)	63 (1.5)	60 (1.2)	56 (1.5)	48 (1.5)	4 (0.5)	493 (10.3)	33 (1.1)	538 (5.3)	25 (1.0)	538 (5.2)	38 (1.4)	544 (6.9)
Scotland <sup>2</sup>	52 (1.3)	53 (1.3)	52 (1.4)	46 (1.5)	65 (1.3)	48 (1.6)	40 (1.4)	17 (1.4)	461 (4.8)	54 (1.2)	506 (5.7)	17 (1.0)	517 (8.6)	12 (0.8)	503 (7.4)
Singapore	79 (0.9)	84 (0.8)	76 (1.0)	76 (1.1)	79 (0.8)	77 (1.0)	75 (1.0)	2 (0.3)	—	7 (0.4)	642 (8.0)	13 (0.6)	652 (6.6)	78 (0.9)	643 (4.9)
Slovak Republic	62 (0.8)	66 (0.8)	63 (0.8)	62 (0.9)	62 (0.7)	60 (0.9)	49 (1.0)	6 (0.5)	549 (8.3)	46 (0.9)	556 (3.9)	25 (0.7)	548 (4.4)	23 (1.0)	532 (4.1)
Slovenia <sup>2</sup>	61 (0.7)	63 (0.7)	60 (0.9)	61 (0.8)	66 (0.7)	59 (0.9)	49 (0.8)	5 (0.5)	551 (9.8)	36 (1.0)	561 (4.1)	21 (0.8)	537 (4.8)	37 (1.1)	523 (3.4)
South Africa <sup>2</sup>	24 (1.1)	26 (1.4)	24 (1.0)	23 (1.1)	26 (1.2)	18 (1.1)	21 (0.9)	—	—	—	—	—	—	—	—
Spain	51 (0.5)	52 (0.5)	49 (0.6)	54 (0.8)	60 (0.7)	44 (0.7)	40 (0.8)	3 (0.4)	443 (5.5)	26 (1.0)	490 (3.1)	18 (0.9)	495 (3.3)	53 (1.3)	487 (2.4)
Sweden	56 (0.7)	62 (0.8)	48 (0.7)	44 (0.9)	70 (0.7)	56 (0.9)	44 (0.9)	7 (0.6)	496 (6.9)	55 (1.2)	528 (3.1)	17 (0.8)	525 (4.3)	21 (0.9)	503 (4.2)
Switzerland <sup>2</sup>	62 (0.6)	67 (0.7)	60 (0.8)	53 (0.7)	72 (0.7)	61 (0.8)	52 (0.7)	4 (0.3)	523 (7.9)	44 (1.2)	556 (3.4)	19 (0.8)	548 (5.1)	33 (1.1)	536 (4.0)
Thailand <sup>2</sup>	57 (1.4)	60 (1.5)	62 (1.3)	53 (1.7)	63 (1.1)	50 (1.4)	51 (1.5)	3 (0.3)	495 (11.9)	26 (1.0)	514 (5.4)	18 (0.7)	515 (5.7)	54 (1.5)	531 (6.6)
United States	53 (1.1)	59 (1.1)	48 (1.2)	51 (1.2)	65 (1.1)	40 (1.1)	42 (1.1)	17 (1.1)	471 (7.2)	42 (0.9)	514 (4.2)	17 (0.7)	507 (5.5)	24 (0.8)	498 (5.9)

—Not available.

<sup>1</sup> Data are for 8th grade or equivalent in most countries.

<sup>2</sup> Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.

NOTE: Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study*, by Albert E. Beaton et al. Copyright © 1996 Boston College, Chestnut Hill, MA. (This table was prepared June 1997.)

Table 397.—Instructional practices and time spent teaching mathematics in 8th-grade, by country: 1994–95

Country	Percent of students whose teachers report using each organizational approach "most or every lesson"						Average number of hours mathematics is taught weekly to mathematics classes							
	Work together as a class and students respond to one another	Work together as a class and teacher teaches whole class	Work individually with assistance from teacher	Work individually without assistance from teacher	Work in pairs or groups with assistance from teacher	Work in pairs or groups without assistance from teacher	Less than 2 hours		At least 2, but less than 3.5 hours		At least 3.5, but less than 5 hours		5 hours or more	
							Percent	Mean score	Percent	Mean score	Percent	Mean score	Percent	Mean score
							8	9	10	11	12	13	14	15
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Australia <sup>1</sup>	<sup>2</sup> 14	<sup>2</sup> 46	<sup>2</sup> 64	<sup>2</sup> 27	<sup>2</sup> 25	<sup>2</sup> 9	<sup>2</sup> 5 (1.7)	528 (19.5)	50 (3.7)	518 (6.2)	44 (3.7)	552 (7.6)	1 (0.7)	—
Austria <sup>1</sup>	<sup>2</sup> 6	<sup>2</sup> 52	<sup>2</sup> 51	<sup>2</sup> 23	<sup>2</sup> 19	<sup>2</sup> 7	<sup>2</sup> 0 (0.0)	—	99 (0.1)	549 (4.1)	1 (0.1)	—	0 (0.0)	—
Belgium (Flemish)	10	59	57	36	6	5	<sup>3</sup> 0 (0.0)	—	50 (4.4)	572 (5.6)	50 (4.4)	603 (5.4)	0 (0.0)	—
Belgium (French) <sup>1</sup>	<sup>3</sup> 7	<sup>3</sup> 38	<sup>3</sup> 55	<sup>3</sup> 29	<sup>3</sup> 11	<sup>3</sup> 5	<sup>3</sup> 0 (0.0)	—	3 (1.8)	486 (12.9)	83 (4.2)	544 (4.7)	14 (3.8)	564 (10.0)
Bulgaria <sup>1</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Canada	<sup>2</sup> 12	37	57	<sup>2</sup> 25	<sup>2</sup> 28	<sup>2</sup> 14	3 (1.2)	528 (11.8)	31 (3.8)	521 (5.0)	50 (3.6)	537 (4.3)	17 (3.1)	520 (10.2)
Colombia <sup>1</sup>	25	41	55	<sup>2</sup> 19	44	<sup>2</sup> 22	<sup>2</sup> 4 (2.0)	389 (8.2)	25 (5.5)	367 (8.8)	58 (5.4)	397 (3.9)	13 (3.3)	390 (8.2)
Cyprus	<sup>2</sup> 13	<sup>2</sup> 61	<sup>2</sup> 73	<sup>2</sup> 23	<sup>2</sup> 26	<sup>2</sup> 9	—	—	—	—	—	—	—	—
Czech Republic	5	47	72	42	13	8	1 (0.9)	—	6 (2.0)	587 (17.2)	90 (2.7)	561 (5.1)	3 (1.6)	535 (10.2)
Denmark <sup>1</sup>	5	41	74	16	18	4	—	—	—	—	—	—	—	—
England <sup>1</sup>	<sup>3</sup> 19	<sup>3</sup> 46	<sup>3</sup> 57	<sup>3</sup> 25	<sup>3</sup> 14	<sup>3</sup> 8	—	—	—	—	—	—	—	—
France	11	48	56	26	17	4	<sup>2</sup> 2 (1.4)	—	10 (3.2)	532 (13.4)	87 (3.3)	539 (3.9)	2 (1.3)	—
Germany <sup>1</sup>	<sup>3</sup> 23	<sup>3</sup> 70	<sup>3</sup> 54	<sup>3</sup> 15	<sup>3</sup> 20	<sup>3</sup> 9	<sup>3</sup> 2 (1.5)	—	85 (3.1)	523 (5.3)	12 (2.9)	463 (13.3)	1 (0.9)	—
Greece <sup>1</sup>	4	58	60	18	14	3	4 (1.7)	459 (10.8)	88 (2.8)	486 (3.5)	3 (1.6)	459 (12.3)	4 (1.6)	480 (8.9)
Hong Kong	11	37	62	17	9	4	5 (2.4)	612 (47.4)	26 (5.2)	590 (19.5)	63 (5.8)	590 (7.6)	6 (2.9)	567 (30.1)
Hungary	11	60	65	22	7	1	0 (0.0)	—	75 (3.6)	538 (3.9)	23 (3.6)	536 (7.0)	1 (1.0)	—
Iceland	<sup>2</sup> 2	<sup>2</sup> 39	<sup>2</sup> 82	<sup>2</sup> 38	<sup>2</sup> 32	<sup>2</sup> 17	<sup>2</sup> 0 (0.0)	—	90 (2.9)	492 (5.3)	8 (2.9)	467 (3.5)	1 (0.2)	—
Iran, Islamic Republic	33	66	55	8	42	10	—	—	—	—	—	—	—	—
Ireland	<sup>2</sup> 7	<sup>2</sup> 67	<sup>2</sup> 47	<sup>2</sup> 37	<sup>2</sup> 9	<sup>2</sup> 6	<sup>2</sup> 1 (0.7)	—	86 (3.7)	524 (6.4)	12 (3.4)	555 (15.2)	1 (1.1)	—
Israel <sup>1</sup>	<sup>2</sup> 70	<sup>2</sup> 65	<sup>2</sup> 35	<sup>2</sup> 68	<sup>2</sup> 51	<sup>2</sup> 62	<sup>2</sup> 6 (4.1)	523 (13.7)	41 (8.0)	520 (12.7)	47 (8.1)	514 (9.2)	6 (3.7)	579 (22.6)
Japan	22	78	27	15	7	1	4 (1.8)	607 (24.3)	91 (2.3)	602 (2.7)	4 (1.4)	649 (18.5)	0 (0.5)	—
Korea	39	89	41	30	12	11	1 (0.7)	—	90 (3.0)	610 (2.8)	5 (1.8)	608 (13.8)	5 (2.3)	604 (19.5)
Kuwait <sup>1</sup>	3	34	48	14	7	5	2 (1.6)	—	21 (6.5)	396 (6.8)	76 (6.6)	391 (2.3)	1 (1.0)	—
Latvia (Latvian-speaking schools) <sup>1</sup>	24	86	90	<sup>2</sup> 55	28	<sup>2</sup> 11	1 (0.5)	—	30 (4.8)	491 (5.8)	62 (5.3)	492 (4.3)	8 (2.6)	489 (15.0)
Lithuania <sup>1</sup>	10	55	72	25	32	10	1 (0.8)	—	61 (4.1)	482 (5.0)	29 (3.9)	481 (7.5)	9 (2.3)	448 (13.8)
Netherlands <sup>1</sup>	7	56	65	38	49	34	3 (1.9)	529 (54.2)	97 (1.9)	542 (8.1)	0 (0.0)	—	0 (0.0)	—
New Zealand	19	52	63	28	25	14	5 (1.8)	484 (11.6)	42 (4.3)	514 (7.1)	50 (4.3)	507 (6.4)	3 (1.5)	503 (27.3)
Norway	<sup>2</sup> 17	<sup>2</sup> 58	<sup>2</sup> 71	44	<sup>2</sup> 36	<sup>2</sup> 6	<sup>2</sup> 7 (2.6)	502 (5.0)	80 (3.9)	508 (3.1)	8 (2.8)	502 (7.7)	5 (2.1)	513 (7.7)
Portugal	10	67	69	5	50	4	1 (0.8)	—	89 (2.9)	455 (2.7)	10 (2.8)	452 (7.8)	0 (0.0)	—
Romania <sup>1</sup>	12	86	56	19	18	3	8 (2.6)	497 (17.6)	80 (3.4)	481 (5.0)	9 (2.5)	482 (12.4)	2 (0.6)	—
Russian Federation	6	66	65	37	22	13	0 (0.0)	—	17 (3.6)	519 (8.6)	70 (5.6)	533 (5.1)	14 (4.8)	567 (18.0)
Scotland <sup>1</sup>	<sup>2</sup> 5	<sup>2</sup> 34	<sup>2</sup> 62	<sup>2</sup> 28	<sup>2</sup> 7	<sup>2</sup> 3	5 (2.0)	473 (14.7)	35 (4.4)	500 (11.6)	60 (4.6)	494 (7.1)	0 (0.0)	—
Singapore	15	61	48	27	20	6	0 (0.0)	—	52 (4.7)	654 (6.9)	48 (4.7)	633 (7.6)	0 (0.0)	—
Slovak Republic	35	47	50	31	8	7	0 (0.0)	—	2 (1.3)	—	86 (3.0)	544 (3.2)	11 (2.9)	561 (11.0)
Slovenia <sup>1</sup>	<sup>2</sup> 11	<sup>2</sup> 60	<sup>2</sup> 87	<sup>2</sup> 34	<sup>2</sup> 40	<sup>2</sup> 11	<sup>2</sup> 0 (0.0)	—	87 (3.4)	542 (4.0)	12 (3.3)	525 (9.5)	1 (0.8)	—
South Africa <sup>1</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spain	<sup>2</sup> 15	<sup>2</sup> 68	<sup>2</sup> 58	<sup>2</sup> 24	<sup>2</sup> 15	<sup>2</sup> 10	<sup>2</sup> 2 (1.1)	—	28 (4.0)	480 (5.5)	62 (4.7)	490 (3.6)	8 (2.6)	494 (9.2)
Sweden	<sup>2</sup> 24	<sup>2</sup> 50	<sup>2</sup> 72	<sup>2</sup> 1	<sup>2</sup> 43	<sup>2</sup> 5	<sup>2</sup> 3 (1.2)	506 (24.2)	97 (1.3)	520 (3.2)	0 (0.4)	—	0 (0.3)	—
Switzerland <sup>1</sup>	<sup>3</sup> 4	<sup>3</sup> 48	<sup>3</sup> 61	<sup>3</sup> 25	<sup>3</sup> 35	<sup>3</sup> 20	<sup>3</sup> 2 (1.4)	—	14 (3.4)	520 (17.8)	71 (3.5)	557 (6.5)	13 (3.0)	566 (12.4)
Thailand <sup>1</sup>	<sup>2</sup> 19	<sup>2</sup> 58	<sup>2</sup> 41	<sup>2</sup> 18	<sup>2</sup> 22	<sup>2</sup> 5	—	—	—	—	—	—	—	—
United States	<sup>2</sup> 22	<sup>2</sup> 49	<sup>2</sup> 50	<sup>2</sup> 19	<sup>2</sup> 26	<sup>2</sup> 12	<sup>3</sup> 8 (1.4)	492 (26.2)	24 (3.4)	501 (9.9)	58 (4.4)	507 (5.4)	11 (2.8)	498 (10.0)

—Not available.

<sup>1</sup> Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.<sup>2</sup> Teacher response data available for 70 to 84 percent of students.<sup>3</sup> Teacher response data available for 50 to 69 percent of students.

NOTE: Data are for 8th grade or equivalent in most countries. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study*, 1997, by Albert E. Beaton et al. Copyright © 1996 Boston College, Chestnut Hill, MA. (This table was prepared June 1997.)

Table 398.—Average 8th-grade science scores<sup>1</sup> by content areas, and average time spent studying out of school, by country: 1994–95

Country	Average percent correct by content area						Distribution of daily out-of-school study time in all subjects, with mean science scores							
	Overall science scores	Earth science	Life science	Physics	Chemistry	Environmental issues and the nature of science	Less than 1 hour		At least 1, but less than 2 hours		2 to 3 hours		More than 3 hours	
							Percent	Mean score	Percent	Mean score	Percent	Mean score	Percent	Mean score
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>International average percent correct</b> .....	<b>56 (0.1)</b>	<b>55 (0.1)</b>	<b>59 (0.1)</b>	<b>55 (0.1)</b>	<b>51 (0.2)</b>	<b>53 (0.2)</b>	— —	— —	— —	— —	— —	— —	— —	— —
Australia <sup>2</sup> .....	60 (0.7)	57 (0.8)	63 (0.8)	60 (0.7)	54 (0.9)	62 (1.0)	15 (0.9)	505 (6.9)	46 (1.0)	556 (4.1)	22 (0.6)	557 (4.9)	17 (0.7)	546 (5.0)
Austria <sup>2</sup> .....	61 (0.7)	62 (0.8)	65 (0.7)	62 (0.7)	58 (1.1)	55 (0.9)	9 (0.8)	551 (9.9)	46 (1.3)	563 (4.8)	21 (0.9)	561 (5.0)	24 (1.2)	553 (4.8)
Belgium (Flemish) .....	60 (1.1)	62 (1.2)	64 (1.1)	61 (1.1)	51 (1.3)	58 (1.5)	2 (0.4)	— —	25 (1.3)	545 (5.0)	28 (1.1)	562 (5.9)	45 (1.6)	547 (3.6)
Belgium (French) <sup>2</sup> .....	50 (0.7)	50 (0.9)	55 (0.9)	51 (0.7)	41 (0.8)	46 (1.0)	7 (0.8)	428 (6.9)	32 (1.0)	481 (4.7)	21 (1.3)	481 (4.5)	40 (1.5)	467 (4.0)
Bulgaria <sup>2</sup> .....	62 (1.0)	58 (1.2)	64 (1.0)	60 (1.0)	65 (1.7)	59 (1.5)	— —	— —	— —	— —	— —	— —	— —	— —
Canada .....	59 (0.5)	58 (0.6)	62 (0.6)	59 (0.4)	52 (0.7)	61 (0.7)	14 (1.2)	524 (6.1)	47 (1.1)	541 (2.8)	18 (0.7)	531 (3.9)	21 (1.1)	517 (3.6)
Colombia <sup>2</sup> .....	39 (0.8)	37 (0.8)	44 (0.9)	37 (0.8)	32 (1.0)	40 (1.1)	2 (0.4)	— —	17 (1.1)	421 (5.3)	20 (1.2)	422 (4.9)	61 (1.9)	413 (5.8)
Cyprus .....	47 (0.4)	46 (0.6)	49 (0.5)	46 (0.4)	45 (0.6)	46 (0.8)	9 (0.5)	430 (7.0)	19 (0.7)	468 (4.4)	26 (0.8)	475 (3.4)	46 (0.9)	466 (2.9)
Czech Republic .....	64 (0.8)	63 (1.2)	69 (0.8)	64 (0.7)	60 (1.2)	59 (1.1)	13 (1.1)	558 (9.0)	57 (1.1)	579 (3.9)	17 (0.9)	582 (7.2)	13 (0.8)	560 (6.4)
Denmark <sup>2</sup> .....	51 (0.6)	49 (0.7)	56 (0.7)	53 (0.7)	41 (0.8)	47 (1.0)	39 (1.6)	494 (4.4)	39 (1.4)	479 (4.1)	13 (0.8)	459 (5.5)	9 (0.7)	457 (6.8)
England <sup>2</sup> .....	61 (0.6)	59 (0.8)	64 (0.8)	62 (0.6)	55 (0.8)	65 (1.0)	— —	— —	— —	— —	— —	— —	— —	— —
France .....	54 (0.6)	55 (0.8)	56 (0.8)	54 (0.5)	47 (0.9)	53 (0.9)	8 (0.7)	481 (6.8)	33 (1.2)	497 (3.3)	28 (1.0)	506 (4.0)	31 (1.2)	499 (3.4)
Germany <sup>2</sup> .....	58 (1.0)	57 (1.0)	63 (1.1)	57 (1.0)	54 (1.3)	51 (1.3)	14 (1.1)	505 (8.2)	51 (1.2)	541 (4.6)	18 (1.0)	544 (7.0)	17 (0.9)	525 (6.5)
Greece <sup>2</sup> .....	52 (0.5)	49 (0.6)	54 (0.6)	53 (0.5)	51 (0.5)	51 (1.0)	6 (0.6)	473 (4.8)	14 (0.7)	497 (5.0)	21 (0.7)	500 (3.1)	59 (1.2)	502 (2.5)
Hong Kong .....	58 (1.0)	54 (1.0)	61 (1.0)	58 (0.9)	55 (1.0)	55 (1.3)	13 (1.0)	489 (7.3)	32 (0.9)	519 (4.7)	25 (0.9)	534 (4.8)	30 (1.1)	534 (5.2)
Hungary .....	61 (0.6)	60 (0.8)	65 (0.7)	60 (0.6)	60 (0.8)	53 (0.8)	4 (0.4)	519 (10.0)	33 (1.1)	553 (4.4)	22 (0.9)	557 (5.6)	41 (1.3)	557 (3.0)
Iceland .....	52 (0.9)	50 (1.2)	58 (1.0)	53 (0.9)	42 (0.8)	49 (1.0)	5 (1.0)	470 (8.7)	46 (1.7)	505 (5.6)	25 (1.3)	493 (4.5)	23 (1.4)	488 (7.5)
Iran, Islamic Republic .....	47 (0.6)	45 (0.6)	49 (0.6)	48 (0.7)	52 (0.8)	39 (1.1)	1 (0.2)	— —	5 (0.5)	476 (6.0)	12 (1.0)	479 (5.2)	82 (1.3)	471 (2.7)
Ireland .....	58 (0.9)	61 (1.0)	60 (1.1)	56 (0.8)	54 (1.0)	60 (1.1)	5 (0.6)	475 (9.0)	29 (1.0)	529 (5.4)	40 (1.1)	550 (4.7)	26 (1.2)	550 (4.9)
Israel <sup>2</sup> .....	57 (1.1)	55 (1.1)	61 (1.1)	57 (1.1)	53 (1.5)	52 (1.6)	5 (0.6)	532 (13.5)	36 (2.2)	555 (7.7)	26 (1.5)	523 (6.9)	33 (2.1)	505 (5.2)
Japan .....	65 (0.3)	61 (0.4)	71 (0.4)	67 (0.3)	61 (0.5)	60 (0.7)	13 (0.8)	551 (4.4)	39 (0.8)	573 (2.2)	20 (0.6)	572 (3.0)	28 (1.0)	577 (2.4)
Korea .....	66 (0.3)	63 (0.5)	70 (0.4)	65 (0.5)	63 (0.6)	64 (0.8)	15 (0.9)	544 (5.0)	32 (1.1)	564 (2.9)	25 (0.8)	562 (3.1)	29 (1.2)	581 (3.7)
Kuwait <sup>2</sup> .....	43 (0.9)	43 (1.0)	45 (1.1)	43 (0.7)	40 (1.5)	39 (1.3)	3 (0.6)	400 (10.4)	13 (1.5)	436 (7.8)	19 (1.3)	432 (7.1)	65 (1.8)	431 (3.4)
Latvia (Latvian-speaking schools) <sup>2</sup> .....	50 (0.6)	48 (0.8)	53 (0.7)	51 (0.7)	48 (0.8)	47 (1.0)	4 (0.5)	468 (8.5)	35 (1.1)	492 (4.1)	32 (1.2)	490 (4.1)	29 (1.2)	481 (3.0)
Lithuania <sup>2</sup> .....	49 (0.7)	46 (0.9)	52 (0.9)	51 (0.7)	48 (0.9)	40 (1.0)	5 (0.6)	457 (9.1)	39 (1.4)	484 (4.5)	28 (1.0)	483 (3.8)	28 (1.4)	472 (4.7)
Netherlands <sup>2</sup> .....	62 (1.0)	61 (1.4)	67 (1.4)	63 (0.9)	52 (0.9)	65 (1.6)	3 (0.9)	519 (17.1)	54 (1.7)	559 (6.1)	27 (1.7)	578 (5.4)	16 (0.8)	545 (5.7)
New Zealand .....	58 (0.8)	56 (0.9)	60 (1.0)	58 (0.7)	53 (1.1)	59 (1.2)	12 (0.9)	488 (7.6)	51 (1.2)	536 (4.6)	21 (1.0)	537 (5.7)	17 (0.9)	516 (5.7)
Norway .....	58 (0.4)	61 (0.6)	61 (0.5)	57 (0.4)	49 (0.6)	55 (0.8)	6 (0.5)	501 (7.3)	50 (1.2)	533 (2.5)	24 (0.9)	536 (3.4)	21 (0.9)	516 (3.7)
Portugal .....	50 (0.6)	50 (0.7)	53 (0.6)	48 (0.5)	50 (0.9)	45 (0.8)	3 (0.3)	465 (8.8)	41 (1.1)	488 (2.9)	18 (0.7)	478 (4.1)	38 (1.2)	474 (2.8)
Romania <sup>2</sup> .....	50 (0.8)	49 (1.0)	55 (1.0)	49 (0.8)	46 (1.0)	42 (1.0)	9 (0.7)	460 (11.7)	16 (1.0)	468 (7.0)	15 (0.7)	487 (5.7)	60 (1.6)	499 (5.2)
Russian Federation .....	58 (0.8)	58 (0.8)	62 (0.7)	57 (0.9)	57 (1.3)	50 (0.8)	4 (0.5)	511 (10.1)	33 (1.1)	542 (4.4)	25 (1.0)	538 (4.4)	38 (1.4)	543 (4.6)
Scotland <sup>2</sup> .....	55 (1.0)	52 (1.0)	57 (1.1)	57 (0.8)	51 (1.3)	57 (1.4)	17 (1.4)	470 (5.3)	54 (1.2)	526 (5.1)	17 (1.0)	537 (8.5)	12 (0.8)	532 (6.5)
Singapore .....	70 (1.0)	65 (1.1)	72 (1.0)	69 (0.8)	69 (1.2)	74 (1.1)	2 (0.3)	— —	7 (0.4)	604 (8.4)	13 (0.6)	617 (7.3)	78 (0.9)	607 (5.4)
Slovak Republic .....	59 (0.6)	60 (0.7)	60 (0.6)	61 (0.6)	57 (0.8)	53 (0.9)	6 (0.5)	551 (7.1)	46 (0.9)	552 (3.7)	25 (0.7)	541 (3.8)	23 (1.0)	536 (4.7)
Slovenia <sup>2</sup> .....	62 (0.5)	64 (0.7)	65 (0.6)	61 (0.6)	56 (0.9)	59 (0.9)	5 (0.5)	559 (9.2)	36 (1.0)	580 (3.5)	21 (0.8)	557 (3.2)	37 (1.1)	544 (3.3)
South Africa <sup>2</sup> .....	27 (1.3)	26 (1.1)	27 (1.3)	27 (1.4)	26 (1.4)	26 (1.3)	— —	— —	— —	— —	— —	— —	— —	— —
Spain .....	56 (0.4)	57 (0.5)	58 (0.5)	55 (0.4)	51 (0.7)	53 (0.6)	3 (0.4)	482 (7.9)	26 (1.0)	522 (2.8)	18 (0.9)	522 (3.5)	53 (1.3)	516 (2.2)
Sweden .....	59 (0.6)	62 (0.7)	63 (0.7)	57 (0.5)	56 (0.7)	52 (0.8)	7 (0.6)	520 (6.0)	55 (1.2)	544 (3.2)	17 (0.8)	539 (4.9)	21 (0.9)	523 (4.9)
Switzerland <sup>2</sup> .....	56 (0.5)	58 (0.6)	59 (0.6)	58 (0.5)	50 (0.7)	51 (0.8)	4 (0.3)	500 (8.3)	44 (1.2)	530 (3.1)	19 (0.8)	526 (6.2)	33 (1.1)	514 (3.5)
Thailand <sup>2</sup> .....	57 (0.9)	56 (1.0)	66 (0.9)	54 (0.7)	43 (1.2)	62 (1.1)	3 (0.3)	510 (8.8)	26 (1.0)	520 (4.0)	18 (0.7)	519 (4.3)	54 (1.5)	532 (4.1)
United States .....	58 (1.0)	58 (1.0)	63 (1.1)	56 (0.8)	53 (1.2)	61 (1.0)	17 (1.1)	507 (9.5)	42 (0.9)	548 (4.1)	17 (0.7)	541 (5.2)	24 (0.8)	533 (5.7)

—Not available.

<sup>1</sup> Data are for 8th grade or equivalent in most countries.<sup>2</sup> Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.

NOTE: Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Science Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study*, 1997, by Albert E. Beaton et al. Copyright © 1996 Boston College, Chestnut Hill, MA. (This table was prepared June 1997.)

Table 399.—Instructional practices and time spent teaching science in 8th-grade, by country: 1994–95

Country	Percent of students whose teachers report using each organizational approach "most or every lesson"						Average number of hours science is taught weekly to science classes							
	Work together as a class and students respond to one another	Work together as a class and teacher teaches whole class	Work individually with assistance from teacher	Work individually without assistance from teacher	Work in pairs or groups with assistance from teacher	Work in pairs or groups without assistance from teacher	Less than 2 hours		At least 2, but less than 3.5 hours		At least 3.5, but less than 5 hours		5 hours or more	
							Percent	Mean score	Percent	Mean score	Percent	Mean score	Percent	Mean score
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Australia <sup>1</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Austria <sup>1</sup>	<sup>2</sup> 3	<sup>2</sup> 65	<sup>2</sup> 13	<sup>2</sup> 3	<sup>2</sup> 18	<sup>2</sup> 12	—	—	—	—	—	—	—	—
Belgium (Flemish)	<sup>2</sup> 11	<sup>2</sup> 62	<sup>2</sup> 19	<sup>2</sup> 6	<sup>2</sup> 13	<sup>2</sup> 7	—	—	—	—	—	—	—	—
Belgium (French) <sup>1</sup>	<sup>3</sup> 11	<sup>3</sup> 53	<sup>3</sup> 24	<sup>3</sup> 8	<sup>3</sup> 8	<sup>3</sup> 4	—	—	—	—	—	—	—	—
Bulgaria <sup>1</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Canada	<sup>3</sup> 17	<sup>2</sup> 28	<sup>2</sup> 26	<sup>2</sup> 23	<sup>2</sup> 33	<sup>3</sup> 24	<sup>2</sup> 11 (2.1)	512 (8.9)	69 (3.9)	540 (3.8)	11 (2.5)	528 (5.5)	8 (2.1)	517 (10.3)
Colombia <sup>1</sup>	<sup>2</sup> 33	<sup>2</sup> 48	<sup>2</sup> 55	<sup>2</sup> 10	<sup>2</sup> 43	<sup>2</sup> 13	<sup>2</sup> 6 (2.3)	416 (4.5)	75 (4.2)	415 (5.6)	13 (3.2)	404 (5.5)	6 (2.4)	403 (18.6)
Cyprus	<sup>3</sup> 3	<sup>3</sup> 74	<sup>3</sup> 35	<sup>3</sup> 3	<sup>3</sup> 17	<sup>3</sup> 6	4	—	—	—	—	—	—	—
Czech Republic	11	70	<sup>2</sup> 46	15	14	4	—	—	—	—	—	—	—	—
Denmark <sup>1</sup>	<sup>3</sup> 2	<sup>3</sup> 22	<sup>3</sup> 25	<sup>3</sup> 3	<sup>3</sup> 46	<sup>3</sup> 13	—	—	—	—	—	—	—	—
England <sup>1</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
France	16	57	34	16	27	12	—	—	—	—	—	—	—	—
Germany <sup>1</sup>	<sup>3</sup> 30	<sup>3</sup> 69	<sup>3</sup> 28	<sup>3</sup> 7	<sup>3</sup> 19	<sup>3</sup> 5	—	—	—	—	—	—	—	—
Greece <sup>1</sup>	3	67	45	10	13	1	—	—	—	—	—	—	—	—
Hong Kong	12	45	35	2	44	13	7 (2.3)	492 (29.9)	82 (3.9)	526 (5.3)	9 (3.3)	518 (8.6)	2 (1.6)	—
Hungary	7	80	54	13	11	2	—	—	—	—	—	—	—	—
Iceland	<sup>3</sup> 1	<sup>2</sup> 35	<sup>2</sup> 30	<sup>2</sup> 9	<sup>2</sup> 16	<sup>2</sup> 6	—	—	—	—	—	—	—	—
Iran, Islamic Republic	25	57	36	2	25	11	—	—	—	—	—	—	—	—
Ireland	<sup>3</sup> 7	<sup>3</sup> 62	<sup>3</sup> 25	<sup>3</sup> 6	<sup>3</sup> 20	<sup>3</sup> 6	<sup>3</sup> 4 (1.9)	578 (16.5)	94 (2.1)	540 (6.2)	2 (0.8)	—	0 (0.0)	—
Israel <sup>1</sup>	<sup>3</sup> 17	<sup>2</sup> 41	<sup>2</sup> 30	<sup>2</sup> 15	<sup>2</sup> 32	<sup>2</sup> 18	<sup>3</sup> 19 (7.9)	547 (19.6)	77 (7.2)	520 (9.1)	4 (3.5)	529 (0.0)	0 (0.0)	—
Japan	19	79	12	8	12	6	5 (1.6)	618 (15.2)	94 (1.7)	569 (1.5)	0 (0.0)	—	1 (0.6)	—
Korea	34	83	28	8	15	3	43 (2.9)	569 (3.3)	51 (3.2)	561 (3.1)	1 (0.8)	—	5 (2.3)	568 (12.7)
Kuwait <sup>1</sup>	<sup>2</sup> 9	<sup>2</sup> 46	<sup>2</sup> 45	<sup>2</sup> 0	<sup>2</sup> 36	<sup>2</sup> 2	<sup>2</sup> 3 (2.6)	409 (1.9)	97 (2.6)	426 (4.4)	1 (0.5)	—	0 (0.0)	—
Latvia (Latvian-speaking schools) <sup>1</sup>	<sup>3</sup> 25	<sup>3</sup> 84	<sup>3</sup> 59	<sup>3</sup> 32	<sup>3</sup> 24	<sup>3</sup> 8	—	—	—	—	—	—	—	—
Lithuania <sup>1</sup>	<sup>2</sup> 16	<sup>2</sup> 60	<sup>2</sup> 57	<sup>2</sup> 22	<sup>2</sup> 26	<sup>2</sup> 8	—	—	—	—	—	—	—	—
Netherlands <sup>1</sup>	<sup>2</sup> 5	<sup>2</sup> 63	<sup>2</sup> 36	<sup>2</sup> 23	<sup>2</sup> 25	<sup>2</sup> 18	—	—	—	—	—	—	—	—
New Zealand	15	41	33	26	44	20	1 (0.9)	—	52 (4.1)	527 (6.3)	47 (4.2)	525 (6.6)	0 (0.0)	—
Norway	<sup>3</sup> 24	<sup>3</sup> 62	<sup>3</sup> 23	<sup>3</sup> 1	<sup>3</sup> 23	<sup>3</sup> 4	<sup>3</sup> 27 (4.9)	526 (3.0)	73 (4.9)	524 (2.6)	1 (0.6)	—	0 (0.0)	—
Portugal	14	66	54	3	54	5	—	—	—	—	—	—	—	—
Romania <sup>1</sup>	15	86	47	8	27	<sup>2</sup> 2	—	—	—	—	—	—	—	—
Russian Federation	9	68	43	21	13	7	—	—	—	—	—	—	—	—
Scotland <sup>1</sup>	<sup>3</sup> 7	<sup>3</sup> 22	<sup>3</sup> 27	<sup>3</sup> 11	<sup>3</sup> 56	<sup>3</sup> 19	<sup>3</sup> 14 (3.1)	538 (23.4)	83 (3.6)	519 (4.8)	3 (1.7)	488 (22.5)	0 (0.0)	—
Singapore	12	59	41	17	40	19	0 (0.0)	—	24 (4.4)	618 (14.6)	76 (4.4)	603 (6.0)	0 (0.0)	—
Slovak Republic	<sup>2</sup> 48	<sup>2</sup> 64	<sup>2</sup> 45	<sup>2</sup> 15	<sup>2</sup> 3	<sup>2</sup> 1	—	—	—	—	—	—	—	—
Slovenia <sup>1</sup>	<sup>2</sup> 7	<sup>2</sup> 65	<sup>2</sup> 57	<sup>2</sup> 19	<sup>2</sup> 34	<sup>2</sup> 13	—	—	—	—	—	—	—	—
South Africa <sup>1</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spain	<sup>2</sup> 14	<sup>2</sup> 65	<sup>2</sup> 46	<sup>2</sup> 14	<sup>2</sup> 18	<sup>2</sup> 7	<sup>2</sup> 5 (2.6)	532 (2.5)	84 (3.9)	518 (2.1)	11 (3.0)	502 (9.4)	1 (0.7)	—
Switzerland <sup>1</sup>	<sup>3</sup> 3	<sup>3</sup> 56	<sup>3</sup> 21	<sup>3</sup> 6	<sup>3</sup> 30	8	<sup>3</sup> 41 (4.7)	532 (6.6)	37 (4.4)	524 (8.4)	9 (3.1)	486 (13.7)	13 (3.5)	519 (15.6)
Thailand <sup>1</sup>	<sup>2</sup> 16	<sup>2</sup> 38	<sup>2</sup> 33	<sup>2</sup> 10	<sup>2</sup> 32	<sup>2</sup> 11	—	—	—	—	—	—	—	—
United States	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—Not available.

<sup>1</sup> Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.<sup>2</sup> Teacher response data available for 70 to 84 percent of students.<sup>3</sup> Teacher response available for 50 to 69 percent of students.

NOTE: Data are for 8th grade or equivalent in most countries. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Science Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study, 1997*, by Albert E. Beaton et al. Copyright © 1996 Boston College, Chestnut Hill, MA. (This table was prepared June 1997.)

**Table 400.—Average size of 8th-grade mathematics classes, and frequency teachers assign mathematics homework, by country: 1994–95**

Country	Average size of mathematics classes				Percent of students, by frequency and average length of mathematics assignments						
	1 to 20 students	21 to 30 students	31 to 40 students	41 or more students	Never assigning homework	Assigning homework less than once a week		Assigning homework once or twice a week		Assigning homework 3 or more times a week	
						30 minutes or less	More than 30 minutes	30 minutes or less	More than 30 minutes	30 minutes or less	More than 30 minutes
1	2	3	4	5	6	7	8	9	10	11	12
Australia <sup>1</sup>	<sup>2</sup> 13 (2.4)	71 (3.3)	16 (2.6)	1 (0.5)	<sup>2</sup> 1 (0.8)	6 (1.6)	0 (0.2)	21 (2.6)	4 (1.9)	62 (3.4)	5 (1.7)
Austria <sup>1</sup>	—	—	—	—	<sup>2</sup> 0 (0.0)	1 (0.5)	0 (0.0)	24 (4.4)	3 (1.4)	63 (5.0)	10 (2.1)
Belgium (Flemish)	49 (3.6)	51 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	17 (3.5)	2 (1.1)	52 (4.8)	10 (2.6)	15 (2.9)	5 (2.1)
Belgium (French) <sup>1</sup>	<sup>3</sup> 43 (5.3)	57 (5.3)	0 (0.0)	0 (0.0)	1 (1.2)	2 (1.4)	0 (0.0)	30 (5.1)	5 (2.2)	55 (5.5)	7 (2.8)
Bulgaria <sup>1</sup>	—	—	—	—	—	—	—	—	—	—	—
Canada	<sup>2</sup> 11 (2.1)	65 (4.0)	23 (3.6)	1 (0.5)	<sup>2</sup> 2 (1.1)	2 (0.9)	1 (0.7)	22 (3.4)	2 (0.9)	59 (3.7)	13 (2.7)
Colombia <sup>1</sup>	<sup>2</sup> 16 (4.2)	6 (2.2)	29 (4.0)	48 (4.6)	0 (0.0)	1 (0.9)	1 (0.8)	17 (4.7)	13 (2.9)	29 (4.2)	39 (4.2)
Cyprus	1 (0.0)	37 (3.9)	62 (3.9)	0 (0.0)	<sup>2</sup> 0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	50 (5.3)	50 (5.3)
Czech Republic	13 (3.3)	77 (5.3)	11 (4.5)	0 (0.0)	0 (0.4)	14 (4.5)	0 (0.0)	62 (5.2)	0 (0.3)	23 (3.5)	1 (0.6)
Denmark <sup>1</sup>	<sup>2</sup> 49 (4.8)	51 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	4 (1.8)	0 (0.0)	42 (4.7)	3 (1.6)	49 (5.2)	2 (1.0)
England <sup>1</sup>	<sup>3</sup> 18 (3.1)	62 (3.7)	20 (3.4)	0 (0.0)	0 (0.0)	3 (1.0)	1 (0.6)	44 (3.8)	47 (3.7)	3 (1.4)	2 (1.1)
France	11 (2.6)	86 (2.9)	3 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.9)	7 (2.5)	4 (1.2)	77 (3.9)	10 (2.8)
Germany <sup>1</sup>	<sup>3</sup> 25 (4.4)	72 (4.5)	3 (1.8)	0 (0.0)	1 (1.4)	1 (1.4)	0 (0.0)	22 (4.4)	0 (0.0)	73 (5.0)	3 (1.8)
Greece <sup>1</sup>	9 (2.3)	64 (4.4)	27 (3.9)	0 (0.0)	0 (0.0)	1 (0.9)	0 (0.0)	0 (0.0)	0 (0.2)	31 (3.4)	67 (3.5)
Hong Kong	3 (1.9)	4 (2.2)	56 (5.7)	37 (5.9)	1 (1.4)	4 (2.2)	3 (1.8)	25 (4.7)	15 (4.1)	38 (6.0)	14 (4.1)
Hungary	37 (4.0)	57 (4.1)	6 (2.2)	0 (0.0)	0 (0.0)	1 (0.7)	0 (0.0)	2 (1.3)	0 (0.0)	82 (3.0)	15 (3.1)
Iceland	<sup>2</sup> 36 (5.9)	64 (5.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (2.0)	1 (1.0)	75 (5.5)	19 (5.5)
Iran, Islamic Republic	<sup>2</sup> 1 (0.9)	26 (4.5)	54 (5.3)	19 (4.4)	0 (0.0)	1 (0.5)	3 (1.4)	10 (3.0)	59 (4.4)	2 (1.1)	26 (4.3)
Ireland	<sup>2</sup> 12 (2.7)	68 (4.5)	20 (3.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.9)	0 (0.0)	94 (2.2)	5 (2.0)
Israel <sup>1</sup>	<sup>2</sup> 14 (5.1)	36 (7.4)	49 (9.1)	2 (1.6)	<sup>2</sup> 0 (0.0)	1 (1.2)	0 (0.0)	3 (2.2)	0 (0.0)	48 (7.1)	48 (6.8)
Japan	0 (0.2)	4 (1.4)	88 (2.0)	8 (1.5)	0 (0.0)	27 (4.0)	4 (1.7)	37 (3.7)	10 (2.3)	16 (2.9)	6 (1.5)
Korea	2 (1.2)	1 (1.0)	4 (1.5)	93 (2.0)	0 (0.0)	5 (1.6)	8 (2.2)	27 (3.7)	21 (3.3)	21 (3.2)	18 (3.4)
Kuwait <sup>1</sup>	0 (0.0)	49 (6.5)	49 (6.3)	2 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	19 (6.1)	2 (2.0)	60 (8.3)	18 (6.0)
Latvia (Latvian-speaking schools) <sup>1</sup>	<sup>2</sup> 41 (4.0)	51 (3.8)	4 (2.1)	4 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	8 (2.8)	1 (0.9)	83 (3.9)	9 (2.4)
Lithuania <sup>1</sup>	<sup>2</sup> 43 (3.8)	54 (3.7)	3 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.3)	0 (0.0)	76 (3.9)	22 (3.9)
Netherlands <sup>1</sup>	16 (4.7)	77 (5.6)	7 (3.6)	0 (0.0)	1 (1.2)	1 (0.9)	0 (0.0)	12 (3.5)	2 (1.4)	81 (4.2)	4 (2.2)
New Zealand	11 (2.2)	68 (3.8)	21 (3.1)	0 (0.0)	0 (0.0)	5 (1.9)	2 (0.1)	34 (4.3)	4 (1.5)	54 (4.2)	2 (1.2)
Norway	<sup>2</sup> 20 (3.5)	79 (3.7)	1 (0.5)	1 (0.8)	<sup>2</sup> 0 (0.0)	0 (0.0)	0 (0.0)	7 (2.7)	8 (2.7)	67 (4.3)	18 (4.0)
Portugal	12 (2.8)	80 (3.7)	7 (2.6)	0 (0.0)	0 (0.0)	1 (0.9)	1 (0.5)	30 (4.0)	2 (1.1)	57 (4.1)	9 (2.4)
Romania <sup>1</sup>	23 (2.7)	51 (4.3)	24 (4.1)	2 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	1 (0.6)	11 (2.8)	87 (2.8)
Russian Federation	15 (2.7)	75 (3.6)	9 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.9)	1 (0.8)	42 (3.5)	55 (3.4)
Scotland <sup>1</sup>	<sup>2</sup> 12 (2.8)	80 (3.8)	8 (2.7)	0 (0.0)	<sup>2</sup> 0 (0.4)	20 (4.3)	4 (2.0)	46 (5.1)	6 (2.3)	24 (4.1)	0 (0.0)
Singapore	1 (0.7)	10 (2.5)	72 (4.3)	18 (4.0)	0 (0.0)	1 (0.9)	0 (0.0)	3 (1.5)	11 (3.1)	26 (4.1)	58 (4.5)
Slovak Republic	15 (2.8)	67 (4.2)	19 (3.6)	0 (0.0)	0 (0.0)	1 (0.9)	0 (0.0)	12 (2.8)	1 (0.7)	83 (3.4)	4 (1.7)
Slovenia <sup>1</sup>	<sup>2</sup> 15 (3.1)	80 (3.6)	5 (1.8)	0 (0.0)	<sup>2</sup> 0 (0.0)	0 (0.0)	0 (0.0)	2 (1.4)	0 (0.0)	74 (4.4)	24 (4.2)
South Africa <sup>1</sup>	—	—	—	—	—	—	—	—	—	—	—
Spain	<sup>2</sup> 13 (2.8)	48 (4.0)	36 (4.2)	4 (1.7)	<sup>2</sup> 0 (0.0)	4 (1.6)	0 (0.0)	18 (3.3)	9 (2.7)	47 (4.4)	22 (3.7)
Sweden	<sup>2</sup> 36 (3.9)	61 (4.0)	2 (1.2)	0 (0.0)	<sup>2</sup> 0 (0.4)	19 (3.0)	7 (1.9)	45 (4.0)	26 (3.3)	2 (1.2)	1 (1.2)
Switzerland <sup>1</sup>	<sup>3</sup> 56 (4.5)	44 (4.5)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	1 (0.3)	26 (4.2)	4 (1.5)	61 (4.4)	6 (2.3)
Thailand <sup>1</sup>	—	—	—	—	<sup>2</sup> 0 (0.0)	0 (0.0)	0 (0.0)	6 (3.5)	20 (4.8)	16 (4.7)	58 (6.6)
United States	<sup>3</sup> 24 (3.0)	59 (3.9)	12 (2.2)	4 (1.8)	<sup>2</sup> 0 (0.1)	3 (1.3)	0 (0.0)	7 (1.8)	3 (0.9)	64 (2.9)	23 (3.1)

—Not available.

<sup>1</sup> Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.<sup>2</sup> Teacher response data available for 70 to 84 percent of students.<sup>3</sup> Teacher response data available for 50 to 69 percent of students.

NOTE: Data are for 8th grade or equivalent in most countries. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study*, 1997, by Albert E. Beaton et al. Copyright © 1996 Boston College, Chestnut Hill, MA. (This table was prepared June 1997.)

Table 401.—Eighth-grade students' perceptions about mathematics achievement and hours spent on leisure activities, by country: 1994–95

Country	Students' self-perceptions about usually doing well in mathematics								Average hours each day					
	Strongly disagree		Disagree		Agree		Strongly agree		Watching TV or videos	Playing or talking with friends	Doing jobs at home	Playing sports	Reading for enjoyment	Playing computer games
	Percent	Mean score	Percent	Mean score	Percent	Mean score	Percent	Mean score						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Australia <sup>1</sup>	3 (0.3)	457 (7.9)	17 (0.7)	487 (5.6)	60 (0.8)	530 (3.9)	20 (0.9)	586 (4.7)	2.4 (0.05)	1.4 (0.03)	0.9 (0.02)	1.6 (0.03)	0.6 (0.02)	0.6 (0.02)
Austria <sup>1</sup>	3 (0.4)	512 (10.1)	21 (1.1)	508 (5.4)	45 (1.2)	535 (4.0)	31 (1.4)	572 (4.3)	1.9 (0.06)	2.9 (0.08)	0.8 (0.03)	1.9 (0.07)	0.8 (0.03)	0.6 (0.03)
Belgium (Flemish)	5 (0.4)	512 (6.7)	29 (1.0)	548 (5.9)	48 (1.1)	567 (6.4)	17 (0.9)	609 (7.2)	2.0 (0.05)	1.6 (0.05)	1.1 (0.03)	1.8 (0.07)	0.7 (0.03)	0.5 (0.06)
Belgium (French) <sup>1</sup>	3 (0.4)	467 (7.8)	19 (1.3)	505 (5.4)	48 (1.3)	528 (3.8)	29 (1.5)	550 (5.0)	1.9 (0.08)	1.7 (0.10)	0.8 (0.03)	1.8 (0.04)	0.8 (0.03)	0.7 (0.03)
Bulgaria <sup>1</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Canada	3 (0.3)	480 (9.0)	13 (0.6)	480 (4.9)	49 (1.1)	514 (2.3)	35 (1.1)	570 (3.4)	2.3 (0.04)	2.2 (0.05)	1.0 (0.02)	1.9 (0.03)	0.8 (0.02)	0.5 (0.02)
Colombia <sup>1</sup>	2 (0.4)	—	17 (1.3)	373 (3.7)	51 (1.9)	385 (4.6)	30 (1.4)	398 (5.3)	2.2 (0.07)	1.9 (0.06)	2.3 (0.07)	1.9 (0.06)	0.9 (0.05)	2.0 (0.06)
Cyprus	5 (0.4)	411 (7.6)	18 (0.8)	432 (3.7)	46 (1.0)	469 (2.6)	31 (1.0)	521 (4.4)	2.3 (0.04)	1.7 (0.04)	1.0 (0.03)	1.4 (0.04)	0.8 (0.02)	0.8 (0.03)
Czech Republic	2 (0.3)	—	37 (1.4)	516 (4.2)	48 (1.4)	584 (5.2)	13 (1.0)	640 (8.0)	2.6 (0.05)	2.9 (0.09)	1.3 (0.04)	1.9 (0.06)	1.0 (0.03)	0.6 (0.03)
Denmark <sup>1</sup>	1 (0.2)	—	8 (0.6)	431 (7.0)	53 (1.4)	492 (3.0)	38 (1.3)	537 (4.0)	2.2 (0.06)	2.8 (0.07)	1.1 (0.04)	1.7 (0.06)	0.7 (0.03)	0.7 (0.03)
England <sup>1</sup>	1 (0.2)	—	6 (0.6)	475 (8.3)	69 (1.0)	500 (3.0)	24 (1.0)	538 (5.8)	2.7 (0.07)	2.5 (0.06)	0.8 (0.03)	1.5 (0.05)	0.7 (0.03)	0.9 (0.05)
France	6 (0.7)	495 (6.1)	26 (1.1)	513 (4.0)	46 (1.0)	548 (3.4)	22 (0.8)	564 (5.1)	1.5 (0.04)	1.5 (0.05)	0.9 (0.03)	1.7 (0.04)	0.8 (0.03)	0.5 (0.02)
Germany <sup>1</sup>	7 (0.5)	474 (7.1)	24 (1.0)	491 (5.2)	33 (1.1)	511 (5.1)	36 (1.1)	529 (5.3)	1.9 (0.04)	3.5 (0.07)	0.9 (0.02)	1.7 (0.04)	0.7 (0.02)	0.8 (0.04)
Greece <sup>1</sup>	2 (0.3)	—	16 (0.7)	454 (3.6)	55 (0.8)	481 (3.2)	27 (0.8)	515 (4.2)	2.1 (0.04)	1.5 (0.04)	0.9 (0.03)	1.8 (0.04)	1.0 (0.03)	0.7 (0.03)
Hong Kong	11 (0.9)	536 (9.5)	51 (1.2)	577 (6.7)	33 (1.2)	620 (6.7)	5 (0.5)	643 (8.2)	2.6 (0.05)	1.2 (0.04)	0.7 (0.02)	0.9 (0.03)	0.9 (0.02)	0.8 (0.03)
Hungary	3 (0.3)	469 (11.7)	25 (0.9)	490 (4.2)	57 (1.0)	545 (3.4)	15 (0.8)	608 (4.8)	3.0 (0.06)	2.3 (0.05)	2.0 (0.04)	1.7 (0.04)	1.2 (0.04)	0.7 (0.03)
Iceland	3 (0.6)	421 (10.1)	14 (1.4)	447 (4.9)	55 (1.6)	486 (4.5)	28 (1.8)	519 (9.5)	2.2 (0.05)	3.1 (0.06)	0.8 (0.03)	1.8 (0.06)	0.9 (0.06)	0.7 (0.06)
Iran, Islamic Republic	1 (0.4)	—	8 (0.7)	403 (4.3)	62 (1.4)	423 (2.6)	29 (1.4)	450 (3.7)	1.8 (0.06)	1.2 (0.04)	1.8 (0.06)	1.2 (0.09)	1.1 (0.04)	2.0 (0.02)
Ireland	3 (0.3)	475 (7.7)	18 (1.0)	492 (5.5)	61 (0.9)	530 (5.2)	18 (1.0)	572 (7.6)	2.1 (0.03)	1.5 (0.06)	0.9 (0.03)	1.4 (0.05)	0.6 (0.02)	0.5 (0.03)
Israel <sup>1</sup>	2 (0.4)	—	12 (1.3)	494 (10.1)	45 (1.9)	513 (6.2)	41 (1.9)	549 (8.3)	3.3 (0.10)	2.4 (0.08)	1.2 (0.05)	1.9 (0.09)	1.0 (0.04)	0.9 (0.04)
Japan	10 (0.5)	523 (3.7)	45 (0.7)	577 (2.3)	40 (0.7)	650 (2.5)	4 (0.3)	669 (7.8)	2.6 (0.04)	1.9 (0.04)	0.6 (0.01)	1.3 (0.03)	0.9 (0.02)	0.6 (0.02)
Korea	9 (0.5)	535 (5.7)	53 (1.0)	572 (3.0)	32 (0.9)	669 (3.0)	6 (0.6)	702 (5.7)	2.0 (0.04)	0.9 (0.03)	0.5 (0.02)	0.5 (0.02)	0.8 (0.03)	0.3 (0.02)
Kuwait <sup>1</sup>	3 (0.7)	364 (11.3)	9 (0.9)	382 (3.6)	49 (1.7)	386 (2.4)	39 (2.1)	405 (3.9)	1.9 (0.07)	1.5 (0.11)	1.2 (0.08)	1.5 (0.10)	1.0 (0.04)	0.7 (0.05)
Latvia (Latvian-speaking schools) <sup>1</sup>	2 (0.3)	—	43 (1.2)	471 (3.5)	43 (1.2)	505 (3.7)	12 (0.8)	542 (5.5)	2.6 (0.05)	2.1 (0.06)	1.5 (0.04)	1.2 (0.04)	1.1 (0.03)	0.7 (0.04)
Lithuania <sup>1</sup>	5 (0.5)	446 (7.5)	46 (1.2)	454 (3.4)	38 (1.2)	492 (4.3)	11 (0.8)	544 (6.0)	2.8 (0.05)	2.7 (0.06)	1.2 (0.03)	1.2 (0.04)	1.0 (0.03)	0.9 (0.04)
Netherlands <sup>1</sup>	4 (0.5)	487 (12.4)	21 (1.4)	504 (7.1)	43 (1.3)	537 (8.4)	32 (1.6)	580 (7.3)	2.5 (0.09)	2.8 (0.08)	0.9 (0.04)	1.8 (0.06)	0.6 (0.03)	0.7 (0.04)
New Zealand	2 (0.3)	—	13 (0.8)	466 (6.1)	62 (0.9)	501 (4.5)	22 (0.8)	559 (5.5)	2.5 (0.05)	1.5 (0.04)	0.9 (0.02)	1.5 (0.04)	0.8 (0.02)	0.7 (0.03)
Norway	3 (0.3)	434 (7.4)	18 (0.9)	455 (3.2)	58 (1.0)	504 (2.2)	21 (0.8)	555 (4.4)	2.5 (0.04)	3.2 (0.06)	1.1 (0.03)	1.9 (0.05)	0.7 (0.02)	0.8 (0.03)
Portugal	7 (0.5)	419 (3.6)	37 (1.1)	435 (2.3)	42 (1.1)	463 (2.5)	14 (0.8)	502 (5.2)	2.0 (0.04)	1.7 (0.05)	1.0 (0.04)	1.7 (0.04)	0.7 (0.02)	0.7 (0.03)
Romania <sup>1</sup>	6 (0.6)	455 (12.0)	25 (1.0)	459 (4.6)	49 (0.9)	488 (4.3)	20 (1.0)	505 (6.3)	1.9 (0.06)	1.5 (0.06)	1.9 (0.08)	1.3 (0.05)	1.3 (0.07)	0.6 (0.05)
Russian Federation	2 (0.3)	—	37 (1.4)	501 (7.1)	43 (1.1)	547 (5.1)	18 (0.8)	590 (4.9)	2.9 (0.05)	2.9 (0.05)	1.5 (0.03)	1.0 (0.03)	1.3 (0.04)	1.0 (0.04)
Scotland <sup>1</sup>	2 (0.3)	—	10 (0.8)	455 (5.5)	66 (1.3)	491 (4.8)	22 (1.3)	553 (9.3)	2.7 (0.05)	2.8 (0.08)	0.7 (0.02)	1.9 (0.05)	0.7 (0.02)	1.0 (0.04)
Singapore	6 (0.4)	587 (9.0)	38 (1.2)	624 (5.2)	46 (1.1)	659 (4.9)	11 (0.6)	677 (6.2)	2.7 (0.05)	1.5 (0.04)	1.0 (0.03)	0.7 (0.03)	1.1 (0.02)	0.6 (0.03)
Slovak Republic	1 (0.2)	—	28 (1.1)	496 (3.8)	55 (1.1)	555 (3.8)	15 (0.7)	619 (5.2)	2.7 (0.05)	2.9 (0.07)	1.5 (0.05)	1.8 (0.04)	1.0 (0.03)	0.6 (0.03)
Slovenia <sup>1</sup>	2 (0.3)	—	24 (1.1)	497 (4.0)	53 (1.0)	538 (3.6)	21 (0.9)	602 (4.2)	2.0 (0.04)	1.7 (0.05)	1.6 (0.05)	1.6 (0.03)	0.9 (0.02)	0.6 (0.02)
South Africa <sup>1</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spain	5 (0.5)	441 (4.6)	23 (1.0)	456 (2.6)	45 (1.1)	488 (2.6)	27 (1.0)	522 (3.4)	1.8 (0.05)	1.8 (0.06)	1.1 (0.03)	1.7 (0.04)	0.6 (0.02)	0.3 (0.02)
Sweden	2 (0.3)	—	16 (0.7)	475 (3.4)	61 (0.9)	517 (3.0)	21 (0.8)	565 (3.8)	2.3 (0.04)	2.3 (0.05)	0.9 (0.02)	1.6 (0.04)	0.7 (0.02)	0.6 (0.02)
Switzerland <sup>1</sup>	3 (0.4)	497 (10.1)	21 (0.9)	528 (4.0)	47 (0.9)	541 (3.0)	28 (1.1)	575 (3.3)	1.3 (0.03)	2.4 (0.05)	1.0 (0.03)	1.8 (0.03)	0.8 (0.02)	0.4 (0.02)
Thailand <sup>1</sup>	2 (0.3)	—	38 (1.5)	510 (5.1)	45 (1.1)	529 (6.6)	15 (0.9)	537 (7.4)	2.1 (0.07)	1.2 (0.03)	1.6 (0.03)	1.1 (0.02)	1.0 (0.02)	0.3 (0.02)
United States	3 (0.3)	430 (5.1)	11 (0.6)	462 (4.8)	52 (0.9)	491 (4.3)	34 (1.0)	534 (5.9)	2.6 (0.07)	2.5 (0.06)	1.2 (0.04)	2.2 (0.05)	0.7 (0.02)	0.7 (0.03)

—Not available.

<sup>1</sup> Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.<sup>2</sup> Student response data available for 70 to 84 percent of students.

NOTE: Data are for 8th grade or equivalent in most countries. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study*, 1997, by Albert E. Beaton et al. Copyright © 1996 Boston College, Chestnut Hill, MA. (This table was prepared June 1997.)



**Table 402.—Average 4th-grade mathematics scores,<sup>1</sup> by content areas, and average time spent studying mathematics out of school, by country: 1994–95**

Country	Average percent correct by content area							Amount of daily out-of-school study time in mathematics						
	Overall mathematics scores	Whole numbers	Fractions and proportionality	Measurement, estimation, and number sense	Data representation, analysis, and probability	Geometry	Patterns, relations, and functions	No time		Less than 1 hour		1 hour or more		Average hours <sup>2</sup>
								Percent	Mean score	Percent	Mean score	Percent	Mean score	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Australia <sup>3</sup> .....	63 (0.6)	67 (0.6)	51 (0.7)	60 (0.7)	67 (0.8)	74 (0.7)	64 (0.9)	15 (0.9)	526 (5.6)	61 (1.2)	559 (3.2)	24 (1.0)	530 (4.4)	0.8 (0.02)
Austria <sup>3</sup> .....	65 (0.7)	74 (0.8)	51 (0.8)	69 (0.8)	66 (1.1)	67 (0.8)	64 (1.1)	4 (0.7)	555 (8.6)	58 (1.8)	571 (3.8)	38 (1.6)	546 (4.1)	1.0 (0.03)
Canada .....	60 (1.0)	68 (0.9)	48 (1.0)	54 (1.1)	68 (1.4)	72 (1.4)	62 (1.5)	14 (1.1)	526 (4.4)	60 (1.4)	544 (4.0)	26 (1.2)	522 (5.0)	0.8 (0.02)
Cyprus .....	54 (0.6)	65 (0.7)	48 (0.7)	48 (0.8)	52 (0.9)	53 (0.9)	55 (1.1)	9 (0.7)	473 (6.1)	51 (1.9)	519 (3.6)	40 (1.6)	495 (3.8)	1.1 (0.03)
Czech Republic .....	66 (0.6)	75 (0.6)	53 (0.8)	68 (0.7)	67 (0.9)	71 (0.7)	67 (0.9)	9 (0.9)	547 (6.6)	69 (1.2)	576 (3.6)	22 (1.1)	560 (4.3)	0.7 (0.02)
England <sup>3</sup> .....	57 (0.7)	58 (0.7)	45 (0.8)	52 (0.7)	64 (0.9)	74 (0.8)	55 (1.0)	—	—	—	—	—	—	—
Greece .....	51 (0.9)	62 (1.0)	42 (1.1)	48 (1.0)	50 (1.2)	53 (1.2)	47 (1.2)	6 (0.5)	453 (6.8)	38 (1.6)	512 (4.1)	56 (1.7)	493 (4.0)	1.6 (0.04)
Hong Kong .....	73 (0.9)	79 (0.9)	66 (1.0)	69 (0.9)	76 (1.0)	74 (0.8)	73 (1.2)	6 (0.7)	550 (7.9)	44 (1.2)	595 (4.2)	50 (1.2)	586 (4.5)	1.3 (0.03)
Hungary <sup>3</sup> .....	64 (0.8)	76 (0.7)	49 (0.9)	64 (0.9)	60 (1.0)	66 (0.8)	69 (1.1)	5 (0.7)	543 (10.8)	58 (1.3)	563 (3.9)	37 (1.4)	533 (4.2)	1.0 (0.03)
Iceland .....	50 (0.8)	56 (0.9)	36 (1.0)	44 (0.9)	58 (1.2)	63 (1.0)	48 (1.4)	10 (0.8)	457 (4.3)	63 (1.4)	483 (3.5)	27 (1.4)	472 (3.2)	0.8 (0.02)
Iran, Islamic Republic <sup>4</sup> .....	38 (0.9)	51 (1.2)	32 (1.0)	36 (0.9)	23 (0.9)	42 (0.9)	40 (1.4)	5 (0.7)	402 (6.6)	17 (1.3)	433 (6.0)	78 (1.5)	443 (4.5)	2.3 (0.07)
Ireland .....	63 (0.8)	70 (0.8)	58 (1.0)	56 (0.9)	69 (0.9)	66 (0.8)	64 (1.0)	7 (0.6)	516 (7.1)	70 (1.3)	565 (3.2)	23 (1.2)	530 (4.9)	0.8 (0.02)
Israel <sup>3,4</sup> .....	59 (1.0)	71 (1.0)	48 (1.1)	54 (1.0)	64 (1.2)	62 (1.0)	60 (1.5)	14 (1.3)	525 (6.4)	46 (2.2)	535 (4.7)	40 (1.9)	528 (4.1)	1.1 (0.05)
Japan .....	74 (0.4)	82 (0.4)	65 (0.6)	72 (0.5)	79 (0.5)	72 (0.6)	76 (0.6)	10 (0.7)	558 (4.3)	60 (1.1)	598 (2.3)	31 (1.2)	610 (3.0)	0.9 (0.02)
Korea .....	76 (0.4)	88 (0.3)	65 (0.5)	72 (0.5)	80 (0.6)	72 (0.6)	83 (0.7)	14 (0.8)	593 (4.2)	44 (1.1)	610 (2.5)	42 (1.2)	621 (2.3)	1.0 (0.02)
Kuwait <sup>3</sup> .....	32 (0.5)	36 (0.5)	25 (0.5)	35 (0.6)	26 (0.6)	36 (0.6)	33 (1.0)	5 (0.7)	372 (5.7)	34 (1.4)	410 (3.0)	60 (1.5)	401 (2.8)	1.9 (0.05)
Latvia (Latvian-speaking schools) <sup>3</sup> .....	59 (1.0)	68 (0.9)	44 (1.3)	60 (1.0)	54 (1.3)	67 (1.0)	65 (1.2)	7 (0.7)	476 (7.5)	61 (1.9)	542 (6.3)	33 (1.7)	518 (5.1)	1.0 (0.03)
Netherlands <sup>3</sup> .....	69 (0.7)	75 (0.8)	60 (0.9)	70 (0.8)	75 (0.9)	71 (0.8)	65 (1.1)	47 (2.7)	593 (4.3)	39 (2.3)	578 (3.6)	14 (1.5)	541 (6.1)	0.5 (0.03)
New Zealand .....	53 (1.0)	57 (1.0)	41 (1.1)	49 (1.1)	61 (1.3)	66 (1.1)	52 (1.2)	21 (1.6)	488 (9.7)	54 (1.7)	512 (4.4)	25 (1.4)	493 (5.2)	0.8 (0.03)
Norway .....	53 (0.7)	61 (0.8)	38 (0.7)	56 (0.7)	59 (0.9)	58 (0.9)	50 (1.2)	23 (1.3)	503 (4.1)	58 (1.2)	512 (3.3)	19 (1.1)	497 (5.3)	0.6 (0.02)
Portugal .....	48 (0.7)	57 (0.8)	38 (0.7)	49 (0.8)	43 (1.1)	52 (1.0)	47 (1.1)	3 (0.5)	420 (9.1)	55 (1.7)	489 (3.9)	42 (1.6)	470 (3.9)	1.3 (0.03)
Scotland <sup>4</sup> .....	58 (0.8)	61 (0.8)	46 (1.0)	53 (0.9)	66 (1.0)	72 (0.8)	57 (1.0)	26 (1.8)	519 (7.2)	63 (2.0)	528 (3.8)	11 (1.0)	501 (8.9)	0.5 (0.02)
Singapore .....	76 (0.8)	83 (0.7)	74 (1.0)	67 (1.0)	81 (0.8)	72 (0.8)	76 (0.9)	—	—	—	—	—	—	—
Slovenia <sup>3</sup> .....	64 (0.6)	74 (0.6)	50 (0.9)	64 (0.9)	64 (1.0)	72 (0.8)	68 (0.8)	3 (0.4)	502 (11.4)	57 (1.5)	563 (3.7)	40 (1.4)	548 (3.7)	1.0 (0.03)
Thailand <sup>3</sup> .....	50 (1.1)	58 (1.3)	44 (1.0)	44 (1.0)	56 (1.5)	53 (1.2)	50 (1.3)	17 (1.3)	470 (4.3)	44 (1.6)	496 (4.5)	39 (1.8)	489 (6.1)	1.0 (0.03)
United States .....	63 (0.6)	71 (0.7)	51 (0.8)	53 (0.6)	73 (0.9)	71 (0.7)	66 (0.9)	8 (0.5)	516 (4.4)	60 (1.1)	561 (3.1)	32 (1.1)	528 (2.9)	1.0 (0.03)

—Not available.

<sup>1</sup> Fourth grade students or equivalent in most countries.

<sup>2</sup> Average hours based on: No time = 0; Less than 1 hour = .5; 1–2 hours = 1.5; 3–4 hours = 3.5; More than 4 hours = 5.

<sup>3</sup> Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.

<sup>4</sup> Indicates a 70 to 84 percent student response rate on question about time spent studying mathematics.

NOTE: Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics Achievement in the Primary School Years: IEA's Third International Mathematics and Science Study*, 1997, by Albert E. Beaton et al. Copyright © 1997 Boston College, Chestnut Hill, MA. (This table was prepared July 1997.)

Table 403.—Average 4th-grade science scores,<sup>1</sup> by content areas, and average time spent teaching science in school, by country: 1994–95

Country	Science content areas					Average number of hours science is taught weekly to science classes							
	Overall science scores	Earth science	Life science	Physical science	Environmental issues and the nature of science	Less than 1 hour		1 to 2 hours		2 to 3 hours		More than 3 hours	
						Percent	Mean score	Percent	Mean score	Percent	Mean score	Percent	Mean score
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Australia <sup>2,3</sup>	66 (0.5)	61 (0.6)	72 (0.5)	63 (0.7)	63 (0.8)	35 (3.9)	556 (5.0)	55 (4.0)	568 (5.9)	5 (1.5)	562 (18.1)	5 (2.1)	562 (8.4)
Austria <sup>2</sup>	66 (0.7)	62 (0.8)	72 (0.7)	64 (0.8)	54 (1.0)	0 (0.0)	—	0 (0.0)	—	97 (1.8)	566 (3.6)	3 (1.8)	540 (30.3)
Canada	64 (0.6)	62 (0.6)	68 (0.6)	61 (0.7)	56 (0.7)	8 (2.0)	536 (10.1)	42 (3.8)	542 (5.1)	27 (3.3)	567 (5.4)	23 (3.2)	550 (4.6)
Cyprus	51 (0.5)	48 (0.7)	55 (0.5)	50 (0.7)	42 (1.0)	—	—	—	—	—	—	—	—
Czech Republic	65 (0.5)	64 (0.6)	71 (0.5)	62 (0.7)	56 (0.9)	2 (1.1)	—	79 (3.6)	557 (3.9)	3 (1.4)	572 (6.8)	16 (3.2)	563 (7.3)
England <sup>4,5</sup>	63 (0.6)	61 (0.6)	68 (0.6)	60 (0.8)	56 (1.0)	6 (1.7)	540 (8.7)	27 (4.1)	548 (7.5)	44 (4.8)	556 (5.9)	23 (3.8)	550 (8.2)
Greece	54 (0.8)	52 (0.9)	61 (0.9)	49 (0.9)	43 (1.2)	—	—	—	—	—	—	—	—
Hong Kong	62 (0.7)	61 (0.6)	68 (0.7)	60 (0.8)	50 (1.1)	13 (3.4)	530 (13.3)	84 (3.7)	534 (4.3)	2 (1.5)	—	1 (0.8)	—
Hungary <sup>2</sup>	62 (0.6)	62 (0.7)	66 (0.6)	59 (0.8)	50 (0.9)	6 (2.2)	556 (13.3)	72 (4.1)	529 (3.7)	8 (3.0)	521 (8.4)	14 (3.1)	549 (10.5)
Iceland <sup>3</sup>	55 (0.7)	55 (0.7)	60 (0.8)	52 (0.7)	47 (1.2)	17 (4.1)	513 (7.3)	41 (5.6)	504 (7.7)	30 (5.1)	499 (6.5)	12 (4.3)	523 (6.8)
Iran, Islamic Republic	40 (0.7)	38 (0.7)	44 (0.7)	40 (0.9)	26 (0.9)	—	—	—	—	—	—	—	—
Ireland	61 (0.6)	60 (0.8)	66 (0.6)	57 (0.7)	55 (0.9)	47 (5.0)	536 (5.6)	40 (4.4)	540 (5.8)	11 (3.1)	550 (7.1)	2 (0.9)	—
Israel <sup>2,3,6</sup>	57 (0.8)	51 (0.8)	61 (0.9)	55 (0.9)	51 (1.3)	0 (0.0)	—	53 (5.6)	508 (5.5)	32 (5.8)	494 (6.9)	15 (4.3)	493 (10.6)
Japan	70 (0.3)	66 (0.4)	73 (0.3)	70 (0.4)	62 (0.6)	2 (1.3)	—	1 (0.6)	—	95 (1.8)	575 (1.8)	2 (1.2)	—
Korea	74 (0.4)	72 (0.5)	76 (0.4)	75 (0.5)	70 (0.8)	0 (0.0)	—	1 (0.6)	—	95 (1.8)	597 (1.9)	5 (1.7)	588 (10.3)
Kuwait <sup>2,3</sup>	39 (0.5)	36 (0.6)	45 (0.6)	37 (0.5)	25 (0.7)	0 (0.0)	—	1 (0.7)	—	96 (2.0)	402 (3.9)	4 (1.8)	416 (42.2)
Latvia (Latvian-speaking schools) <sup>2</sup>	56 (0.8)	57 (1.0)	60 (0.8)	54 (0.9)	46 (1.2)	89 (2.9)	505 (5.7)	5 (2.2)	538 (47.2)	5 (2.2)	532 (11.9)	1 (0.8)	—
Netherlands <sup>2</sup>	67 (0.5)	61 (0.6)	73 (0.5)	65 (0.6)	61 (0.9)	38 (5.1)	559 (4.0)	44 (4.8)	556 (4.5)	9 (2.6)	556 (7.2)	9 (2.7)	549 (20.1)
New Zealand <sup>3</sup>	60 (0.9)	57 (0.9)	66 (0.9)	57 (1.1)	54 (1.2)	29 (4.2)	542 (8.3)	48 (4.4)	536 (6.1)	14 (3.1)	537 (17.2)	9 (2.6)	509 (21.2)
Norway <sup>3</sup>	60 (0.6)	60 (0.6)	67 (0.7)	55 (0.7)	53 (0.9)	73 (5.0)	527 (5.4)	27 (5.0)	535 (7.6)	0 (0.0)	—	0 (0.0)	—
Portugal	50 (0.7)	50 (0.8)	54 (0.8)	49 (0.9)	39 (1.0)	2 (1.1)	—	3 (1.4)	486 (28.2)	12 (3.1)	474 (8.8)	84 (3.6)	481 (4.8)
Scotland <sup>3,4</sup>	60 (0.8)	58 (0.9)	65 (0.8)	57 (0.8)	53 (1.2)	35 (4.7)	543 (5.9)	44 (4.7)	534 (6.4)	14 (3.3)	531 (13.2)	7 (2.5)	529 (12.5)
Singapore	64 (0.8)	58 (0.8)	70 (0.8)	64 (0.8)	53 (1.1)	0 (0.0)	—	4 (1.5)	548 (18.9)	96 (1.5)	547 (5.1)	0 (0.0)	—
Slovenia <sup>2</sup>	64 (0.7)	64 (0.7)	68 (0.7)	61 (0.8)	54 (0.8)	3 (1.9)	544 (18.9)	60 (5.3)	541 (4.6)	18 (4.0)	550 (9.5)	19 (3.4)	548 (6.8)
Thailand <sup>2,3</sup>	49 (0.9)	48 (0.9)	52 (0.8)	46 (1.0)	48 (1.4)	2 (1.2)	—	9 (3.5)	463 (21.5)	17 (6.1)	469 (16.5)	73 (6.6)	477 (6.5)
United States <sup>3</sup>	66 (0.5)	64 (0.7)	71 (0.6)	60 (0.6)	65 (0.8)	9 (2.1)	562 (11.5)	16 (2.9)	550 (10.2)	33 (3.8)	578 (5.9)	42 (4.1)	565 (5.1)

—Not available.

<sup>1</sup> Fourth grade or equivalent in most countries.<sup>2</sup> Did not satisfy one or more guidelines for sample participation rates, age/grade specification, or classroom sampling procedures.<sup>3</sup> Teacher response rate for number of hours science is taught is 84 percent or less.<sup>4</sup> Met guidelines for sample participation rates only after replacement schools were included.<sup>5</sup> National defined population covers less than 90 percent of international desired population.<sup>6</sup> National defined population does not cover all of international desired population.

NOTE: Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Science Achievement in the Primary School Years: IEA's Third International Mathematics and Science Study*, 1997, by Albert E. Beaton et al. Copyright © 1997 Boston College, Chestnut Hill, MA. (This table was prepared July 1997.)

**Table 404.—Average mathematics scores, at the end of secondary school, by sex, and average time spent studying mathematics out of school, by country: 1994–95**

Country	Average score in mathematics			Amount of daily out-of-school study time in mathematics						Average hours <sup>1</sup>
	Mathematics overall	Males	Females	Less than 1 hour		One to two hours		Three or more hours		
				Percent	Mean score	Percent	Mean score	Percent	Mean score	
1	2	3	4	5	6	7	8	9	10	11
Australia <sup>2</sup>	522 (9.3)	540 (10.3)	510 (9.3)	59 (2.2)	521 (8.3)	36 (2.2)	557 (10.2)	5 (0.8)	534 (13.4)	1.0 (0.04)
Austria <sup>2</sup>	518 (5.3)	545 (7.2)	503 (5.5)	77 (1.7)	526 (5.8)	19 (1.6)	533 (9.4)	4 (0.8)	502 (13.7)	0.6 (0.04)
Canada <sup>2</sup>	519 (2.8)	537 (3.8)	504 (3.5)	56 (2.1)	539 (5.1)	38 (1.9)	547 (5.0)	7 (1.0)	526 (14.6)	1.1 (0.05)
Cyprus <sup>2</sup>	446 (2.5)	454 (4.9)	439 (3.7)	63 (2.1)	435 (4.3)	29 (1.8)	471 (4.8)	8 (1.3)	451 (9.0)	1.0 (0.05)
Czech Republic	466 (12.3)	488 (11.3)	443 (16.8)	92 (1.5)	464 (13.8)	8 (1.4)	482 (17.8)	0 (0.2)	—	0.4 (0.03)
Denmark <sup>2</sup>	547 (3.3)	575 (4.0)	523 (4.0)	68 (2.0)	571 (4.9)	28 (1.6)	563 (4.7)	4 (0.7)	562 (11.9)	0.9 (0.04)
France <sup>2</sup>	523 (5.1)	544 (5.6)	506 (5.3)	59 (2.3)	517 (5.1)	35 (2.3)	539 (6.7)	5 (0.7)	505 (14.7)	1.0 (0.04)
Germany <sup>2</sup>	495 (5.9)	509 (8.7)	480 (8.8)	—	—	—	—	—	—	—
Hungary	483 (3.2)	485 (4.9)	481 (4.8)	74 (0.9)	480 (3.2)	24 (0.8)	496 (5.5)	2 (0.2)	—	0.7 (0.02)
Iceland <sup>2</sup>	534 (2.0)	558 (3.4)	514 (2.2)	79 (1.1)	553 (3.2)	19 (1.1)	542 (7.0)	2 (0.4)	—	0.7 (0.02)
Italy <sup>2</sup>	476 (5.5)	490 (7.4)	464 (6.0)	55 (2.6)	479 (6.3)	40 (2.2)	486 (7.2)	5 (0.9)	477 (11.2)	1.0 (0.05)
Lithuania <sup>2</sup>	469 (6.1)	485 (7.3)	461 (7.7)	67 (1.8)	472 (5.8)	29 (1.7)	480 (5.2)	4 (0.5)	484 (11.5)	0.8 (0.03)
Netherlands <sup>2</sup>	560 (4.7)	585 (5.6)	533 (5.9)	82 (1.7)	606 (6.2)	16 (1.6)	581 (11.1)	1 (0.3)	—	0.7 (0.03)
New Zealand	522 (4.5)	536 (4.9)	507 (6.2)	75 (1.4)	544 (6.1)	23 (1.4)	552 (5.9)	2 (0.3)	—	0.7 (0.03)
Norway <sup>2</sup>	528 (4.1)	555 (5.3)	501 (4.8)	85 (1.4)	541 (5.1)	14 (1.3)	558 (9.5)	1 (0.3)	—	0.5 (0.03)
Russian Federation <sup>2</sup>	471 (6.2)	488 (6.5)	460 (6.6)	56 (2.0)	463 (5.9)	33 (1.4)	484 (7.5)	11 (1.2)	494 (8.1)	1.2 (0.06)
Slovenia <sup>2</sup>	512 (8.3)	535 (12.7)	490 (8.0)	72 (2.7)	521 (9.4)	25 (2.6)	518 (9.5)	2 (0.6)	—	0.7 (0.05)
South Africa <sup>2</sup>	356 (8.3)	365 (9.3)	348 (10.8)	33 (1.8)	394 (17.1)	51 (1.8)	375 (10.9)	17 (1.2)	344 (7.2)	1.7 (0.05)
Sweden	552 (4.3)	573 (5.9)	531 (3.9)	90 (0.9)	579 (5.4)	9 (0.9)	580 (7.8)	1 (0.2)	—	0.4 (0.02)
Switzerland	540 (5.8)	555 (6.4)	522 (7.4)	67 (1.6)	569 (4.9)	28 (1.3)	550 (5.6)	5 (0.9)	522 (10.6)	0.9 (0.04)
United States <sup>2</sup>	461 (3.2)	466 (4.1)	456 (3.6)	76 (1.5)	475 (3.8)	22 (1.5)	486 (5.9)	2 (0.2)	—	0.7 (0.02)

—Not available.

<sup>1</sup> Average hours based on: No time = 0; Less than 1 hour = .5; 1–2 hours = 1.5; 3–5 hours = 4; More than 5 hours = 7.<sup>2</sup> Countries not meeting all International Association for the Evaluation of Education Achievement's sampling specifications.

NOTE: End of secondary school is equivalent to 12th-grade in the U.S. and a few other countries, but ranges from 9th- to 14th-grade among the survey countries. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics and Science Achievement in the Final Year of Secondary School: IEA's Third International Mathematics and Science Study, 1998*, by Ina V.S. Mullis et al. Copyright © 1998 Boston College, Chestnut Hill, MA. (This table was prepared October 1998.)

**Table 405.—Average science scores, at the end of secondary school, by sex, and average time spent studying science out of school, by country: 1994–95**

Country	Average score in science			Amount of daily out-of-school study time in science						Average hours <sup>1</sup>
	Science overall	Males	Females	Less than 1 hour		One to two hours		Three or more hours		
				Percent	Mean score	Percent	Mean score	Percent	Mean score	
1	2	3	4	5	6	7	8	9	10	11
Australia <sup>2</sup>	527 (9.8)	547 (11.5)	513 (9.4)	58 (1.8)	540 (9.5)	35 (1.7)	575 (6.9)	7 (1.0)	588 (33.0)	1.0 (0.04)
Austria <sup>2</sup>	520 (5.6)	554 (8.7)	501 (5.8)	87 (1.4)	529 (6.0)	11 (1.4)	526 (13.8)	1 (0.3)	—	0.4 (0.03)
Canada <sup>2</sup>	532 (2.6)	550 (3.6)	518 (3.8)	57 (2.1)	554 (4.2)	35 (1.8)	567 (6.8)	8 (0.9)	537 (18.0)	1.1 (0.05)
Cyprus <sup>2</sup>	448 (3.0)	459 (5.8)	439 (3.0)	80 (1.1)	436 (3.7)	16 (0.9)	483 (10.7)	4 (0.6)	552 (11.8)	0.5 (0.03)
Czech Republic	487 (8.8)	512 (8.8)	460 (11.0)	84 (2.6)	520 (11.6)	14 (2.3)	571 (11.5)	3 (0.5)	583 (13.6)	0.5 (0.05)
Denmark <sup>2</sup>	509 (3.6)	532 (5.4)	490 (4.1)	73 (1.8)	555 (4.7)	25 (1.6)	570 (6.1)	3 (0.6)	565 (15.0)	0.7 (0.03)
France <sup>2</sup>	487 (5.1)	508 (6.7)	468 (4.8)	59 (2.0)	497 (5.7)	35 (1.8)	525 (7.0)	6 (0.8)	515 (9.1)	1.0 (0.04)
Germany <sup>2</sup>	497 (5.1)	514 (7.9)	478 (8.5)	—	—	—	—	—	—	—
Hungary	471 (3.0)	484 (4.2)	455 (4.3)	67 (1.2)	475 (3.9)	27 (0.9)	486 (4.9)	6 (0.6)	497 (11.5)	0.4 (0.03)
Iceland <sup>2</sup>	549 (1.5)	572 (2.7)	530 (2.1)	87 (1.0)	566 (2.5)	12 (1.0)	575 (4.6)	1 (0.3)	—	0.9 (0.01)
Italy <sup>2</sup>	475 (5.3)	495 (6.7)	458 (5.6)	70 (2.8)	487 (6.3)	25 (2.5)	482 (9.7)	5 (1.2)	462 (13.9)	0.8 (0.06)
Lithuania <sup>2</sup>	461 (5.7)	481 (6.4)	450 (7.3)	69 (1.5)	465 (5.5)	26 (1.3)	469 (6.5)	5 (0.6)	470 (11.4)	0.8 (0.03)
Netherlands <sup>2</sup>	558 (5.3)	582 (5.7)	532 (6.2)	78 (2.8)	593 (6.4)	20 (2.9)	605 (16.9)	1 (0.4)	—	0.7 (0.03)
New Zealand	529 (5.2)	543 (7.1)	515 (5.2)	80 (1.1)	551 (6.3)	18 (1.1)	581 (6.6)	3 (0.5)	553 (15.3)	0.6 (0.02)
Norway <sup>2</sup>	544 (4.1)	574 (5.1)	513 (4.5)	74 (2.4)	592 (7.1)	23 (2.2)	598 (10.8)	3 (0.7)	583 (23.8)	0.5 (0.02)
Russian Federation <sup>2</sup>	481 (5.7)	510 (5.7)	463 (6.7)	61 (1.6)	478 (6.0)	30 (1.3)	488 (7.0)	10 (0.8)	501 (8.0)	1.1 (0.04)
Slovenia <sup>2</sup>	517 (8.2)	541 (12.7)	494 (6.4)	85 (2.0)	528 (8.1)	13 (1.9)	548 (8.9)	2 (0.6)	—	0.5 (0.04)
South Africa <sup>2</sup>	349 (10.5)	367 (11.5)	333 (13.0)	47 (1.6)	373 (15.5)	35 (1.3)	367 (12.2)	18 (1.4)	326 (7.3)	1.5 (0.05)
Sweden	559 (4.4)	585 (5.9)	534 (3.5)	81 (1.9)	599 (7.4)	17 (1.8)	632 (10.1)	2 (0.5)	—	0.6 (0.03)
Switzerland	523 (5.3)	540 (6.1)	500 (7.8)	76 (2.3)	564 (6.6)	21 (2.3)	564 (10.9)	3 (0.9)	508 (29.0)	0.7 (0.04)
United States <sup>2</sup>	480 (3.3)	492 (4.5)	469 (3.9)	76 (2.1)	505 (4.3)	21 (2.1)	517 (5.7)	2 (0.4)	—	0.7 (0.04)

—Not available.

<sup>1</sup> Average hours based on: No time = 0; Less than 1 hour = .5; 1–2 hours = 1.5; 3–5 hours = 4; More than 5 hours = 7.<sup>2</sup> Countries not meeting all International Association for the Evaluation of Education Achievement's sampling specifications.

NOTE: End of secondary school is equivalent to 12th-grade in the U.S. and a few other countries, but ranges from 9th- to 14th-grade among the survey countries. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics and Science Achievement in the Final Year of Secondary School: IEA's Third International Mathematics and Science Study, 1998*, by Ina V.S. Mullis et al. Copyright © 1998 Boston College, Chestnut Hill, MA. (This table was prepared October 1998.)

**Table 406.—Reading literacy test scores of 9-year-olds: Selected countries, 1992**

Country	Grade tested	Mean age	Overall mean score	Narrative <sup>1</sup> 1st quartile	Narrative <sup>1</sup> mean score	Narrative <sup>1</sup> 3rd quartile	Expository <sup>2</sup> mean score	Documents <sup>3</sup> mean score
1	2	3	4	5	6	7	8	9
Finland .....	3	9.7	569 (3.4)	508	568 (3.0)	602	569 (3.1)	569 (4.0)
United States .....	4	10.0	547 (2.8)	476	553 (3.1)	619	538 (2.6)	550 (2.7)
Sweden .....	3	9.8	539 (2.8)	467	536 (2.6)	592	542 (2.7)	539 (3.2)
France .....	4	10.1	531 (4.0)	467	532 (4.1)	580	533 (4.1)	527 (3.9)
Italy .....	4	9.9	529 (4.3)	468	533 (4.0)	576	538 (4.0)	517 (4.9)
New Zealand .....	5	10.0	528 (3.3)	452	534 (3.5)	594	531 (3.1)	521 (3.3)
Norway .....	3	9.8	524 (2.6)	455	525 (2.8)	576	528 (2.3)	519 (2.8)
Iceland <sup>4</sup> .....	3	9.8	518 (0.0)	448	518 (0.0)	571	517 (0.0)	519 (0.0)
Hong Kong .....	4	10.0	517 (3.9)	431	494 (4.1)	548	503 (3.4)	554 (4.2)
Singapore .....	3	9.3	515 (1.0)	450	521 (1.1)	567	519 (1.0)	504 (1.0)
Switzerland .....	3	9.7	511 (2.7)	438	506 (2.6)	566	507 (2.7)	522 (2.8)
Ireland .....	4	9.3	509 (3.6)	445	518 (3.7)	571	514 (3.2)	495 (3.8)
Belgium <sup>5</sup> .....	4	9.8	507 (3.2)	439	510 (3.3)	558	505 (2.8)	506 (3.5)
Greece .....	4	9.3	504 (3.7)	447	514 (3.8)	567	511 (3.6)	488 (3.8)
Spain .....	4	10.0	504 (2.5)	429	497 (2.4)	543	505 (2.3)	509 (2.7)
Germany (former West) .....	3	9.4	503 (3.0)	421	491 (2.8)	543	497 (2.9)	520 (3.2)
Canada <sup>6</sup> .....	3	8.9	500 (3.0)	437	502 (3.5)	566	499 (2.7)	500 (2.8)
Germany (former East) .....	3	9.5	499 (4.3)	414	482 (4.2)	531	493 (3.6)	522 (5.0)
Hungary .....	3	9.3	499 (3.1)	437	496 (2.9)	541	493 (3.1)	509 (3.5)
Slovenia .....	3	9.7	498 (2.6)	435	502 (2.7)	570	489 (2.5)	503 (2.5)
Netherlands .....	3	9.2	485 (3.6)	425	494 (3.3)	539	480 (3.4)	481 (3.9)
Cyprus .....	4	9.8	481 (2.3)	421	492 (2.4)	548	475 (2.3)	476 (2.1)
Portugal .....	4	10.4	478 (3.6)	419	483 (3.3)	531	480 (3.0)	471 (4.5)
Denmark .....	3	9.8	475 (3.5)	386	463 (3.4)	539	467 (3.5)	496 (3.6)
Trinidad/Tobago .....	4	9.6	451 (3.4)	383	455 (3.6)	502	458 (3.4)	440 (3.3)
Indonesia .....	4	10.8	394 (3.0)	351	402 (2.8)	436	411 (3.2)	369 (3.0)
Venezuela .....	4	10.1	383 (3.4)	322	378 (3.2)	426	396 (3.3)	374 (3.7)

<sup>1</sup> Narrative prose is continuous text in which the writer's aim is to tell a story.

<sup>2</sup> Expository prose is continuous text designed to describe, explain, or otherwise convey factual information or opinion to the reader.

<sup>3</sup> Documents are structured information presented in the form of charts, tables, maps, graphs, lists, or sets of instructions.

<sup>4</sup> Iceland tested all students, therefore standard errors are not applicable.

<sup>5</sup> Only French-speaking students were tested.

<sup>6</sup> British Columbia only.

NOTE: Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *How in the World Do Students Read?*, 1992. (This table was prepared April 1993.)

Table 407.—Reading literacy test scores of 14-year-olds: Selected countries, 1992

Country	Grade tested	Mean age	Overall mean score	Narrative <sup>1</sup> mean score	Expository <sup>2</sup> 1st quartile	Expository <sup>2</sup> mean score	Expository <sup>2</sup> 3rd quartile	Documents <sup>3</sup> mean score
1	2	3	4	5	6	7	8	9
Finland .....	8	14.7	560 (2.5)	559 (2.8)	493	541 (2.2)	575	580 (2.5)
France .....	9	15.4	549 (4.3)	556 (4.2)	484	546 (4.3)	580	544 (4.2)
Sweden .....	8	14.8	546 (2.5)	556 (2.6)	469	533 (2.4)	576	550 (2.4)
New Zealand .....	10	15.0	545 (5.6)	547 (5.7)	457	535 (5.7)	597	552 (5.3)
Hungary .....	8	14.1	536 (3.3)	530 (3.1)	469	536 (3.6)	577	542 (3.2)
Iceland <sup>4</sup> .....	8	14.8	536 (0.0)	550 (0.0)	472	548 (0.0)	617	509 (0.0)
Switzerland .....	8	14.9	536 (3.2)	534 (3.4)	466	525 (3.2)	572	549 (3.0)
Hong Kong .....	9	15.2	535 (3.7)	509 (3.7)	480	540 (3.8)	576	557 (3.8)
United States .....	9	15.0	535 (4.8)	539 (4.9)	456	539 (5.6)	599	528 (4.0)
Singapore .....	8	14.4	534 (1.1)	530 (1.1)	476	539 (1.2)	574	533 (1.1)
Slovenia .....	8	14.7	532 (2.3)	534 (2.6)	471	525 (2.2)	576	537 (2.2)
Germany (former East) .....	8	14.4	526 (3.5)	512 (3.9)	464	523 (3.5)	566	543 (2.9)
Denmark .....	8	14.8	525 (2.1)	517 (2.0)	458	524 (2.2)	573	532 (2.1)
Portugal .....	9	15.6	523 (3.1)	523 (2.5)	469	523 (3.4)	556	523 (3.4)
Canada <sup>5</sup> .....	8	13.9	522 (3.0)	526 (3.1)	449	516 (3.1)	569	522 (2.7)
Germany (former West) .....	8	14.6	522 (4.4)	514 (4.9)	453	521 (4.5)	573	532 (3.9)
Norway .....	8	14.8	516 (2.3)	515 (2.1)	464	520 (2.4)	569	512 (2.4)
Italy .....	8	14.1	515 (3.4)	520 (3.6)	459	524 (3.2)	565	501 (3.3)
Netherlands .....	8	14.3	514 (4.9)	506 (4.8)	442	503 (4.7)	546	533 (5.3)
Ireland .....	9	14.5	511 (5.2)	510 (5.3)	439	505 (5.3)	555	518 (4.9)
Greece .....	9	14.4	509 (2.9)	526 (2.9)	450	508 (3.1)	548	493 (2.6)
Cyprus .....	9	14.8	497 (2.2)	516 (2.2)	427	492 (2.4)	536	482 (2.0)
Spain .....	8	14.2	490 (2.5)	500 (3.0)	435	495 (2.6)	536	475 (2.0)
Belgium <sup>6</sup> .....	8	14.3	481 (4.9)	484 (5.1)	415	477 (4.8)	522	483 (4.7)
Trinidad/Tobago .....	9	14.4	479 (1.7)	482 (1.7)	408	485 (1.8)	537	472 (1.7)
Thailand .....	9	15.2	477 (6.2)	468 (6.6)	429	486 (5.9)	533	478 (6.2)
Philippines .....	8	14.5	430 (3.9)	421 (3.6)	378	439 (4.1)	472	430 (3.9)
Venezuela .....	9	15.5	417 (3.1)	407 (2.9)	381	433 (3.3)	482	412 (3.0)
Nigeria <sup>7,8</sup> .....	9	15.3	401 (—)	402 (—)	351	406 (—)	441	394 (—)
Zimbabwe <sup>8</sup> .....	9	15.5	372 (3.8)	367 (3.3)	326	374 (3.6)	411	373 (4.6)
Botswana .....	9	14.7	330 (2.0)	340 (1.6)	294	339 (1.9)	371	312 (2.4)

—Not available.

<sup>1</sup> Narrative prose is continuous text in which the writer's aim is to tell a story.<sup>2</sup> Expository prose is continuous text designed to describe, explain, or otherwise convey factual information or opinion to the reader.<sup>3</sup> Documents are structured information presented in the form of charts, tables, maps, graphs, lists, or sets of instructions.<sup>4</sup> Iceland tested all students, therefore standard errors are not applicable.<sup>5</sup> British Columbia only.<sup>6</sup> Only French-speaking students were tested.<sup>7</sup> Insufficient data to calculate the standard error.<sup>8</sup> Sampling response rate of schools was below 80 percent.

NOTE: Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *How in the World Do Students Read?*, 1992. (This table was prepared April 1993.)

**Table 408.—Number of bachelor's degree recipients per 100 persons of the theoretical age of graduation,<sup>1</sup> by sex: Selected countries, 1989 to 1996**

Country	Men and women						Men						Women					
	1989	1990	1992	1994	1995	1996	1989	1990	1992	1994	1995	1996	1989	1990	1992	1994	1995	1996
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Australia .....	19.6	—	28.5	32.2	34.9	36.0	18.9	—	23.7	25.9	27.6	28.9	21.1	—	33.6	38.7	42.7	43.3
Austria .....	6.6	7.7	—	9.2	9.8	10.5	7.6	8.5	—	10.1	10.6	11.4	5.5	6.8	—	8.4	8.9	9.6
Belgium .....	16.5	17.1	—	—	—	15.9	18.9	19.5	—	—	—	16.7	14.1	14.7	—	—	—	15.2
Canada .....	—	—	32.2	30.3	31.8	31.9	—	—	27.6	25.5	26.4	26.5	—	—	37.6	35.3	37.4	37.4
Denmark .....	12.9	15.0	22.3	30.5	28.5	28.0	11.5	13.3	17.7	26.4	25.1	23.1	14.4	16.9	27.2	34.9	31.9	33.0
Finland .....	16.9	17.1	—	22.2	22.2	23.9	17.1	17.0	—	22.2	22.0	22.4	16.6	17.1	17.9	22.1	22.3	25.6
France .....	13.8	14.9	—	—	—	—	13.7	14.7	—	—	—	—	13.9	15.1	—	—	—	—
Germany <sup>2</sup> .....	13.2	12.9	—	14.6	16.2	16.1	16.1	15.7	—	16.4	18.2	18.2	10.1	10.0	—	12.6	14.0	13.5
Ireland .....	16.4	17.4	17.8	—	21.2	25.5	31.9	17.5	17.9	—	19.9	24.6	—	17.3	17.7	—	22.7	26.4
Italy .....	8.9	9.2	—	11.3	11.8	12.6	9.1	9.3	—	10.3	10.8	11.4	8.7	9.0	—	12.4	12.9	13.8
Japan .....	—	22.1	23.2	23.2	22.8	22.9	—	31.5	31.9	31.0	30.4	30.7	—	12.4	14.0	15.2	14.9	14.9
Netherlands .....	10.2	8.0	17.6	—	22.0	19.6	12.3	9.4	17.3	—	20.6	18.2	7.9	6.5	17.8	—	23.4	21.1
New Zealand .....	36.1	15.3	17.2	—	24.7	30.8	16.6	15.4	16.9	—	20.9	26.2	15.5	15.1	17.4	—	28.6	35.4
Norway .....	24.6	27.5	19.0	23.0	23.0	27.4	18.1	19.1	14.5	17.4	17.2	20.2	31.7	36.3	23.7	28.8	28.9	34.8
Portugal .....	—	7.6	—	13.8	14.6	15.7	—	5.9	—	10.4	10.8	11.3	—	9.3	—	17.2	18.3	20.2
Spain .....	17.7	18.6	—	—	24.0	26.1	14.6	15.3	—	—	19.6	21.5	21.0	22.0	—	—	28.6	31.0
Sweden .....	13.0	12.2	14.1	13.7	15.5	19.1	11.1	10.5	11.8	12.0	14.0	15.1	15.1	14.0	16.4	15.4	17.0	23.3
Switzerland .....	7.7	7.7	—	8.5	9.1	9.3	10.1	10.3	—	10.7	11.4	11.5	5.3	5.1	—	6.3	6.8	7.2
Turkey .....	6.0	6.1	6.1	—	7.0	—	7.3	7.5	7.5	—	8.6	—	4.6	4.5	4.6	—	5.2	—
United Kingdom .....	—	—	20.4	25.9	31.6	34.4	—	—	—	21.0	25.5	30.3	32.7	—	19.8	26.3	32.9	36.2
United States .....	27.3	28.6	27.4	32.2	33.2	34.7	25.5	26.2	24.6	28.7	29.3	30.6	29.2	31.1	30.3	35.9	37.3	38.9

—Not available.

<sup>1</sup>The graduation rate relates the number of people with bachelor's degrees to the number of people in the population at typical age of graduation.<sup>2</sup>Data for 1989 are for the former West Germany.

SOURCE: Organization for Economic Cooperation and Development, unpublished tabulations. (This table was prepared September 1999.)

**Table 409.—Percent of bachelor's degrees awarded in science: Selected countries, 1985, 1990, and 1994 to 1996**

Country	All science degrees					Natural sciences					Mathematics and computer science					Engineering				
	1985	1990	1994	1995	1996	1985	1990	1994	1995	1996	1985	1990	1994	1995	1996	1985	1990	1994	1995	1996
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Australia ..	—	—	19.2	19.3	20.1	—	—	10.2	9.9	10.0	—	—	3.6	3.8	4.1	—	—	5.4	5.6	6.0
Austria .....	16.8	19.6	20.7	21.1	22.1	5.0	5.3	5.5	6.0	6.2	4.1	5.2	5.4	5.3	5.1	7.7	9.0	9.8	9.9	10.8
Belgium <sup>1</sup> .....	—	—	—	—	24.4	4.6	—	—	—	3.1	1.7	—	—	—	1.8	—	—	—	—	19.5
Canada .....	17.1	16.4	16.3	16.7	17.4	4.9	6.0	6.2	6.5	6.7	4.5	4.2	3.8	3.8	4.0	7.7	6.2	6.3	6.4	6.7
Denmark ..	—	—	—	—	19.7	6.3	4.4	4.2	2.5	1.4	—	—	—	—	3.3	16.2	21.7	—	17.0	15.1
Finland .....	39.3	33.5	37.0	37.2	35.7	7.7	4.1	4.4	4.0	4.1	6.3	5.9	7.4	6.9	6.0	25.3	23.4	25.1	26.3	25.6
Germany <sup>2</sup> .....	23.8	31.3	31.7	31.6	31.1	5.0	7.2	6.9	6.7	6.6	2.3	3.5	5.2	5.2	5.0	16.5	20.5	19.6	19.7	19.5
Ireland .....	28.8	34.1	—	32.3	28.0	12.8	14.1	—	16.9	12.2	4.0	6.3	—	4.7	6.3	12.0	13.7	—	10.7	9.6
Italy .....	19.5	19.7	19.1	19.5	19.9	8.1	7.6	7.0	6.8	6.6	3.1	3.9	3.4	3.8	3.7	8.3	8.3	8.7	8.9	9.6
Japan .....	22.7	23.5	22.8	22.8	—	2.4	2.4	3.4	3.4	3.4	—	—	—	—	—	20.3	21.0	19.3	19.3	19.3
Netherlands .....	21.8	21.1	—	—	16.0	8.5	7.1	—	—	1.6	1.2	1.6	—	1.6	1.7	12.1	12.4	—	—	12.8
New Zealand .....	20.5	19.5	—	—	—	11.7	8.2	—	—	—	5.5	5.5	—	—	—	3.3	5.8	—	3.2	3.6
Norway .....	—	12.9	18.6	16.8	15.2	2.5	2.1	4.1	3.1	2.8	1.8	0.6	0.4	0.5	0.4	—	10.2	14.2	13.2	11.9
Portugal .....	—	—	15.9	15.0	15.4	6.5	6.7	2.6	2.2	2.8	—	—	2.4	2.8	2.8	—	10.5	11.0	9.9	9.8
Spain .....	13.9	15.0	—	18.2	18.5	5.5	5.7	—	4.3	4.8	1.3	2.6	—	4.5	4.3	7.0	6.7	—	9.4	9.4
Sweden .....	15.4	24.0	25.0	26.4	22.4	2.6	4.1	3.9	3.9	3.7	1.6	4.7	5.3	5.5	4.5	11.3	15.2	15.9	17.0	14.3
Switzerland .....	20.2	23.0	22.1	22.3	22.4	10.3	11.2	10.4	10.4	11.1	2.1	3.7	3.3	3.7	3.1	7.9	8.1	8.4	8.3	8.2
Turkey .....	23.0	20.6	—	20.9	—	3.6	4.6	—	5.1	—	1.6	2.1	—	2.7	—	17.8	13.8	—	13.1	—
United States ..	21.7	16.9	15.9	—	16.8	6.3	5.1	6.0	—	6.9	5.5	4.0	3.3	3.3	3.2	9.8	7.8	6.7	6.7	6.6

—Not available.

<sup>1</sup>Data for the Flemish population of Belgium.<sup>2</sup>Data for 1985 are for the former West Germany.

SOURCE: Organization for Economic Cooperation and Development, unpublished data. (This table was prepared September 1999.)

**Table 410.—Percent of graduate degrees awarded in science: Selected countries, 1985, 1990, 1991, and 1996**

Country	All science degrees				Natural sciences				Mathematics and computer science				Engineering			
	1985	1990	1991	1996	1985	1990	1991	1996	1985	1990	1991	1996	1985	1990	1991	1996
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Australia .....	—	—	13.9	14.0	—	—	9.6	5.4	—	—	—	3.8	—	—	4.3	4.7
Austria .....	43.3	37.7	37.4	38.8	14.2	12.3	13.4	17.5	7.3	4.6	6.1	4.7	21.7	20.8	17.9	16.6
Canada .....	19.7	20.0	19.7	22.3	7.5	7.8	7.7	7.7	2.8	3.4	3.4	3.5	9.4	8.8	8.7	11.2
Denmark .....	16.0	22.2	22.9	12.3	4.1	5.8	5.4	3.1	2.7	4.8	4.5	1.5	9.2	11.6	13.0	7.8
Finland .....	47.6	30.6	29.2	28.3	24.0	14.7	12.4	11.6	6.3	5.4	4.6	4.0	17.2	10.5	12.2	12.7
Germany .....	27.7	33.2	33.9	38.6	18.7	23.5	23.3	25.5	1.8	2.3	2.2	3.5	7.2	7.4	8.4	9.5
Ireland .....	31.4	34.5	28.4	23.1	18.9	19.5	15.7	10.9	2.6	5.8	4.1	3.0	9.9	9.3	8.6	9.2
Japan .....	50.1	54.6	54.2	—	9.5	9.5	9.5	10.2	—	—	—	—	40.5	45.1	44.7	44.4
Netherlands .....	—	28.9	29.9	18.6	20.6	17.7	16.7	4.4	—	1.5	1.6	3.7	7.5	9.7	11.6	10.6
New Zealand .....	45.1	22.6	19.3	16.7	24.6	13.8	11.5	12.7	5.4	4.7	3.6	1.1	15.1	4.0	4.2	3.0
Norway .....	40.1	33.4	33.8	38.3	17.9	8.0	7.9	8.7	3.5	2.1	2.5	1.9	18.7	23.3	23.4	27.7
Spain .....	35.6	26.9	26.6	36.0	28.6	19.7	19.1	24.8	1.8	1.4	2.5	4.1	5.1	5.7	5.0	7.1
Sweden .....	48.0	48.5	44.4	32.3	21.2	19.4	15.1	9.2	6.8	9.2	8.2	5.9	20.0	19.9	21.1	17.1
Switzerland .....	30.7	30.2	32.6	40.1	20.3	22.0	23.1	25.8	2.8	1.7	1.8	4.1	7.6	6.5	7.6	10.1
Turkey .....	35.8	24.0	21.7	—	6.6	7.6	6.4	—	2.8	3.3	2.8	—	26.3	13.2	12.4	—
United States .....	13.5	14.5	13.8	13.8	4.5	4.2	3.8	4.0	2.8	3.4	3.2	3.2	6.3	6.9	6.7	6.7

—Not available.

SOURCE: Organization for Economic Cooperation and Development, unpublished data. (This table was prepared September 1999.)

**Table 411.—Public education expenditures per student, by level of student: Selected countries, 1985 to 1997**  
[In constant 1997 dollars]

Country	Primary					Secondary					Higher education				
	1985	1990	1994	1995	1997	1985	1990	1994	1995	1997	1985	1990	1994	1995	1997
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Australia .....	\$3,117	—	\$3,070	\$3,001	\$3,751	\$4,376	—	\$4,589	\$4,276	\$5,794	<sup>1</sup> \$14,284	<sup>2</sup> \$12,424	\$7,246	\$7,094	\$11,240
Austria .....	4,007	\$4,110	—	—	6,258	4,581	\$5,398	—	—	8,213	7,616	7,422	—	—	9,993
Belgium <sup>3</sup> .....	2,595	2,473	3,682	3,497	5,205	5,984	—	6,366	6,180	9,111	8,252	7,168	7,245	6,449	—
Canada .....	—	—	—	—	—	—	—	—	—	—	9,568	10,892	8,238	7,511	14,816
Czech Republic .....	—	—	1,869	—	1,942	—	—	2,571	—	3,643	—	—	5,517	—	5,478
Denmark .....	4,305	5,108	5,378	5,948	6,913	6,076	6,092	7,305	6,331	7,285	9,917	9,672	9,414	7,947	7,294
Finland .....	—	—	4,309	4,572	4,643	—	—	4,985	5,291	5,009	—	—	6,732	7,605	7,190
France .....	—	2,968	3,454	3,436	3,735	—	5,157	5,911	6,055	7,118	—	5,610	5,305	5,927	7,058
Germany <sup>4</sup> .....	3,358	—	3,616	—	3,460	3,676	—	4,622	—	4,536	8,085	—	7,776	8,888	9,621
Greece .....	—	—	2,014	2,132	2,351	—	—	1,982	1,991	2,581	—	—	3,087	2,712	3,990
Hungary .....	—	—	1,706	—	2,035	—	—	1,623	—	2,093	—	—	4,541	—	5,430
Iceland .....	—	—	2,843	3,079	—	—	—	3,629	9,227	—	—	—	5,295	—	—
Ireland .....	1,560	1,636	2,326	2,282	2,571	2,684	2,753	3,823	3,541	3,868	6,099	6,331	6,146	5,177	8,171
Italy .....	3,011	3,962	4,444	4,653	5,073	3,870	4,591	5,311	5,421	6,284	5,438	8,314	4,630	4,433	5,972
Japan .....	<sup>2</sup> 3,059	—	4,477	4,613	5,203	—	—	4,522	4,476	—	<sup>1</sup> 3,070	—	3,856	3,921	18,914
Korea .....	—	—	2,025	—	3,327	—	—	1,386	—	3,909	—	—	—	—	6,227
Luxembourg .....	<sup>2</sup> 6,418	<sup>5</sup> 7,337	—	11,433	—	—	—	—	10,653	—	<sup>1</sup> 19,020	—	—	7,104	—
Mexico .....	—	—	911	—	871	—	—	1,565	—	1,651	—	—	4,827	—	4,628
Netherlands .....	3,507	3,348	3,173	3,275	—	4,112	4,859	4,229	4,478	—	11,220	11,945	8,041	8,618	—
New Zealand .....	<sup>2</sup> 3,088	2,751	2,806	—	—	—	2,288	4,394	3,902	—	<sup>1</sup> 12,932	13,976	—	5,878	—
Norway .....	3,927	4,470	—	8,172	—	5,364	5,690	—	4,637	4,174	7,670	8,475	8,999	—	10,108
Poland .....	—	—	—	—	1,446	—	—	—	—	—	—	—	—	—	4,395
Portugal .....	<sup>2</sup> 1,485	<sup>2</sup> 2,348	—	2,759	3,248	1,922	<sup>2</sup> 2,547	2,898	3,178	4,264	<sup>1</sup> 5,004	<sup>2</sup> 5,435	3,941	—	—
Russian Federation .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spain .....	1,505	1,883	2,476	2,410	3,560	2,078	2,857	3,187	3,671	5,386	2,160	3,574	3,185	3,802	5,335
Sweden <sup>6</sup> .....	<sup>2</sup> 5,922	6,147	5,533	5,353	5,520	—	—	6,177	5,932	5,429	<sup>1</sup> 9,010	10,102	—	12,289	12,785
Switzerland <sup>6</sup> .....	11,639	<sup>2</sup> 6,459	6,527	6,162	6,237	3,154	—	8,337	8,543	7,243	15,376	<sup>2</sup> 16,865	15,588	15,468	16,376
Turkey .....	—	—	768	—	—	—	—	552	—	—	—	—	3,612	—	2,397
United Kingdom .....	2,698	3,046	3,731	3,511	3,206	3,807	4,701	4,727	4,497	4,982	15,045	11,454	6,301	5,963	—
United States .....	4,294	5,235	4,995	5,105	5,961	5,401	6,721	6,411	6,510	7,462	8,600	10,202	8,042	8,358	14,864

—Not available.

<sup>1</sup> 1986 data.<sup>2</sup> 1991 data.<sup>3</sup> Data for Flemish Belgium only.<sup>4</sup> Data for 1985 are for the former West Germany.<sup>5</sup> 1989 data.<sup>6</sup> Change in definition of expenditures in 1992.

NOTE: Data adjusted to U.S. dollars using the purchasing-power-parity (PPP) index.

SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance*, 1996, 1998, 1999; and unpublished data. (This table was prepared July 2000.)



**Table 412.—Total public direct expenditures on education as a percentage of the gross domestic product: Selected countries, 1985 to 1997**

Country	All institutions <sup>1</sup>					Primary and secondary institutions					Higher education institutions				
	1985	1990	1994	1995	1997 <sup>2</sup>	1985	1990	1994	1995	1997 <sup>2</sup>	1985	1990	1994	1995	1997 <sup>2</sup>
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>Average for year .....</b>	<b>5.3</b>	<b>4.9</b>	<b>5.0</b>	<b>4.9</b>	<b>5.1</b>	<b>3.7</b>	<b>3.5</b>	<b>3.5</b>	<b>3.4</b>	<b>3.6</b>	<b>1.1</b>	<b>1.0</b>	<b>1.0</b>	<b>0.9</b>	<b>1.0</b>
<b>Average for countries reporting data for all years .....</b>	<b>5.3</b>	<b>5.3</b>	<b>5.4</b>	<b>5.3</b>	<b>5.2</b>	<b>3.7</b>	<b>3.7</b>	<b>3.7</b>	<b>3.6</b>	<b>3.6</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.0</b>
Australia .....	5.4	4.3	4.4	4.5	4.3	3.5	3.2	3.2	3.2	3.3	1.7	1.0	1.1	1.2	1.0
Austria .....	5.6	5.2	—	5.3	6.0	3.7	3.6	—	3.8	4.2	1.0	1.0	—	0.9	1.3
Belgium <sup>3</sup> .....	6.3	4.8	5.5	5.0	4.8	4.0	3.4	3.8	3.4	3.3	1.0	0.8	1.0	0.9	0.8
Canada .....	6.1	5.4	6.0	5.8	5.4	4.1	3.7	4.2	4.0	4.0	2.0	1.5	1.6	1.5	1.2
Czech Republic .....	—	—	—	4.8	4.5	—	—	—	3.4	3.2	—	—	0.8	0.7	0.7
Denmark .....	6.2	6.2	6.5	6.5	6.5	4.7	4.4	4.3	4.2	4.3	1.2	1.3	1.4	1.3	1.1
Finland .....	5.8	6.4	6.6	6.6	6.3	—	4.3	4.4	4.2	3.8	—	1.2	1.5	1.7	1.7
France .....	—	5.1	5.6	5.8	5.8	—	3.7	4.0	4.1	4.1	—	0.8	0.9	1.0	1.0
Germany <sup>4</sup> .....	4.6	—	4.5	4.5	4.5	2.8	—	2.9	2.9	2.9	1.0	—	0.9	1.0	1.0
Greece .....	—	—	3.1	3.7	3.5	—	—	2.4	2.8	2.5	—	—	0.7	0.8	1.0
Hungary .....	—	5.0	5.7	4.9	4.5	—	3.5	3.9	3.3	2.9	—	0.8	0.9	0.8	0.8
Iceland .....	—	4.3	4.5	4.5	5.1	—	3.3	3.4	3.4	3.9	—	0.6	0.7	0.7	0.7
Ireland .....	5.6	4.7	5.1	4.7	4.5	4.0	3.3	3.6	3.3	3.4	0.9	0.9	1.0	0.9	1.0
Italy .....	4.7	5.8	4.6	4.5	4.6	3.2	4.1	3.3	3.2	3.4	0.6	1.0	0.7	0.7	0.6
Japan .....	—	3.6	3.8	3.6	3.6	—	2.9	2.9	2.8	2.8	—	0.4	0.5	0.4	0.5
Korea .....	—	—	3.6	3.6	4.4	—	—	2.9	3.0	3.4	—	—	0.3	0.3	0.5
Luxembourg .....	—	—	—	4.3	4.2	—	—	—	4.2	4.1	—	—	—	0.1	0.1
Mexico .....	—	3.2	4.5	4.6	4.5	—	2.2	3.2	3.4	3.3	—	0.7	0.9	0.8	0.8
Netherlands .....	6.2	5.7	4.5	4.6	4.3	4.1	3.6	3.0	3.0	2.9	1.5	1.6	1.2	1.1	1.1
New Zealand .....	—	5.5	5.4	5.3	6.1	—	3.9	3.9	3.8	4.7	—	1.2	1.1	1.1	1.0
Norway .....	5.1	6.2	6.9	6.8	6.6	4.0	4.1	4.1	4.1	4.4	0.7	1.1	1.4	1.5	1.3
Poland .....	—	—	—	5.2	5.8	—	—	—	3.3	3.8	—	—	—	0.8	1.2
Portugal .....	—	—	5.3	5.4	5.8	—	—	3.9	4.1	4.4	—	—	0.8	1.0	1.0
Russia .....	—	—	—	3.4	—	—	—	—	1.9	—	—	—	—	0.7	—
Spain .....	3.6	4.2	4.8	4.8	4.7	2.9	3.2	3.5	3.5	3.5	0.4	0.7	0.8	0.8	0.9
Sweden .....	—	5.3	6.6	6.6	6.8	—	4.4	4.5	4.4	4.7	—	1.0	1.5	1.6	1.6
Switzerland .....	4.9	5.0	5.5	5.5	5.4	4.0	3.7	4.1	4.1	4.0	0.9	1.0	1.1	1.1	1.1
Turkey .....	—	3.2	3.3	2.2	—	—	2.3	2.1	1.4	—	—	0.9	1.2	0.8	0.8
United Kingdom .....	4.9	4.3	4.6	4.6	4.6	3.1	3.5	3.8	3.8	3.4	1.0	0.7	0.7	0.7	0.7
United States .....	4.7	5.3	4.8	5.0	5.2	3.2	3.8	3.4	3.5	3.5	1.3	1.4	1.1	1.1	1.4

<sup>1</sup> Includes preprimary and other expenditures not classified by level.

<sup>2</sup> Due to the implementation of a new classification system post-1996 data are not comparable with earlier data.

<sup>3</sup> Flemish Belgium data only.

<sup>4</sup> Data for 1985 refer to West Germany (Federal Republic of Germany before unification).

NOTE: Direct public expenditure on educational services includes both amounts spent directly by governments to hire educational personnel and to procure other resources,

and amounts provided by governments to public or private institutions. Figures for 1985 also include transfers and payments to private entities, and thus are not strictly comparable with later figures.

SOURCE: Organization for Economic Cooperation and Development (OECD), *Education Database; Annual National Accounts*, vol.1, 1997; and *Education at a Glance, 2000*. (This table was prepared July 2000.)

**Table 413.—Foreign students enrolled in institutions of higher education in the United States and outlying areas, by continent, region, and selected countries of origin: 1980–81 to 1998–99**

Continent, region, and country	1980–81		1985–86		1990–91		1994–95		1995–96		1996–97		1997–98		1998–99	
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Total</b> .....	<b>311,880</b>	<b>100.0</b>	<b>343,780</b>	<b>100.0</b>	<b>407,530</b>	<b>100.0</b>	<b>452,635</b>	<b>100.0</b>	<b>453,787</b>	<b>100.0</b>	<b>457,984</b>	<b>100.0</b>	<b>481,280</b>	<b>100.0</b>	<b>490,933</b>	<b>100.0</b>
Africa .....	38,180	12.2	34,190	9.9	23,800	5.8	20,724	4.6	20,844	4.6	22,078	4.8	23,162	4.8	26,222	5.3
Eastern Africa .....	6,260	2.0	6,730	2.0	7,590	1.9	7,139	1.6	7,596	1.7	8,628	1.9	8,951	1.9	10,189	2.1
Central Africa .....	1,130	0.4	1,540	0.4	1,650	0.4	1,430	0.3	1,346	0.3	1,187	0.3	1,265	0.3	1,413	0.3
North Africa .....	7,310	2.3	5,980	1.7	4,540	1.1	3,522	0.8	3,422	0.8	3,469	0.8	3,862	0.8	4,151	0.8
Southern Africa .....	1,480	0.5	2,360	0.7	2,840	0.7	2,672	0.6	2,657	0.6	2,678	0.6	2,608	0.5	2,956	0.6
West Africa .....	22,000	7.1	17,580	5.1	7,180	1.8	5,943	1.3	5,818	1.3	6,115	1.3	6,471	1.3	7,513	1.5
Nigeria .....	17,350	5.6	13,710	4.0	3,710	0.9	2,147	0.5	2,093	0.5	2,184	0.5	2,436	0.5	2,876	0.6
Europe .....	25,330	8.1	34,310	10.0	49,640	12.2	64,811	14.3	67,358	14.8	68,315	14.9	71,616	14.9	73,809	15.0
Eastern Europe .....	1,670	0.5	1,770	0.5	4,780	1.2	15,906	3.5	18,032	4.0	19,471	4.3	21,314	4.4	23,131	4.7
Western Europe .....	23,660	7.6	32,540	9.5	44,860	11.0	48,905	10.8	49,326	10.9	48,844	10.7	50,301	10.5	50,674	10.3
France .....	—	—	3,680	1.1	5,630	1.4	5,843	1.3	5,710	1.3	5,692	1.2	5,992	1.2	6,241	1.3
Germany, Federal Republic of <sup>1</sup> .....	3,310	1.1	4,730	1.4	7,000	1.7	8,592	1.9	9,017	2.0	8,990	2.0	9,309	1.9	9,568	1.9
Greece .....	3,750	1.2	4,440	1.3	4,360	1.1	3,699	0.8	3,365	0.7	3,010	0.7	3,065	0.6	2,847	0.6
Spain .....	—	—	1,740	0.5	4,300	1.1	5,126	1.1	4,809	1.1	4,673	1.0	4,371	0.9	4,195	0.9
United Kingdom .....	4,440	1.4	5,940	1.7	7,300	1.8	7,786	1.7	7,799	1.7	7,357	1.6	7,534	1.6	7,765	1.6
Latin America .....	49,810	16.0	45,480	13.2	47,580	11.7	47,239	10.4	47,253	10.4	49,592	10.8	51,368	10.7	55,436	11.3
Caribbean .....	10,650	3.4	11,100	3.2	12,610	3.1	11,286	2.5	10,737	2.4	11,796	2.6	10,855	2.3	11,884	2.4
Central America .....	12,970	4.2	12,740	3.7	15,950	3.9	14,923	3.3	14,220	3.1	14,524	3.2	15,211	3.2	15,455	3.1
Mexico .....	6,730	2.2	5,460	1.6	6,740	1.7	9,003	2.0	8,687	1.9	8,975	2.0	9,559	2.0	9,641	2.0
South America .....	26,190	8.4	21,640	6.3	19,020	4.7	21,030	4.6	22,296	4.9	23,272	5.1	25,302	5.3	28,097	5.7
Brazil .....	—	—	2,840	0.8	3,900	1.0	5,017	1.1	5,497	1.2	6,168	1.3	6,982	1.5	8,052	1.6
Colombia .....	—	—	4,010	1.2	3,180	0.8	3,208	0.7	3,462	0.8	3,636	0.8	4,345	0.9	5,041	1.0
Venezuela .....	11,750	3.8	7,040	2.0	2,890	0.7	4,092	0.9	4,456	1.0	4,590	1.0	4,731	1.0	5,133	1.0
Middle East .....	84,710	27.2	52,720	15.3	33,420	8.2	30,246	6.7	30,563	6.7	29,841	6.5	30,962	6.4	32,836	6.7
Iran .....	47,550	15.2	14,210	4.1	6,260	1.5	2,896	0.6	2,628	0.6	2,129	0.5	1,863	0.4	1,660	0.3
Jordan .....	6,140	2.0	6,590	1.9	4,320	1.1	2,431	0.5	2,222	0.5	2,094	0.5	2,027	0.4	2,039	0.4
Lebanon .....	6,770	2.2	7,090	2.1	3,900	1.0	1,835	0.4	1,554	0.3	1,370	0.3	1,321	0.3	1,315	0.3
Saudi Arabia .....	10,440	3.3	6,900	2.0	3,590	0.9	4,075	0.9	4,191	0.9	4,264	0.9	4,571	0.9	4,931	1.0
Turkey .....	—	—	2,460	0.7	4,080	1.0	6,716	1.5	7,678	1.7	8,194	1.8	9,081	1.9	9,377	1.9
North America <sup>2</sup> .....	14,790	4.7	16,030	4.7	18,950	4.6	23,394	5.2	23,644	5.2	23,611	5.2	22,613	4.7	23,302	4.7
Canada .....	14,320	4.6	15,410	4.5	18,350	4.5	22,747	5.0	23,005	5.1	22,984	5.0	22,051	4.6	22,746	4.6
Oceania .....	4,180	1.3	4,030	1.2	4,230	1.0	4,327	1.0	4,202	0.9	3,690	0.8	3,893	0.8	4,228	0.9
Asia .....	94,640	30.3	156,830	45.6	229,830	56.4	261,789	57.8	259,893	57.3	260,743	56.9	277,508	57.7	275,076	56.0
East Asia .....	51,650	16.6	80,720	23.5	146,020	35.8	168,190	37.2	166,717	36.7	167,935	36.7	178,256	37.0	177,141	36.1
China .....	2,770	0.9	13,980	4.1	39,600	9.7	39,403	8.7	39,613	8.7	42,503	9.3	46,958	9.8	51,001	10.4
Hong Kong .....	9,660	3.1	10,710	3.1	12,630	3.1	12,935	2.9	12,018	2.6	10,942	2.4	9,665	2.0	8,735	1.8
Japan .....	13,500	4.3	13,360	3.9	36,610	9.0	45,276	10.0	45,531	10.0	46,292	10.1	47,073	9.8	46,406	9.5
Korea, Republic of .....	6,150	2.0	18,660	5.4	23,360	5.7	33,599	7.4	36,231	8.0	37,130	8.1	42,890	8.9	39,199	8.0
Taiwan .....	19,460	6.2	23,770	6.9	33,530	8.2	36,407	8.0	32,702	7.2	30,487	6.7	30,855	6.4	31,043	6.3
South and Central Asia .....	14,540	4.7	25,800	7.5	42,370	10.4	47,836	10.6	45,401	10.0	44,256	9.7	47,761	9.9	52,602	10.7
India .....	9,250	3.0	16,070	4.7	28,860	7.1	33,537	7.4	31,743	7.0	30,641	6.7	33,818	7.0	37,482	7.6
Pakistan .....	2,990	1.0	5,440	1.6	7,730	1.9	6,989	1.5	6,427	1.4	6,095	1.3	5,821	1.2	5,905	1.2
South East Asia .....	28,450	9.1	50,310	14.6	41,440	10.2	45,763	10.1	47,774	10.5	48,550	10.6	51,491	10.7	45,333	9.2
Indonesia .....	3,250	1.0	8,210	2.4	9,520	2.3	11,872	2.6	12,820	2.8	12,461	2.7	13,282	2.8	12,142	2.5
Malaysia .....	6,010	1.9	23,020	6.7	13,610	3.3	13,617	3.0	14,015	3.1	14,527	3.2	14,597	3.0	11,557	2.4
Philippines .....	—	—	3,920	1.1	4,270	1.0	3,472	0.8	3,127	0.7	2,796	0.6	2,801	0.6	2,864	0.6
Singapore .....	—	—	3,930	1.1	4,500	1.1	4,473	1.0	4,098	0.9	3,727	0.8	3,843	0.8	4,030	0.8
Thailand .....	6,550	2.1	6,940	2.0	7,090	1.7	10,889	2.4	12,165	2.7	13,481	2.9	15,090	3.1	12,489	2.5
Stateless <sup>3</sup> .....	240	0.1	190	0.1	80	( <sup>4</sup> )	105	( <sup>4</sup> )	30	( <sup>4</sup> )	109	( <sup>4</sup> )	159	( <sup>4</sup> )	28	( <sup>4</sup> )

—Not available.

<sup>1</sup> 1990–91 and later years data are for Germany, which includes the former Federal Republic of Germany and the former Democratic Republic of Germany.<sup>2</sup> Excludes Mexico and Central America, which are included with Latin America.<sup>3</sup> Home country unknown or undeclared.<sup>4</sup> Less than .05 percent.

NOTE: Totals and subtotals include other countries not shown separately. Data are for "nonimmigrants," i.e., students who have not migrated to this country. Detail may not sum to totals due to rounding.

SOURCE: Institute of International Education, "Open Doors," various years. (Latest edition copyright © 1999 by the Institute of International Education. All rights reserved.) (This table was prepared July 2000.)