

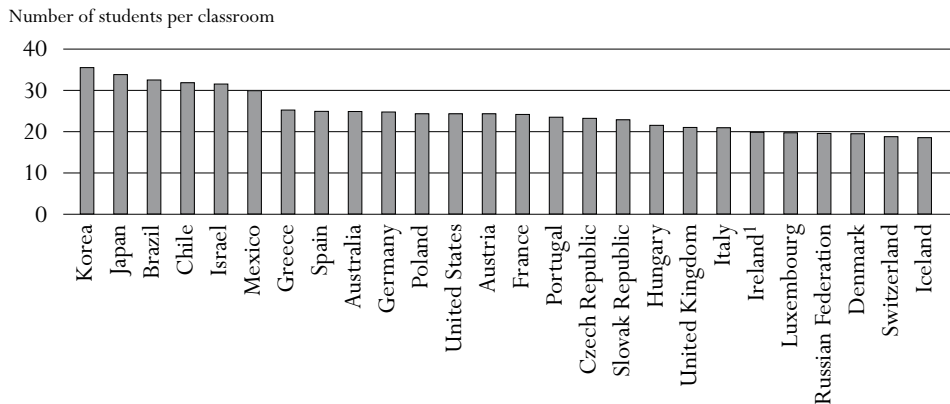
CLASS SIZE AND RATIO OF STUDENTS TO TEACHING STAFF

This indicator examines the number of students per class at the primary and lower secondary levels, the ratio of students to teaching staff at all levels and the breakdown of class sizes and ratio of student to teaching staff between public and private institutions. The indicator illustrates a much discussed aspect of the education students receive and is one of the determinants of the size of the teaching force within countries, along with the total instruction time of students (see Indicator D1), teachers' average working time (see Indicator D4) and the division of teachers' time between teaching and other duties.

Key results

Chart D2.1. Average class size in lower secondary education (2004)

The average class size in lower secondary education is 24 students per class but varies from 30 or more in Japan, Korea, Mexico and partner countries Brazil, Chile and Israel to 20 or less in Denmark, Iceland, Luxembourg and Switzerland, and the partner country the Russian Federation.



1. Public institutions only.

Countries are ranked in descending order of average class size in lower secondary education.

Source: OECD, Table D2.1. See Annex 3 for notes (www.oecd.org/edu/eqq2006).

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Other highlights of this indicator

- The average class size in primary education is 21, but varies between countries from 34 students per class in Korea to half of that number or less in Iceland, Luxembourg and Portugal, and the partner country the Russian Federation.
- The number of students per class increases by an average of nearly three students between primary and lower secondary education, but ratios of students to teaching staff tend to decrease with increasing levels of education due to more annual instruction time, though this pattern is not uniform among countries.
- On average across OECD countries, the availability of teaching resources relative to student numbers in secondary education is more favourable in private institutions than in public institutions. This is most striking in Mexico where, at the secondary level, there are around 13 more students per teacher in public institutions than there are in private institutions. Consistently, at the lower secondary level, there is one student more per class on average in public institutions than in private institutions.

Policy context

Class size, education quality and education systems

Class size is a hotly debated topic and an important aspect of education policy in many OECD countries. Smaller classes are often perceived to allow teachers to focus more on the individual needs of students and reduce the amount of class time teachers spend dealing with disruptions. Smaller class sizes may also influence parents when they choose schools for their children. In this respect, class size is considered as a way to assess the quality of the school system. For those countries that emphasise the importance of school choice in their education system, class size may be an important determinant of the movement of students between sectors and schools.

Yet evidence on the effects of variations in class size upon student performance is mixed. In what has evolved as a contentious area of research that has produced little in the way of consistent results, there is some evidence that smaller classes may have an impact upon specific groups of students (*e.g.* disadvantaged students).

Numerous factors influence the interaction between teachers and students with class size being just one of them. Other influences include the number of classes or students for which a teacher is responsible, the subject taught, the division of the teacher's time between teaching and other duties, the grouping of students within classes and the practice of team-teaching.

A further reason why there is mixed evidence on the impact of class size may be because there is not sufficient variation in class size to estimate the true effects of this variable on student performance. Also policies to group lower-performing students into smaller classes in order to devote more attention to them may compensate for increased performance gains from smaller classes net of such effects. Finally, the fact that the relationship between class size and student performance is often non-linear makes the effects difficult to estimate.

It should also be considered that the predominance of teacher costs in educational expenditure means that reducing class sizes leads to sharp increases in the costs of education. Therefore, the costs associated with making the large reductions in class size that would be necessary to identify a positive impact upon student performance may be prohibitive for many countries.

The ratio of students to teaching staff is obtained by dividing the number of full-time equivalent students at a given level of education by the number of full-time equivalent teachers at that level and in similar types of institutions. However, this ratio does not take into account instruction time compared to the length of a teacher's working day, nor how much time teachers spend teaching, and therefore it cannot be interpreted in terms of class size. The number of students per class summarises different factors, but distinguishing between them would allow an understanding of the differences between countries in terms of the quality of the educational system (Box D2.1).

The ratio of students to teaching staff is also an important indicator of the resources devoted to education. A smaller ratio of students to teaching staff may have to be weighted against higher salaries for teachers, increased professional development and teacher training, greater investment in teaching technology, or more widespread use of assistant teachers and other paraprofessionals whose salaries are often considerably lower than those of qualified teachers. Moreover, as larger numbers of children with special educational needs are integrated into normal classes, more use of specialised personnel and support services may limit the resources available for reducing the ratio of students to teaching staff.

The number of teaching and non-teaching staff employed in education per 1 000 students is an indicator of the proportion of a country's human resources devoted to educating the population. The number of persons employed as either teachers or educational support personnel and the level of compensation of educational staff (see Indicator D3) are both important factors affecting the financial resources that countries commit to education.

Evidence and explanations

Average class size in primary and lower secondary education

At the primary level, the average class size across OECD countries is 21 students per class, but varies widely among countries. It ranges from 34 students per primary class in Korea to fewer than 20 in Denmark, Greece, Iceland, Italy, Luxembourg, Portugal, the Slovak Republic and Switzerland, and the partner country the Russian Federation. At the lower secondary level, the average class size across OECD countries is 24 students per class and varies from 35 students per class in Korea to fewer than 20 in Denmark, Iceland, Ireland (public institutions only), Luxembourg and Switzerland, and the partner country the Russian Federation (Table D2.1).

Box D2.1. Relationship between class size and ratio of students to teaching staff

The number of students per class results from a number of different elements: the ratio of students to teaching staff, the number of classes or students for which a teacher is responsible, the instruction time of students compared to the length of teachers' working days, the proportion of time teachers spend teaching, the grouping of students within classes and team teaching.

For example, in a school of 48 full-time students and 8 full-time teachers, the ratio of students to teaching staff equals 6. If teachers' working week is estimated to be 35 hours including 10 hours teaching, and if instruction time for each student is 40 hours per week, then whatever the grouping of students in this school, average class size can be estimated as follows:

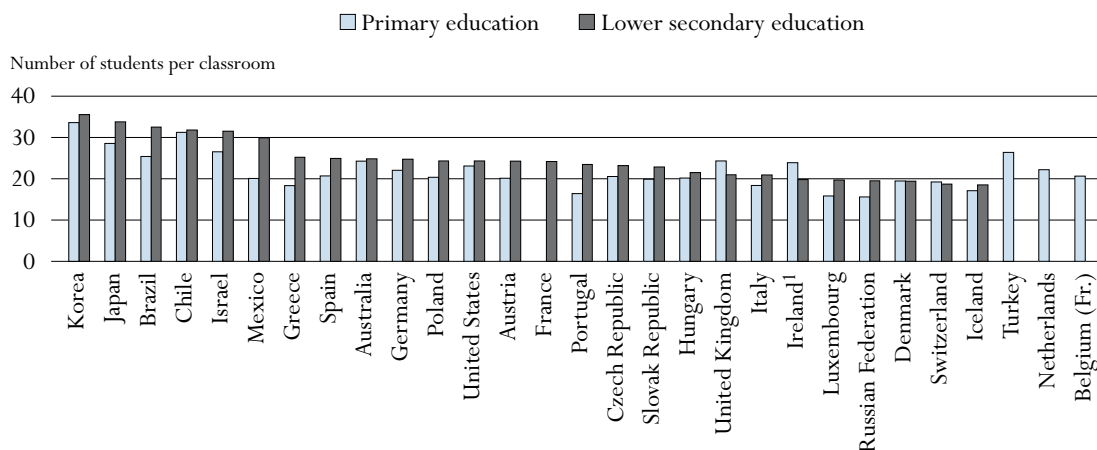
Estimated class size = 6 students per teacher * (40 hours of instruction time per student / 10 hours of teaching per teacher) = 24 students.

Compared to this estimated figure, class size presented in Table D2.1 is defined as the division of students who are following a common course of study, based on the highest number of common courses (usually compulsory studies), and excludes teaching in sub-groups. Thus the estimated class size will be close to the average class size of Table D2.1 where teaching in sub-groups is less frequent (as is the case in primary and lower secondary education).

Because of these definitions, similar student-to-teacher ratios between countries can lead to different class sizes. For example, in primary education, although the Czech Republic and Hungary have different ratios of students to teaching staff (17.9 and 10.7 – see Table D2.2), the class size is similar in both countries (20.6 in the Czech Republic and 20.2 in Hungary – see Table D2.1). The explanation for this lies in the higher proportion of teaching time: in the Czech Republic teachers spend 47.5% of their working time teaching compared with 41.7% in Hungary (see Indicator D4).

The number of students per class tends to increase, on average, by nearly three students between primary and lower secondary education. In Austria, Greece, Japan, Mexico, Portugal, Spain and partner countries Brazil and Israel the increase in average class size exceeds four students, while Denmark, Switzerland and the United Kingdom show a small drop in the number of students per class between these two levels (Chart D2.2). The indicator on class size is limited to primary and lower secondary education because class sizes are difficult to define and compare at higher levels of education, where students often attend several different classes, depending on the subject area.

Chart D2.2. Average class size in educational institutions, by level of education (2004)



1. Public institutions only.

Countries are ranked in descending order of average class size in lower secondary education.

Source: OECD, Table D2.1. See Annex 3 for notes (www.oecd.org/edu/eag2006).

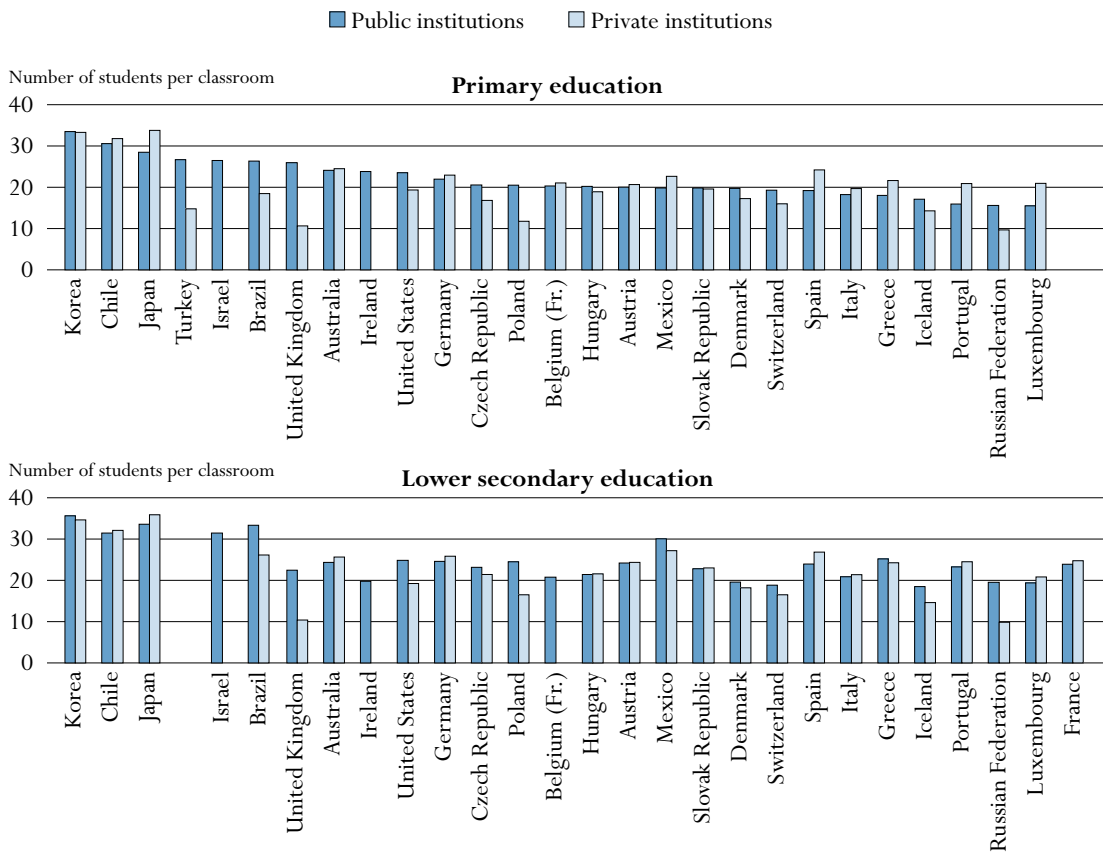
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Ratio of students to teaching staff

In primary education, the ratio of students to teaching staff, expressed in full-time equivalents, ranges from more than 26 students per teacher in Korea, Mexico and Turkey, and the partner country Chile, to less than 11 in Hungary and Italy. The OECD average in primary education is 17 students per teacher (Chart D2.4).

There is similar variation among countries in the ratio of students to teaching staff at the secondary level, ranging from about 30 students per full-time equivalent teacher in Mexico to less than 11 in Austria, Belgium, Greece, Luxembourg, Norway, Portugal and Spain, and the partner country the Russian Federation. On average among OECD countries, the ratio of students to teaching staff at the secondary level is around 13, which is close to the ratios in Australia (12), the Czech Republic (13), Finland (13), France (12), Ireland (14), Japan (14), the Slovak Republic (14), Sweden (13) and the United Kingdom (14), and the partner country Israel (13) (Table D2.2).

As the difference in the mean ratios of students to teaching staff between primary and secondary education indicates, there are fewer full-time equivalent students per full-time equivalent teacher as the level of education rises. With the exception of Hungary, Italy, Mexico, Sweden, the United States and partner country Chile, the ratio of students to teaching staff in every OECD country and partner country decreases between primary and secondary levels of education, despite a tendency for class sizes to increase.

Chart D2.3. Average class size in public and private institutions by level of education (2004)

Countries are ranked in descending order of number of students per classroom in public institutions in primary education. Source: OECD, Table D2.1. See Annex 3 for notes (www.oecd.org/edu/eqq2006).

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The decrease in the ratio of students to teaching staff from the primary to the secondary level reflects differences in annual instruction time, which tend to increase with the level of education. It may also result from delays in matching the teaching force to demographic changes, or from differences in teaching hours for teachers at different levels and the fact that teachers in secondary education are specialised in some courses whereas in primary education there is often one teacher for almost all courses. The general trend is consistent among countries, but it is not obvious from an educational perspective why a smaller ratio of students to teaching staff should be more desirable at higher levels of education (Table D2.2).

The ratios of students to teaching staff in pre-primary education are shown in Table D2.2. For the pre-primary level, information is also presented on the ratio of students to contact staff (teachers and teacher aides). Some countries make extensive use of teacher aides at the pre-primary level. Eight OECD countries reported smaller ratios of students to contact staff (column 1 of Table D2.2) than students to teaching staff. For countries such as Japan, Sweden and the United Kingdom, this difference is not substantial. But in Germany and Ireland there are significant numbers of teacher aides. The use of these staff means that student to contact staff ratios is over 25% lower than student to teacher ratios in Ireland and Germany.

At the tertiary level, the ratio of students to teaching staff ranges from about 28 students per teacher in Greece to 11 or below in Iceland, Japan, the Slovak Republic and Sweden (Table D2.2). Such comparisons in tertiary education, however, should be made with caution since it is still difficult to calculate full-time equivalent students and teachers on a comparable basis at this level.

In 11 out of the 15 OECD and partner countries with comparable data, the ratio of students to teaching staff is lower in the more occupationally specific tertiary-type B programmes than in tertiary-type A and advanced research programmes (Table D2.2). Germany, Hungary, Ireland and Turkey are the only countries with a higher ratio in tertiary-type B programmes.

Teaching resources in public and private institutions

Table D2.3 focuses on the secondary level and illustrates the comparative provision of teaching resources between public and private institutions by examining the ratio of students to teaching staff between the two types of providers. There are numerous reasons why countries possess public and private school sectors. In many countries, a rationale for this division is to facilitate school choice, that is, to broaden the choices available to students and families in their schooling. Considering the importance of class size in discussions of schooling in many countries, differences in class size between public and private schools and institutions may be a driver of differences in enrolment between these sectors.

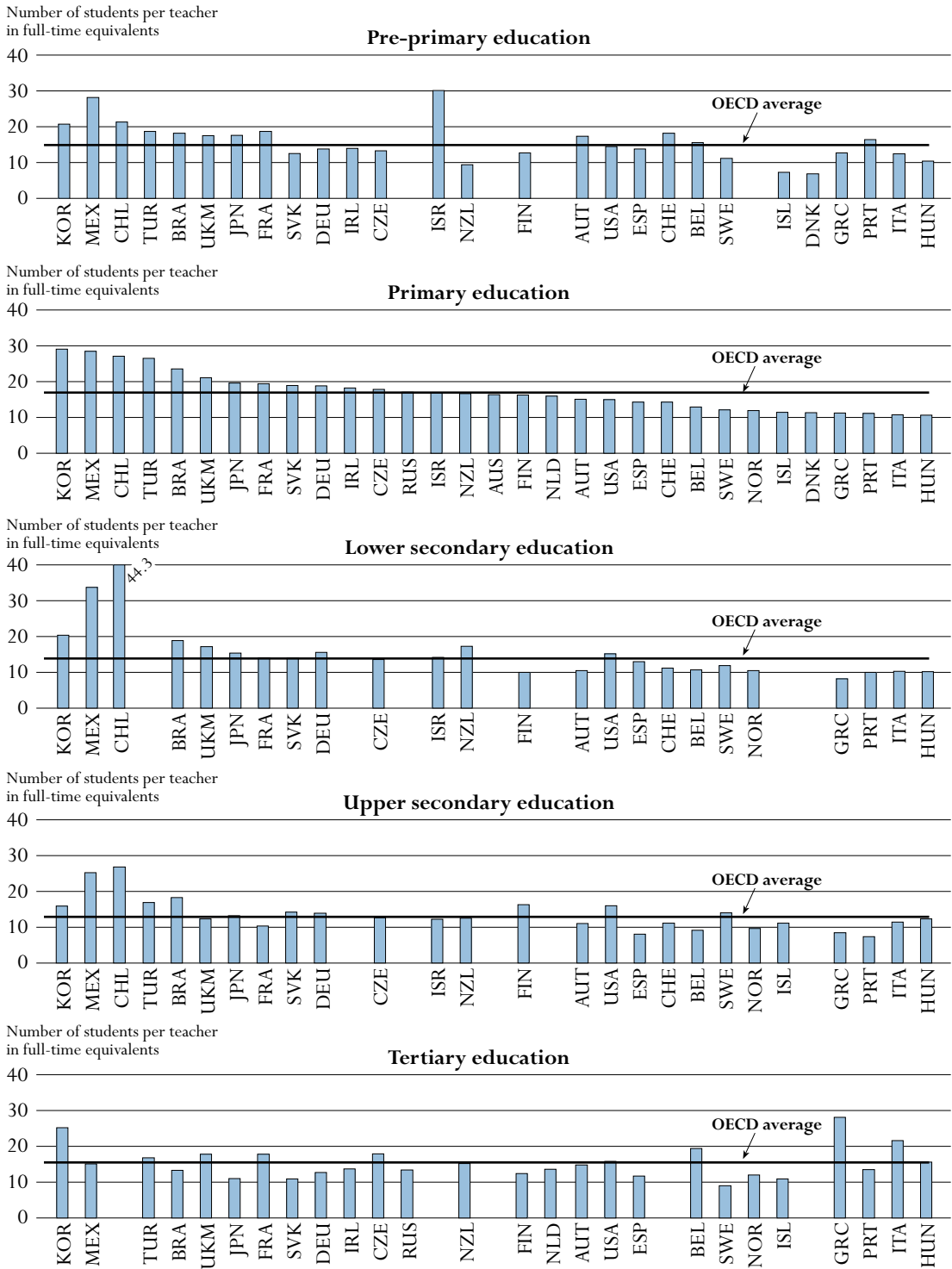
On average across the OECD countries (and also in partner countries) for which there are data, there are more favourable ratios of students to teaching staff in private institutions at both lower secondary and upper secondary levels, with slightly more than one more student per teacher in public institutions than in private institutions. The most striking examples of this are Mexico and the United Kingdom where, at the lower secondary level, there are at least 12 more students per teacher in public institutions than in private institutions. The difference in Mexico at the upper secondary level is similarly large.

But the reverse pattern in favour of students in public institutions is also evident in some countries. This is most pronounced in Spain at the lower secondary level, where there are some 17 students per teacher in private institutions compared with only 12 students per teacher in public institutions.

While ratios of students to teaching staff provide a measure of the teaching resources available, average class size is more a quality-related measure. In terms of average class size (Chart D2.3 and Table D2.1), on average across the OECD countries for which there are data, average class sizes do not differ between public and private institutions from more than one student per class for primary and lower secondary education. However, this trend disguises marked variation between countries. At the primary level, in the Czech Republic, Poland, Turkey, the United Kingdom and the United States, and in the partner countries Brazil and the Russian Federation, for example, average class sizes in public institutions are notably higher – four students or more per class – though in the first four cases as well as in partner country Russian Federation, the private sector is small (at most 5% of students at the primary level). In contrast, class sizes in private institutions exceed those in public institutions to a similar degree in Japan, Luxembourg, Portugal and Spain.



Chart D2.4. Ratio of students to teaching staff in educational institutions, by level of education (2004)



Note: Please refer to the reader's Guide for list of country codes and country names used in this chart. Countries are ranked in descending order of number of students per teacher in primary education.

Source: OECD, Table D2.2. See Annex 3 for notes (www.oecd.org/edu/eag2006).

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It is interesting to note that in the OECD countries with a substantial private sector (see Table C2.4), there are, on average, only marginal differences in class size between public and private institutions. In these countries (Australia, Belgium [French Community], Denmark, France, Korea, Luxembourg, the Netherlands and Spain, and the partner country Chile), private institutions have only 1.5 students fewer than public institutions. This indicates that in countries where a substantial proportion of students and families have decided to choose private education institutions, class size was not, on average, a significant determinant of those decisions.

The class size comparison between public and private institutions also shows a mixed picture at the lower secondary level, where private education is more prevalent. Lower-secondary average class sizes are larger in private institutions than in public institutions in ten OECD countries and one partner country, though differences tend to be smaller than is the case in primary.

Definitions and methodologies

Data refer to the school year 2003-2004, and are based on the UOE data collection on education statistics that is administered annually by the OECD.

Class sizes have been calculated by dividing the number of students enrolled by the number of classes. In order to ensure comparability among countries, special needs programmes have been excluded. Data include only regular programmes at primary and lower secondary levels of education and exclude teaching in sub-groups outside the regular classroom setting.

The ratio of students to teaching staff has been calculated by dividing the number of full-time equivalent students at a given level of education by the number of full-time equivalent teachers at that level and in the specified type of institution.

The breakdown of the ratio of students to teaching staff by type of institution distinguishes between students and teachers in public institutions and in private institutions (government-dependent private institutions and independent private institutions). In some countries the proportion of students in private institutions is small (see Table C2.4).

Instructional personnel:

- Teaching staff refers to professional personnel directly involved in teaching students. The classification includes classroom teachers; special education teachers; and other teachers who work with a whole class of students in a classroom, in small groups in a resource room, or in one-to-one teaching situations inside or outside a regular classroom. Teaching staff also includes department chairpersons whose duties include some teaching, but excludes non-professional personnel who support teachers in providing instruction to students, such as teacher aides and other paraprofessional personnel.
- Teacher aides and teaching/research assistants include non-professional personnel or students who support teachers in providing instruction to students.

Non-instructional personnel:

- Professional support for students includes professional staff who provide services to students that support their learning. In many cases, these staff originally qualified as teachers but then moved into other professional positions within the education system. This category also includes

all personnel employed in education systems who provide health and social support services to students, such as guidance counsellors, librarians, doctors, dentists, nurses, psychiatrists and psychologists, and other staff with similar responsibilities.

- School and higher level management includes professional personnel who are responsible for school management and administration and personnel whose primary responsibility is the quality control and management of higher levels of the education system. This category covers principals, assistant principals, headmasters, assistant headmasters, superintendents of schools, associate and assistant superintendents, commissioners of education and other management staff with similar responsibilities.
- School and higher level administrative personnel includes all personnel who support the administration and management of schools and of higher levels of the education system. The category includes: receptionists, secretaries, typists and word processing staff, book-keepers and clerks, analysts, computer programmers, network administrators, and others with similar functions and responsibilities.
- Maintenance and operations personnel include personnel who support the maintenance and operation of schools, the transportation of students to and from school, school security and catering. This category includes the following types of personnel: masons, carpenters, electricians, maintenance repairers, painters and paperhangers, plasterers, plumbers and vehicle mechanics. It also includes bus drivers and other vehicle operators, construction workers, gardeners and grounds staff, bus monitors and crossing guards, cooks, custodians, food servers and others with similar functions.

Table D2.1.
Average class size, by type of institution and level of education (2004)
Calculations based on number of students and number of classes

	Primary education					Lower secondary education (general programmes)				
	Public institutions	Private institutions			TOTAL: Public and private institutions	Public institutions	Private institutions			TOTAL: Public and private institutions
		Total private institutions	Government-dependent private institutions	Independent private institutions			Total private institutions	Government-dependent private institutions	Independent private institutions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
OECD countries										
Australia	24.2	24.5	24.5	a	24.3	24.4	25.7	25.7	a	24.9
Austria	20.1	20.7	x(2)	x(2)	20.1	24.3	24.4	x(7)	x(7)	24.3
Belgium	m	m	m	m	m	m	m	m	m	m
Belgium (Fr.)	20.3	21.1	21.1	a	20.6	20.8	m	m	a	m
Canada	m	m	m	m	m	m	m	m	m	m
Czech Republic	20.6	16.9	16.9	a	20.6	23.2	21.5	21.5	a	23.2
Denmark	19.8	17.3	17.3	a	19.5	19.6	18.2	18.2	a	19.4
Finland	m	m	m	a	m	m	m	m	a	m
France	m	m	m	m	m	24.0	24.8	25.1	13.0	24.1
Germany	22.0	23.0	23.0	x(3)	22.1	24.7	25.9	25.9	x(8)	24.7
Greece	18.1	21.7	a	21.7	18.3	25.2	24.3	a	24.3	25.2
Hungary	20.3	18.9	18.9	a	20.2	21.5	21.6	21.6	a	21.5
Iceland	17.1	14.3	14.3	n	17.1	18.5	14.6	14.6	n	18.5
Ireland	23.9	m	a	m	m	19.8	m	a	m	m
Italy	18.3	19.7	a	19.7	18.4	20.9	21.4	a	21.4	20.9
Japan	28.5	33.9	a	33.9	28.6	33.7	36.0	a	36.0	33.8
Korea	33.6	33.4	a	33.4	33.6	35.7	34.7	34.7	a	35.5
Luxembourg	15.6	21.0	20.5	21.0	15.8	19.4	20.8	20.4	21.7	19.7
Mexico	19.9	22.7	a	22.7	20.1	30.1	27.2	a	27.2	29.9
Netherlands	x(5)	x(5)	x(5)	a	22.2	m	m	m	a	m
New Zealand	m	m	m	m	m	m	m	m	m	m
Norway	a	a	a	a	a	a	a	a	a	a
Poland	20.6	11.8	11.3	11.9	20.4	24.6	16.5	26.7	14.6	24.3
Portugal	16.0	21.0	25.0	19.9	16.4	23.3	24.6	24.6	24.4	23.5
Slovak Republic	19.9	19.6	19.6	n	19.9	22.8	23.1	23.1	n	22.9
Spain	19.3	24.3	24.6	22.0	20.7	24.0	26.9	27.4	22.7	24.9
Sweden	m	m	m	m	m	m	m	m	m	m
Switzerland	19.3	16.0	14.1	16.3	19.2	18.9	16.6	18.9	16.1	18.7
Turkey	26.7	14.8	a	14.8	26.4	a	a	a	a	a
United Kingdom	26.0	10.7	a	10.7	24.3	22.5	10.4	16.9	10.1	21.0
United States	23.6	19.4	a	19.4	23.1	24.9	19.3	a	19.3	24.3
OECD average	21.5	20.3	19.3	20.6	21.4	23.8	22.8	23.0	20.9	24.1
EU19 average	20.0	19.1	19.8	18.1	20.0	22.5	21.8	22.9	19.0	22.8
Partner countries										
Brazil	26.4	18.5	a	18.5	25.4	33.4	26.2	a	26.2	32.5
Chile	30.6	31.9	34.0	23.5	31.2	31.5	32.2	34.1	24.7	31.8
Israel	26.5	a	a	a	26.5	31.5	a	a	a	31.5
Russian Federation	15.6	9.7	a	9.7	15.6	19.6	9.9	a	9.9	19.5

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eaq2006).

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink: <http://dx.doi.org/10.1787/108323448085>

Table D2.2.
Ratio of students to teaching staff in educational institutions (2004)
By level of education, calculations based on full-time equivalents

	Pre-primary education		Primary education	Secondary education			Post-secondary non-tertiary education	Tertiary education		
	Students to contact staff (teachers and teacher aides)	Students to teaching staff		Lower secondary education	Upper secondary education	All secondary education		Tertiary-type B	Tertiary-type A and advanced research programmes	All tertiary education
	(1)	(2)		(4)	(5)	(6)		(8)	(9)	(10)
OECD countries										
Australia ¹	m	m	16.4	x(6)	x(6)	12.3	m	m	15.5	m
Austria	14.7	17.4	15.1	10.4	11.0	10.7	9.8	6.6	16.1	14.8
Belgium	15.6	15.6	12.9	10.6	9.2	9.6	x(5)	x(10)	x(10)	19.4
Canada	m	m	m	m	m	m	m	m	m	m
Czech Republic	11.6	13.4	17.9	13.5	12.6	13.1	17.9	17.6	18.0	17.9
Denmark	m	6.9	x(4)	11.3	m	m	m	m	m	m
Finland	m	12.7	16.3	10.0	16.2	13.1	x(5)	x(5)	12.4	12.4
France	m	18.8	19.4	14.1	10.3	12.1	m	13.0	19.4	17.8
Germany	10.5	13.9	18.8	15.6	13.9	15.1	14.9	13.3	12.6	12.7
Greece	12.7	12.7	11.3	8.2	8.4	8.3	7.0	23.2	31.7	28.1
Hungary	m	10.5	10.7	10.2	12.3	11.2	12.7	23.5	15.3	15.6
Iceland	7.3	7.3	x(4)	11.4	11.1	11.3	n	x(10)	x(10)	10.9
Ireland	10.3	14.0	18.3	x(6)	x(6)	14.3	x(6)	14.0	13.5	13.7
Italy	12.5	12.5	10.7	10.3	11.5	11.0	m	5.1	22.5	21.6
Japan	17.0	17.7	19.6	15.3	13.2	14.1	x(5,10)	8.5	12.3	11.0
Korea	20.8	20.8	29.1	20.4	15.9	17.9	a	x(10)	x(10)	25.2
Luxembourg ²	m	m	m	x(6)	x(6)	9.0	m	m	m	m
Mexico	28.3	28.3	28.5	33.7	25.2	30.3	a	13.3	15.2	15.1
Netherlands	m	x(3)	15.9	x(6)	x(6)	15.8	x(6)	x(10)	x(10)	13.6
New Zealand	9.4	9.4	16.7	17.3	12.5	14.7	11.6	11.7	16.9	15.2
Norway ²	m	m	11.9	10.5	9.6	10.0	x(5)	x(10)	x(10)	12.0
Poland	m	m	m	m	m	m	m	m	18.5	m
Portugal	m	16.5	11.1	10.0	7.3	8.4	m	x(10)	x(10)	13.5
Slovak Republic	12.5	12.5	18.9	13.9	14.2	14.0	9.4	10.2	11.0	10.9
Spain	13.9	13.9	14.3	12.9	8.0	10.8	a	7.4	13.3	11.7
Sweden	10.9	11.2	12.1	11.9	14.0	12.9	23.4	x(10)	x(10)	9.0
Switzerland ²	m	18.2	14.3	11.2	11.1	11.2	m	m	m	m
Turkey	18.7	18.7	26.5	a	16.9	16.9	a	55.6	13.4	16.8
United Kingdom ^{1,3}	17.4	17.6	21.1	17.1	12.3	14.4	x(5)	x(10)	x(10)	17.8
United States	11.9	14.5	15.0	15.2	16.0	15.5	21.5	x(10)	x(10)	15.8
OECD average	15.2	14.8	16.9	13.7	12.7	13.3	12.8	15.9	16.3	15.5
EU19 average	13.0	13.8	15.3	12.0	11.5	12.0	13.6	13.4	17.0	15.7
Partner countries										
Brazil	m	18.3	23.5	18.8	18.3	18.6	a	x(10)	x(10)	13.3
Chile	m	21.4	27.1	44.3	26.8	33.3	a	m	m	m
Israel	30.2	30.2	16.9	14.1	12.2	13.0	m	m	m	m
Russian Federation	m	m	17.0	x(6)	x(6)	10.3	x(6)	11.7	14.0	13.4

1. Includes only general programmes in upper secondary education.

2. Public institutions only.

3. The ratio of students to contact staff refers to public institutions only.

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2006).

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table D2.3.
Ratio of students to teaching staff by type of institution (2004)
By level of education, calculations based on full-time equivalents

	Lower secondary education				Upper secondary education				All secondary education			
	Public	Private			Public	Private			Public	Private		
		Total private	Government Dependent	Independent		Total private	Government Dependent	Independent		Total private	Government Dependent	Independent
		(2)	(3)	(4)		(6)	(7)	(8)		(10)	(11)	(12)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
OECD countries												
Australia ¹	x(9)	x(10)	x(11)	a	x(9)	x(10)	x(11)	a	12.4	12.0	12.0	a
Austria	10.3	12.1	x(2)	x(2)	10.9	12.0	x(6)	x(6)	10.5	12.0	x(10)	x(10)
Belgium ²	10.2	m	10.9	m	9.3	m	9.1	m	9.6	m	9.7	m
Canada	m	m	m	m	m	m	m	m	m	m	m	m
Czech Republic	13.6	11.5	11.5	a	12.4	14.2	14.2	a	13.0	13.8	13.8	a
Denmark ³	11.2	12.5	12.5	a	m	m	m	a	m	m	m	a
Finland ⁴	9.8	14.5	14.5	a	16.8	12.9	12.9	a	13.1	13.2	13.2	a
France	13.8	15.3	15.3	16.7	9.5	12.6	11.1	16.7	11.6	13.7	13.2	16.7
Germany	15.6	15.3	15.3	x(3)	14.0	13.2	13.2	x(7)	15.2	14.5	14.5	x(11)
Greece	8.2	7.9	a	7.9	8.5	7.0	a	7.0	8.4	7.4	a	7.4
Hungary	10.2	9.7	9.7	a	12.3	12.0	12.0	a	11.2	11.2	11.2	a
Iceland ³	11.4	11.3	11.3	n	11.0	13.7	13.7	n	11.3	12.9	12.9	n
Ireland ²	x(9)	x(10)	a	x(12)	x(9)	x(10)	a	x(12)	14.3	13.7	a	13.7
Italy	10.3	9.0	a	9.0	12.1	5.9	a	5.9	11.3	6.6	a	6.6
Japan ⁴	15.5	13.3	a	13.3	12.5	15.1	a	15.1	14.0	14.8	a	14.8
Korea	20.4	20.5	20.5	a	15.0	16.7	16.7	a	18.1	17.7	17.7	a
Luxembourg	x(9)	m	m	m	x(9)	m	m	m	9.0	m	m	m
Mexico	36.1	23.1	a	23.1	29.3	16.6	a	16.6	33.7	19.6	a	19.6
Netherlands	m	m	m	a	m	m	m	a	m	m	m	a
New Zealand	17.5	14.0	a	14.0	15.0	7.2	10.4	4.4	16.3	8.1	10.4	6.5
Norway ²	10.5	m	m	m	9.6	m	m	m	10.0	m	m	m
Poland	m	m	m	m	m	m	m	m	m	m	m	m
Portugal	9.7	12.2	13.8	10.5	7.6	6.1	8.2	5.6	8.6	7.7	10.8	6.5
Slovak Republic	14.0	13.1	13.1	n	14.3	12.7	12.7	n	14.1	12.9	12.9	n
Spain	11.5	17.0	x(2)	x(2)	7.4	10.8	x(6)	x(6)	9.6	14.8	x(10)	x(10)
Sweden	11.9	11.0	11.0	a	13.9	14.7	14.7	a	12.9	12.8	12.8	a
Switzerland	11.2	m	m	m	11.1	m	m	m	11.2	m	m	m
Turkey	a	a	a	a	17.3	9.1	a	9.1	17.3	9.1	a	9.1
United Kingdom ¹	18.8	7.0	a	7.1	13.1	7.9	7.3	7.9	15.7	7.5	7.3	7.6
United States	15.8	10.6	a	10.6	16.6	11.6	a	11.6	16.2	11.0	a	11.0
OECD average	13.8	13.0	13.3	10.2	13.0	11.6	12.0	8.3	13.4	12.1	12.3	9.2
EU19 average	11.9	12.0	12.8	10.2	11.6	10.9	11.5	8.6	11.7	11.6	11.9	9.7
Partner countries												
Brazil	20.1	11.3	a	11.3	20.8	10.2	a	10.2	20.5	10.7	a	10.7
Chile	26.9	25.1	27.4	17.3	25.5	23.4	27.1	13.2	26.1	24.0	27.2	14.3
Israel	14.1	a	a	a	12.2	a	a	a	13.0	a	a	a
Russian Federation	10.2	3.8	a	3.8	11.3	m	a	m	10.4	4.9	a	4.9

1. Includes only general programmes in lower and upper secondary education.

2. Upper secondary includes post-secondary non-tertiary education.

3. Lower secondary includes primary education.

4. Upper secondary education includes programmes from post-secondary education.

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2006).

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REFERENCES

- Coulombe, S., J-F. Tremblay and S. Marchand** (2004), *Literacy Scores, Human Capital and Growth across Fourteen OECD Countries*, Statistics Canada/Human Resources and Skills Development Canada, Ottawa.
- Cosnefroy, O. and T. Rocher** (2004), “Le redoublement au cours de la scolarité obligatoire: nouvelles analyses, mêmes constats”, *Éducation & formations*, No. 70.
- De la Fuente, A. and A. Ciccone** (2003), *Human Capital in a Global and Knowledge-Based Economy: Final Report*, European Commission, DG Economic Affairs, Brussels.
- Feinstein, et al.** (2005), “The Effects of Education on Health: Concepts, Evidence and Policy Implications”, paper presented at the OECD/CERI Symposium on the Social Outcomes of Learning, Copenhagen, 23-24 March 2006.
- Friedman T.** (2005), *The World Is Flat – A Brief History of the Twenty-First Century*, Farrar, Straus & Giroux, New York.
- Garet, M.S. and B. Delaney** (1988), “Students’ Courses and Stratification”, *Sociology of Education*, Vol. 61, pp. 61-77.
- Groot, W. and H.M. van den Brink** (2004), “The Health Effects of Education: Survey and Meta-Analysis”, SCHOLAR Working Paper 50/04, Department of Economics, University of Amsterdam, Amsterdam.
- Grossman, M. and R. Kaestner** (1997), “Effects of Education on Health” in J.R. Behrman and N. Stacey (eds.), *The Social Benefits of Education*, The University of Michigan Press, Ann Arbor, Michigan.
- Hammond, C.** (2002), “Learning to be Healthy”, Brief No. RCB07, Institute of Education, London.
- Jackson, G.** (1975), “The Research Evidence on the Effects of Grade Retention”, *Review of Educational Research*, Vol. 45, pp. 613-635.
- Jimerson, S.R.** (2001), “Meta-Analysis of Grade Retention Research: Implications for Practice in the 21st century”, *School Psychological Review*, Vol. 30, No. 3, pp. 420-437.
- Kelo, M., U. Teichler and B. Wächter (eds.)** (2005), “EURODATA: Student Mobility in European Higher Education”, Verlags and Mediengesellschaft, Bonn, 2005.
- Krueger, A.B. and M. Lindhal** (2001), “Education and Growth: Why and for Whom?”, *Journal of Economic Literature*, Vol. 39, No. 4, American Economic Association, Nashville Tennessee, pp. 1101-1136.
- Lucas, S.R.** (2001), “Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects”, *American Journal of Sociology*, Vol. 106, pp. 1642-1690.
- Ministry of Education of China, Department of Planning** (2006), “Essential Statistics of Education in China”, Chinese Ministry of Education, Beijing.
- The Nuffield Foundation** (2004), “Time Trends in Adolescent Well-Being”, *2004 Seminars on Children and Families: Evidence and Implications*, The Nuffield Foundation, London.
- OECD (Organisation for Economic Co-operation and Development)** (2001a), *The New Economy: Beyond the Hype*, OECD, Paris.
- OECD** (2001b), *Education at Glance: OECD Indicators – 2001 Edition*, OECD, Paris.
- OECD** (2003a), *Education at Glance: OECD Indicators – 2003 Edition*, OECD, Paris.
- OECD** (2003b), *The Sources of Economic Growth in OECD Countries*, OECD, Paris.
- OECD** (2004a), *Learning for Tomorrow’s World – First Results from PISA 2003*, OECD, Paris.
- OECD** (2004b), *Problem Solving for Tomorrow’s World – First Measures of Cross-Curricular Competencies from PISA 2003*, OECD, Paris.

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- OECD (2005a), *Trends in International Migration – 2004 Edition*, OECD, Paris.
- OECD (2005b) *School Factors Related to Quality and Equity*, OECD, Paris.
- OECD (2005c), *PISA 2003 Technical Report*, OECD, Paris.
- OECD (2005d), *Education at Glance: OECD Indicators – 2005 Edition*, OECD, Paris.
- OECD (2005e), *Are Students Ready for a Technology-Rich World? What PISA Studies Tell Us*, OECD, Paris.
- Ready, D.D., V.L. Lee and K.G. Welner (2004), “Educational Equity and School Structure: School Size, Overcrowding, and Schools-within-Schools”, *Teachers College Record*, Vol. 10, No. 106, pp. 1989-2014.
- Rudd, R.E., B.A. Moeykens and T.C. Colton (1999), “Health and Literacy: A Review of Medical and Public Health Literature”, in J. Comings., B. Garners and C. Smith. (eds.), *Annual Review of Adult Learning and Literacy*, Jossey-Bass, New York.
- Schleicher, A. (2006) “The Economics of Knowledge: Why Education Is Key for Europe’s Success”, Lisbon Council Policy Brief, The Lisbon Council absI, Brussels.
- Schleicher, A. and K. Tremblay (2006), “Dragons, Elephants and Tigers: Adjusting to the New Global reality”, in *Challenge Europe*, European Policy Centre, Brussels.
- Sianesi, B. and J. Van Reenan (2003), “The Returns to Education: Macroeconomics”, *The Journal of Economic Surveys*, Vol. 17, No. 2, Blackwell Publishing Ltd., Oxford, pp. 157-200.
- Tremblay, K. (2005) “Academic Mobility and Immigration”, *Journal of Studies in International Education*, Vol. 9, No. 3, Association for Studies in International Education, Thousands Oaks, pp. 1-34.
- United States National Science Board (2003), *The Science and Engineering Workforce – Realizing America’s Potential*, National Science Foundation, Washington, D.C.
- Wösmann, L. (2003), “Specifying Human Capital”, *Journal of Economic Surveys*, Vol. 17, No. 3, Blackwell Publishing Ltd., Oxford, pp. 239-270.
- Zhen G. (2006), “First Results from a Survey on Chinese Students’ Learning Time”, Shanghai Jiao Tong University mimeo.

CONTRIBUTORS TO THIS PUBLICATION

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The OECD wishes to thank them all for their valuable efforts.

National Co-ordinators

Mr. Brendan O'REILLY (Australia)	Mr. Kenji SAKUMA (Japan)
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Others contributors to this publication

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Ms. Tracey STRANGE (Editor)
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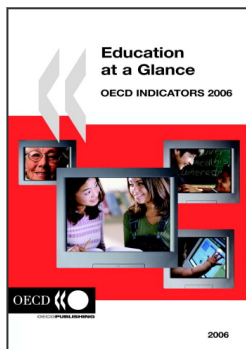
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