## HOW MUCH TIME DO STUDENTS SPEND IN THE CLASSROOM？

This indicator examines the amount of instruction time that students are expected to receive between the ages of 7 and 15 ．It also discusses the relationship between instruction time and student learning outcomes．

Key results

Chart D1．1．Total number of intended instruction hours in public institutions between the ages of 7 and 14 （2005）

Ages 7－8 $\square$ Ages 9－11 $\square$ Ages 12－14
Students in OECD countries are expected to receive，on average， 6898 hours of instruction between the ages of 7 and 14 ，of which 1586 hours are between ages 7 and 8,2518 hours between ages 9 and 11，and 2794 hours between ages 12 and 14．The large majority of intended hours of instruction are compulsory．


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## Other highlights of this indicator

- In OECD countries, students between the ages of 7 and 8 receive an average of 769 hours per year of compulsory instruction time and 793 hours per year of intended instruction time in the classroom. Students between the ages of 9 and 11 receive about 45 hours more per year (than those aged between 7 and 8 years) and those aged between 12 and 14 receive just over 90 hours more per year than those aged between 9 and 11 .

INDICATOR D1

- On average among OECD countries, the teaching of reading, writing and literature, mathematics and science comprises nearly $50 \%$ of the compulsory instruction time of students aged 9 to 11 and $40 \%$ for students aged 12 to 14 . For 9 -to- 11 -yearolds, there is great variation among countries in the proportion of compulsory curriculum devoted to reading and writing: from $13 \%$ or less in Australia and the partner economies Chile and Israel to $30 \%$ or more in France, Mexico and the Netherlands.


## Policy context

The amount and quality of time that people spend learning between early childhood and the start of their working lives shape much of their lives both socially and economically. Countries make a variety of choices about instruction, concerning the length of time devoted to instruction overall and the subjects that are compulsorily taught at schools. These choices reflect national priorities and preferences for the education received by students at different ages, as well as general priorities placed on different subject areas. Countries usually determine statutory or regulatory requirements of instruction hours. These are most often stipulated as the minimum number of hours of instruction that a school must perform. A central notion in the setting of minimum levels is that the provision of sufficient teaching time is a prerequisite for achieving good learning outcomes.

Instruction time in formal classroom settings comprises a large part of the public investment in student learning. Matching resources with students' needs and using time in an optimal manner, from the perspective of the learner and of public investment, are major challenges for education policy. The costs of education primarily include teachers' labour, institutional maintenance and other educational resources. The length of time during which these resources are made available to students (as partly shown in this indicator) is thus an important factor in the allocation of funding.

## Evidence and explanations

## What this indicator shows

Intended instruction time is an important indicator of students' opportunity to learn as well as the public resources invested in education. This indicator captures intended instruction time as a measure of exposure to learning in formal classroom settings as per public regulations. It does not show the actual number of hours of instruction received by students and does not compare learning outside of the formal classroom setting. Discrepancies could exist across countries between the regulatory minimum hours of instruction and the actual hours of instruction received by students. There is some research showing that factors such as school timetable decisions, lesson cancellations (Box D1.1) and teacher absenteeism may mean that the minimum instruction hours are not reached.

The indicator also illustrates how minimum instruction times are allocated to different curricular areas. However, the instruction time in classroom settings is only one aspect of student learning time and this indicator does not cover out-of-school learning activities. The indicator is calculated as the intended net hours of instruction for the grades in which the majority of students are 7 to 15 years of age. Although such data are difficult to compare among countries because of different curriculum policies, they nevertheless provide an indication of how much formal instruction time is considered necessary in order for students to achieve the desired educational goals.

Total intended instruction time: an average of $\mathbf{6} \mathbf{8 9 8}$ hours between ages of $\mathbf{7}$ and 14
Total intended instruction time is an estimate of the number of hours during which students are taught both compulsory and non-compulsory parts of the curriculum.

The total number of instruction hours that students are intended to receive between ages 7 and 14 averages 6898 hours among OECD countries. However, formal requirements range from 5523 hours in Finland to over 8000 hours in Italy and the Netherlands. These hours comprise compulsory and non-compulsory hours during which the school is obliged to offer instruction to students. Whereas the total intended instruction time within this age range is a good indicator of students' theoretical workload, it cannot be interpreted as actual instruction students receive over the years they spend in initial education. In some countries with greater student workload, the age band of compulsory education is less and students drop out of the school system earlier, whereas in other countries a more even distribution of study time over more years amounts in the end to a larger number of total instruction hours for all. Table D1.1 shows the age range at which over $90 \%$ of the population is in education and Chart D1.1 shows the total amount of intended instruction time students receive between ages 7 and 14.

In some countries, intended instruction time varies considerably among regions or different types of schools. In many countries, local education authorities or schools can determine the number and allocation of hours of instruction. Additional teacher time is often planned for individual remedial teaching or enhancement of the curriculum. On the other hand, time may be lost due to a lack of qualified substitutes to replace absent teachers, or due to student absences (Box D1.1).

Annual instruction time should also be examined together with the length of compulsory education, which measures the time during which young people receive full-time educational support from public resources, and during which more than $90 \%$ of the population participates in education (see Indicator C1). Intended instruction time does not capture the quality of learning opportunities being provided nor the level or quality of human and material resources involved (for some insight on human resources, see Indicator D2, number of teachers relative to the student population).

## Box D1.1. Intended and actual instruction time in the Netherlands

A study conducted by Regioplan Beleidsonderzoek in the Netherlands analysed the prevalence of lesson cancellations and their effect upon instruction time. The study analysed data from the 2005-2006 school year from 96 secondary schools and/or secondary school auxiliary branches. ${ }^{1}$ A distinction was made between two types of instruction time: timetabled instruction time and the instruction time achieved.

Timetabled instruction time measured the amount of time in clock hours that schools timetable for lessons or face-to-face instruction. Instruction time achieved is calculated by subtracting the cancelled lessons from the timetabled instruction time. Lessons are considered to be cancelled when the school deviates from its instruction time timetable. This usually

1. The participants all use the Cover Planning module of the GP Untis timetabling programme or the Gepro Roosterexpert programme. Using these programmes, schedulers can plan and keep up to date with what lessons have to be cancelled or replaced and for what reason. Interviews and secondary analyses were also carried out using other sources of information regarding sick leave, unfilled vacancies, staff policy, staff turnover and educational yields.
refers to daily timetable changes. The cancellation of lessons can take place in two ways: true cancellation of lessons whereby the children are given time off, and substitution and replacement whereby the lessons are not given as planned but either a substitute teacher is provided for the lesson or a replacement activity is scheduled. For this analysis, substitution and replacement are taken into account as instruction time and is distinguished from the cancellation of lessons without substitution and replacement.

Using these two measures permits a calculation of the "instruction time achieved". It is important to note that a low cancellation rate for lessons does not necessarily mean that sufficient hours of face-to-face instruction will be achieved. On the other hand, a high rate of lesson cancellation does not necessarily mean that too little instruction time is achieved.

## Timetabled instruction time

The study showed that very few schools timetable sufficient instruction time. On average, only $17 \%$ of the schools sampled had timetabled sufficient instruction time. In this regard, there is a clear distinction between education levels in the school system (defined in this study of Dutch schools as the lower years, the upper years and the final years of secondary school). The largest discrepancies were evident in the lower years of school education in which only $6 \%$ of schools had timetabled sufficient instruction time. In the upper years, $35 \%$ of schools had timetabled sufficient instruction time and $65 \%$ of schools had for the final exam classes. On average, $87 \%$ of the required instruction time is timetabled in the lower years versus $94 \%$ in the upper years. For final exam classes, the required time is actually exceeded at $107 \%$.

## Cancellation of lessons

On average $6.7 \%$ of the lessons at the secondary schools sampled were cancelled. Replacement and substitution accounted for $1.2 \%$ of the cancelled lessons. This varies across schools. There are schools at which less than $5 \%$ of the lessons are cancelled as well as schools at which more than $9 \%$ of the lessons are cancelled. The major reasons for cancellation are operational (organisational, leave and refresher/training courses) (found for $47 \%$ of cancellations) and the illness of teachers ( $43 \%$ of cancellations).

## Instruction time achieved

In the lower years, on average $81 \%$ of the minimum instruction time is achieved, compared to $87 \%$ in the upper years and $99 \%$ in final exam years. It is, however, not the case that schools with many lessons on the timetable are also subsequently the ones with the most cancelled lessons. At many schools, teachers are timetabled in for additional hours for which they can be deployed as substitutes to reduce the cancellations of lessons and the reduction of instruction time received by students.

## Compulsory instruction time: an average of 6672 hours between ages 7 and 14

Total compulsory instruction time is an estimate of the number of hours during which students are taught both the compulsory core and compulsory flexible parts of the curriculum.

For 7-to-8-year-olds and 9-to-11-year-olds, total intended instruction time equals total compulsory instruction time in most countries, while for older age groups this is less frequently the case. However, intended instruction time is fully compulsory for all age groups between 7 and 14 years
in the Czech Republic, Denmark, Germany, Greece, Iceland, Japan, Korea, Luxembourg, Mexico, the Netherlands, Norway, Spain and Sweden as well as partner economies Estonia and Slovenia (also in the Russian Federation in the two age groups for which data are available). Except Greece, Mexico and the Netherlands and partner economy Estonia, these countries have a total number of intended instruction time between the age of 7 and 14 below the OECD average. In these countries, except for Greece and Mexico as well as Japan and the Netherlands where data are missing, education is also fully compulsory at age 15 .

Within the formal education system, OECD countries show an average annual amount of total compulsory instruction time in classroom settings of 769 hours for 7 -to-8-year-olds, 814 hours for 9 -to-11-year-olds and 898 hours for 12 -to-14-year-olds. The average number of compulsory instruction hours per year is 911 for the typical programme in which most 15 -year-olds are enrolled (Table D1.1).

## Teaching of reading and writing, mathematics and science: at least 40\% of compulsory instruction time, on average for 12-to-14-year-olds

In OECD countries students aged 9 to 11 , for which study areas are not necessarily organised as separate subject classes, spend an average of nearly $50 \%$ of the compulsory curriculum to three basic subject areas: reading, writing and literature ( $23 \%$ ), mathematics ( $16 \%$ ) and science ( $8 \%$ ). On average, $7 \%$ of the compulsory curriculum is devoted to modern foreign languages. Together with social studies, the arts and physical education, these seven study areas form part of the curriculum in all OECD countries for these age cohorts (Table D1.2a and Chart D1.2a).

## Chart D1.2a. Instruction time per subject as a percentage of total compulsory instruction time for 9-to-11-year-olds (2005)

Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum


1. Includes 9 and 11-year-olds only.
2. German as a language of instruction is included in "Reading, writing and literature" in addition to the mother tongue Luxemburgish.
3. For 9-to-10-year-olds, social studies is included in science.
4. Includes 10-to-11-year-olds only.

Countries are ranked in descending order of number of compulsory instruction hours devoted to reading, writing and literature.
Source: OECD. Table D1.2a. See Annex 3 for notes (www.oecd.org/edu/eag2007).
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## Chart D1．2b．Instruction time per subject as a percentage of total compulsory instruction time for 12－to－14－year－olds（2005）

Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum


1．For 13－to－14－year－olds，arts is included in non－compulsory curriculum．
2．Includes 12－to－13－year－olds only．
3．German as a language of instruction is included in＂Reading，writing and literature＂in addition to the mother tongue Luxemburgish．
Countries are ranked in descending order of number of compulsory instruction hours devoted to reading，writing and literature． Source：OECD．Table D1．2b．See Annex 3 for notes（www．oecd．org／edu／eag2007）．
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On average，reading and writing account for the greatest share of the curriculum for 9－to－ 11 －year－old students，but the variation in this share among countries is greater than for other subjects；reading and writing accounts for $13 \%$ or less of instruction time in Australia and partner economies Chile and Israel，compared with $30 \%$ or more in France，Mexico and the Netherlands．Sizeable variation is also evident in modern foreign languages，which account for $1 \%$ or less of instruction time in Australia，England，Japan and Mexico but represent 21\％of total compulsory instruction time in Luxembourg and over 10\％in the Czech Republic，Portugal， Spain and Sweden as well as in partner economies Israel and Slovenia．

For 12－to－14－year－old students in OECD countries，an average of $40 \%$ of the compulsory curriculum is devoted to three basic subject areas：reading，writing and literature（ $15 \%$ ）， mathematics（13\％）and science（11\％）．In these age cohorts，a relatively larger part of the curriculum is devoted to modern foreign languages（ $12 \%$ ）and social studies（ $12 \%$ ），whereas somewhat less time is devoted to the arts（ $8 \%$ ）．Together with physical education，these seven study areas form part of the compulsory curriculum for lower secondary students in all OECD countries（Table D1．2b and Chart D1．2b）．

The variation between countries in the percentage share of subjects within the curriculum for 12 －to－14－year－olds is less than it is for 9－to－11－year－olds．Again，the greatest variation is evident in reading and writing with a range from $10 \%$ or less in Australia and the Netherlands to $28 \%$ in Ireland（where reading and writing includes work in both English and Irish）．

There is also substantial variation in the percentage of compulsory instruction time devoted to particular subjects for 9-to-11-year-olds compared to 12-to-14-year-olds. On average across OECD countries, the time of compulsory instruction for 12-to-14-year-olds devoted to reading, writing and literature is one-third lower than for 9-to-11-year-olds. However, the difference is reversed in the time devoted to social studies and modern foreign languages.

For some countries, these differences are larger than in other countries. The percentage of compulsory instruction time devoted to reading, writing and literature for 12-to-14-year-olds is equal to or less than one-half of that for 9-to-11-year-olds in the Czech Republic, England, Greece, Mexico and the Netherlands. Yet, for Ireland, Sweden and the partner economies Chile and Israel, the difference between the shares is less than $5 \%$. Clearly, countries place a different emphasis upon particular subjects and when those subjects should be taught to students.

On average among OECD countries, the non-compulsory part of the curriculum comprises 2 to $4 \%$ of the total intended instruction time for 9 -to-11-year-old students as well as for 12-to-14-year-old students. Nevertheless, a considerable amount of additional non-compulsory instruction time can sometimes be provided. For 9-to-11-year-old students, all intended instruction time is compulsory for students in most countries, but the additional non-compulsory time is as high as $15 \%$ in Hungary, $20 \%$ in Turkey, and $32 \%$ in the partner economy Israel. For 12 -to- 14 -year-old students, non-compulsory instruction time is a feature in Australia, Belgium (French community), England, Finland, France, Hungary, Ireland, Italy, Portugal and Turkey, and ranges from 2\% in Finland to $29 \%$ in Hungary (Tables D1.2a and D1.2b).

On average, $4 \%$ of compulsory instruction time belongs to the flexible part of the curriculum in the grades where most students are 9 -to-11 years of age while the corresponding proportion is $9 \%$ for students aged 12 to 14 .

In most OECD countries, the number of hours of compulsory instruction is defined. Within the compulsory part of the curriculum, students have varying degrees of freedom to choose the subjects they want to learn. However, for 9 -to-11-year-olds, up to $59 \%$ of the compulsory curriculum is operated on a flexible basis in Australia. For 12-to-14-year-olds, Australia again has the highest degree of flexibility in the compulsory curriculum (41\%), although several other countries allow more than $10 \%$ flexibility in the compulsory curriculum (Belgium, the Czech Republic, Finland, Iceland, Japan, Korea, the Netherlands and Spain, and the partner economies Chile, the Russian Federation and Slovenia) (Tables D1.2a and D1.2b).

## Definitions and methodologies

Data on instruction time are from the 2006 OECD-INES Survey onTeachers and the Curriculum and refer to the school year 2004-2005.

Instruction time for 7 -to-15-year-olds refers to the formal number of 60 -minute hours per school year organised by the school for class instructional activities for students in the reference school year 2004-2005. For countries with no formal policy on instruction time, the number of hours was estimated from survey data. Hours lost when schools are closed for festivities and celebrations, such as national holidays, are excluded. Intended instruction time does not include non-compulsory time outside the school day, homework, individual tutoring, or private study done before or after school.

- Compulsory curriculum refers to the amount and allocation of instruction time that almost every public school must provide and almost all public sector students must attend. The measurement of the time devoted to specific study areas (subjects) focuses on the minimum common core rather than on the average time spent on study areas, since the data sources (policy documents) do not allow more precise measurement. Total compulsory curriculum comprises the compulsory core curriculum as well as the compulsory flexible curriculum.
The non-compulsory part of the curriculum refers to the average time of instruction to which students are entitled above the compulsory hours of instruction. These subjects often vary from school to school or from region to region, and may take the form of "non-compulsory elective" subjects.
- Intended instruction time refers to the number of hours per year during which students receive instruction in the compulsory and non-compulsory parts of the curriculum.

For 15-year-olds in Table D1.1, typical instruction time refers to the programme in which most 15 -year-olds are enrolled. This can be a programme in lower or upper secondary education, and in most countries it refers to a general programme. If the system channels students into different programme types at this age, an estimation of the average instruction time may have been necessary for the most important mainstream programmes weighted by the proportion of students in the grade level where most 15 -year-olds are enrolled. Where vocational programmes are also taken into account in typical instruction time, only the school-based part of the programme should be included in the calculations.

The instruction time for the least demanding programme refers to programmes stipulated for students who are least likely to continue studying beyond mandatory school age or beyond lower secondary education. Such programmes may or may not exist in a country depending on streaming and selection policies. In many countries students are offered the same amount of instruction time in all or most programmes, but there is flexibility in the choice of study areas or subjects. Often such choices have to be made quite early if programmes are long and differ substantially.

## Further references

Specific notes on definitions and methodologies regarding this indicator for each country are given in Annex 3 at www.oecd.org/edu/eag2007. In addition, a more comprehensive analysis of decision making was published in Indicator D6 of Education at a Glance 2004 (OECD, 2004c). Information on the underlying decision-making survey is available in Education at a Glance 2004, Annex 3 (www.oecd.org/edu/eag2004) under the heading "Indicator D6 Locus of decision making at lower secondary levels". The complete decision-making data are available under the heading "Underlying data on decision making for Indicator D6".

Table D1.1.
Compulsory and intended instruction time in public institutions (2005)
Average number of hours per year of total compulsory and non-compulsory instruction time in the curriculum
for 7-to-8, 9-to-11, 12-to-14 and 15-year-olds


1. Aged " 12 to 14 " covers aged 12 to 13 only.

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2007)
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
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Instruction time per subject as a percentage of total compulsory instruction time for 9-to-11-year-olds (2005)
Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum


1. Australia, Belgium (Fr.) and Belgium $(\mathrm{Fl}$.$) are not included in the averages.$
2. For 9-to-10-year-olds, social studies is included in science.
3. For 9 and 10 -year-olds the curriculum is largely flexible, for 11 -year-olds it is about the same as for 12 and 13 -year-olds.
4. German as a language of instruction is included in "Reading, writing and literature" in addition to the mother tongue Luxemburgish.
5. Includes 9 and 11-year-olds only.
6. Includes 10-to-11-year-olds only.

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2007).
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Table D1.2b.
Instruction time per subject as a percentage of total compulsory instruction time for 12-to-14-year-olds (2005) Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum

|  | Compulsory core curriculum |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{gathered} \text { E } \\ \\ 0 \\ 0 \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{aligned} & 8.8 \\ & . \ddot{E} \\ & 0 \end{aligned}$ |  |  |  | $\frac{n}{\frac{n}{4}}$ |  |  |  | 苂 |  |  |  |  |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
| Australia | 9 | 9 | 8 | 7 | 4 | 6 | 6 | 6 | 1 | n | 3 | 59 | 41 | 100 | 5 |
| Austria | 13 | 15 | 13 | 12 | 11 | n | 16 | 10 | 7 | 2 | n | 100 | $\mathrm{x}(12)$ | 100 | m |
| Belgium (Fl.) | 14 | 14 | 6 | 9 | 17 | 4 | 4 | 6 | 6 | 1 | n | 81 | 19 | 100 | n |
| Belgium (Fr.) ${ }^{1}$ | 16 | 13 | 9 | 13 | 13 | 3 | 3 | 9 | 6 | n | 3 | 88 | 13 | 100 | 6 |
| Czech Republic | 12 | 13 | 20 | 16 | 10 | 3 | 8 | 7 | n | n | n | 88 | 12 | 100 | n |
| Denmark | 20 | 14 | 15 | 9 | 18 | n | 9 | 8 | 3 | n | 3 | 100 | n | 100 | n |
| England | 13 | 12 | 12 | 13 | 11 | 12 | 11 | 8 | 4 | n | 4 | 100 | n | 100 | 4 |
| Finland | 13 | 12 | 13 | 5 | 14 | n | 9 | 7 | 4 | 4 | n | 80 | 20 | 100 | 2 |
| France | 17 | 15 | 12 | 13 | 12 | 6 | 7 | 11 | n | n | n | 93 | 7 | 100 | 10 |
| Germany | 14 | 14 | 10 | 12 | 17 | 3 | 10 | 9 | 5 | 2 | 2 | 98 | 2 | 100 | n |
| Greece | 12 | 11 | 10 | 10 | 15 | 5 | 6 | 8 | 6 | 1 | 16 | 100 | n | 100 | n |
| Hungary | 15 | 12 | 18 | 12 | 12 | 3 | 10 | 8 | n | 4 | 6 | 100 | n | 100 | 29 |
| Iceland | 14 | 14 | 8 | 6 | 17 | 4 | 7 | 8 | 2 | 4 | 3 | 85 | 15 | 100 | n |
| Ireland ${ }^{2}$ | 28 | 13 | 8 | 17 | 7 | $\mathrm{x}(15)$ | 4 | 5 | 9 | $\mathrm{x}(15)$ | 5 | 97 | 3 | 100 | 7 |
| Italy ${ }^{1}$ | 22 | 10 | 10 | 15 | 10 | 10 | 13 | 7 | 3 | n | n | 100 | n | 100 | 10 |
| Japan | 11 | 10 | 9 | 9 | 10 | 3 | 7 | 9 | n | n | 18 | 87 | 13 | 100 | m |
| Korea | 13 | 11 | 11 | 10 | 10 | 4 | 8 | 8 | n | 4 | 5 | 82 | 18 | 100 | n |
| Luxembourg ${ }^{3}$ | 22 | 15 | 5 | 10 | 20 | n | 10 | 8 | 6 | n | 5 | 100 | n | 100 | n |
| Mexico | 14 | 14 | 17 | 26 | 9 | n | 6 | 6 | n | 9 | n | 100 | n | 100 | n |
| Netherlands | 10 | 10 | 8 | 11 | 14 | 5 | 7 | 9 | n | 3 | n | 78 | 22 | 100 | n |
| New Zealand | a | a | a | a | a | a | a | a | a | a | a | a | a | a | a |
| Norway | 16 | 13 | 9 | 11 | 10 | n | 8 | 10 | 7 | n | 16 | 100 | n | 100 | n |
| Poland | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m |
| Portugal ${ }^{4}$ | 11 | 11 | 12 | 13 | 15 | 4 | 7 | 9 | n | n | 14 | 97 | 3 | 100 | 3 |
| Scotland | a | a | a | a | a | a | a | a | a | a | a | a | a | a | a |
| Slovak Republic | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m |
| Spain | 16 | 11 | 11 | 10 | 10 | 8 | 11 | 7 | $\mathrm{x}(13)$ | $\mathrm{x}(13)$ | 3 | 87 | 13 | 100 | n |
| Sweden | 22 | 14 | 12 | 13 | 12 | $\mathrm{x}(3)$ | 7 | 8 | $\mathrm{x}(4)$ | 7 | n | 94 | 6 | 100 | n |
| Switzerland | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m |
| Turkey | 15 | 14 | 16 | 10 | 15 | n | 4 | 6 | 5 | 4 | 3 | 91 | 9 | 100 | 12 |
| United States | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m |
| OECD average | 15 | 13 | 11 | 12 | 12 | 3 | 8 | 8 | 3 | 2 | 4 | 91 | 9 | 100 | 4 |
| EU19 average | 16 | 13 | 11 | 12 | 13 | 4 | 8 | 8 | 4 | 1 | 3 | 93 | 7 | 100 | 4 |
| Brazil | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m |
| Chile ${ }^{1}$ | 13 | 13 | 11 | 11 | 8 | 5 | 11 | 5 | 5 | a | 5 | 87 | 13 | 100 | m |
| Estonia | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m |
| Israel | 11 | 13 | 16 | 21 | 18 | x (3) | 4 | 5 | 13 | n | n | 100 | n | 100 | m |
| Russian Federation | 15 | 14 | 22 | 9 | 9 | 4 | 4 | 6 | n | n | n | 83 | 17 | 100 | m |
| Slovenia | 13 | 13 | 15 | 15 | 11 | 2 | 6 | 6 | n | n | 9 | 90 | 10 | 100 | m |

1. Includes 12-to-13-year-olds only.
2. For 13-to-14-year-olds, arts is included in non-compulsory curriculum.
3. German as a language of instruction is included in "Reading, writing and literature" in addition to the mother tongue Luxemburgish.
4. Technology is included in Arts for 14-year-olds.

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2007).
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
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## Reader's Guide

## Coverage of the statistics

Although a lack of data still limits the scope of the indicators in many countries, the coverage extends, in principle, to the entire national education system (within the national territory) regardless of the ownership or sponsorship of the institutions concerned and regardless of education delivery mechanisms. With one exception described below, all types of students and all age groups are meant to be included: children (including students with special needs), adults, nationals, foreigners, as well as students in open distance learning, in special education programmes or in educational programmes organised by ministries other than the Ministry of Education, provided the main aim of the programme is the educational development of the individual. However, vocational and technical training in the workplace, with the exception of combined school and work-based programmes that are explicitly deemed to be parts of the education system, is not included in the basic education expenditure and enrolment data.

Educational activities classified as "adult" or "non-regular" are covered, provided that the activities involve studies or have a subject matter content similar to "regular" education studies or that the underlying programmes lead to potential qualifications similar to corresponding regular educational programmes. Courses for adults that are primarily for general interest, personal enrichment, leisure or recreation are excluded.

## Calculation of international means

For many indicators an OECD average is presented and for some an OECD total.
The OECD average is calculated as the unweighted mean of the data values of all OECD countries for which data are available or can be estimated. The OECD average therefore refers to an average of data values at the level of the national systems and can be used to answer the question of how an indicator value for a given country compares with the value for a typical or average country. It does not take into account the absolute size of the education system in each country.

The OECD total is calculated as a weighted mean of the data values of all OECD countries for which data are available or can be estimated. It reflects the value for a given indicator when the OECD area is considered as a whole. This approach is taken for the purpose of comparing, for example, expenditure charts for individual countries with those of the entire OECD area for which valid data are available, with this area considered as a single entity.

Note that both the OECD average and the OECD total can be significantly affected by missing data. Given the relatively small number of countries, no statistical methods are used to compensate for this. In cases where a category is not applicable (code "a") in a country or where the data value is negligible (code " n ") for the corresponding calculation, the value zero is imputed for the purpose of calculating OECD averages. In cases where both the numerator and the denominator of a ratio are not applicable (code "a") for a certain country, this country is not included in the OECD average.

For financial tables using 1995 data, both the OECD average and OECD total are calculated for countries providing both 1995 and 2004 data. This allows comparison of the OECD average and OECD total over time with no distortion due to the exclusion of certain countries in the different years.

For many indicators an EU19 average is also presented. It is calculated as the unweighted mean of the data values of the 19 OECD countries that are members of the European Union for which data are available or can be estimated. These 19 countries are Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Ireland, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Spain, Sweden and the United Kingdom.

## Classification of levels of education

The classification of the levels of education is based on the revised International Standard Classification of Education (ISCED-97). The biggest change between the revised ISCED and the former ISCED (ISCED-76) is the introduction of a multi-dimensional classification framework, allowing for the alignment of the educational content of programmes using multiple classification criteria. ISCED is an instrument for compiling statistics on education internationally and distinguishes among six levels of education. The glossary available at www.oecd.org/edu/eag2007 describes in detail the ISCED levels of education, and Annex 1 shows corresponding typical graduation ages of the main educational programmes by ISCED level.

## Symbols for missing data

Six symbols are employed in the tables and charts to denote missing data:
a Data is not applicable because the category does not apply.
c There are too few observations to provide reliable estimates (i.e. there are fewer than $3 \%$ of students for this cell or too few schools for valid inferences). However, these statistics were included in the calculation of cross-country averages.
$m$ Data is not available.
$n$ Magnitude is either negligible or zero.
${ }_{w}$ Data has been withdrawn at the request of the country concerned.
$x$ Data included in another category or column of the table (e.g.x(2) means that data are included in column 2 of the table).
$\sim$ Average is not comparable with other levels of education.

## Further resources

The website www.oecd.org/edu/eag2007 provides a rich source of information on the methods employed for the calculation of the indicators, the interpretation of the indicators in the respective national contexts and the data sources involved. The website also provides access to the data underlying the indicators as well as to a comprehensive glossary for technical terms used in this publication.

Any post-production changes to this publication are listed at www.oecd.org/edu/eag2007.
The website www.pisa.oecd.org provides information on the OECD Programme for International Student Assessment (PISA), on which many of the indicators in this publication draw.

Education at a Glance uses the OECD's StatLinks service. Below each table and chart in Education at a Glance 2007 is a url which leads to a corresponding Excel workbook containing the underlying data for the indicator. These urls are stable and will remain unchanged over time. In addition, readers of the Education at a Glance e-book will be able to click directly on these links and the workbook will open in a separate window.

## Codes used for territorial entities

These codes are used in certain charts. Country or territorial entity names are used in the text. Note that in the text the Flemish Community of Belgium is referred to as "Belgium (Fl.)" and the French Community of Belgium as "Belgium (Fr.)".

| AUS Australia | ITA Italy |
| :--- | :---: |
| AUT Austria | JPN Japan |
| BEL Belgium | KOR Korea |
| BFL Belgium (Flemish Community) | LUX Luxembourg |
| BFR Belgium (French Community) | MEX Mexico |
| BRA Brazil | NLD Netherlands |
| CAN Canada | NZL New Zealand |
| CHL Chile | NOR Norway |
| CZE Czech Republic | POL Poland |
| DNK Denmark | PRT Portugal |
| ENG England | RUS Russian Federation |
| EST Estonia | SCO Scotland |
| FIN Finland | SVK Slovak Republic |
| FRA France | SVN Slovenia |
| DEU Germany | SWP Spain |
| GRC Greece | CHE Switzerland |
| HUN Hungary | TUR Turkey |
| ISL Iceland | UKM United Kingdom |
| IRL Ireland | USA United States |
| ISR Israel |  |

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[^0]:    Countries are ranked in ascending order of total number of intended instruction hours．
    Source：OECD．Table D1．1．See Annex 3 for notes（www．oecd．org／edu／eag2007）．
    StatLink 唡两四 http：／／dx．doi．org／10．1787／068453733667

