



DIRECTION DE L'EDUCATION
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Education at a Glance 2004

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New figures in *Education at a Glance 2004* provide further evidence of the benefits accruing from education

The case for more and better education is often made, whether in terms of lifelong learning, expansion or diversification of the provision in particular sectors or simply improving the quality of the education that is already delivered. In all cases, there is a need for an assessment of the benefits that reform can bring both to individuals and to the nation as whole. Recognizing these key issues, Education at a Glance once again has a focus on the benefits and outcomes of education. In providing new analyses on trends in the employment prospects of those with different levels of education and with new analyses of the financial returns accruing to individuals' investment in education, the 2004 edition provides some key indicators that can help with that assessment.

The benefits of education

Investing in education brings improved employment prospects for individuals...

- Employment ratios for those with tertiary qualifications are significantly higher than for those without these qualifications. On average across OECD countries, the proportion of 25 to 64-year-olds with a tertiary qualification and who are employed is 8 percentage points higher than that for those who only have high school qualifications (the difference being 9 percentage points for the **United States**). This employment advantage is as high as 22 percentage points in Poland. It is actually negative in Mexico (i.e. graduates have a lower chance of being in employment than those with upper secondary qualifications). [Table A10.2a., p. 158]
- The employment advantage of someone with upper secondary qualifications compared with someone with lower qualifications is even more marked. Here, employment ratios are on average 18 percentage points higher for those with upper secondary qualifications than for those



without them (17 percentage points in the **United States**). This employment advantage is evident in all countries and is strongest in the Slovak Republic (42 percentage points) and Hungary (35 percentage points) and weakest in Korea (2 percentage points) and Iceland (4 percentage points). [Table A10.2a, p. 158]

- Despite rapid rises in educational attainment, particularly at the tertiary level, these relationships have remained fairly stable over time, though some subtle change is evident. Over the last decade, the employment advantage held by those qualified to the tertiary level diminished slightly and the advantage of upper secondary graduation strengthened slightly. This is most apparent when looking at comparative unemployment ratios between the levels of education over time. In 2002, the proportion of adults qualified at the upper secondary level who were unemployed was 1.4 percentage points higher than that for someone educated at the tertiary level, whereas in 1995 the difference was 1.9 percentage points. In the **United States**, the trends have been more mixed with the employment advantage gained by tertiary graduates first diminishing during the period and then increasing in the latest figures. [Table A10.2b, p. 161]

...higher earnings for individuals...

- Education and earnings are closely linked, with education beyond high school bringing a particularly high premium. Earnings of university-level graduates in the 30 to 44 years age group are more than 80 per cent higher than the earnings of those who have completed only secondary education in the Czech Republic, Hungary, Portugal, the United Kingdom and the **United States**. In the **United States**, these earnings premiums are in fact 105 per cent for males and 91 per cent for females. [Table A11.1a, p. 175]
- It is possible to contrast the benefits for individuals of attaining the next level of education in terms of higher average earnings, lower risk of unemployment and the public subsidies they receive during their studies with the costs that individuals incur when studying, in terms of the tuition fees, lost earnings during their studies and higher tax rates later in life. It is also interesting from a lifelong learning perspective to contrast how these rates of return compare between those who obtain education early in life and those who take up the opportunities later in life. Private rates of return are generally higher when the next level of education is attained at an earlier age and are strikingly high at this stage for upper secondary attainment, reaching up to 98 per cent for females in the **United States**. In contrast, for an adult returning to education at age 40 and attaining upper secondary education at that stage, the returns in the **United States** are around 14 per cent. The rates for the **United States** are, in fact, amongst the highest of the countries compared, though they are also high in Hungary (9.9 per cent for males, 12.9 per cent for females) and Spain (11.6 per cent for males, 16.8 per cent for females). [Table A11.4, p. 181]
- The private returns for those obtaining a university degree or advanced research qualification immediately following earlier study are positive in all countries and particularly so for males in Hungary (19.8 per cent) and females in Finland (15.2 per cent). The returns for such students in the **United States** are 11.0 per cent for males and 7.9 per cent for females. For a 40-year-old returning to study, the rates of return are lower than those for students progressing immediately to the next level at an early age but still high for males in Hungary (16.4 per cent) and females in the United Kingdom (9.9 per cent). The rates for the **United States** are 7.4 per cent for males



and 2.7 per cent for females. In scenarios where tuition costs are waived, the rates increase, most notably in the **United States**. [Table A11.5, p. 181]

...and wider economic benefits as well.

- Analysis repeated from *Education at a Glance 2003* examines the driving factors of economic growth and shows that rising productivity accounted for at least half of the GDP per capita growth in almost all OECD countries with available data. the **United States** was 11th out of 26 countries on this measure. [Chart A12.2, p. 184]
- Labor productivity can be increased in several ways and the educational attainment of the working population plays a pivotal role in this equation, not just through increasing the effectiveness of the inputs but as a determinant of the rate of technological progress. In the **United States**, the contribution of educational attainment to growth in labor productivity from 1990 to 2000 ranked 6th of the 15 countries studied, placing it behind Portugal, the United Kingdom, Italy, France and Finland in this respect. [Chart A12.2, p. 191]
- Studies of the macro-economic returns to education estimate that increasing the average level of attainment by one year, raises the level of output per capita by between 3 per cent and 6 per cent. [Indicator A12, p. 187]

Dramatic improvements in educational attainment have driven these personal and wider economic benefits...

- To summarise the current levels of educational attainment amongst the adult population, one can calculate the average number of years of schooling that the stock of qualifications held by the adult population represents, based on the duration of current educational programmes. For OECD countries on average, the levels of educational attainment correspond to 11.8 years of schooling and ranges from 7.4 years in Mexico to 13.8 years in Norway. The stock of qualifications in the **United States** is above the OECD average and represents 12.7 years of schooling on average. [Table A1.1, p. 47]
- Tertiary attainment, in particular, has grown rapidly in many countries and continues to grow. Evidence on trends can be obtained by comparing attainment rates for different age-groups in the population. The percentages of the population across the OECD countries that have attained a university qualification (Tertiary-type A or advanced research qualification) are higher for successively younger age-groups (11 per cent for 55-64 year-olds, 14 per cent for 45-54 year-olds, 16 per cent for 35-44 year-olds and 19 per cent for 25-34 year-olds). The **United States** ranks 1st in the attainment rate among 55-64 year-olds (26 per cent) and 45-54 year-olds (30 per cent) but has achieved no increase for younger age groups. Nevertheless, among 25-34 year-olds, the **United States** still ranks 2nd (31 per cent) behind Norway (37 per cent) but other countries with lower levels have narrowed the gap. Korea, for example, is equal 21st for 55-64 year-olds (8 per cent) but equal 3rd with Canada (26 per cent) among 25-34 year-olds. [Table A3.3, p. 71]
- The percentage of the 25 to 64-year-old population with tertiary level education rose again in the latest figures and now stands at 23 per cent on average across OECD countries. However, most of that increase is due to significant increases in tertiary graduation rates in a comparatively



small number of countries, with the risk that some countries are being left behind. The rising attainment in the **United States** continues with 38 per cent of the population now qualified at the tertiary level in 2002, a figure exceeded only by Canada (43 per cent). [Table A3.4a, p. 72]

- Continuing increases in today's entry rates to universities suggest that this expansion will continue. Entry rates to university-level education (tertiary type-A) increased in most countries in 2002 compared with the 2001 figures published in *Education at a Glance 2003*.
- On average across OECD countries, around 50 per cent of the age-group now enters a tertiary program leading to the equivalent of a bachelors' degree or higher. The **United States** figure of 64 per cent is reported on a new basis this year and includes entry to associate degree programs as well as bachelor degree programs. Entry rates are particularly high in Australia (77 per cent), Finland (71 per cent), Iceland (72 per cent), Poland (70 per cent) and Sweden (75 per cent) and tertiary enrolment has expanded dramatically in some countries, with enrolment more than doubling in Hungary and Poland between 1995 and 2002. [Table C2.1, p. 288; Table C2.2, p. 289].
- This growth is putting significant pressure on the financing of tertiary education. In seven out of the 24 OECD countries for which data are available, spending on tertiary educational institutions has not kept pace with the expansion of enrolments, with the consequence that expenditure per student has decreased, in real terms, since 1995. [Table B1.5, p. 220; Chart B1.7, p. 212 for which data for the **United States** are not available]
- Together with the financial pressures that tertiary expansion can bring, there is added strain on the system to maintain completion rates. The **United States** has a slightly higher drop-out rate from first degree programs (34 per cent) than the OECD average (30 per cent). Countries with much lower rates include Japan (6 per cent), Turkey (12 per cent), Ireland (15 per cent) and the United Kingdom (17 per cent). [Table A3.2, p. 70]

...and increases in foreign student enrolment have played a part in tertiary level expansion...

- In some countries, increases in foreign student enrolment have contributed to the expansion of tertiary enrolment. **In 2002, 1.90 million students were enrolled outside their country of origin** within OECD and partner countries (see Notes). This represented a 15 per cent increase in total student mobility since the previous year. [Table C3.6, p. 313]
- Five countries (Australia, France, Germany, the United Kingdom and the **United States**) receive nearly 73 per cent of all **foreign students studying in the OECD area**. [Chart C3.2, p. 297]
- In 19 of the 22 OECD countries for which there are data, the proportion of foreign students amongst all tertiary students increased over the last 4 years and is highest in Australia at 17.7 per cent and Switzerland (17.2 per cent) and 1 per cent or less in Korea, Mexico, Poland, Slovak Republic and Turkey. The figure for the **United States** is 3.7 per cent. [Table C3.1, p. 306; Chart C3.1, p. 293]
- In terms of the types of study followed by foreign students, university level (tertiary type-A) programmes are the norm though in Belgium, equal numbers follow lower-level tertiary programmes. In Finland, Spain and Switzerland, around one in five foreign students are enrolled



in highly theoretical advanced research programmes [Table C3.4, p. 312, for which there are no data for the **United States**].

- As far as **fields of study** are concerned, the most popular programmes amongst foreign students are generally those in social sciences, business and law, though 30 per cent or more of foreign students are enrolled in science or engineering in Australia, Finland, Germany, Sweden, Switzerland and the United Kingdom [Table C3.5, p. 313, for which there are no data for the **United States**].

...while, at the high-school level, progress in attainment has been more mixed.

- The proportions of individuals in the population who have completed high school have been rising in almost all OECD countries, as shown by the rates for successively younger groups in the populations. In the **United States**, progress here has been limited, with many countries now outperforming it. The **United States** ranks 1st among the 30 OECD countries in the completion rates for 55-64 year-olds and 45-54 year-olds but 5th for 35-44-year-olds and 10th for 25-34-year-olds. By contrast, Korea ranks 24th for 55-64-year-olds but 1st for 25-34-year-olds. The rates have not declined in the **United States**. They have simply risen faster in other countries. The proportion of the adult population without upper secondary education is 80 per cent or more in Mexico and Portugal. [Table A2.2, p. 58; Chart A2.2, p. 53]
- Young people who have not achieved upper secondary education and who are not pursuing it, are a particular concern and the numbers in most countries are not trivial. The proportion of 20 to 24-year olds not in education and without upper secondary education is under 10 per cent in only eight out of 27 OECD countries. In 11 countries, this group potentially at risk represents between 10 and 18 per cent of the age group and, for the remaining eight OECD countries, more than 20 per cent. The figure for the **United States** is 12.3 per cent. [Table C5.1, p. 350; Chart C5.1, p. 344]

At the primary level, student performance is improving in some countries.

- In a comparison involving nine countries, four (Greece, Hungary, Iceland and Slovenia) showed statistically significant increases in the average reading literacy performance of 4th graders between 1991 and 2001, ranging from an increase of 16 points in Hungary to an increase of 41 points in Greece. By contrast Sweden decreased in performance over this period, from 513 points in 1991 to 498 points in 2001. The reading literacy performance of 4th graders in the **United States** showed no significant change between 1991 and 2001. [Table A5.1, p. 93].

Investment in education

Accompanying these trends in participation and attainment, there have been significant increases in expenditure on education amongst OECD countries...

- In 13 out of 18 OECD countries for which data are available, public and private spending on educational institutions increased between 1995 and 2001 by more than 10 per cent in real terms, contributing to an average increase across these 18 countries of 20 per cent. Only in the Czech Republic did spending fall in real terms during the period. The increase in spending in the **United States** was slightly above the average at 25 per cent. [Table B2.2, p. 232]



- These trends mean that OECD countries in total spend 6.2 per cent of their collective GDP on education, from both public and private sources. The highest spending country on this measure is Korea with 8.2 per cent of GDP being spent on education, followed by the **United States** with 7.3 per cent and Denmark with 7.1 per cent. Both Korea and the **United States** have much larger private funding of education compared with other countries: 3.4 per cent and 2.3 per cent of GDP respectively compared with the OECD average of 0.7 per cent of GDP. When public funding only is considered, Denmark and Sweden continue to spend the highest proportion of GDP on their education systems (6.8 and 6.3 per cent respectively). Japan remains a modest spender (4.6 per cent in total), even when above-average private spending (1.2 per cent) is taken into account. [Table B2.1a, p. 229]
- When the student numbers that this expenditure caters for are taken into account, a slightly different picture emerges. While the **United States** does not commit the highest percentage of GDP to expenditure on education, it does achieve, by some margin, the highest expenditure per student from primary to tertiary education (in equivalent US dollars converted using purchasing power parities) at US\$ 10 871. The levels in other countries range from less than US\$ 3 000 in Mexico, Poland and the Slovak Republic to more than US\$ 8 000 per student in Austria, Denmark, Norway and Switzerland. [Table B1.1, p. 215, Chart B1.1, p. 199]
- For the **United States** expenditure per student is well above the cross-country average for each level of education but is particularly so at the tertiary level where spending per student US\$ 22 234 is more than double the country average of US\$ 10 052 and where private spending is particularly significant. To further illustrate this, whilst tertiary students (in terms of full-time equivalent) account for 18 per cent of all students in the **United States**, the expenditure that is made on them amounts to 37 per cent of all spending. [Table B1.1, p. 215; Table B1.4, p. 219]
- Some of the differences between countries' expenditure per student at the tertiary level can be explained by the large variation in expenditure on research and development (R&D) that takes place in tertiary institutions. On average, for countries reporting data, one quarter of tertiary expenditure is devoted to R&D, but this varies from less than 10 per cent in the Slovak Republic and the **United States** to around 40 per cent or more in Germany, Italy and Sweden. [Table B6.2, p. 267].

...with the private share of expenditure increasingly important, particularly at the tertiary level.

- The share of expenditure on primary and secondary education that originates from private sources ranged, in 2001, from less than one per cent in Finland, Portugal and Sweden to 19 per cent in Germany and 23 per cent in Korea. The **United States**, at 7 per cent, is around the average for the 24 countries reporting data. In most of the countries able to disaggregate private expenditure, the largest part of that expenditure comes from households but in the case of Germany and Switzerland, the bulk of private money comes from private enterprises through the funding of the dual system of apprenticeships. (Note that the private shares include public subsidies provided to private entities such as households.) [Table B3.2a, p. 242]
- The prevalence of private funding at the tertiary level is far greater. The share of tertiary expenditure that originates from private sources ranged, in 2001, from 3 per cent or less in Denmark and Greece, to 84 per cent in Korea. The **United States**, with 66 per cent is 2nd after Korea and well above the average of 22 per cent for the 26 countries reporting data. Whereas in



Korea over two-thirds of the private expenditure on tertiary education is spent by households, in the **United States**, the private expenditure is more evenly split between households and private enterprises. (Again, note that this includes public subsidies provided to private entities such as households.) [Table B3.2b, p. 243]

- In 13 out of the 19 OECD countries with comparable data, the private share of expenditure on tertiary education grew between 1995 and 2001 (with no change in the figures for the **United States**). In most countries, however, this growth in private spending was not associated with a decrease in public-sector spending on tertiary education. [Table B2.2, p. 232, Table 3.2b, p. 243]

The public share of educational expenditure is often provided as subsidies to students or households...

- An average of 17 per cent of public spending on tertiary education is devoted to supporting students, households and other private entities, the remainder being spent directly on institutions. In New Zealand, almost half of public spending on education is provided in the form of this type of support, with percentages of around one third reported by Australia, Denmark, Norway, Sweden and the **United States**. Student loan expenditure is a significant part of the support provided in all of these countries except Denmark [Table B5.2, p. 258].

...with public funding of education a social priority, even in OECD countries with little public involvement in other areas.

- Across OECD countries, when the size of public budgets relative to GDP is compared with the proportion of public spending that is committed to education, it is evident that, even in countries with relatively low rates of public spending, the priority that education is awarded within that spending is very high. For instance, the share of public spending that goes to education is highest of OECD countries in Mexico (24.3 per cent), Korea (17.7 per cent) and the **United States** (17.1 per cent) and yet total public spending as a proportion of GDP in these countries is not high. [Table B4.1, p. 249]

Gender differences in educational outcomes

In the 1990s, women moved ahead of men in educational attainment...

- Young women are now more likely to obtain first degrees from university-level institutions in most OECD countries: only in three (Japan, Switzerland and Turkey) are young men significantly more likely to do so. [Table A4.2, p. 84]. In the past, men typically had better access and earlier indicators show that, in 1990, men still had higher university-level graduation rates than women in half the countries with comparable data.

...with higher expectations for the future, though males remain ahead in some fields of study...

- In 40 out of the 42 countries taking part in OECD's Programme for International Student Assessment (PISA) in 2000 – the **United States** being one of them – 15-year-old females reported higher expectations for their future occupations than males. [Table A9.1, p. 140]
- Nevertheless, there remain gender discrepancies in educational and career choices with young men still favoring physics, mathematics and engineering-based courses at university and young



women opting for the social sciences, health and teaching-related courses. In the humanities, arts, education, health and welfare, an average of more than two thirds of the university-level graduates are women, whereas there is less than one third in mathematics and computer science and less than one quarter in engineering, manufacturing and construction. Men are also more likely than women to earn advanced research qualifications, such as doctorates. These gender differences are smaller in the **United States** than in other countries, except for some countries with low overall participation rates in higher education enrolments. [Table A4.2, p. 84]

...that have consequences for individual careers and salaries.

- Males are more likely to be in employment than females at all levels of educational attainment but the gender gap decreases with increasing educational attainment. The proportion of the male adult population with lower secondary education who are in employment is 73 per cent compared to 49 per cent for females who are similarly qualified, a gap of 24 percentage points. Among persons who have attained university (tertiary Type-A) and advanced research qualifications, the gap is reduced to 11 percentage points. The figures for the **United States** follow this trend though the gender gap is rather less in the **United States** for those with upper secondary level education (12 percentage points) than it is for countries on average (17 percentage points). [Table A10.1a, p. 155].
- Females still earn less than males with similar levels of educational attainment and the magnitude of the disparity is substantial in most countries. In the **United States**, amongst 30 to 44-year-olds, females with lower secondary education earn 59 per cent of similarly qualified males (9th lowest out of 21 countries). For those of the same age with upper secondary education female earnings were 61 per cent of male earnings in the **United States** (7th lowest) and for those with university (tertiary type-A) education the figure for the **United States** was 58 per cent (joint lowest).[Table A11.1b, p. 176]
- Nevertheless, the earnings benefits of attaining the next level of education are apparent for females, as they are for males. In 14 out of 21 countries the earnings premium for female upper secondary graduates is greater than it is for their male counterparts, though the magnitude of the gender difference varies greatly between countries. In the **United States**, the gender disparity is not great: females without upper secondary education earn 67 per cent of those who are qualified to the upper secondary level, whereas the percentage for males is 70 per cent. Similarly, in more than half of the 21 countries compared, the earnings premium achieved by females who are qualified to the university level is greater than that achieved by their male counterparts. The **United States** is one country where this is not true with the premium for females being 91 per cent compared with 105 per cent for males. [Table A11.1a, p. 175]
- Career choices emerge early. Gender differences in fields of study at university level are mirrored in the educational aspirations of 15-year-olds. In responses in PISA 2000, career expectations of boys were far more often associated with physics, mathematics or engineering (on average 18 per cent of boys versus 5 per cent of girls) while those of girls were more frequently related to life sciences and health (20 per cent of girls compared to only 7 per cent of boys). [See p. 131 and <http://www.oecd.org/edu/eag2003>.]



There are also marked gender differences in educational achievement...

- At the elementary school level, girls outperformed boys in reading in every country in the 2001 International Association for the Evaluation of Educational Achievement's (IEA) Progress in Reading Literacy Study (PIRLS), which provides a profile of students' performances in reading at the 4th grade level. [Table A9.2, p. 141] And a study of trends in 4th grade reading literacy between 1991 and 2001 in nine countries shows that these gender disparities are long-standing. Only in Iceland has there been a significant reduction in the gender gap over the period. The gender disparity for the **United States** did not change significantly between 1991 and 2001. [Table A5.2, p. 94; Chart A5.1, p. 86].
- Females were also better readers by age 15 in every one of the 43 countries taking part in OECD's PISA 2000 study. In about half of the countries, males were ahead in mathematical literacy though the differences were much smaller. In scientific literacy, there were few significant differences. Among 15-year-olds in the **United States**, females were significantly better than males in reading but there were no significant differences in mathematics and science. [Table A9.3, p. 142]

...which can be influenced by approaches to learning.

- In about half of the countries taking part in PISA 2000, females preferred **co-operative learning** more than males, whereas males in most countries tended to prefer **competitive learning** more than females. In the **United States**, males' preference for competitive learning is less pronounced than in other countries, whereas females' preference for cooperative learning is slightly more pronounced compared with other countries [Table A9.5, p. 145].

Teacher working conditions

Recruitment and retention of quality teachers can be influenced by salary level...

- Starting salaries for primary teachers in the **United States** at US\$ 29 513 are 4th highest of the 29 countries compared, behind Denmark, Germany and Switzerland, though even amongst this group there are wide differences. Primary starting salaries in Germany are the highest and are 25 per cent higher than those in the **United States**. Starting salaries for lower secondary and for upper secondary teachers in the **United States** are also above the average but less markedly so [Table D3.1, p. 390]
- Across OECD countries, salaries at the top of the scale are on average around 70 per cent higher than starting salaries for both primary and secondary education, though this varies between countries largely in line with the number of years it takes for a teacher to progress through the scale. For instance, top-of-the-scale salaries in Korea are almost three times that of starting salaries, but it takes 37 years to reach the top of the scale. The ratio of top-of-the-scale to starting salaries in the **United States** is slightly higher than average [Table D3.1, p. 391].
- While teachers in the **United States** earn salaries that are relatively high compared with those in other countries, direct international comparisons of salaries for teachers may not be of great relevance for recruitment since the teacher labor market is substantially domestic. The more important consideration is how teacher salaries compare with those that might otherwise be available to individuals who might become teachers. One indirect way to make this comparison



is to compare teachers' salaries to GDP per capita. On this measure (the ratio of teachers' salaries after 15 years to GDP per capita), teachers at the lower secondary education level in the **United States** rank 19th among 29 OECD countries. [Table D3.1, p. 390, Chart D3.1, p. 380]

- Teachers' salaries have risen in real terms between 1996 and 2002 in virtually all countries for which data are available, the largest increases evident in Hungary and Mexico. Salaries at the primary and upper secondary levels in Spain fell in real terms over the same period [Table D3.3, p. 398, for which data are missing for the **United States**]

...working hours...

- Across the OECD, the number of teaching hours per year in public primary schools averages 803 but ranges from 617 hours in Japan to 1 139 hours in the **United States**. For lower secondary education the average number of teaching hours is 714 and ranges from 513 in Japan to 1 167 in Mexico (the **United States** figure is 1127 hours), whilst at the upper secondary (general programmes) level the average is 674 hours, with a range from 449 hours in Japan to 1 121 hours in the **United States**. (Note: The figures for the **United States** are estimated from a sample survey rather than administrative record and may slightly overstate the amount of teaching time.) [Table D4.1, p. 406]
- In most countries, teachers are formally required to work a specified number of hours, including both teaching time and non-teaching time. In some, the working time required at school is considerably greater than that required for teaching, for example 1 650 hours compared with 634 hours for primary teachers in Iceland. For primary teachers in the **United States**, the difference is relatively small, with working time in schools at 1 353 hours and teaching time at 1 139 hours. [Table D4.1, p. 406]
- It is possible then to examine what proportion of working time is spent teaching. The percentage of working time that is spent teaching is higher at the primary level than it is at the secondary level. At both levels, however, the percentage of working time spent teaching is greater than 50 per cent in only a minority of countries [Table D4.1, p. 406 and Chart D4.2, p. 403, for which data are missing for the **United States**].

...and class size.

- Class size is frequently seen as a key working condition, often being the subject of negotiations with employing authorities. Average class sizes at both primary and lower secondary level vary substantially across OECD countries. At the primary level they average a little less than 22 students per class and range from 36 students per class in Korea to less than half that number in Greece, Iceland and Luxembourg. The **United States** figure is at the average. On average across countries, classes at the lower secondary level are around 2 students larger than at the primary level. [Table D2.1, p. 376]. Both Korea and Japan have relatively large class sizes and yet are high performing countries in international comparisons of student achievement. This and other evidence points to there being no simple relationship between class size and learning benefits for students, though there may be a benefit in working conditions for teachers.



Context factors shaping the learning environment and educational outcomes

The results in this year's Education at a Glance also provide further insights to context factors that influence learning and the learning environment...

...at the individual student level in terms of engagement in school life...

- Students' sense of engagement in school life can be seen as a context for teaching and learning as well as an outcome itself. On average, nearly a quarter of 15-year-olds in the PISA 2000 study expressed negative views about their sense of belonging at school, and an average of one in five reported recently missing school, arriving late or skipping classes. Students in Austria, Sweden and Switzerland reported a particularly high sense of belonging, while students in Belgium, the Czech Republic, Japan, Korea and Poland reported a below-average sense of belonging. The **United States** was around the average. [Table A8.1, p. 128; Chart A8.1, p. 118].
- Analysis of the school level results shows that students' sense of belonging and their participation tend to go hand in hand and are closely related to school performance. This suggests that schools with high levels of engagement also tend to have high levels of academic performance, though the causality in this relationship requires further investigation. [Chart A8.3, p. 124].

...at the school level in terms of admission and grouping policies...

- School policies for admitting and grouping students are important policy levers which influence the learning environment. Based on survey reports from school principals in 2002 (the **United States** did not take part in the survey), students' academic performance is the most commonly used criterion for admitting students to upper secondary schools, though there is wide variation among countries. More than 80 per cent of students in Finland, Hungary and Norway attend schools where students' academic performance is always used as a criterion for admission, whereas in Spain the percentage is less than 10 per cent [Table D5.1, p. 419; Chart D5.1, p. 409]).
- For grouping students, the most commonly used criterion is the student's choice of specific subject or programme; on average some 73 per cent of students attend schools where this criterion is always used. By contrast, in Mexico, almost half the students attend schools where this is never the practice. Grouping students to ensure that classes contain a mixture of abilities is the next most common policy, followed by grouping students by similar age [Table D5.3, p. 421).
- Schools in the Flemish Community of Belgium, Hungary, Ireland and Italy are, on average, more selective both in admitting and in grouping students than the international average. By contrast, in Spain and Sweden, schools appear to be less selective in their admission policies than the international average and they also tend to use selective grouping policies less frequently [Chart D5.3, p. 416].



..and at the system level in terms of the decision making structure in which the school system operates.

- An analysis of the decision making responsibilities at the lower secondary level of education sheds light on the degree of decentralisation that exists within countries' systems (the **United States** did not take part in the survey).
- Overall, based on data for 2003, decision making is most highly centralised (decisions taken at the central and/or state level of government) in Australia, Austria, Greece, Luxembourg, Mexico, Portugal, Spain and Turkey, with central government particularly dominant in Greece (88 per cent of decisions taken by the central administration) and Luxembourg (66 per cent). Decisions are more often taken at the school level in the Czech Republic, England, Hungary, New Zealand and the Slovak Republic and in particular in the Netherlands where all decisions are taken at the school level [Table D6.1, p. 432; Chart D6.1, p. 423].
- Decisions on the organisation of instruction are predominantly taken by schools in all reporting countries, while decisions on planning and structures are mostly the domain of more centralised tiers of government. The picture is more mixed for decisions on personnel management and allocation and use of resources. Less than half of decisions taken by schools are taken in full autonomy [Table D6.2, p. 433; Table D6.3, p. 434].
- Between 1998 and 2003, decision making in most countries became more decentralised, most notably in the Czech Republic, Korea and Turkey. The opposite trend was evident in the French Community of Belgium and Greece [Chart D6.3, p. 429].

Notes

- Figures generally refer to the 2002 school year or the 2001 financial year, unless otherwise stated. Figures on the reading, mathematical and scientific literacy of 15-year-olds and on preferred learning styles and student engagement are from the Programme for International Student Assessment (PISA) in 2000.
- Tertiary-level education - higher education. Indicators cover both the current performance of the higher education system and the proportion of the adult population (25-64) who have attained higher education qualifications. There are splits by gender and type of course – divided into vocational courses like those in community colleges (Type B in OECD parlance) and full-length (3yr+) theory-based degrees (Type A). 'University or equivalent level' refers to Tertiary-type A programmes and above. Graduation rate is defined as the ratio of tertiary graduates to the population at typical age of graduation.
- Lower secondary education - schooling between the ages of 11 and 13.
- Upper secondary education – secondary schooling from the age of 14
- Expenditure on educational institutions - covers expenditure on those educational institutions that are engaged in instruction as well as expenditure on non-instructional educational institutions, for example those involved in administration of the education system.



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- Statutory salaries - The data on teacher pay are based on statutory pay (pay scales) in 2001 and do not attempt to capture actual average pay which will include discretionary allowances for extra duties as well as reflecting the age structure of the teacher labour force. Furthermore, the figures are for classroom teachers and so do not reflect the pay of teachers promoted to positions such as principal, deputy principal, head of department, and so on.
- Partner countries – the countries taking part in the OECD/UNESCO World Education Indicators (WEI) programme: Argentina, Brazil, Chile, China, Egypt, India, Indonesia, Jamaica, Jordan, Malaysia, Paraguay, Peru, Philippines, Russian Federation, Sri Lanka, Thailand, Tunisia, Uruguay and Zimbabwe. In addition, Israel, which has observer status in OECD's activities on education, is included.

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