

# Education at a Glance

OECD INDICATORS

## Country Profile for Canada



2004



Council of Ministers of Education, Canada

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## Comparison of Selected Indicators

Results for Canada, G7 countries, and others for selected indicators from *Education at a Glance 2004*

Indicator	Canada	France	Germany	Italy	Japan	United Kingdom	United States	High	Low	OECD Country mean
<b>A1</b> (Table A1.2) Expected change in population from 2002 to 2012 ( <i>2002=100</i> )										
5- to 14-year-olds	<b>85</b>	103	86	91	96	88	102	Luxembourg 108 United States 116	Poland 74 Spain 68	91
20- to 29-year-olds	<b>107</b>	98	108	77	76	110	116			96
<b>A3</b> (Table A3.4a) Percentage of population (25- to 64-year-olds) that has attained tertiary education, 2002	<b>43%</b>	24%	23%	10%	36%	27%	38%	Canada 43%	Mexico 6%	23%
<b>A8</b> (Table A8.2) Prevalence of 15-year-old students with low sense of belonging and low participation in school, 2000 (PISA)										
Participation	<b>26%</b>	15.3%	12.9%	21.7%	4.2%	15%	20.2%	Spain 34% Korea 41.4%	Japan 4.2% United Kingdom 17.4%	20%
Belonging	<b>20.5%</b>	30.2%	22.6%	22.9%	37.6%	17.4%	25%			24.5%
<b>B3</b> (Table B3.2a) Percentage of private expenditure on primary, secondary and post-secondary non-tertiary, 2001	<b>8.1%</b>	7%	18.9%	2%	8.5%	12.8%	7%	Korea 23.8%	Sweden/Portugal 0.1%	7.6%
<b>B3</b> (Table B3.2b) Percentage of private expenditure on tertiary education, 2001	<b>41.4%</b>	14.4%	8.7%	22.2%	56.9%	29%	66%	Korea 84.1%	Greece 0.4%	21.8%
<b>C4</b> (Table C4.2) Percentage of 15- to 19-year-olds not in education and not employed, 2001	<b>6.4%</b>	3.4%	4.7%	10.5%	m	9.5%	7.5%	Turkey 32.8%	Denmark 2.4%	7.9%
<b>C5</b> (Table C5.1) Percentage of 20- to 24-year-olds with at least upper secondary education, not in education and not employed, 2001										
Male	<b>20.6%</b>	17.7%	17.4%	32%	m	12.6%	16.2%	Poland 48.8% Turkey 63.9%	Luxembourg 3.1% Netherlands 8.4%	19.1%
Female	<b>18.7%</b>	28.1%	19.3%	39.6%	m	23.5%	24.3%			25.1%

## **Introductory Note**

This document, *Country Profile for Canada*, is intended to provide an overview of the data reported for Canada in *Education at a Glance, OECD Indicators 2004* (EAG 2004). Readers are invited to explore the full document in more depth, if they wish.

The text in italic type in this country profile is extracted directly from EAG 2004 and has page (p.) and paragraph (para.) references to the longer document. Please note that the EAG 2004 text has not been edited for this country profile. The comments in regular type relate to Canada, but are derived from the tables and charts in EAG 2004.

The section entitled Background Information at the end of this document is drawn directly from the “Introduction” in EAG 2004 and is included here for the reader’s convenience. The sections are entitled “The Organising Framework,” “The Indicators,” describing each of the indicators in some detail, and “Further Resources.”

## Chapter A: The Output of Educational Institutions and the Impact of Learning

### Indicator A1: Educational attainment of the adult population

*In ten OECD countries the educational attainment of women aged 25 to 64 – measured by the average number of years of schooling – is virtually the same as for men, or even slightly higher; these countries are **Canada**, Denmark, Finland, Ireland, New Zealand, Norway, Poland, Portugal, Sweden and the United States. In all other OECD countries, the educational attainment of men is higher, sometimes considerably, as in Iceland, Korea, Luxembourg and Switzerland (Chart A1.1). [p.42, para. #4]*

*The proportion of 25 to 64-year-olds in OECD countries who have completed tertiary-type A or advanced research programmes ranges from less than 10% in Austria, Mexico, Portugal and Turkey to 20% or more in Australia, **Canada**, Denmark, Iceland, Japan, the Netherlands, Norway and the United States. However, certain countries also have a vocational tradition at the tertiary level (tertiary-type B). The proportion of persons who have attained tertiary-type B level is equal to or exceeds 15% in Belgium, **Canada**, Finland, Japan, New Zealand and Sweden (Table A1.1). [p.43, para. #1]*

*Tertiary-type B attainment is highly differentiated among countries: more than 6 percentage points in favour of women in Belgium, **Canada**, Finland, Japan and New Zealand, and more than 3 percentage points in favour of men in Austria, Germany and Switzerland. [p.43, para. #2]*

*The sharp decline in the population of 5 to 14-year-olds that occurred in many OECD countries during the 1970s and 1980s has generally slowed; however, population forecasts suggest that over the next decade the proportion of 5 to 14-year-olds will continue to decline in many OECD countries. [p.44, para. #4]*

Only seven countries are expected to have a greater decline in their youth population than Canada, which is expected to have a 15% decline. Although a declining youth population is the trend, 4 out of 30 OECD countries are expected to see an increase of 2 to 8% in the number of 5- to 14-year-olds.

*Among 20 to 29-year-olds, the typical age band for tertiary education, a decline of more than 20% in the Czech Republic, Greece, Hungary, Italy, Japan, Portugal and Spain will ease the pressure on tertiary spending. In **Canada**, Germany, New Zealand, Turkey, the United Kingdom and the United States, by contrast, the population of 20 to 29-year-olds is expected to increase by between 7 and 16% over the next decade, posing a challenge to tertiary education systems in these countries (Table A1.2). [p.44, para. #7]*

An increase of 7% is expected in Canada.

**Indicator A2: Current upper secondary graduation rates and educational attainment of the adult population**

*Trend data reveal different patterns across countries. Due to increased access to tertiary education, the proportion of those attaining only upper secondary level education has decreased over the last five years. This is the case in **Canada**, Japan and the United States. Oppositely, the progress in attaining upper secondary education by diminishing the lower level is visible in Belgium, Denmark, Greece, Hungary, Ireland, Italy, the Slovak Republic and Spain (Tables A3.4a and A3.4b). [p.54, para. #1]*

**Indicator A3: Current tertiary graduation and survival rates and educational attainment of the adult population**

*An overview of the level of educational attainment at the tertiary level (Table A3.4a) over the last years confirms the strong trend of an increasing proportion of the adult population attaining tertiary education. [p.64, para. #3]*

*The result of this increased participation in tertiary education has been a reduction of the differences among countries. In 2002, for the 25 to 64-year old population, 16 out of 30 countries are closely grouped, with between 23 and 33% of the population having attained the tertiary level. Three of these countries are performing remarkably high: **Canada**, Japan and the United States. Oppositely, 11 countries are significantly below 20% of tertiary attainment, some at very low levels. [p.64, para. #4]*

*The progression between 1998 and 2002 is particularly important for Australia, Finland, Ireland, Norway and the United Kingdom, all countries already ranking in the first half of the distribution. **Canada**, France and Iceland also saw more than 1 point of annual growth on average during the last four years. On the other side of the average, there has been stagnation in Austria, Germany, Switzerland and the Eastern European countries. Except Italy and Poland, the countries where the level is still low are not improving as necessary. [p.66, para. #1]*

The progression being referred to in this passage is the trend in educational attainment in tertiary-type A and advanced research programmes (1998–2002) for 25- to 34-year-olds.

*Considering trend data reveals that the gender gap is reducing even in the three countries where it is very large [higher attainment for males]. However, at the same time, in countries where the advantage for women was already marked, the trend is continuing toward an even greater advantage for women. [p.67, para. #1]*

Canada falls into the latter category, with women having the greater advantage.

**Indicator A4: Tertiary graduates by field of study**

Canada is not represented in this indicator.

### **Indicator A5: Trends in 4<sup>th</sup>-grade students' reading literacy performance**

Canada is not represented in this indicator.

### **Indicator A6: Reading literacy of 15-year-olds**

This indicator uses the same data (PISA 2000) and similar text as in Indicator A5 of *Education at a Glance 2003*.

*Examining individual countries' performance by proficiency level is revealing: in five countries (Australia, **Canada**, Finland, New Zealand and the United Kingdom), 15% or more of students reach the highest level of proficiency in reading literacy. [p.97, para. #6]*

*Half of all 15-year-olds in Finland and at least 40% of students in Australia, **Canada**, Ireland, New Zealand and the United Kingdom reach at least Level 4 on the reading literacy scale. With the exception of Luxembourg and Mexico, at least one in five students in each OECD country reaches at least Level 4. [p.98, para. #1]*

*In one-third of OECD countries, between 67 and 79% of 15-year-old students are proficient at least at Level 3 on the reading literacy scale: Australia, **Canada**, Finland, Ireland, Japan, Korea, New Zealand, Sweden and the United Kingdom. Using these nine countries to explore the question "is the pattern of proficiency similar across countries?" several patterns emerge. In **Canada** and Finland, for instance, relatively large proportions of students reach Level 5 and at least 90% of students in each country reach at least Level 2 – these countries show strong results across the reading literacy scale. In Australia, Ireland, New Zealand and the United Kingdom, there are large numbers of students at the highest level, but over 10% of students perform at or below Level 1. These countries perform well in getting students to higher levels of proficiency but succeed less well than **Canada** or Finland in reducing the proportion with low skills. [p.98, para. #2]*

Only 2% of 15-year-olds in Canada perform below Level 1 and 7% perform at Level 1. The mean score for 15-year-olds in Canada is 534 points, which is above the OECD average of 500 points.

### **Indicator A7: Mathematical and Scientific Literacy of 15-year-olds**

This indicator uses the same data (PISA 2000) and similar text as in Indicator A6 of *Education at a Glance 2003*.

*Students in Japan display the highest mean scores in mathematical literacy, although their scores cannot be distinguished statistically from students in Korea and New Zealand. Other OECD countries that score significantly above the OECD average include Australia, Austria, Belgium, **Canada**, Denmark, Finland, France, Iceland, Sweden, Switzerland and the United Kingdom (Chart A7.1). [p.110, para. #5]*

*On the scientific literacy scale, students in Korea and Japan demonstrate the highest average performance compared to students in other OECD countries. Australia, Austria, **Canada**, the Czech Republic, Finland, Ireland, New Zealand, Sweden and the United Kingdom are among other countries that score significantly above the OECD average (Chart A7.2). [p.110, para. #6]*

*It is useful to relate the range of performance to average performance. This comparison shows that wide disparities in student performance are not a necessary condition for a country to attain a high level of overall performance. On the contrary, it is striking to see that six of the countries with the smallest differences between the 75th and 25th percentiles on the mathematical literacy scale, namely **Canada**, Finland, Iceland, Ireland, Japan and Korea, all perform significantly above the OECD average (Table A7.1). Furthermore, four of them, **Canada**, Finland, Japan and Korea are among the six best-performing OECD countries in mathematical literacy. A similar pattern is observed for scientific literacy. Again, **Canada**, Finland, Japan and Korea are among the six countries with the smallest differences between 75th and 25th percentiles, as well as among the six best-performing countries. [p.112, para. #4]*

#### **Indicator A8: 15-year-olds' engagement in school – A sense of belonging and participation**

*The term student engagement is used in this indicator to refer to students' attitudes towards schooling and their participation in schools activities. This measure of engagement differs from "reading engagement", described in the PISA reports [and the topic of Indicator A8 in EAG 2003] which refers specifically to students' motivation and interest in reading and the time they spend reading for pleasure and reading diverse materials. [p.119, para. #4]*

*The OECD mean for both measures of student engagement was fixed at 500. ... Table A8.1 shows that OECD countries varied in their levels of sense of belonging, ranging from 461 score points in Korea and Poland to 520 score points or more in Austria, Sweden and Switzerland [512 in Canada]. [p.120, para. #3]*

In most countries, the share of youth with a low sense of belonging was around 25%. In Canada, the rate was 20.5%.

*More variation was observed in levels of participation, with scores ranging from 472 in Spain to 555 in Japan. Three OECD countries had scores significantly above the OECD average: Japan, Korea and Germany. Five countries scored below the OECD average: **Canada** [481], Greece, New Zealand, Poland and Spain. [p.120, para. #5]*

The average percentage of students with low participation was 20%. In Canada, the rate was 26%.

*The results show that, within every country except Iceland, New Zealand and Sweden, the prevalence of students with a low sense of belonging varied significantly among schools.*

[p.122, para. #6] *The prevalence of low participation students varied significantly among schools in every OECD country.* [p.123, para. #1]

*Although PISA cannot determine the causal relationships among engagement and achievement outcomes, it can provide an indication of how strong the relationships are among these outcomes, both affective and academic. This analysis discerns whether students who are more engaged in schooling tend to have better literacy skills and vice versa. The correlations between two outcome variables can also be partitioned into within- and between-school components. The within-school component indicates how closely two variables are related among students within the same school. The school-level component indicates whether schools that have higher average scores on one outcome measure also tend to have higher average scores on the other outcome measure, and vice versa.* [p.123, para. #2]

The outcome of this analysis showed very weak correlations at the student level, and stronger correlations at the school level.

#### **Indicator A9: Gender differences in student performance**

**Canada** did not participate in all the studies included in this indicator, but has data for 15-year-olds' expectations for occupation by age 30, by gender from PISA 2000.

Table A9.1 shows that, in 39 out of the 42 countries, females seem to have higher expectations for their future occupations than males, with a greater percentage of females expecting a white-collar job by age 30 and a greater percentage of males expecting a blue-collar job. It also provides a further breakdown of expectations by low-skilled and high-skilled white- and blue-collar jobs. Canada follows the trend, with a greater percentage of women, than men, expecting a high-skilled white-collar job by age 30.

#### **Indicator A10: Labour force participation by level of educational attainment**

*The gap in employment ratios of males aged 25 to 64 years is particularly wide between upper secondary graduates and those who have not completed an upper secondary qualification. In 22 out of 30 OECD countries, the difference in the ratio of participation between upper secondary graduates and those without such a qualification is 10 percentage points or more.* [p.148, para. #5]

*Employment ratios for females aged 25 to 64 years show more marked differences, not only between those with below upper secondary and those with upper secondary attainment (15 percentage points or more in 22 out of the 30 OECD countries, [including **Canada**]) but also between those with upper secondary and those with tertiary-type A or advanced research programmes attainment (9 percentage points or more in 23 countries).* [p.149, para. #1]

In Canada, the difference between the top two levels is 11 percentage points.

*On average among OECD countries, with each additional level attained, the difference between the employment ratio of males and females decreases significantly: from 23 percentage points at below upper secondary level, to 19 percentage points at upper secondary and 11 percentage points at tertiary level (Chart A10.1). [p.149, para. #3]*

In Canada the gender gap is 21 percentage points, 14 percentage points, and 7 percentage points, respectively.

On average among OECD countries, the level of educational attainment noticeably affects unemployment ratios for men and women. However, the gender gap for unemployment varies across OECD countries at the different levels of educational attainment. In Canada, unemployment ratios are higher for men across all levels of educational attainment.

### **Indicator A11: The returns of education: education and earnings**

*In all countries, graduates of tertiary-level education earn substantially more than upper secondary and post-secondary non-tertiary graduates. Earnings differentials between tertiary and upper secondary education are generally more pronounced than those between upper secondary and lower secondary or below, suggesting that in many countries upper secondary (and with a small number of exceptions, post-secondary non-tertiary) education forms a break-point beyond which additional education attracts a particularly high premium. Table A11.1a shows that, among those countries which report gross earnings, the earnings premium for males aged 25 to 64 years with tertiary-level education, relative to upper secondary education, ranges from 30% in New Zealand to 152% in Hungary. [p.166, para. #3]*

In Canada, the earnings premium for males aged 25 to 64 years with tertiary-level education is 47%. It is interesting to note that the earnings premium for the same cohort with tertiary-type B education (17%) is significantly lower than for those with tertiary-type A education (79%).

*When all levels of education are taken together, the earnings of females between the ages of 30 and 44 range from 50% of those of males in Switzerland to 79% of those of males in Spain (Chart A11.2 and Table A11.1b). [p.167, para. #3]*

In Canada, the earnings of females between the ages of 30 and 44 are 61% of those of males.

Canada was not included in the analysis on rates of return.

**Indicator A12: The returns to education: links between human capital and economic growth**

*Chart A12.1 shows that rising labour productivity accounted for at least half of GDP per capita growth in most OECD countries over the 1990s. Indeed, in a number of countries, growth in labour productivity produced almost all of the increase in GDP per capita (this includes Austria, Denmark, Finland, Germany, Greece, Italy, Korea, Luxembourg, Sweden and the United Kingdom). Since hours worked fell in most countries during the 1990s, especially in continental Europe, labour productivity growth was higher on an hourly basis than when measured on a head-count basis. Declines in hours worked were a reflection of both shorter statutory (or collectively agreed) working weeks as well as, especially in a number of European countries, a substantial increase in part-time work. Changes in productivity trends were accompanied by different employment patterns across countries. For instance, among the G-7 economies, significant employment increases in the United States (as well as in **Canada** and Japan, with no acceleration in productivity) contrasted sharply with employment declines in Germany and Italy. [p.186, para. #2]*

*During the decade 1990-2000, skill upgrading amongst workers was particularly marked in Europe, although it was accompanied by sluggish employment growth. Productivity gains were achieved in part by dismissals or by not employing workers with low skills. By contrast, in Australia, **Canada**, Denmark, the Netherlands, New Zealand, Norway, Sweden and the United States, skill upgrading played a modest role in GDP growth per employed person. [p.190, para. #1]*

**Box A12.3. Human capital and converging incomes across Canada's provinces**

*Many OECD economies exhibit marked geographic concentrations in economic well-being, labour market performance and key social desiderata. Reducing regional economic and social disparities is a policy priority for a number of OECD governments. In **Canada**, since the early 1950s, incomes and productivity have tended to converge, albeit gradually, across the country's provinces. Recent research has examined this process of convergence using a growth model that incorporates human capital. It was found that for the period 1951 to 1996, across **Canada**'s provinces, roughly 50% of the differences in the growth of per capita income, and more than 80% of the relative income levels, can be explained in terms of convergence in the stocks of human capital.<sup>1</sup> [p.192]*

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<sup>1</sup> *Source: Coulombe, S. and J-F. Tremblay (2001), "Human Capital and Regional Convergence in Canada", *Journal of Economic Studies*, Vol. 28, No. 3, pp. 154-180.*

## Chapter B: Financial and Human Resources Invested in Education

### Indicator B1: Educational expenditure per student

Canada is not represented in this indicator.

### Indicator B2: Expenditure on educational institutions relative to gross domestic product

*The highest spending on educational institutions can be observed in Denmark, Korea and the United States, with more than 7% of GDP accounted for by public and private spending on educational institutions, followed by Belgium, **Canada** [6.1%], Iceland, Norway and Sweden with more than 6%. [p.224, para. #1]*

*In 17 out of the 18 OECD countries for which comparable trend data are available, public and private investment in education increased by 5% or more between 1995 and 2001 in real terms. ... The trend is similar when public investment is considered separately: direct public expenditure on institutions and public subsidies to households designated for educational institutions rose by 5% or more in 24 out of 26 OED countries for which data are available between 1995 and 2001. [p.224, para. #3]*

In Canada, the increase in public investment was 7% and the increase in private investment was 29% (Table B2.2).

*Spending on educational institutions increased between 1995 and 2001 in real terms but tended to lag behind growth in GDP between 1995 and 2001. Thirteen OECD countries out of 22 for which data are available showed a decrease in the proportion of GDP devoted to educational institutions over this period. Most notable are **Canada** [0.9%], the Czech Republic, Ireland and Norway where the proportion of GDP spent on education decreased by more than 0.7 percentage points (Table B2.1a). [p.224, para. #4]*

*High overall spending on education does not necessarily translate into a high level of spending at all levels of education. ... Differences at the pre-primary level can be explained mainly by participation rates among younger children. [p.225, para. #1]*

*Because of the largely universal enrolment at the primary and lower secondary levels of education in OECD countries, and the high participation rates in upper secondary education, these levels account for the bulk of expenditure on educational institutions. 3.8% of the combined OECD GDP (Chart B2.1). [p.225, para. #3]*

***Canada**, Korea and the United States spend 2.5, 2.7 and 2.7%, respectively, of their GDP on tertiary institutions (Chart B2.1). This accounts for more than one-third of all of their expenditure on educational institutions. [p.225, para. #4]*

*Countries vary in the levels of education at which spending has increased. ... Australia, Mexico, the Netherlands, New Zealand and the United Kingdom invested most of the*

*increases between 1995 and 2001 into primary, secondary and postsecondary non-tertiary education. Conversely, in **Canada**, Greece, Hungary, Ireland, Poland, the Slovak Republic, Spain and Switzerland, spending on tertiary education increased by more than 20% between 1995 and 2001, while spending on lower levels increased much more slowly (Chart B2.2). [p.225, para. #5]*

### **Indicator B3: Relative proportions of public and private investment in educational institutions**

*On average across OECD countries, 88% of all funds for educational institutions come directly from public sources. [p.236, para. #1]*

Canada is below the OECD average, with 78% of all funds for educational institutions coming directly from public sources.

*On average across OECD countries at the primary, secondary and post-secondary non-tertiary levels, 10% of public funding designated for educational institutions is spent in institutions that are privately managed (Table B3.3). [p.237, para. #1]*

There are only 3 OECD countries, with data available, that spend less on private institutions than Canada, which spends 1.8%.

*The contribution of private entities other than households to the financing of educational institutions is higher for tertiary education than for other levels of education. In one-third of the countries – Australia, Belgium, **Canada**, Hungary, Korea, the Netherlands, Sweden, the United Kingdom and the United States – the proportion of expenditure on tertiary institutions covered by private entities other than households represents around 10% or more. [p.237, para. #7]*

*A comparison between 1995 and 2001 proportions of educational expenditure by private sources shows that as many countries recorded increases as recorded decreases in the private funding share (Chart B3.2 and Table B3.1). In Australia, **Canada** and the United Kingdom, the private funding share increased from 21.1, 18.8 and 12.7% in 1995 to respectively 24.4, 21.8 and 15.3% in 2001. On the other hand, the Czech Republic, Ireland, Mexico and Spain recorded a decrease of between 2 and 4 percentage points in the private share of funding. [p.238, para. #3]*

*Eight countries for whom comparable data are available recorded shifts from public to private funding of primary, secondary and post-secondary non-tertiary education. In half of these countries – Australia, **Canada**, Ireland and the United Kingdom – the increase in the private share was more than 1 percentage point. [p.238, para.#4]*

*It is important to note that rises in private educational expenditure have not generally been accompanied by cuts (in real terms) in public expenditure on education at the tertiary level or at the primary, secondary and post-secondary non-tertiary levels. On the contrary, public investment in education has increased in most of the OECD countries for*

*which 1995 to 2001 data are available, regardless of changes in private spending (Table B2.2). [p. 240, para. #1]*

#### **Indicator B4: Total public expenditure on education**

*On average, in 2001 OECD countries devoted 12.7% of total public expenditure to education. [p.247, para. #1]*

*The public-sector proportion of funding of the different levels of education varies widely among OECD countries. ... On average in OECD countries, public funding of primary, secondary and post-secondary non-tertiary education is three times that of tertiary education, mainly due to enrolment rates. This ratio varies by country from less than double in **Canada**, Denmark and Finland to as high as nearly 11 times in Korea. The latter figure is indicative of the relatively high proportion of private funds that go into tertiary education in Korea (Table B4.1). [p. 247, para. #2]*

*The process of budget consolidation puts pressure on education along with every other service. Nevertheless, with the exception of **Canada**, Japan and the Slovak Republic, spending on education grew at least as fast as spending in other public areas between 1995 and 2001; the proportion of public budgets spent on education grew, on average, from 11.8% in 1995 to 12.7% in 2001. [p. 247, para. #6]*

In Canada, spending on education decreased from 13.1% in 1995 to 12.7% in 2001.

#### **Indicator B5: Support for students and households through public subsidies**

Canada is not represented in this indicator.

#### **Indicator B6: Expenditure on institutions by service category and by resource category**

Although the data for this indicator are one year newer than in Indicator B6 of *Education at a Glance 2003*, the text and figures relating to Canada are identical.

*Below the tertiary level, educational expenditure is dominated by spending on educational core services. At the tertiary level, other services, particularly those related to R&D activities, can account for a significant proportion of educational spending. Differences among OECD countries in expenditure on R&D activities can therefore explain a significant part of the differences among OECD countries in overall educational expenditure per tertiary student (Chart B6.1). High levels of R&D spending in tertiary educational institutions in Australia, Austria, Belgium, **Canada**, Denmark, Finland, Germany, the Netherlands and Sweden (between 0.4 and 0.8% of GDP), for example, imply that spending on education per student in these OECD countries would be considerably lower if the R&D component were excluded (Table B6.1). [p.261, para. #1]*

*There is some noticeable variation among OECD countries with respect to the relative proportions of current and capital expenditure: at the primary, secondary and post-secondary non-tertiary levels combined, the proportion of current expenditure ranges from less than 87% in Iceland, Korea and Luxembourg to 96% or more in Austria, Belgium, **Canada** [96.8%], Mexico and Portugal (Chart B6.2). [p.262, para. #3]*

## **Chapter C: Access to Education, Participation and Progression**

### **Indicator C1: School expectancy and enrolment rates**

Canada is not represented in this indicator.

### **Indicator C2: Entry into and expected years in tertiary education and participation in secondary education**

Canada is not represented in this indicator.

### **Indicator C3: Foreign students in tertiary education**

*Foreign student data are collected by host countries and therefore relate to students that are coming in rather than to students going abroad. Host countries covered by this indicator are all of the OECD countries with the exception of **Canada**, Luxembourg and Portugal as well as the following partner countries: Argentina, Chile, India, Indonesia, Jordan, Malaysia, the Philippines, the Russian Federation, Thailand and Tunisia. [p.304, para. #2]*

### **Indicator C4: Education and work status of the youth population**

*In addition to the average six and a half years spent in education, a young person aged 15 can expect to hold a job for 6.4 [6.4 in Canada] of the 15 years to come, to be unemployed for a total of 0.8 years [0.8 in Canada] and to be out of the labour market for 1.3 years [1.0 in Canada], neither in education nor seeking work (Table C4.1a). It is worth noting that, in absolute terms, young people can expect to spend less time in unemployment after completion of initial education than they could ten years ago. [p.315, para. #6]*

*A majority of countries have seen an increase in expected years of education over the past five years. [p.316, sidebar]*

Few countries have experienced decreases in expected years of education, and few countries have had stable figures. The expected years of education in Canada have been stable for the past 5 years, with an intermediate duration around 6.7 years.

*The average overall number of expected years in education is higher for females (6.6 compared with 6.3 years). [p.318, para. #1]*

In Canada in 2001, the expected years in education for females was 7.1 versus 6.5 years for males.

*By and large, males and females differ very little in terms of the expected number of years in unemployment, even though expected unemployment periods tend to be longer for males. While the situation is similar for both genders in many countries or with a*

*slight disadvantage for males, females appear to be at a clear disadvantage in the Czech Republic, Italy, Greece, Portugal and Spain, and at a sensible advantage in **Canada**, Hungary, Poland, the Slovak Republic and Turkey (Table C4.1a). [p.318, para. #2]*

*[Chart C4.4] Groups C and D include the majority of countries with an average duration of education. They clearly differ on how education is combined with work experience. In Group C, working while studying can occur as part of work-study programmes or in the form of part-time jobs out of school hours. Work-study programmes are relatively common in European countries such as Austria and Switzerland, and offer coherent vocational education routes to recognised occupational qualifications. Many young people also combine paid work out of school hours with education. This form of initial contact with the labour market for students between the ages of 15 and 24 is a major feature of the transition from education to work in Australia, **Canada**, the Netherlands, the United Kingdom and the United States and, to a lesser extent, Norway. [p.320, para. #2]*

*The employment status of males and females during the years spent in education is broadly similar, except in Austria, Germany and Switzerland, where noticeably more men participate in work-study programmes. In Australia, **Canada**, Denmark, Finland, Iceland, the Netherlands, Norway, Sweden and the United Kingdom, noticeably more females than males in the 15 to 24-year-old age group combine work outside school hours with education (Tables C4.2a and C4.2b). [p.320, para. #5]*

Males aged between 20 and 24 and between 25 and 29 in Canada are above the OECD average for the percentage of the population not in education and unemployed with varying levels of educational attainment, with 9.1 and 9.2% respectively, compared with the OECD averages of 8.2 and 6.7% (Table C4.2a). Conversely, females aged between 20 and 24 and between 25 and 29 in Canada are below the OECD average, with 4.8% for both cohorts, compared with the OECD averages of 6.1 and 6.0% (Table C4.2b)<sup>2</sup>. When looking at different levels of educational attainment, the pattern stays the same, with Canadian males above the OECD average, and Canadian females below the OECD average for the percentage of the population not in education and unemployed.

#### **Indicator C5: The situation of the youth population with low levels of education**

*To be out of education and out of employment is very uncommon in Denmark, France, Luxembourg, Norway and Poland; it is common in Finland, Italy, Mexico, the Slovak Republic and Turkey. ... In other OECD countries, the proportion [of young people aged 15 to 19 who are neither at school nor in work] is lower but not insignificant, ranging from 4 to 9% [6.4% in **Canada**]. [p.345, para. #5]*

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<sup>2</sup> Note that, although the figures for Canada are the same in Table C4.3, this is not the case for all countries and therefore the OECD country mean is different.

*For students aged between 20 and 24 years, compared with those aged 15 to 19, the scale of the problem grows and changes, since most 20 to 24-year-olds are entering the labour market for the first time after having completed initial education. [p.345, para. #6]*

*In eight OECD countries, including the Nordic and Eastern European countries as well as Switzerland and the United Kingdom, the proportion of young people (aged 20 to 24) no longer in education without upper secondary education remains under 10% [10.9% in Canada]. ... The problem affects more young males than females in 19 out of 27 countries. [p.346, para. #1]*

In Canada, 13.1% of males are in this situation, versus 8.7% of females.

*Young persons with a low level of qualifications are more likely to have been born outside of the country in which they live. ... The proportion of 20- to 24-year-olds not born in the country is much higher among those who are not in education and have not completed upper secondary education (Chart C5.4). Being born out of the country is a clear disadvantage in all but five countries: Australia, **Canada**, Ireland, Portugal and Spain. In other countries the proportion of non-native young persons is remarkably high among low-qualified individuals, on average twice as high as for persons born in the country, and much more in Austria, the Czech Republic, Switzerland and the United States. [p.347, para. #1]*

## **Chapter D: The Learning Environment and Organisation of Schools**

Canada is not represented in this chapter.

## Background Information

### I. The Organising Framework [p.25]

*Education at a Glance – OECD Indicators 2004* provides a rich, comparable and up-to-date array of indicators that reflect a consensus among professionals on how to measure the current state of education internationally. The indicators provide information on the human and financial resources invested in education, on how education and learning systems operate and evolve, and on the returns to educational investments. The indicators are organised thematically, and each is accompanied by relevant background information. The education indicators are presented within an organising framework which:

- distinguishes between the actors in education systems: individual learners, instructional settings and learning environments, educational service providers, and the education system as a whole;
- groups the indicators according to whether they speak to learning outcomes for individuals or countries, policy levers or circumstances that shape these outcomes, or to antecedents or constraints that set policy choices into context; and
- identifies the policy issues to which the indicators relate, with three major categories distinguishing between the quality of educational outcomes and educational provision, issues of equity in educational outcomes and educational opportunities, and the adequacy and effectiveness of resource management.

The following matrix describes the first two dimensions. References between the individual indicators and the cells in this matrix are provided in the next section.

	(1) Education and learning outputs and outcomes	(2) Policy levers and contexts shaping educational outcomes	(3) Antecedents or constraints that contextualise policy
(I) Individual participants in education and learning	(1.I) The quality and distribution of individual educational outcomes	(2.I) Individual attitudes, engagement, and behaviour	(3.I) Background characteristics of the individual learners
(II) Instructional settings	(1.II) The quality of instructional delivery	(2.II) Pedagogy and learning practices and classroom climate	(3.II) Student learning conditions and teacher working conditions
(III) Providers of educational services	(1.III) The output of educational institutions and institutional performance	(2.III) School environment and organisation	(3.III) Characteristics of the service providers and their communities
(IV) The education system as a whole	(1.IV) The overall performance of the education system	(2.IV) System-wide institutional settings, resource allocations, and policies	(3.IV) The national educational, social, economic, and demographic contexts

## II. The Indicators [pp.26–34]

### Chapter A: The output of educational institutions and the impact of learning (Indicators A1 to A12)

Chapter A begins by examining the educational attainment of the adult population (**Indicator A1**) which provides a proxy measure of the stock of “human capital” in each country, equally providing a measure of the output of education systems (**Framework Cell 1.IV**). It also provides important context for education systems (**Framework Cell 3.IV**) as is witnessed by the close interrelationships between student performance and parental levels of educational attainment (OECD, 2001). *New:* This indicator also presents new analysis of demographic factors that are shaping the future supply of educational qualifications.

**Indicator A2** focuses on graduation rates at the upper secondary level of education which is often considered the minimum credential for successful labour market entry. In presenting both the annual upper secondary graduation rate as well as the stock of upper secondary graduates in the population, the indicator speaks both to the current output of educational institutions and of the system more generally (**Framework Cells 1.III and 1.IV**). An analysis by gender provides an assessment of gender equity in upper secondary qualifications.

**Indicators A3 and A4** turn the focus on tertiary level, examining tertiary graduation rates, as well as historical patterns of tertiary educational attainment. Tertiary graduation rates are an indicator of the current production rate of advanced knowledge by each country’s education system whilst measures of educational attainment by age cohort show the evolution of advanced knowledge in the population (**Framework Cells 1.III and 1.IV**). Attainment levels for different generations also provide an important context for current educational policies (**Framework Cell 3.IV**) helping to shape thinking on lifelong learning policies, for instance.

Analysis of tertiary graduates by field of study (**Indicator A4**) can be indicative of both the admission policies of tertiary institutions (**Framework Cell 2.III**) and prevailing labour market conditions (**Framework Cell 3.IV**) and can shed light on the demand for courses and teaching staff, as well as the supply of new graduates.

The indicator also reviews countries’ progress in closing the gender gap in tertiary attainment and graduation rates, both overall and across different fields of education.

**Indicator A3** also compares drop-out rates which provide some indication of the internal efficiency of education systems (**Framework Cell 1.III**). Students leave educational programmes before their completion for many reasons — they realise that they have chosen the wrong subject or educational programme, they fail to meet the standards set by their educational institution, or they may want to work before completing their programme. Nevertheless, high drop-out rates indicate that the education system is not

meeting the needs of its clients. Students may find that the educational programmes do not meet their expectations or their needs in order to enter the labour market, or that the programmes require more time outside the labour market than they can justify.

Counting the numbers of graduates alone does not provide information about the quality of learning outcomes. To address this, Chapter A also compares the knowledge and skills attained by students across countries (**Framework Cell 1.I**). *New:* **Indicator A5** has been newly introduced to assess trends in reading literacy skills of students around the age of 9 years both overall and by gender.

While **Indicator A5** looks at reading skills towards the beginning of schooling, **Indicators A6** and **A7** compare the reading, mathematics and science knowledge and skills of students at age 15, *i.e.* towards the end of their compulsory schooling period (from PISA 2000). These indicators are essential indicators for gauging the quality of educational performance as they assess to what extent societies have succeeded in equipping young adults with key foundation skills at an age when the transition to work is becoming a key concern for many.

Indicators A5, A6 and A7 not only benchmark the overall performance of countries (**Framework Cell 1.IV**), but devote much attention also to the distribution of knowledge and skills in the student population, with the aim to assess to what extent countries succeed in combining high overall performance with an equitable distribution of learning outcomes (**Framework Cell 1.I**).

Recognising the impact that education has on participation in labour markets, occupational mobility and the quality of life, policy makers and educators emphasise the importance of reducing educational differences between males and females. Significant progress has been achieved in reducing the gender gap in educational attainment (see **Indicators A1 and A2**), although in certain fields of study, such as mathematics and computer science, gender differences favouring males still exist (see **Indicator A4**).

As females have closed the gap and then surpassed males in many aspects of education, there are now many instances in which there is concern about the underachievement of males in certain areas, such as reading. Indeed, **Indicator A5** shows that boys' underachievement in reading has been long standing and has not significantly improved over a 10-year period. Gender differences in student performance therefore need to receive close attention from policy makers if greater gender equity in educational outcomes is to be achieved.

Furthermore, students' perceptions of what occupations lie ahead for them can affect their academic decisions and performance. An important policy objective should therefore be to strengthen the role that the education system can play in moderating gender differences in occupational expectations to help reduce performance gaps in different subject areas. **Indicator A9** begins by examining data from OECD's PISA study on gender differences in the occupations which 15-year old students expect to

have by the age of 30 and then examines gender differences in performance, attitudes and learning strategies in primary and secondary schools (**Framework Cells 1.I and 2.I**).

An important element in the attitudinal profile of students is their sense of engagement in school life. School is a major aspect of the daily lives of young people, and their perception of schooling is reflected in their participation in academic, as well as non-academic, pursuits. **New: Indicator A8** examines two dimensions of student engagement — sense of belonging and participation in school — and explores the extent to which these vary across countries. The indicator goes on to examine the inter-relationships between student engagement and reading literacy performance. Student engagement can be seen both as an outcome of the schooling process (**Framework Cells 1.I**) as well as a context which shapes educational outcomes (**Framework Cells 2.I**).

As levels of skill tend to rise with educational attainment, the social costs incurred when those with higher levels of education do not work also rise; and as populations in OECD countries age, higher and longer participation in the labour force can lower dependency ratios and help to alleviate the burden of financing public pensions. **Indicator A10** examines the relationship between educational attainment and labour force activity, comparing employment rates first and then rates of unemployment and examining how these vary by gender. **New** for this indicator is an assessment of how these comparisons have changed over time. In measuring the relationship between labour force activity and educational attainment, these are, first and foremost, indicators of the long-term outcomes of education systems (**Framework Cell 1.IV**). The adequacy of workers' skills and the capacity of the labour market to supply jobs that match those skills are, however, also important contexts for national education policy making (**Framework Cell 3.IV**). Unemployment rates can also influence student decisions to continue in education and therefore can shed light on differing participation rates in education across countries.

One way in which markets provide incentives for individuals to develop and maintain appropriate levels of skills is through wage differentials, in particular through the enhanced earnings accorded to persons completing additional education. The pursuit of higher levels of education can also be viewed as an investment in human capital. Human capital includes the stock of skills that individuals maintain or develop, usually through education or training, and then offer in return for earnings in the labour market. The higher the earnings that result from increases in human capital, the higher the returns on that investment and the premium paid for enhanced skills and/or for higher productivity. **Indicator A11** and **Indicator A12** seek to measure the returns to education for individuals (**Framework Cell 1.I**), in terms of higher earnings; for taxpayers, in terms of higher fiscal income from better educated individuals; and for societies more generally (**Framework Cell 1.IV**), in terms of the relationship between education and labour productivity. Together, these indicators shed light on the longer-term impact of education for individuals and societies. Indicator A11 also sheds light on an important national context (**Framework Cell 3.IV**) for policy making and can influence public funding policies in general and policies on financial aid to students in particular. It can also provide context for individual students' decisions to engage in education at different

levels (**Framework Cell 3.I**). A *new* dimension to Indicator A11 is the comparison of relative earnings over time both overall and for males and females separately.

## **Chapter B: Financial and human resources invested in education (Indicators B1 to B6)**

Financial resources are a central policy lever for improving educational outcomes. As an investment in human skills, education can help to foster economic growth and enhance productivity, contribute to personal and social development, and reduce social inequality. But like any investment, education needs to be financed. After Chapter A examined the returns to education, Chapter B provides a comparative examination of spending patterns in OECD countries. By giving emphasis to trends in educational spending, the chapter seeks to analyse how different demand and supply factors interact and how spending on education, compared to spending on other social priorities, has changed.

Effective schools require the right combination of trained and talented personnel, adequate facilities, state-of-the-art equipment, and motivated students ready to learn. The demand for high-quality education, however, can translate into higher costs per student, and must therefore be weighed against undue burdens for taxpayers. No absolute standards exist for measuring the per student resources needed to ensure optimal returns for individual students or society as a whole. Nonetheless, international comparisons can provide a starting point for discussion by evaluating the variation that exists between OECD countries in educational investment. **Indicator B1** examines direct public and private expenditure on educational institutions in relation to the number of their full-time equivalent (FTE) students and investigates how this relates to countries' relative wealth, as measured by GDP per capita. It also reviews how OECD countries apportion per student education expenditure between different levels of education and presents a decomposition of the changes in student numbers and expenditure which underlie these figures. *New:* To further understand the comparisons by level a new feature of the indicator is a comparison of the distribution of expenditure by education level and the distribution of students by educational level.

Expenditure per student is a key policy measure which most directly impacts on the individual learner as it acts as a constraint on the learning environment in schools and student learning conditions in the classroom (**Framework Cells 2.I, 3.III and 3.II**).

However, relating Indicator B1 to Indicators A6 and A7 also shows that lower expenditure cannot automatically be equated with a lower quality of educational services.

**Indicator B2** examines the proportion of national resources that goes to educational institutions and the levels of education to which they go. The proportion of national financial resources allocated to education is one of the key choices made by each OECD country; it is an aggregate choice made by governments, enterprises, and individual students and their families. Indicator B2 also shows how the amount of educational spending relative to the size of national wealth and in absolute terms has evolved over

time in OECD countries. National resources devoted to education are a key national policy lever (**Framework Cell 2.IV**) but also act as an antecedent to the activities of schools, classrooms and individual learners (**Framework Cells 3.III, 3.II and 3.I**).

Cost-sharing between the participants in education and society as a whole is an issue that is under discussion in many OECD countries. This is a particularly relevant question at the early and late stages of education — pre-primary and tertiary — where full or nearly full public funding is less common. As new client groups participate in education, the range of educational opportunities, programmes and providers is growing, and governments are forging new partnerships to mobilise the necessary resources. Public funding is now being looked upon increasingly as providing only a part, albeit a very substantial part, of the investment in education. Private funding is playing an increasingly important role.

New funding strategies aim not only at mobilising the required resources from a wider range of public and private sources, but also at providing a broader range of learning opportunities and improving the efficiency of schooling. In the majority of OECD countries, publicly funded primary and secondary education is also organised and delivered by public institutions. However, in a fair number of OECD countries the public funds are then transferred to private institutions or given directly to households to spend in the institution of their choice. In the former case, the final spending and delivery of education can be regarded as subcontracted by governments to non-governmental institutions, whereas in the latter instance, students and their families are left to decide which type of institution best meets their requirements. To the extent that private financing of education creates barriers for the participation of learners from lower income groups, this may reflect in variation of performance between institutions.

To shed light on these issues, **Indicator B3** examines the relative proportions of funds for educational institutions from public and private sources, and how these figures have evolved since 1995. **New:** For the first time, private expenditure is disaggregated between household expenditure and the expenditure of other private funders, allowing a more refined analysis of public and private funding to be undertaken.

As with Indicator B2, national resources devoted to education are a key national policy lever (**Framework Cell 2.IV**) as well as an antecedent to the activities of schools, classrooms and individual learners (**Framework Cells 3.III, 3.II and 3.I**).

All governments are involved in education, funding or directing the provision of services. Since markets offer no guarantee of equal access to educational opportunities, governments fund educational services to ensure that they are within the reach of their populations. Public expenditure on education as a percentage of total public expenditure indicates the value of education relative to the value of other public investments such as health care, social security, defence and security. **Indicator B4** completes the picture of the volume of resources invested in education by examining changes in public spending on education in absolute terms and relative to changes in overall public spending.

Since the second half of the 1990s, most OECD countries made serious efforts to consolidate public budgets. Education had to compete for public financial support against a wide range of other areas covered in government budgets. To portray this, the indicator evaluates changes in educational expenditure in absolute terms and also relative to changes in the size of public budgets.

As with **Indicators B2 and B3**, national resources devoted to education are a key national policy lever (**Framework Cell 2.IV**) as well as an antecedent to the activities of schools, classrooms and individual learners (**Framework Cells 3.III, 3.II and 3.I**).

The primary financing mechanism of education in most OECD countries remains direct spending on educational institutions. However, governments are looking increasingly towards greater diversity in financing instruments. Comparing these instruments helps to identify policy alternatives. Subsidies to students and their families, the subject of **Indicator B5**, constitute one such alternative to direct spending on institutions. They are used as incentives to engage individuals or groups of individuals in education or to open opportunities for them in different types of institutions (**Framework Cells 2.I and 2.III**).

Governments subsidise the costs of education and related expenditure in order to increase access to education and reduce social inequalities. Furthermore, public subsidies play an important role in indirectly funding educational institutions. Channelling institutional funding through students may heighten institutional competition and therefore the efficiency of education funding. Since aid for student living costs can also serve as a substitute for work as a financial resource, public subsidies may enhance educational attainment by enabling students to study full-time and to work fewer hours or not at all.

Public subsidies come in many forms: means-based subsidies, family allowances for all students, tax allowances for students or parents, or other household transfers. Should household subsidies take the form of grants or loans? Do loans effectively help increase the efficiency of financial resources invested in education and shift some of the costs to the beneficiaries? Or are student loans less appropriate than grants for encouraging low-income students to pursue their education? **Indicator B5** cannot answer these questions, but it does provide a useful overview of the subsidy policies being pursued in different OECD countries.

Chapter B concludes with an examination of how financial resources are invested and apportioned among resource categories (**Indicator B6**). The allocation of resources can influence the quality of instruction (through the relative expenditure on teachers' salaries, for example), the condition of educational facilities (through expenditure on school maintenance), and the ability of the education system to adjust to changing demographic and enrolment trends. A comparison of how OECD countries apportion their educational expenditure among resource categories can provide some insight into the differences in organisational structure and operation of educational institutions. Systemic budgetary and structural decisions on allocating resources eventually make themselves felt in the classroom; they affect teaching and the conditions under which teaching takes place. A

system-wide description of decisions on how educational funding is spent, decisions that will influence system level outputs (**Framework Cell 2.IV**).

### **Chapter C: Access to education, participation and progression (Indicators C1 to C5)**

A well-educated population is critical for a country's economic and social development, in both the present and the future. Societies therefore have an intrinsic interest in ensuring broad access to a wide variety of educational opportunities for children and adults. Early childhood programmes prepare children for primary education. They can help to combat linguistic and social disadvantages and provide opportunities to enhance and complement home educational experiences. Primary and secondary education lay the foundations for a wide range of competencies and so prepare young people to become lifelong learners and productive members of society. Tertiary education, either immediately after school or later, provides a range of options for acquiring advanced knowledge and skills. Chapter C sketches a comparative picture of access, participation and progression in education across OECD countries.

Virtually all young people in OECD countries can expect to go to school for 11 years. However, participation patterns and progression through education vary widely. Both the timing and participation rate in preschool and after the end of compulsory education differ considerably between countries. Some countries have extended participation in education, for example, by making pre-school education almost universal by the age of three, by retaining the majority of young people in education until the end of their teens, or by maintaining 10 to 20% participation aged into their late 20s.

**Indicator C1** sheds light on these issues by portraying enrolment rates and the expected duration of schooling. It can help to elucidate the structure of education systems and access to educational opportunities in them. *New:* An analysis newly added to this indicator is that of the pattern of enrolment in education for single years of age for young adults. This indicates the ages at which the transition between different levels of education occurs across countries and also the ages at which young people's participation in formal education starts to decline. Enrolment patterns indicate overall outcomes of educational policy (**Framework Cell 1.IV**) but, in the form of school expectancy, also outcomes at the individual level (**Framework Cell 1.I**).

While the successful graduation from upper secondary education is becoming the norm in most OECD countries (see Indicator A2), routes to it are becoming increasingly varied. Upper secondary programmes can differ in their curricular content, often depending on the type of further education or occupation for which the programmes are intended to prepare students. Most upper secondary programmes in OECD countries are primarily designed to prepare students for further studies at the tertiary level. The orientation of these programmes can be general, pre-vocational or vocational. Besides the programmes primarily preparing students for further education, in most OECD countries there are also upper secondary programmes designed to prepare students for direct entry to the labour market. Enrolment in these different types of educational programmes is examined in **Indicator C2**.

**Indicator C2** also sheds light on rates of entry into tertiary education, that provide an important indication of the extent to which a population is setting out to acquire the high-level skills and knowledge that labour markets in knowledge societies value. The indicator also provides a gender profile of the participants.

Like Indicator C1, Indicator C2 reflects on overall outcomes of educational policy (**Framework Cell 1.IV**) as well as on outcomes at the individual level (**Framework Cell 1.I**).

Access to and participation in tertiary education is no longer limited to national boundaries. One way for students to expand their knowledge is to attend higher educational institutions in countries other than their own. Such international student mobility involves costs and benefits to students and institutions in sending and host countries alike. While the direct short-term monetary costs and benefits of this mobility are relatively easy to measure, the long-term social and economic benefits to students, institutions and countries are more difficult to quantify. The number of students studying in other countries (**Indicator C3**), however, provides some idea of the extent of student mobility and illustrates those countries that are net importers and net exporters of students. **New:** As well as, for the first time, providing some comparisons over time of student mobility, the indicator this year introduces an analysis of the subjects which foreign students choose to study. Such analysis helps to highlight “magnet” programmes which attract students from abroad in large numbers and which result from many factors related to the demand for and supply of particular programmes.

The indicator reflects on students’ motivation to study in other countries and hence raise their labour market prospects (**Framework Cell 2.I**) but is also indicative of the national policy on student mobility (**Framework Cell 2.IV**). The policy itself is, of course, a condition under which students’ mobility takes place (**Framework Cell 3.I**) and the extent of student mobility is a context for the learning environment in school and teaching and learning practices in the classroom (**Framework Cells 3.III and 3.II**).

All OECD countries are experiencing rapid social and economic changes that are making the transition to working life more uncertain. Entering the labour market is often a difficult period of transition. While the length of time spent in education has increased, a significant proportion of young people still remain marginal if they are neither in education or working, *i.e.*, they are either unemployed or in non-employment. **Indicators C4 and C5** examine the education and employment status of young men and women and provide information on how successfully the transition from school to work is made. **Indicator C4** focuses on the combination of work and study and Indicator C5 on the work status of young people who are no longer in education. **New:** An important new development in Indicator C4 is the addition of comparisons over time which help to show how the experiences of young people in managing the transition between education and work have changed in recent years. **New:** For the first time, Indicator C5 examines the profile of young persons with low levels of qualifications in terms of whether or not they were born in the host country, throwing further light on the challenges facing countries in

raising education levels. *New:* The indicator also now provides further insight into the difficulties faced by the low qualified in finding employment by showing the proportion of under-qualified young people who have never had a job.

Both indicators reflect outcomes not only for the individual student (**Framework Cell 1.I**) but also for the education system as a whole as it interacts with the labour market (**Framework Cell 1.IV**). They also provide a context for current participation rates and patterns both individually and collectively within the system (**Framework Cells 3.I and 3.IV**).

#### **Chapter D: The learning environment and organisation of schools (Indicators D1 to D6)**

Chapters A, B and C examined financial resources invested in education, patterns of participation, and the results of education in terms of student achievement and the labour market outcomes of education. Chapter D concludes the publication with an examination of student learning conditions, teacher working conditions and the decision making processes in place in national education systems. These are crucial contexts within which student learning takes place and which are, in the main, open to policy influence.

The amount and quality of time that people spend learning between early childhood and the start of their working lives, shape their lives, socially and economically. How effectively learning time is used depends on how appropriate study programmes are, and on how much instruction time a student receives. At the same time, instruction time in formal classroom settings comprises a large part of the public investment in student learning. Instruction time is, therefore an important policy lever which acts most directly on the individual learner (**Framework Cell 2.I**) but also as a context for teaching and learning practices in the classroom and school (**Framework Cells 3.II and 3.III**).

**Indicator D1** examines instruction time available for various study areas for students of different ages.

Besides policies on instruction time, other important aspects of student learning conditions are policies which determine student admissions to different schools and how students are then grouped within these schools. Student admission, placement and grouping policies set the framework for selection of students for academic programmes and for streaming of students according to their specific career goals and educational needs. *New:* The newly introduced **Indicator D5** examines these policies as they apply at the upper secondary level, where the educational provision begins to show greater diversity and the choices made by students need to be carefully managed to allow them to fulfil their potential and at the same time to ensure equal opportunities for all.

Student admission and grouping policies are policy levers which act on the individual learner (**Framework Cell 2.I**) but which are also contexts in which the classrooms and institutions operate (**Framework Cells 3.II and 3.III**).

The size of the learning group that shares teacher time is another variable that impacts on the use of classroom learning time. **Indicator D2** looks at the variation in average class size, and the ratio of students to teaching staff across OECD countries to estimate the human resources available for individual students. Both measures are factors which, on the whole, schools can influence (**Framework Cell 2.III**), though in some cases these can be constrained by system-level policies. They are also important contexts which shape student learning (**Framework Cell 3.I**) and classroom instruction (**Framework Cell 3.II**). **New:** A newly introduced feature of the indicator is a comparison of ratios of students to teaching staff between public institutions and private institutions, which has relevance to the debate concerning the comparative strengths and weaknesses of public versus private sector education.

Chapter D continues with a comparative review of teachers' working conditions, examining first teachers' salaries and then teachers working and teaching time. Education systems employ a large number of professionals in increasingly competitive market conditions. Ensuring a sufficient number of skilled teachers is a key concern in all OECD countries. Key determinants of the supply of qualified teachers are the salaries and working conditions of teachers, including starting salaries and pay scales, and the costs incurred by individuals to become teachers, compared with salaries and costs in other occupations. Both affect the career decisions of potential teachers and the types of people attracted to the teaching profession. At the same time, teachers' salaries are the largest single factor in the cost of providing education. Teacher compensation is thus a critical consideration for policy makers seeking to maintain the quality of teaching and a balanced education budget. The size of education budgets naturally reflects trade-offs between a number of interrelated factors, including teachers' salaries, the ratio of students to teaching staff, the quantity of instruction time planned for students, and the designated number of teaching hours. To shed light on these issues, **Indicator D3** shows the starting, mid-career and maximum statutory salaries of teachers in public primary and secondary education, and incentive schemes and bonuses used in teacher rewards systems.

Together with class size and ratios of students to teaching staff (**Indicator D2**), hours of instruction for students (**Indicator D1**) and teachers' salaries (**Indicator D3**), the amount of time that teachers spend in the classroom teaching influences the financial resources which countries need to invest in education. While the number of teaching hours and the extent of non-teaching responsibilities are important parts of a teacher's working conditions, they also affect the attractiveness of the profession itself. To shed light on this, **Indicator D4** examines the statutory working time of teachers at different levels of education, as well as the statutory teaching time, *i.e.*, the time that full-time teachers are expected to spend teaching students. Although working time and teaching time only partly determine the actual workload of teachers, they do give some insight into differences between countries in what is demanded of teachers. **New:** To provide a sharper focus on how teachers' working time is used, a new analysis of the proportion of teachers' statutory working time that is spent teaching is included in the indicator this year.

Teacher salaries and working hours not only impact on recruitment and retention of teachers within institutions (**Framework Cell 2.III**), but as a feature of teacher working conditions, they also provide a context to the quality of instruction in instructional settings and for the learning outcomes of individual learners (**Framework Cells 3.I and 3.II**).

An important factor in educational policy is the division of responsibilities among national, regional and local authorities, as well as schools. Placing more decision-making authority at lower levels of the educational system has been a key aim in educational restructuring and systemic reform in many countries since the early 1980s. Yet, simultaneously, there have been frequent examples of strengthening the influence of the central authorities in some areas. For example, a freeing of “process” and financial regulations may be accompanied by an increase in the control of output from the centre, and by national curriculum frameworks. **New:** Chapter D concludes with a newly introduced **Indicator D6**, which examines the pattern of decision making in education systems: which authority takes decisions on which areas of the system and the degree of autonomy with which they take these decisions.

Although the profile of decision making in a country may be more or less centralised, the particular model of decision making that exists within a country is more often than not set at the system level. As such it is a system level policy lever (**Framework Cell 2.IV**), which provides contexts in which the educational institutions and instructional settings operate (**Framework Cells 3.II and 3.III**).

### **III. Further resources [p.36]**

The web site *www.oecd.org/edu/eag2004* 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 web site also provides access to the data underlying the indicators, as well as to a comprehensive glossary for technical terms used in this publication.

The web site *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 Policy Analysis* is a companion volume to *Education at a Glance*, which takes up selected themes of key importance for governments. The 2004 edition contains four chapters that draw together key findings and policy developments under the following headings: Education and ageing societies; Getting returns from investing in educational ICT; Tomorrow's teachers, tomorrow's schools; Trade-offs in restructuring tertiary education: The roles of tertiary institutes and colleges.