In knowledge economies, the distribution of education and lifelong learning has profound effects on social equity. Broad access to learning could narrow inequalities, but the opposite will happen if human capital becomes concentrated - the more so because it can be passed from one generation to the next.

Disappointingly, in recent decades of educational expansion, the educational outcomes of more privileged and less privileged groups have not converged markedly. Children from poor or less educated families, from ethnic minorities and with disabilities remain well behind. The story for women is better: they are now being educated to the same levels, on average, as men, although still being paid less.

Such inequalities are today compounded by inferior access among traditionally disadvantaged groups to computers and the Internet, especially at home. However, more even access to such technology in schools has helped counter this inequality. Policies to tackle the digital divide need to be integrated into general policies to combat disadvantage.

Finally, inequalities can be further compounded in adulthood because adults tend to engage in more education and training if they are already well educated. However, some countries have been relatively good at spreading participation more evenly.

Overall, educational equity has proven highly elusive. With the stakes higher than ever, the chapter ends with a list of priorities for strengthening commitment to this goal.
1. INTRODUCTION

A critical challenge for emerging knowledge-based societies is to build and maintain social cohesion. At the heart of political debate and action is a growing awareness that global changes promising to enhance overall prosperity also risk increasing inequalities and dividing societies. This could increase the polarisation that has already taken place in many countries recently. For example, an OECD study of 21 countries found that income inequality grew in more than half of them from the mid-1980s to the mid-1990s, with simultaneous rises in the proportion of households that are “work-rich” and the proportion that are “work-poor”.

The central importance of the distribution of human capital makes the role of education and training more crucial than ever in pursuing social equity and cohesion. Politicians and social commentators have long recognised the potential for education to contribute to greater equality, but have also acknowledged that it can sustain and accentuate social division. Equity is now an entrenched value in most public education systems, and is likely to continue to be so. But this chapter takes a fresh look at what this means for the ways in which learning is structured at the beginning of the 21st century. The chapter reviews a series of new challenges in fostering educational equity, such as the importance of learning throughout life and the need to avoid a “digital divide”. In these circumstances, achieving equity goals requires more than just ensuring wider access to learning for disadvantaged groups; it also requires that the kinds of learning most needed in the knowledge economy be delivered to them.

Section 2 gives a short overview of the ways in which educational equity is important in the 21st century. Section 3 looks at the recent trends and the degree to which particular groups have shared the expansion of education attainment. Even though average overall educational levels have increased greatly over the past few decades in almost all countries as demonstrated in Chapter 2 of this publication, the relative position of the disadvantaged has not always improved. Closing these gaps requires not just greater participation of excluded groups to higher levels of education than in the past, but also ensuring that they avail themselves of the new forms of learning which are needed. Sections 4 and 5 review learning trends in this changing context, first with respect to the digital divide and the specific requirement of using technology effectively, and then more generally in terms of the need for lifelong learning. The concluding section highlights some policy initiatives within education and training that can contribute to more equity in education and learning, thereby helping to foster greater social cohesion.

2. NEW AND OLD REASONS TO CARE ABOUT EDUCATIONAL EQUITY

The distribution of education and learning in any country is a matter of profound political, social and economic importance. An abundant literature

2. Reviewed, for example, in OECD (1994, 1998b).
shows that investment in education and training is beneficial for individuals and for enterprises. Adults with higher educational attainment have, on average: better employment and pay prospects, better health and life expectancy and less chance of being involved in crime. Enterprise-based training can produce gains to individuals in terms of higher wages and better careers and to firms in higher productivity and profits.

A key political issue is therefore how access to, and the benefits from, education and training can be made available to as many people as possible, including those with disabilities, members of low socio-economic groups, ethnic minorities and others facing disadvantages. Educational inequalities in this respect have tended to reflect social inequalities more generally, but governments today aim to make their systems more inclusive. The Department for Education and Employment in England, for example, aims “to give everyone the chance, through education, training and work, to realise their full potential, and thus build an inclusive and fair society and a competitive economy”.

While the desire for education to promote social justice dates at least from the advent of universal schooling a century ago, some recent trends have brought new urgency to this ambition:

- The growing importance of human capital in knowledge-oriented societies has already been mentioned. New jobs will continue to be concentrated in high-skilled services, although OECD economies will continue to generate many low-productivity jobs, especially in social and personal services. This may create new skill-based inequalities within the labour market and/or exacerbate existing ones.

- The use of information and communications technologies (ICT) is expanding rapidly in OECD countries. This has given rise to much debate about the emergence of a “digital divide”, with negative consequences for equity goals (see Section 4 in this chapter).

- A weakening of traditional social bonds creates further imperatives for education and for schools. In the case of families, for example, the past three decades have seen higher rates of family break-up and growth in the number of lone-parent families. Such families are at high risk of social exclusion. In such a context, the school’s importance grows as an institution that can bring communities together, while schooling itself has a key role to play as an experience to which every child has access. Schools can also play a valuable role in building community networks and social capital, especially where traditional support structures have weakened.

- There is a growing recognition that lifelong learning is important for success in a constantly changing world. Since active learning in adulthood has always tended to be concentrated among those with a better initial education, greater pursuit of lifelong learning has the potential to lead to even greater social polarisation based on access to knowledge.
CHAPTER 3
CLOSING THE GAP: SECURING BENEFITS FOR ALL FROM EDUCATION AND TRAINING

3. HOW WIDELY HAS PROGRESS IN EDUCATIONAL ATTAINMENT BEEN SHARED AMONG DIFFERENT GROUPS?

Chapter 2 shows, access to upper secondary and tertiary education has grown dramatically in all OECD countries over the past three decades, yet a minority of varying sizes in different countries continues to be at risk due to low educational attainment. As shown in Section 5 below, these inequalities can be accentuated in adult life, as opportunities for further learning are often greater for the most highly educated. So a significant fraction of the population in many OECD countries is in a marginal situation in relation to learning and employment opportunities.

How well have groups that traditionally did poorly in education fared in this context? This section reviews the situation of four such groups that have figured prominently in the debate in all countries: people of low socio-economic status; women; ethnic and other minority groups; and people with disabilities. These are not the only groups subject to “a marginal position” within education – for example members of rural and isolated communities are clearly disadvantaged in some countries. Relevant equity categories may well shift over time as targets for some groups are achieved, as new categories become relevant (for example, women have in general caught up with men in terms of educational attainment (in some countries doing better, in others worse). Finally, it is not uncommon for individuals to exhibit several of these characteristics at the same time, compounding disadvantage.

3.1. Equity and socio-economic background

Have students from low-income families improved their access to tertiary education over time compared with students from high-income families? Does better education still pass down largely through families, from one well-educated generation to the next? Is the access to prestigious universities still mainly reserved to high professional and income groups?

There is little comparative material across OECD countries on the relationship between educational output and socio-economic background. The International Adult Literacy Survey has, however, compared the literacy scores achieved by young adults (16-25 years old) and the length of their parents’ education in years. In all countries, people with better educated parents are more literate, but the strength of this relationship varies considerably across participating countries. In the Nordic countries, for example, the literacy scores for young adults are relatively high and vary less with parental education than in the other countries, suggesting that these countries have been relatively successful in combating inequalities in educational outcomes among young people.

In France, 62% of the 15-year-olds (9th grade) coming from the poorest 20% of the families have had to repeat at least one year in school compared with 17% of the 9th graders from the richest 20% of the families. The study also shows that, even if there are many factors behind this significant difference in young peoples’ performance, the socio-economic background is the strongest factor of explanation (INSEE, 2000).
Box 3.1 Exemples of Socio-Economic Background and Access to Tertiary Education

- In **Australia**, the share of students with a low socio-economic background in tertiary education has fallen slightly over the period 1991-97. They represent 25%\(^3\) of the population but only 14.5% of higher education students in 1997 as compared with 15% in 1991 (Department of Education, Training and Youth Affairs, Australia, 1999).

- In **France**, the socio-professional category of the parents has a strong influence on the study their children undertake. Students whose father is a cadre supérieur or professeur have approximately 17 times more chances to be in a classe préparatoire\(^4\) and five times more to study at university (1er cycle) than the children of a worker. There seems to be little change in this pattern over time: students whose father had a tertiary education constituted 31 and 35% of the university population in 1982-83 and 1996-97, respectively. The equivalent figures for students whose fathers are workers, are 12.6 and 12.7%. Although there is a greater part of the French population who has a tertiary education and a smaller part that are workers in 1996-97 compared with 1982-83, there seems to be little progress over time for low socio-economic groups in their access to tertiary education (Attali, 1998).

- In **Germany**, the majority of 17-18 year-olds come from a low socio-economic background (52%). Out of 100 pupils belonging to this group only 33 succeed in transferring to the Gymnasiale Oberstufe (upper secondary grades of the Gymnasium). For those from a high socio-economic background the corresponding figure is 84%. Only eight out of a hundred young people with a low socio-economic background succeed in gaining access to higher education. For a young person from a high socio-economic background, the probability of making the transition is 72%. In the old German Länder, 14% of higher education students are from the group with a low socio-economic background. In 1982, the corresponding figure was 23%. The percentage of higher education students from the group with the highest socio-economic background has risen, from 17% in 1982 to 29% in 1997, in the old Länder. There are marked differences between the Länder in terms of students’ socio-economic background.

- In **Ireland**, less than 25% from the two social groups “Unskilled Manual Workers” and “Semi-Skilled Manual Workers” went to higher education in 1998 compared with over 75% from the three social groups “Farmers”, “Employers and Managers”, and “Higher Professionals”. The highest proportionate increase has however, occurred for those social groups which had very low participation rates in 1980 (HEA, 2000\(^b\)).

- In the **United Kingdom**, a recent survey by the Sutton Trust showed that the chances of being enrolled in one of the top 13 English universities are about 25 times greater if the student attended an independent (private) school than if they came from a lower social class or lived in a poor area. In addition, children from less affluent social classes represent 50% of the school population, but only 13% of entrants to top universities (Sutton Trust, 2000).

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3. People from low socio-economic status backgrounds are defined as those whose postcodes of permanent home addresses fall within the lowest 25% of the population of a given region, determined by the Australian Bureau of Statistics Index of Education and Occupation.

4. A classe préparatoire is the prestigious preparation for the entry examinations to the Grandes Écoles in France.
• In the **United States**, the percentage of high-school completers aged 16-24 who were enrolled in college the October after completing high school varied considerably with family income throughout the period 1972-96 (see Figure 3.1). Even though the students from families with a low income have improved their access to college over the period 1972-96, there remains an important social gap: 46.8% of students from low-income families, 62.7% from middle-income and 78% from high-income families enrolled in college in 1996. However, compared with 1972 the gap between students’ access to college has somewhat narrowed between the three family income categories (NCES, 2000c). However, to receive a college degree, a student must have successfully reached three milestones: high-school graduation, college participation and college completion. Over the past two decades, there has been little change in high-school graduation rates at each quartile of family income (Post-secondary Education Opportunity, 1998). Furthermore, over the past two decades, among the lowest quartile of family income college completion declined, while at the highest quartile it increased. The end result is that over the past two decades there has been a growing inequality in college completion between the lowest and highest quartile of family income.

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The low-income families are defined as those families with the bottom 20% of all family incomes; the high-income families are the top 20% of all family incomes; and the middle-income families are those with the 60% income in between.

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**Figure 3.1 College entrance by family income, United States, 1972-96**

Percentage of high-school completers aged 16-24 who were enrolled in college the October after completing high school

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The French example is not unique. The examples from other countries cited in Box 3.1 show that, despite a high political awareness that lower socio-economic groups often do not have equal access to tertiary education compared with higher socio-economic groups, there is little or no long-term progress in narrowing this social gap. The situation has not improved over...
the past decade. Analysis in OECD (1999d) finds that enrolment rates in the 1990s have often recorded below-average growth among lower socio-economic groups, and concludes:

“The expansion has not on the whole reduced disparities in access to tertiary education for people from different backgrounds: the extra places have been taken up at least as much by children from more privileged socio-economic groups as by others. Countries that wish to improve such access are therefore having to make conscious and sustained efforts to help prepare and assist all students rather than assuming that the creation of more places will be sufficient” (p. 65).

The issue of under-representation in tertiary education of children from low socio-economic status families remains high on the equity agenda. However, the issue is not as straightforward as it might seem. It would be a mistake to assume that the category “low socio-economic status” is static. Note that the long-term effect of general educational expansion is to increase the size of better-educated groups across successive generations. Nevertheless, expansion and diversification have not made a great impact on the relative chances of the worst-off, even in those countries that have striven hard to create more equal learning opportunities for all.

3.2. Equity and gender

The proportionate rise in educational attainment at both upper-secondary and tertiary levels has in every OECD country been greater for women than for men over the past three decades. This has been a case of catching up. Among those currently aged 55-64, only 6% of women compared with 12% of men have university degrees or equivalent, and 38% of women compared with 50% of men have upper secondary completion. For 25-34 year olds, the genders are, on average across OECD countries, exactly equal in attainment levels: 16% of both men and women have university-level and 72% upper secondary qualifications.

Indeed, women’s average educational attainment now exceeds that of their male counterparts in a number of OECD countries. The ratio of upper secondary graduates to total population in 1998 was more than 10 percentage points higher for women than men in Canada, Finland, Greece, Ireland, Portugal and Spain; the same is the case for net entry rates in “type A” tertiary education6 for Australia, Finland, Iceland, Ireland, New Zealand, Norway, Spain, and Sweden. In contrast, the ratio of upper secondary graduates to total population is 10 percentage points higher for men than for women in Austria, Switzerland and Turkey and the same is the case for the net entry rates in tertiary-type A education in the Czech Republic, Japan, Korea and Turkey (OECD, 2000a).

While female enrolment rates in tertiary education have risen sharply, significant gender differences continue to exist, however, in the programmes studied at university, with women more likely to enrol in fields related to the health professions, education and the social and behavioural sciences, and...
less in the natural sciences and industrial and engineering fields. While there has been an increase in the enrolment of women in first-degree tertiary education programmes in sciences, engineering and business, in most countries considerable imbalances remain. Women are also under-represented in Ph.D. programmes (HEA, 2000a).

These differences in study patterns may contribute to the fact that women continue to earn less on average than men, regardless of their educational level. Figure 3.2 compares women’s to men’s earnings at similar levels of education by age group. For all OECD countries, women’s annual earnings are much lower than men’s, irrespective of their educational attainment and age. This overall picture illustrates how, despite significant progress in women’s access to learning opportunities, they are still far from achieving equality in earnings. However:

- The **size of earnings inequalities** varies greatly across countries. Women in the age group 30-44 years *without* upper-secondary education in Finland, Hungary, Denmark, Portugal and Sweden earn most relative to men – between 71% and 77% as much. In contrast, women in the same age group with similarly low credentials in the United Kingdom, the Netherlands, Canada, New Zealand and the United States earn only around 50% of the salaries of less-educated men. In the case of women with tertiary education in the age group 30-44 years, in Ireland they come closest to men’s salaries with over 90%, and in Portugal, Denmark, Spain and Finland they are between 71 and 76%. At the other extreme in Italy, the Netherlands, New Zealand and the United States, they earn only between 57% and 66%.

- The **effect of more education** on earnings equalities does not follow a consistent pattern. In the Netherlands, New Zealand and the United Kingdom, the differential narrows considerably with increasing educational attainment. In a number of countries, by contrast, including Italy and Sweden, the reverse relationship tends to be true: earnings differences between men and women tend to be particular high at the tertiary level. Thus, although higher educational attainment is generally associated with higher earnings for both men and women, it does not seem to contribute systematically to reductions in gender inequalities (OECD, 2000a).

- Different **career and occupational choices** can explain some of the differences between men and women’s earnings, as can differences in the amount of time men and women spend in the labour market, and the relatively high incidence of part-time work among women.\(^7\)

- The fact that women earn less than men also reflects that most people for most of their working lives are in **families with multiple incomes** and that women often are working less when the children are young.

\(^7\) This is e.g. the case in the Netherlands.
Figure 3.2 The relative earnings of women in successive generations

Mean annual earnings of women as a percentage of men’s earnings at the same educational level, ages 55-64 and 30-44, 1998

Women continue to earn less than men with roughly similar education levels, although the gap is narrower for younger adults in most countries.

Countries are ranked in descending order by mean annual earnings of women as a percentage of men’s earnings.


Data for Figure 3.2, p. XXX.

– Figure 3.2 shows at least some movement towards more equality of earning between one generation and the next. Although the movement is not dramatic, in most countries gender disparities are lower for the younger age group shown. This is especially the case for women with a tertiary educational background. The change has been greatest in the four countries in which older women graduates earn below half their male peers: Italy, the Netherlands, New Zealand and the United States.

… and in some countries poorly-paid women graduates are starting to catch up.
3.3. Equity and minority groups

Three main groups are distinguished as ethnic minority groups in this chapter because they are often targeted as such in equity educational programmes:

1. Migrant groups in societies;
2. Minority indigenous populations;
3. “Historically disadvantaged” (e.g. African Americans, Gypsies, etc.).

Historically, minority groups have often not had equal access to learning resources and in some cases they have been denied basic human rights. Today, many OECD governments have taken specific policy initiatives to counterbalance the difficulties that minorities are meeting in education both related to the fact that they might not have mastered the main language taught in the education system and their different cultural backgrounds. However, specific initiatives taken by educational authorities have often to be followed up with other public initiatives to address compound disadvantages arising from, for example, low socio-economic background combined with a poor urban or rural location.

Despite these efforts, the examples mentioned in Box 3.2 show a pattern of continuous underachievement for certain ethnic groups which starts in early education, continues through further and higher education, and persists in the labour market. They also show that not all ethnic minorities are underrepresented in education. For example, Indians and some other Asian people in the United Kingdom and some Asian people in the United States are in general doing well in the education system and in the labour market. This indicates that equity policies need to focus sharply on disadvantaged minority groups and the conditions affecting their access and achievements in education.

**Figure 3.3 College entrance by racial or ethnic groups, United States, 1972-96**

Percentage of high-school completers aged 16-24 who were enrolled in college the October after completing high school

In the United States, the college entrance rate for white high-school completers has risen more than for Black and Hispanic students.


Data for Figure 3.3, p. XXX.
3.4. Equity and people with disabilities

In numerous OECD countries a particular effort has been made to integrate people with a disability into the regular system at all levels of education. Issues of equity and civil rights have been important determinants in this development, but other influences include changes in parents’ attitudes, teacher supply and training, better equipped schools, and the introduction of ICT (OECD, 1999e). Students with a disability distinguish themselves from other equity groups in the sense that disability can affect individuals from families throughout the social structure, and randomly at any time.

It is estimated that 15 to 20% of students will, at some stage of their school career, call upon services relating to special educational needs. OECD work on statistics and indicators on special education (disabilities, learning and behaviour difficulties, and disadvantage) shows that there is a wide range of different understandings in OECD countries on how to define special educational needs. Some countries, for example, recognise only students with traditionally-defined physical or severe mental disabilities, while others include learning difficulty and disadvantage.
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... and although more such students participate in the mainstream of education, their success in accessing more advanced levels of study has been mixed.

Despite the efforts that have been made to improve access and achievements of students with disabilities at the different educational levels, the examples in Box 3.3 show that they are still under-represented in education. OECD work shows that the situation is poor for disabled students in the transition phase between compulsory and non-compulsory education and equivalently qualified disabled students have a harder time on the labour market (OECD, 1997c). Nevertheless, the past decades have shown considerably higher participation and achievements of disabled students from primary to post-secondary education in many countries. The equity challenge in education for this group has now been transformed in most countries to one of providing an inclusive approach within an accessible environment.

4. THE DIGITAL LEARNING DIVIDE

It is often argued that the increasing use of ICT is giving rise to new inequalities in access to learning and work opportunities. Those without access to ICT and without ICT skills become less and less capable of participating in the knowledge-based society, which makes increasing use of technology and information. The resulting so-called digital divide represents a major challenge for policy-makers at all levels.

Box 3.3 Equity and People with Disabilities

- In Australia, despite an increase in participation in tertiary education (2.4 percent of tertiary students identified themselves as having a disability in 1997 versus 1.8 percent in 1996), the disabled population is still under-represented (4% of the relevant population group have disabilities). However, the retention rate for students with a disability is almost identical to the rate for other students (Department of Education, Training and Youth Affairs, Australia, 1999).

- In Germany, the proportion of students with a disability is about 2% (15th Social Survey of Student Life). Students with a disability or chronic illness, however, more frequently change discipline, degree or higher education institution. Among those whose studies have been strongly impaired by health difficulties, there is an above-average rate of change of higher education institution (25%) and of study dropout (34%) (Schnitzer et al., 1999).

- In the United Kingdom, according to the Labour Force Survey, about 7% of the 18-30 age group reported a longstanding disability, while only 4% of higher education students did. Furthermore, 18% of the 18-year-olds with a disability or health problem had at least achieved a level 3 qualification, while 39% of the 18-year-olds without a disability or health problem had obtained such a qualification (DfEE, 1999).

- In the United States, according to a NCES report on students with disabilities in post-secondary education, 63% of such students were enrolled in post-secondary education two years after completing high school by 1994 versus about 72% for students without disabilities. The students with a disability were more likely to choose a shorter post-secondary education than those without. In a cohort of students who had earned bachelor’s degrees in 1992-93, 4% of those without disabilities, and 11% with disabilities, were unemployed in April 1994 (NCES, 1999).
One can distinguish between at least three dimensions of the “digital divide”: a) differential access to computers and the Internet by socio-economic background, ethnic group, age, and educational background; b) geographic differences (between cities, regions, countries); and c) variation in ICT use by type of company (small vs large; different sectors).

Figure 3.4 presents the percentage of households possessing a personal computer (PC) and the ratio of students per computer in upper secondary education for various OECD countries in 1998. As shown in the top half of Figure 3.4, the percentage of households with a computer varies from a high of 63% in Denmark to a low of 20% in the Italy. The bottom half of the figure shows that the number of upper secondary students per computer ranges...
from 4 in Norway to 35 in Portugal. So, although investment in hardware, software and telecommunication links in families and educational institutions has been growing fast in all OECD countries, resources remain unevenly distributed across OECD countries. Moreover, Figure 3.4 reveals that there is not a positive correlation in some countries between high coverage of PCs in homes and coverage of computers in upper secondary schools. Countries like France and the United Kingdom have a below-average student-computer ratio (relative high coverage) in upper secondary education, and a below-average coverage of PC’s in homes. For the Netherlands, the opposite is the case.

Schools and education authorities are well aware of the importance of integrating ICT into teaching and learning, both to prepare students for the information society and to make the most of new learning tools. Policy-makers are encouraging schools, libraries and learning centres to invest in computers and access to the Internet in order to reduce the disadvantage of those who have no access to ICT in their homes, by enabling them to access learning and information resources at a public institution. Data from the United States have shown that people without home computers are almost 1.5 times more likely than people with home computers to get outside access to the Internet through public libraries or community centres (NTIA, 1999).

4.1. Do the digital divides increase existing inequalities?

A key concern with respect to the digital divides is whether they reinforce existing income and wealth inequalities. Country studies from Australia, Canada, France, Italy, Sweden, Turkey and the United States all show that access to computers and the Internet is very dependent on socio-economic, ethnical and educational background. In some countries (Australia, Canada and Italy), differential rates of access by geographic location are a serious issue.

Data from the United States and United Kingdom confirm this pattern. Between December 1998 and August 2000, there has been a surge in uptake of Internet and computer access among all households in the United States. However, the gap in access rates between, on the one hand, Asian-American and Pacific Islander households and White households and, on the other hand, African-American and Hispanic households increased slightly (see Figure 3.5). In 1998, the access rates for White and African-American households were 29.8% and 11.2% respectively, or a “divide” of 18.6%. By 2000, the comparable figures on access rates were 46.1% and 23.5%, leading to a gap of 22.6%. However, if the more rapid rates of growth in Internet access experienced by African-American and Hispanic households are maintained, this “digital divide” will begin to narrow (NTIA, 2000).

Figure 3.6 shows home access to the Internet by gross income decile group in 1998-99 and 1999-2000 in the United Kingdom. As few as 3% of poorer households are online, but as costs come down, some of these inequalities could reduce.
higher growth in expansion rates from 1998-99 to 1999-2000 than the wealthiest households in the UK. So, the poorest households, those with low educational background and some ethnic groups are at the present being left behind in the digital revolution. The observed differences between groups in rates of access to the Internet may partly be accounted for by costs (relative to income) and partly by literacy levels (Human Resources Development Canada, 2000). As improvements are realised in these areas, rapid increases in rates of usage among previously low-use groups might be maintained.

Some minority and low income groups continue to lag in Internet access.

Data for Figures 3.5 and 3.6, p. XXX.
4.2. Access to ICT in schools and in the labour market

Table 3.1 shows the percentage of 1st to 8th grade students using computers at school, at home, and at home for schoolwork by gender, ethnicity, and household income in the United States in 1993 and 1997. In the period from 1993 to 1997, there has been an increase in the 1st to 8th graders who use computers at school, and especially in the percentage of students who use computers at home and at home for school work.

There is almost no difference in 1997 between how many girls and boys use computers at these ages, although these data do not show how much time is spent using them. Furthermore, there is only a minor variation in the use of computers at school between different ethnic and socio-economic groups, with White children and those from higher-income families using computers slightly more often than children from other backgrounds. The gap has narrowed over the period 1993-97. In contrast, use of computers by white children and children from higher-income families in homes and at home for school work is much higher than for Black and Hispanic children or children from low-income families. There has been little or no narrowing in use at home, either for personal interests or for school work over the same period. Thus, there is evidence to suggest that, even if schools do not provide poorer students and ethnic groups with equal access to ICT, they generally help lessen the inequality in access that exists at home (OECD, 1999a; NTIA, 1999).

With the high use of ICT at the work place, low technology literacy has come to represent in itself an important form of exclusion in societies. As can be seen from Table 3.2, the use of computers at the work place varies significantly with the level of income and education and less so with race/ethnicity and sex in the United States. Over the period 1993 to 1997, there have been few changes in the overall picture of who uses computers at work. The overall percentage of workers…
using a computer at work has only risen slightly from 46 to 50% over the period. However, a UK study found more dramatic growth: in 1999, 60% of workers used computers in their jobs, up from an estimated 24% in 1992 (Wright, 2000).

Several OECD countries, e.g. Australia, Canada, France and the United States have targeted programmes to bridge dimensions of the digital divide. The divide is rooted in broader societal and economic issues. It is therefore necessary to address a wide range of policy initiatives to bridge the divide such as education, skill development and training, as well as telecommunication issues such as pricing of equipment and access costs. Some OECD countries have launched programmes, among others, for: children and schools in poor neighbourhoods, providing extra financial help for ICT investment;8 ICT training of low-skilled workers; tax initiatives for companies to encourage private investments in ICT training, donation to community technology centres etc. Many countries are devoting greater attention to improving the ICT skills of teachers (OECD, 1999d).

5. EQUITY AND LIFELONG LEARNING

When considering how to reduce levels of social and economic exclusion due to shortfalls in adult skills and competences, policy makers need to address more than just inequalities in educational attainment and access. It is now well understood that to be of greatest use on the labour market and in society more widely, people need to learn in ways that can be put to practical use throughout life. Above all, they need a set of general competences that

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8. E.g. the E-rate initiative in the United States, in which schools and libraries benefit from 20 to 90% discount on telecommunication services, shows that the poorest schools (greater than 50% of students eligible for free and reduced-cost lunches) represent only 25% of public school students but receive 60% of the funds.
equipped to go on learning and adapting to new contexts. This is not identical to being able to complete courses and pass exams in initial periods of education and training.

The International Adult Literacy Survey (developed jointly by the OECD and Statistics Canada) aims to measure directly the ability of adults to complete tasks using written materials in the kinds of situations encountered in everyday life and at work. In 14 out of the 20 countries that participated in the survey, at least 15% of all adults aged 16-65 performed at literacy level 1 – a level which expert opinion judges to be too low to cope with the most basic tasks required in a knowledge-based society. These countries are: Australia, Belgium (Flanders), Canada, Chile, Czech Republic, Hungary, Ireland, New Zealand, Poland, Portugal, Slovenia, Switzerland, the United Kingdom and the United States. The survey data show, furthermore, that there are significantly fewer opportunities to work for adults with low literacy skills: they are less likely than average to be in employment, less likely to find work when looking for it, and less likely to work regularly when a job is obtained. For example, in Australia, Belgium (Flanders), Canada, Denmark, Germany, Ireland, Finland, New Zealand, Slovenia and the United Kingdom, the incidence of unemployment is twice as high among adults with low literacy skills than among adults with medium to high skills.

The survey shows that young adults aged between 26 and 35 have higher literacy scores than adults aged 56-65 in every OECD country participating in the survey. This can partly be explained by the fact that the younger population in OECD countries is more likely to have received extended formal education. However, this is not the whole explanation as the survey also indicates that, even when only adults with completed secondary education are included, the skill differences by age remain. This could possibly reflect a positive trend in the quality of education over time, but is also likely to be affected by the experiences undergone in adulthood.

One important influence on the development of competences during is access to further education and training. Training rates vary by level of initial education. This arises, in part, from behaviour by employers which government programmes have limited scope to counteract. Employers spend much more resources on training their high-skilled, well-educated employees than their low-skilled, low-educated employees. The proportion of individuals receiving financial support from the public sector for training is less than 10% in 16 of the 20 countries which participated in the International Adult Literacy Survey. Even after controlling for full or part-time work, firm size and occupational category, those workers in Canada, Chile, the United Kingdom and the United States who make greatest use of their literacy skills at work are six to eight times more likely to receive support from their employers for education and training than those who use workplace literacy skills the least (OECD and Statistics Canada, 2000).

In general, then, training of adults tends to reinforce skill differences resulting from unequal participation in schooling in OECD countries. But this difference is much greater in some countries than in others. Figure 3.7 shows, for example, that the participation rate of the least educated adults in the United Kingdom and New Zealand in education and training is greater than that of university graduates in several other countries. For those who do engage in
training, its intensity varies, but in no systematic fashion: in Ireland, for example, people with low education who participate do so for relatively large amounts of time; in Canada and Poland, it is the most qualified whose training is of greatest duration.

Other evidence indicates that training is most evenly distributed across educational levels in Ireland, Japan, New Zealand, the Netherlands and several Nordic countries, and least equally in Belgium, Hungary and southern Europe (OECD, 1999c). Training rates also decline with age, but this also varies greatly across countries. Workers aged 50-54 years receive almost as much training as those aged 25-29 in the United States and the Nordic countries (except Finland), while the older group receives much less training than the younger in France, Greece, Portugal and Spain. So progress in reaching the goal of lifelong learning for adult workers has been uneven.

Figure 3.7 Participation in job-related education and training by employed adults with different educational levels, 1994-95

In all countries, those with more education participate more in training. However, there is less of an association between educational attainment and the duration of time spent in training.

Source: OECD and Statistics Canada (2000), Literacy in the Information Age.

Data for Figure 3.7, p. XXX.
6. CONCLUSIONS

Knowledge-based economies and societies cannot afford to exclude a large part of their population from access to education and learning resources. Furthermore, inequalities in society often raise problems of mutual understanding and adjustment within organisations, in society at large and in the democratic process.

The issues of equity are broadly social, cultural and economic and not just educational. There are cultural and social norms at stake, political interests and active pressure groups at work. Education policies alone will not be sufficient in addressing the equity challenge. Clearly, social inequalities existing outside the education system contribute to educational inequalities in terms of access, opportunity, process and outcomes as well as in terms of the consequences of achievements and attainment.

All OECD countries are pursuing equity goals through education policies. What is less certain is the extent to which other guiding policy aims within education (e.g. improving accountability or the promotion of market mechanisms in education) have supported or counterbalanced the pursuit of equity. The challenge of combating exclusion through learning is not easy: those with acute learning needs are most at risk of exclusion, while being also least likely, as we have seen, to become lifelong learners. Therefore, an expansion of lifelong learning may in itself potentially exacerbate rather than reduce existing inequalities. To counterbalance this, equity strategies and initiatives in lifelong learning must ensure that barriers to learning and learning needs of those most at risk are addressed.

The impressive expansion of participation in education documented in Chapter 2 has contributed to a steady progress in the average educational attainments of the populations and work forces in OECD countries, which in general has widened learning opportunities. There is, however, still a relatively large part of the population, especially people from low-income families, some ethnic minorities, and the disabled that is disadvantaged in relation to learning and employment opportunities. For some there has been improvement in access to the different education levels. However, the gap in educational access and achievements between different economic and ethnic groups has not narrowed over the past two to three decades in several OECD countries.

Education policies in OECD countries to promote equal learning opportunities for all can therefore hardly be seen as successful. Gaps remain, and there is still a lot to be done to reduce the number of people at the margin of learning and employment opportunities. There are no easy solutions: the equity challenge is real, and prior policy responses have not proven sufficient to address what are dynamic and complex learning needs for all.

The following policy initiatives to promote greater equity in education and learning are not intended to be exhaustive, but aim to give guidance to governments on what kinds of education and learning initiatives can combat social exclusion. They are based on intensive OECD work on education and learning policies.
equity (OECD, 1997a, 1997c, 1998a, 1999b, 1999e, 2000g) and the evidence from this chapter:

- **Aim for good-quality upper-secondary education for all.** Educational attainment both at secondary and perhaps even more at tertiary level is likely to continue growing over the coming years. In particular, countries where a significant minority of young people still does not complete upper-secondary will want to move towards universal completion. The focus should, however, not only be put on a quantitative perspective, where participation is counted in terms of mere attendance, but also on a qualitative imperative where such access and participation will fall short without good-quality teaching and genuine learning. E.g. Obtaining basic skills in literacy and numeracy for all is an important “quality” goal for education systems.

- **Adapt to individual needs.** The education system (especially upper secondary and tertiary education) should be diversified, flexible and open to good practices (including, for example, adoption of new forms of teaching and learning), in order to be able to include students who are less skilled academically. Diversification and flexibility can, for example, be provided by distance learning and by recognition of work experience (informal learning) as part of the study programmes. Norway and the U.K. have already taken such initiatives.

- **Deploy resources strategically.** The challenge of effective implementation of equity policies often calls for additional resources – for extra numbers of students in the education system, for extra and more intensified teaching of students with learning difficulties, for facilities and materials for students with a disability, for teacher development etc. However, numerous studies have shown that equality depends not only on the quantity of resources, but also on the quality of teachers and schools, and for the degree of cooperation between young people, teachers, parents and various community-based entities (including employers).

- **Set clear and achievable objectives.** Clear goals and priority setting, targeting, and monitoring of equity policies in the education system at all levels must be encouraged. Several such initiatives have been taken in OECD countries, but further development especially as regards follow-through will be necessary. It is important that equity is identified as an integrated part of the education institutions’ broader strategies and not seen as something special, separate from the institutional mainstream of teaching.

- **Obtain reliable data.** There is a need for better data and indicators on equity issues in education and learning at regional, national and international levels. Good, reliable data and indicators can make an immediate impact on equity policies in education and learning.

- **Target adult training at disadvantaged groups.** There is clear evidence that those who have less education and are most at risk at the labour market get less adult training. Furthermore, employers often invest more resources
in training their high-skilled, well-educated employees than in training low-skilled, low-educated employees. Public strategies and initiatives in adult training must therefore be targeted at those at risk. This is not an easy task because even if public training initiatives target this group, it must be taken into account that employers’ part of work-related training is a significant element in most countries. However, for example, targeted, fiscal incentives can be used to encourage investment by small-and-medium-sized enterprises in training or on any training directed at older workers, above forty, as it is the case in the Netherlands.

– **Educate people with disabilities in an inclusive manner.** Abundant research material from OECD countries shows that students with disabilities should, as far as possible, be educated in their local mainstream school. Funding models for schools and students should work to encourage regular schools to educate students with disabilities. The evidence continues to show that, on a per capita basis, inclusive systems are generally less costly to operate than segregated systems.

– **Emphasise equal access to technology.** As we have seen, the digital divide is rooted in broad societal and economic issues. Policy initiatives to bridge the various dimensions of the divide must therefore address a wide range of policy initiatives such as access to ICT in schools, libraries and learning technology centres, ICT skill development and training, as well as telecommunication policies such as pricing of equipment and access costs.

– **Strengthen policy co-operation on equity.** Education policies alone will not be sufficient in addressing the equity challenge in society. Further progress will require more coherent, co-ordinated approaches across several sectors of public policy, including employment, welfare, health, housing, etc.
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