

Education in Germany 2008

An indicator-based report including an analysis of transitions subsequent to lower secondary education

Summary of important results



On behalf of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany and the Federal Ministry of Education and Research



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The report “Education in Germany 2008” presents the second comprehensive empirical account of the German education system. The volume analyses all stages of education ranging from early childhood education and care, the general education system, vocational education and training and higher education to the continuing education of adults. The report was jointly commissioned by the Standing Conference of Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany and the Federal Ministry of Education and Research and collaboratively written by an authoring group that is also jointly accountable. The members of the authoring group hold responsible functions in the following research institutions and statistical offices: the German Institute for International Educational Research (DIPF), the German Youth Institute (DJI), the Higher Education Information Systems (HIS), the Sociological Research Institute at the University of Göttingen (SOFI) as well as the Federal Statistical Office and Länder statistical offices. The group has simultaneously further developed a system of indicators for educational reporting under the auspices of the DIPF, from October 2006 until May 2008. The report, the concept of indicators and all of the underlying data are accessible on a website, i.e. www.bildungsbericht.de.

As an analysis of the German education system that is data-based and problem-centred, the educational report does not include explicit recommendations for action. What is special about this report is that it mainly relates to selected indicators and statistical parameters, each of which represents a central feature of educational processes or a central aspect of educational quality. These indicators are derived from official data and representative socio-scientific assessments and wherever possible, they are compared as regards developments over the past years and decades, also internationally. Furthermore, they are broken down into analyses of the federal states (*Länder*). However, this claim to quality and explanatory power of the data also renders evident the limits of the educational report. It can only take into account current problems in the development of education to the extent that reliable data have been ascertained.

The core set of indicators remains the same as in the previous report, hence a comparison of developments is guaranteed while the accentuation differs. The report receives its specific informative power from this consistency. Moreover, the second volume includes further indicators for additional subject areas such as teaching staff. In particular, this educational report focuses on the transition phases from school education to vocational education and training, university, and employment.

Bibliographical details:

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The Authoring Group Educational Reporting accounts for the contents of this summary.

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17 million people, that is roughly a fifth of the population in Germany, use the educational provisions offered by child day care centres, general or vocational education institutions or universities. 1.5 million are employed with educational or scientific tasks in these institutions. Nearly 25 million participants are registered in continuing education each year. Hence, education services constitute one of those central subsystems of our society that determine the biographies of all, and the daily occupation of many. More than 140 billion Euros are spent on education in Germany each year – this corresponds to approximately 6 percent of the gross national product or to nearly two thirds of the expenditure on health.

Education does not only determine the opportunities for action and development of each individual as regards their profession, private life and citizenship, but it is also significant to the future of our society. On the one hand, this is related to changes in the economic and occupational system: In a highly developed economic system, human resources are more important to the dynamics of economy than real capital. The number of employees in the field of personal services as well as knowledge and information professions requiring high and new qualifications is increasing over-proportionally while the demand for an unqualified labour force is further declining. On the other hand, owing to demographic changes it has become necessary to qualify more people and to recruit them for the labour market. Even if all of the members of the current generation now entering the school system were to be employed in twenty years (and not only 60%, as this is now the case for the generation of 25- and 26 year olds), this would not suffice to replace the number of workers then reaching the age of retirement.

The national education report 2008, the second of its kind, documents the state of the education system and its development in recent years as well as current challenges. Only a part of the empirical data and indicators representing diverse aspects of educational quality can be included in this summary:

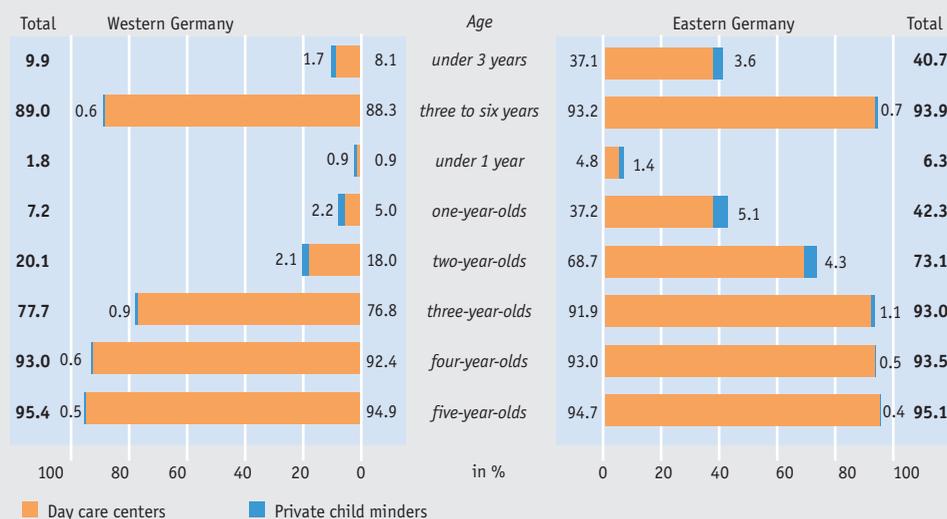
- The first paragraph sums up findings as to the provisions made by the educational system for its participants, but also for society as a whole. This concerns the number of participants, their acquisition of competence, degrees and certificates.
- Following the focus of this report, the second paragraph introduces educational pathways in terms of transitions between stages, e.g. from child day care centres to school, school to vocational education and training and higher education and, finally, the transition to the labour market. These points are particularly pivotal as to the question whether education emphasises the imbalances caused by migration, social backgrounds or sex, or counteracts them. The total perspective of educational pathways allows for assessing whether the lifespan of participants is responsibly and effectively used.
- The third paragraph deals with offerings supplied by government and private institutions and the resources implemented by these institutions and by participants in education. Apart from educational expenditure, the number and qualification of staff are crucial indicators of whether our society invests in education properly and sufficiently.
- The fourth paragraph names crucial challenges the education system in Germany is likely to face in the next years.

Provisions and Outcomes of the Education System

An increasing number of participants is evident in some areas of the education system: participation in education has risen in the areas of early childhood education and in the group of 20- to 25-year-olds. However, participation rates in higher education and continuing education are too low when compared to political goals.

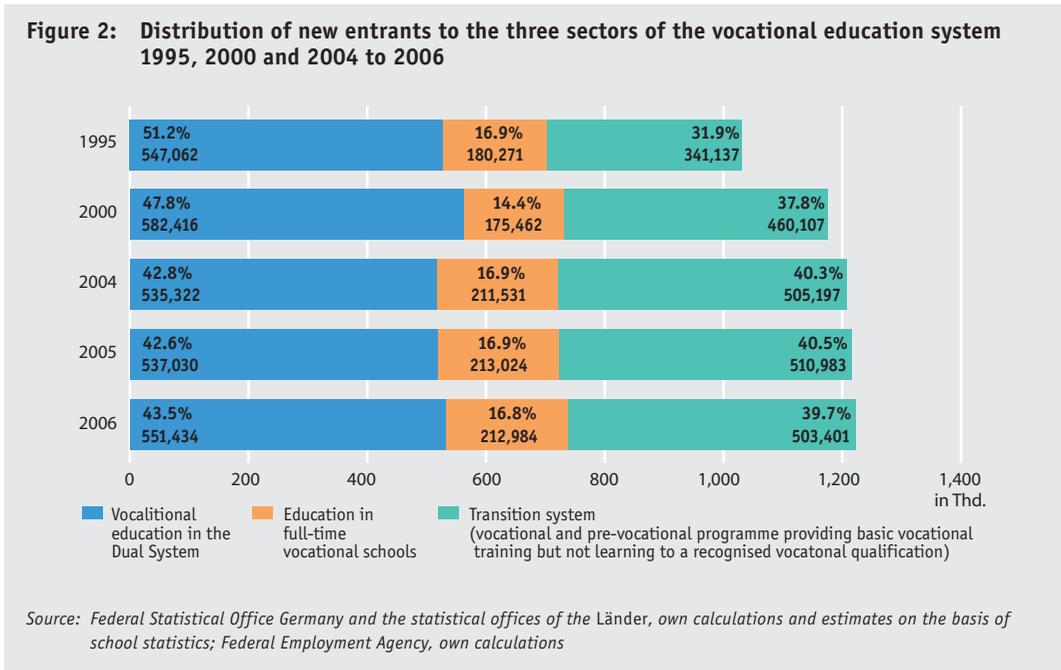
- Growing use of early childhood education and care provisions.** Nearly all of the group of four- to six-year-olds is reached by educational provisions, and the proportion of three-year-old children attending day care rose by nearly ten percentage points to 90% in Eastern Germany and to 80% in Western Germany between 2004 and 2007. Day care participation rates for children under the age of three (centres and private) are also rising. In 2007, this concerned 10% in West and 41% in East Germany (Figure 1).
- More than 1.2 million new entrants to vocational education and training each year. High participation rates in the transition system.** As in 1995, ca. 550,000 young women and men started training in the Dual System of vocational education and training in 2006. The higher demand for placements was partly met by in-school vocational education and training – here, the number of new entrants rose by 20% to 210,000 between 1995 and 2006. However, the largest part can be assigned to the transition system, which took up 500,000 new entrants, nearly 50% more entrants than in 1995 (Figure 2).

Figure 1: Education and care participation rates for children in day care (centres* and private) by age in Eastern and Western Germany 2007 (in %)



* Quotas take into account children who attend pre-school or school institutions. The addition of the quotas deviates from the total due to rounding.

Source: Federal Statistical Office Germany and statistical offices of the Länder, child and youth aid statistics 2007, own calculations

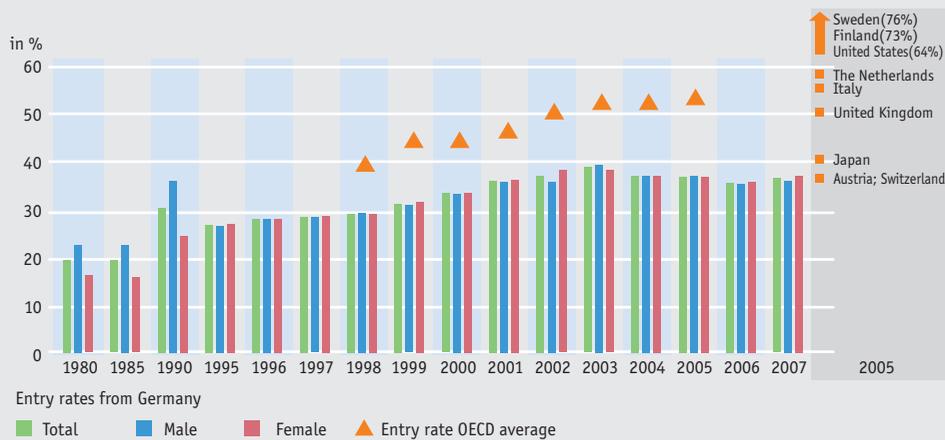


- Demand for higher education remains too low.** After a decline over the past few years, an increase in higher education entries can be observed in 2007. The ratio of higher education entries now lies at nearly 36% (including students from abroad who in many cases will return to their native countries). This neither meets the record rate of 39% reached in 2003, nor does it meet the target figure of 40% set by the Science Council (**Figure 3**).
- Participation in continuing education stagnates.** In the 2006 education report, we stated the existence of a discrepancy between the intensive public rhetoric as regards lifelong learning and the actual participation of the population in general and job-related continuing education, which continues to exist for the time reported here. Particular attention needs to be paid to groups of lesser qualified and older people where participation rates are strikingly low (**Figure 4**).

The “outcome” of the education system in terms of measured competencies and achieved certificates has improved in several areas since 2000/01. This concerns findings from international student assessments as well as entrance qualifications for higher education and higher education graduation. The vocational education and training system, too, remains successful in an international comparison. This pertains to the dual system of vocational education and training as well as to full-time vocational schooling. However, graduation figures as such are still below the set targets. The age of achieving a degree is relatively high, and nothing has changed with regard to the problem of students leaving secondary general schools without a final qualification.

- Average competence level at school age has risen.** The achievement levels of 15-year-old students have increased for mathematics and the sciences between 2000 and 2006. While reading competence has improved for children in the fourth school year, the performance of 15-year-old students has not changed in this area of competence (**Figure 5**).

Figure 3: Higher education entry rates* 1980 to 2007 by sex and in international comparison (in %)**

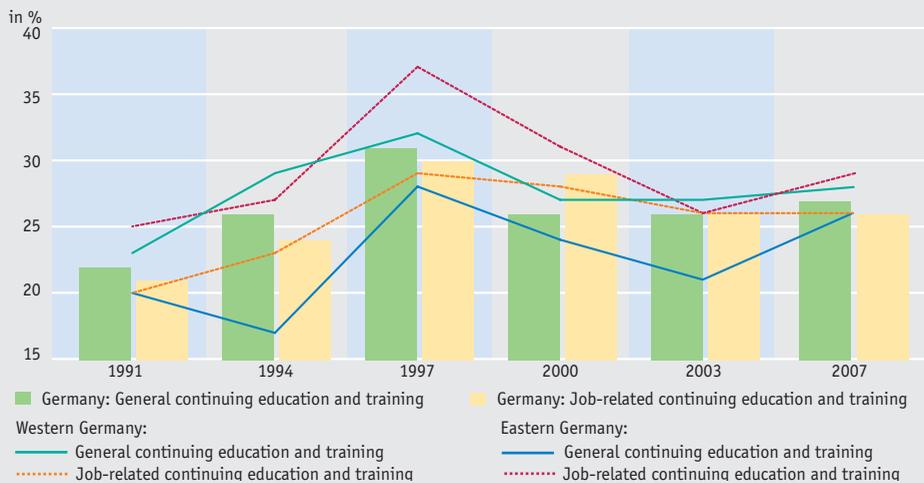


* Including enrolment at universities of applied sciences for administration

** Figures for 2007 are provisional

Sources: Federal Statistical Office Germany and statistical offices of the Länder, Higher education statistics; Organisation for Economic Co-operation and Development (OECD), Education at a Glance 2007

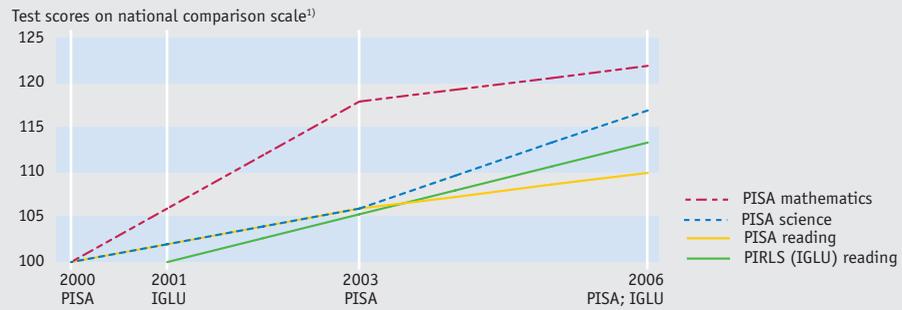
Figure 4: Participation in general and job-related continuing education and training 1991 to 2007 in Eastern and Western Germany (in %)



Source: TNS Infratest Sozialforschung, Reporting system on continuing education and training (BSW)

- **Number of secondary general school leavers without final qualification remains high.** In 2006, ca. 76,000 students left school without even obtaining the secondary general school qualification. In many cases, the certificate is acquired later in life but even 2.4 percent of the 18 to under 25-year-olds still have not got any final qualification degree and they have left the education system. This figure has even slightly increased since 2000.

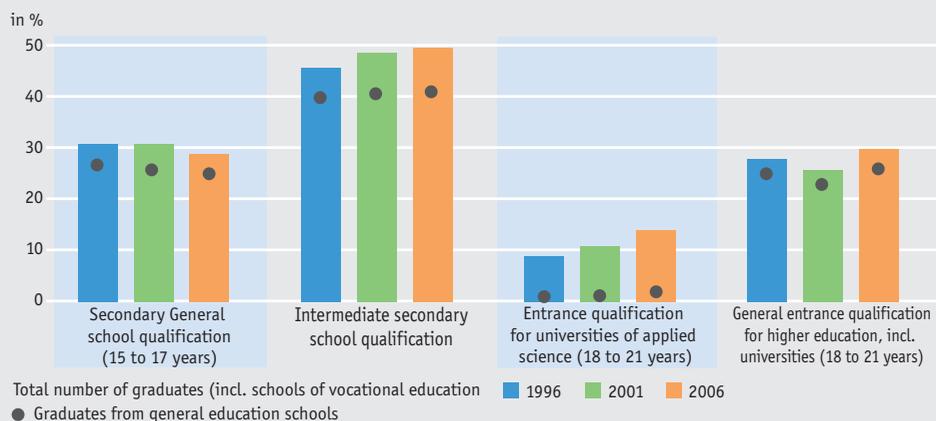
Figure 5: Changes of the mean competence level of German students in PISA (2000, 2003 and 2006) and IGLU /PIRLS (2001, 2006)



1) Respective initial scores were set at 100 with an increase of ten points corresponding to a tenth of a standard deviation.
 Source: Bos et al. (2007), IGLU 2006, p. 141; PISA Consortium Germany (2007), PISA '06, pp. 99, 236 and 269

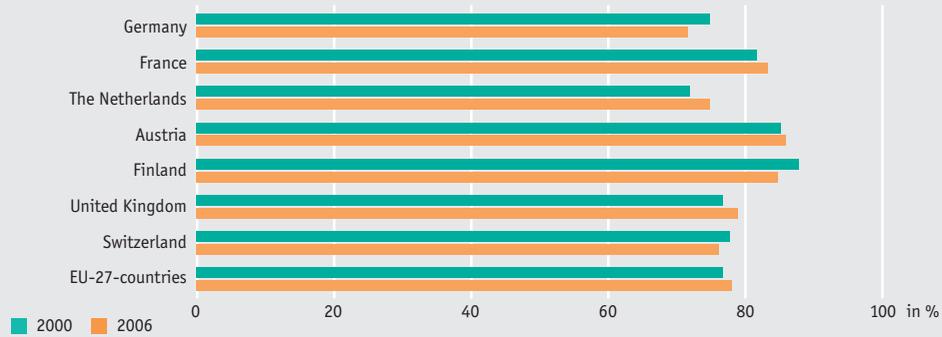
- Proportion of students qualifying for higher education is increasing.** Between 2001 and 2006, the number of school graduates with a qualification for universities of applied sciences rose from 11 to 14% of all 18 to under 21-year-olds, while the percentage of qualifications for university rose from 26 to 30%. Roughly every seventh qualification for higher education is nowadays acquired outside the general school system. Nevertheless, the target figure of 50% has not been reached yet (Figure 6).
- Upper secondary school qualification is generally acquired too late.** The EU considers an upper secondary school qualification – in Germany, this is a completed vocational training or a qualification for a university or a university of applied sciences – as the minimum qualification for success in the labour market. At least 80% of the young adults are expected to obtain such a degree by 2010. In Germany, the rate of 20 to under 25-year-olds was 72% in 2006 and it was thus below the level achieved in 2000 as well as below EU average. For the age group of 25 to 30-year-olds, the situation is considerably better (Figure 7).

Figure 6: Graduates from general education schools and in total 1996, 2001 and 2006 by types of qualification (in % of the population of the pertinent typical school leaving age)*



* The number of graduates is correlated to pertinent typical age groups in the population (figures in brackets). The total quota of graduates does not amount to exactly 100% due to students taking degrees later on, which may lead to double qualifications.
 Source: Federal Statistical Office Germany and statistical offices of the Länder, School statistics, Population statistics

Figure 7: Percentage of 20 to 25-year-olds with at least upper secondary qualification in selected countries 2000 and 2006 (in %)



Source: Eurostat website, European Labour Force Survey (LFS)

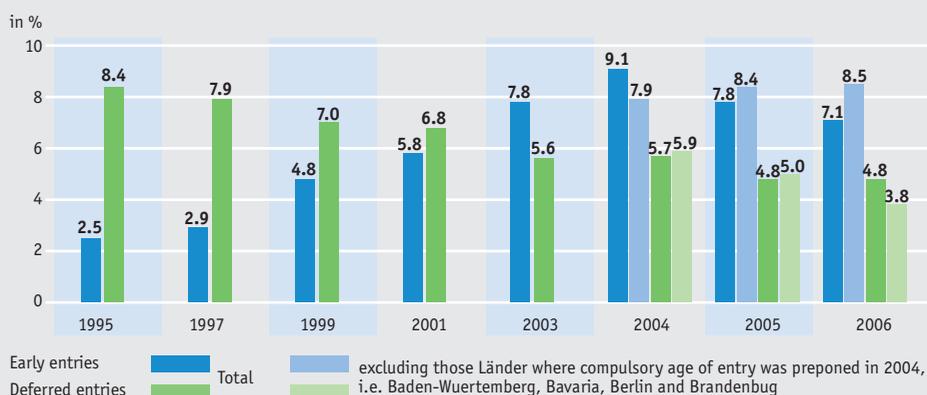
- **More higher education graduates, but the graduation rate is still not satisfactory.** In the years between 2001 and 2006, the number of higher education graduates rose by nearly 30% to 220,000 students. However, trends in the choice of subjects over the past years, which have led to a disadvantaged situation for engineering subjects, have continued. The rate of higher education graduates lies at 22% of the related age group, which is significantly lower than the target rate of 35% recommended by the Science Council. Since the rate has considerably been increased in other OECD countries, the proportion of members of the population with a tertiary qualification in the age group of 25 to under 65-year-olds was slightly below the OECD average (26%).

Educational Pathways and Transitions

The school entry phase has become more flexible in Germany. The number of early school entries is higher than that of deferrals. In the German education system, the transition from the primary to one of the lower secondary school types constitutes an area where marked social disparities are evident. Few people only make amendments to a decision for transition by transferring to another school type later in their lives. Transitions to vocational education and training or to higher education and the subsequent transition to the labour market are often complicated and protracted. There are considerable barriers for certain groups of adolescents. Diverse measures of the transition systems have been designed for those school leavers from general education schools who cannot immediately begin a fully qualifying vocational training, but their effectiveness is questionable as far as existing data allow for analysis.

- Age of school entry decreases.** A significant decrease of deferred school entries of children who have reached the compulsory school age can be observed in Germany since the 1990s (less than 5% in 2006) while at the same time the number of earlier school entries has risen (more than 7% of all entries). All of the *Länder* now pay more attention to assessments and the advancement of language competence before school entry. Participation in the language proficiency assessments is not compulsory in all states. The scope of support measures offered for advancing students varies considerably and it encompasses 40 to 400 hours of tuition (Figure 8).
- Transitions to school types with higher levels of secondary school qualification are increasing. Evident prevalence of top-down transfers.** In 2006, the number of transitions from the primary sector to secondary general schools (*Hauptschulen*) further decreased in all *Länder* offering this particular school type (at a national level, by 2.6 percentage points as compared to 2004). The number of transitions to grammar schools increased accord-

Figure 8: Early and deferred school entry of children 1995 to 2006 (in % of all school entries)

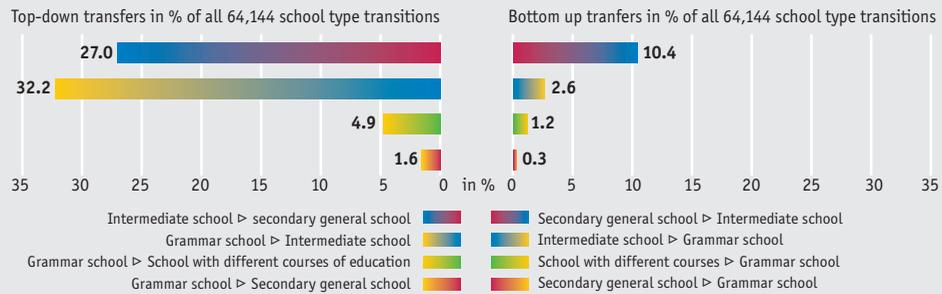


Source: Federal Statistical Office Germany and statistical offices of the Länder, School statistics

ingly. Attendance to a lower secondary school type seems to remain relatively stable as only 3% of the students correct their earlier choice and transfer to a different school type between school years 7 and 9. Thereby each bottom-up transfer is matched by nearly five transfers to schools offering lower qualifications (top-down transfer) (Figure 9).

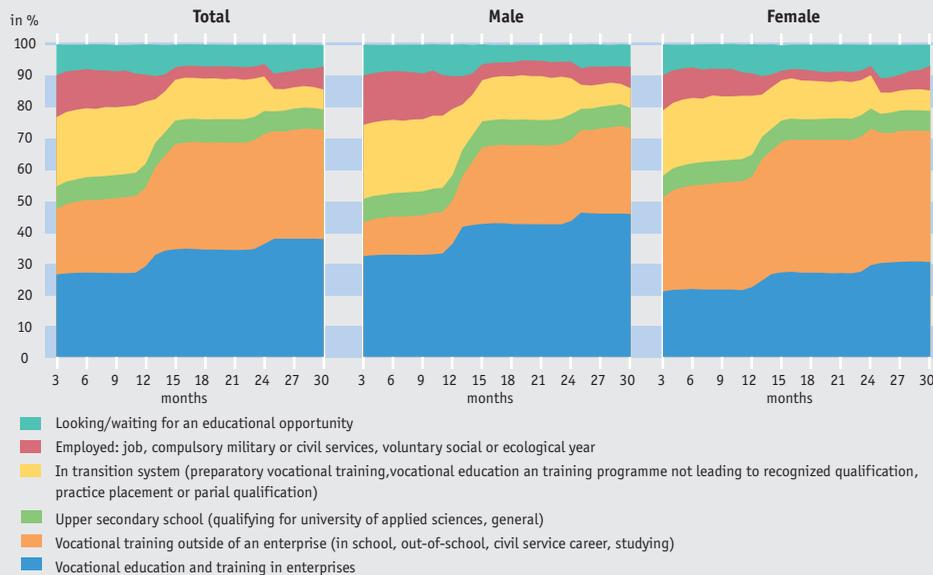
- **The effectiveness of the transition system is questionable.** Six months after leaving the general education system, approximately a fourth of the school leavers attend a vocational training in an enterprise, another fourth attend full-time vocational schooling (including study courses) and another fourth are in the transition system. On the one

Figure 9: Top-down and bottom-up school transfers in school grades 7 to 9 in academic school year 2006/07 (in % of all school type transitions)



Source: Federal Statistical Office Germany and statistical offices of the Länder, School statistics 2006/2007, own calculations

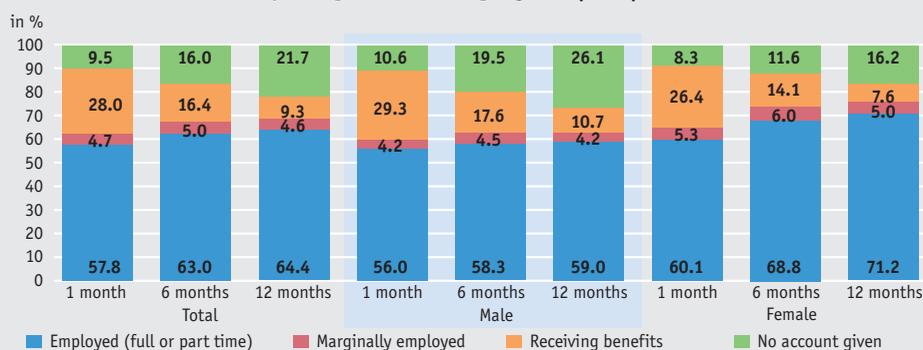
Figure 10: Distribution of status in the first 30 months after leaving the general education school system, by sex (in %)



Basis: Persons born between 1982 and 1988 who had (first) left the general education school system in 2002, and who had experienced at least 30 months "afterwards" at the time of the interview in the summer of 2006 (unweighted falling number, n = 1,942).

Source: Federal Institute for Vocational Education and Training, transition survey

Figure 11: Work status of vocational education and training graduates in 2005, one, six and twelve months after completing their training, by sex (in %)

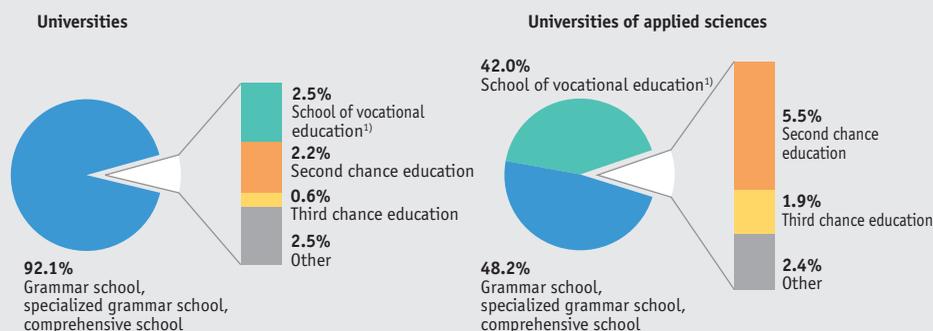


Source: Institute for Employment Research of the Federal Employment Agency (IAB), History of employment and benefits, Calculations by IAB and own calculations

hand, the transition system records drop-outs while on the other hand, some of its students transfer from one measure to the next. Only one third of the largest group of students in the transition system, that is youths with or without the secondary general certificate only, manage to obtain a fully qualifying training placement within 18 months. The rate goes up to 50% after 30 months after leaving school. Three quarters of all youths are in a fully qualifying training scheme 30 months after leaving school, while the rate is 60% for youths with and without the secondary general qualification. Since sometimes several measures are attended in direct sequence and the educational pathways of youths with and without general secondary qualification are significantly less successful, the effectiveness and effectivity of the system are questionable (Figure 10).

- **The transfer from the dual system of vocation to employment is successful in the majority of cases but the direct transition is decreasing.** 58% of the graduates were employed immediately in 2005, the majority of whom were taken on by the enterprise where they had been trained. 36% were at first without employment. Between 2000 and 2005 the number of persons seeking employment had risen and unemployment rates for young people had grown over-proportionally in comparison with other age groups. The situation is improving in 2006 (Figure 11).
- **Direct transition from vocational education and training to higher education is hardly possible.** Since 1990, all of the *Länder* have introduced diverse measures of entry to higher education for applicants with full vocational qualifications but no higher education qualification. However, these opportunities, which can be subsumed under the term third chance education (*Dritter Bildungsweg*) only account for 1% of all admissions to university and 2% of all admissions to universities of applied sciences (Figure 12).
- **Labour market and career opportunities for higher education graduates are above average.** A year after completing their studies, ca. 80% of all higher education graduates have taken on an employment or they are attending an internship, roughly 5% are unemployed and 15% are otherwise occupied (most of these are writing their doctoral thesis). It seems as if only few of the higher education graduates actually belong to the “generation of practice placement holders” that is so widely discussed.

Figure 12: German entrants to universities and universities of applied sciences in the winter semester of 2006/07 by type of entry qualification (in %)



1) School of vocational education: full-time vocational education and training school or academy
 2) Second chance education: evening grammar school, college (Zweiter Bildungsweg)
 3) Third chance education: promotion of gifted students and accreditation of prior learning for access (Dritter Bildungsweg)
 4) Other: aptitude test for arts or music, foreign higher education entrance qualification or other, no accounts given
 Source: Federal Statistical Office Germany and the statistical offices of the Länder, Higher education statistics

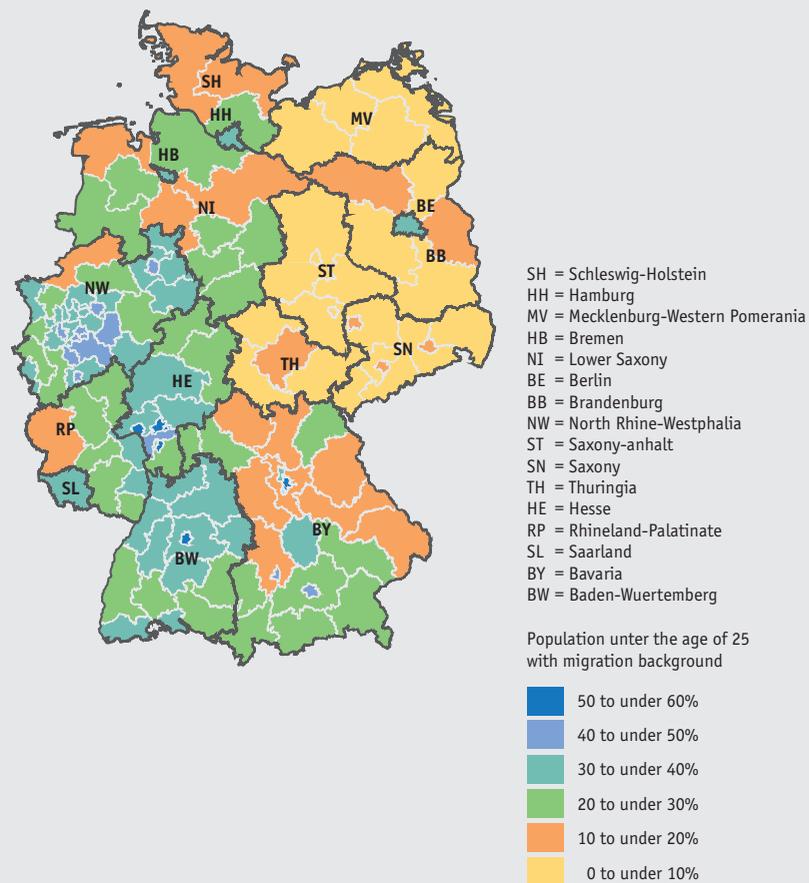
A considerable volume of life time is dedicated to education and further training in Germany. Current attempts at using educational lifetime in a more effective way are particularly evident in two areas, that is grammar school (reduction of school years to 8) and university (Bachelor and Master courses). Problematic areas of transition, detour and search phases have not been dealt with yet. Nevertheless an assessment is not always clear-cut here, degrees that are acquired later in life might indicate an ineffective use of time, but they might also indicate the growing flexibility of educational pathways and the correction of social disparities.

- **Growing disparities as regards time spent in the education system.** School time is reduced for some of the students, whereas the time and costs spent on education are increasing particularly for those students who repeat a school year or who take on a general school qualification, or a higher qualification later in life, which they did not obtain through a regular school career. The proportion of students repeating a school year at the secondary school level remains at 4% each year, and 8% leave school without even acquiring a secondary general school certificate. From 1996 to 2006, the percentage of intermediate secondary school qualifications not obtained within the general education system rose from 14 to 17%, and the pertinent figure for a higher education entrance qualification rose from 11 to 15%.
- **Transition pathways to a fully qualifying vocational education are in some cases very long.** School leavers and graduates from secondary general schools take particularly long to begin a fully qualifying vocational education in the dual system or in a full-time vocational education school. Three fifths of them have entered fully qualifying vocational education after two years to thirty months.
- **Problem of effectiveness of study courses: the tendency is decreasing, but the number of dropouts is still too high.** While the dropout rate from higher education has generally sunken, every fifth higher education entrant still drops out, and every fourth engineering student does not complete the chosen course.

The paths chosen at different stages of an educational biography are tied to disparities or even emphasise them. An analysis of the transitions from general education to the systems of vocational education and training and to higher education illustrates that the correlation between social background and educational outcome that international school achievement assessments have ascertained for Germany in particular is also evident in these stages of education. It is sometimes even intensified. The transition from general to vocational education presents particular obstacles to students with migration backgrounds.

- **Children are increasingly put at risk.** In 2006, every tenth child in Germany under the age of 18 lived in a family where none of the parents were employed. 13% of the children grew up in families where nobody had obtained an upper secondary school degree. For more than 3.4 million children (23%) the family income lay below the limit defined for the risk of poverty. 4.2 million children (28%) were affected by at least one of these risks. The increase of these circumstances is particularly alarming considering that life with one of these risks leads to markedly poorer chances of education.
- **Social status and educational level of family: influence is intensified up to the transition to higher education.** A higher socio-economic status is matched by a nearly three times lower attendance of secondary general schools while the rates for grammar school attendance are nearly five times as high. Findings from international student assessments show that the correlation of the social status of the family and acquired competences remains stronger in Germany than in other countries. Entry to higher education generates further disparities: children from academic family backgrounds take on a university career more often than children from non-academic backgrounds even if they obtain comparable higher education qualification degrees.
- **In some areas, more than half of the young people have a migration background.** In West Germany, approximately 21% of the population have a migration background whereas only 8% of the population in East Germany have a migration background. The fact that in some areas of West Germany and Berlin the rate of children, youths and young adults with migration background lies at 50% and higher proves a particular challenge to the education system. The segregation of social spheres begins in day care centres. Ca. 30% of the children whose family language is not German attend day care institutions where more than half of the children come from families where German is not the first language spoken at home (**Figure 13**).
- **A migration background is disadvantageous at all stages of the school system.** Students with a migration background are less likely to attend grammar school and they can be more often found in lower qualification school types even if their social status is equal. Twice as many foreign students leave school without even obtaining a final secondary qualification than German students whereas German students are three times more successful in obtaining a higher education entry qualification (**Figure 14**).
- **Youths from migration backgrounds show delayed and less successful transitions to vocational education.** While half of the German students searching for a placement in the dual system of vocational education and training have been successful after three months, it takes youths from migration backgrounds 17 months to reach a comparable

Figure 13: Percentage of population under the age of 25 with migration background in 2006

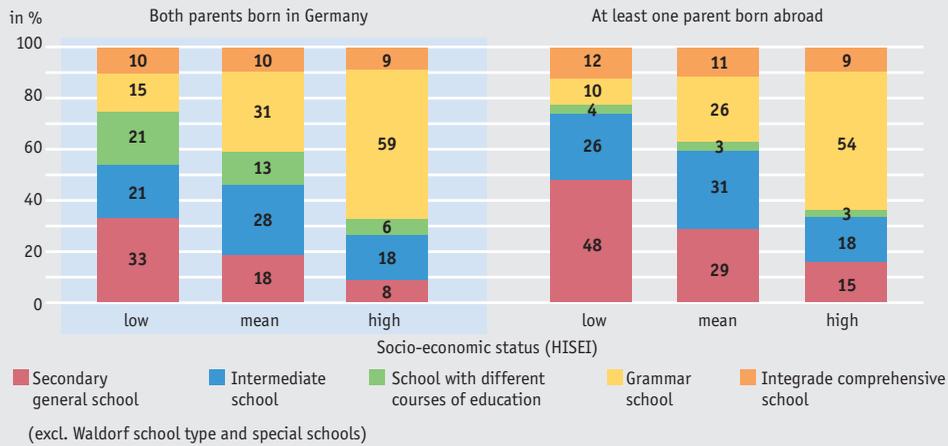


Source: Federal Statistical Office Germany and the statistical offices of the Länder, Microcensus 2006

success rate. Accordingly, youths from migration backgrounds account for 60% of students in the transition system and Germans account for 40%. The differences have grown throughout the past decade.

- **No disparities caused by migration when entering the labour market.** Once a vocational qualification has been obtained and successfully completed, no disparities can be discerned regarding the transition to the labour market. A migration background seems to be of little relevance if a vocational qualification has been obtained in Germany. Return rates on education, too, seem to be identical for persons with and without migration backgrounds.
- **Disparities of sex: girls and young women are increasingly successful in the education system while new problems are evident for boys.** On average, girls enter the school systems earlier, they achieve better at the key competence of reading, they are less likely to leave school without qualification, they are quicker and more successful as regards the transition from school to vocational education and training, they qualify in the more demanding segments of profession, their rates for obtaining a higher education qualification are significantly higher and they drop out of study courses less often, while

Figure 14: Distribution of students across school types at grade 9, by migration background and socio-economic status (in %)



Source: PISA 2003, special analysis by the Leibniz Institute for Science Education at the University of Kiel (IPN)

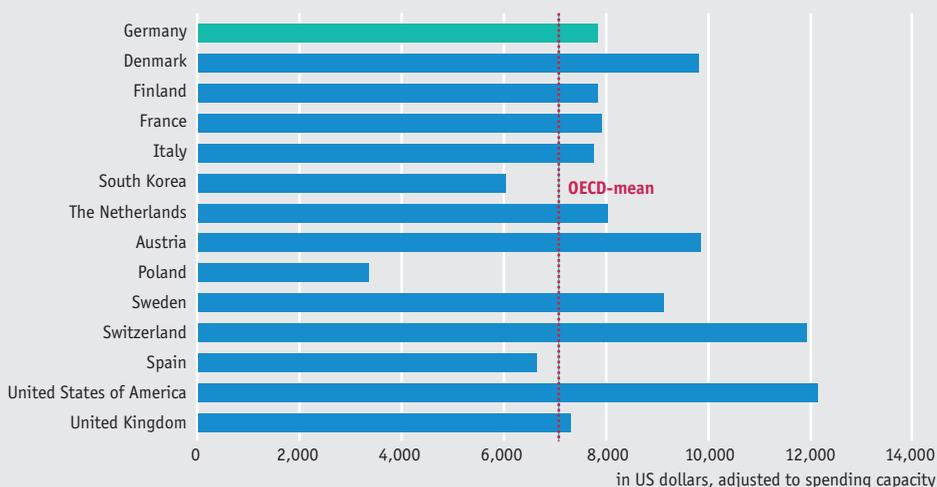
the majority of higher education graduates are female and working women take part in further education provisions more intensively. This success story of girls and women in the education system partly breaks down during their working career: significant differences continue to exist as regards the employment of men and women. At the same time as this success story develops, a new problematic constellation emerges: there is a growing risk of boys and young men failing in the education system, this particularly concerns male students with migration background. Boys repeat a school year more frequently, the proportion of male secondary general school leavers with and without final qualification is increasing and they can significantly more often be found in the transition system.

Resources and Opportunities

Even though public budgets in particular invested more in the education system in Germany in recent times, this expenditure in education did not meet the general economic growth, and expenditures have even been dramatically cut in the area of continuing education.

- Gross domestic product: proportion for educational expenditure is declining.** On the whole, that is taking into account in-company education and private provisions, 142.9 billion euros were spent on education in Germany in 2006 – thus nearly 15 billion euros more than in 1995. However, the proportion of educational expenditure declined from 6.9% of the gross domestic product (1995) to 6.3% (2005) and 6.2% of the GDP in 2006. It was below the OECD average in an international comparison. Thus, educational expenditures have not grown in proportion to the general economic growth (**Figure 15**).
- Slight increase in expenditure per participant in education.** Taking participation figures and the growing prices into account, the real expenditure per student, from the primary to the tertiary sector, was higher by 0.6% in 2005 than in 1995.
- Continuing education budgets were cut dramatically.** The Federal Agency for Employment reduced its expenditure on job-related continuing education by 70% between 1999 and 2005. During the same period of time, business enterprises reduced their expenditure on in-company further education by roughly 1.5 billion euros (16%).

Figure 15: Annual expenditure on educational institutions per student, from the primary to the tertiary sector, in selected countries 2004 (in US dollars)



Source: Organisation for Economic Co-operation and Development (OECD), *Education at a Glance 2007*

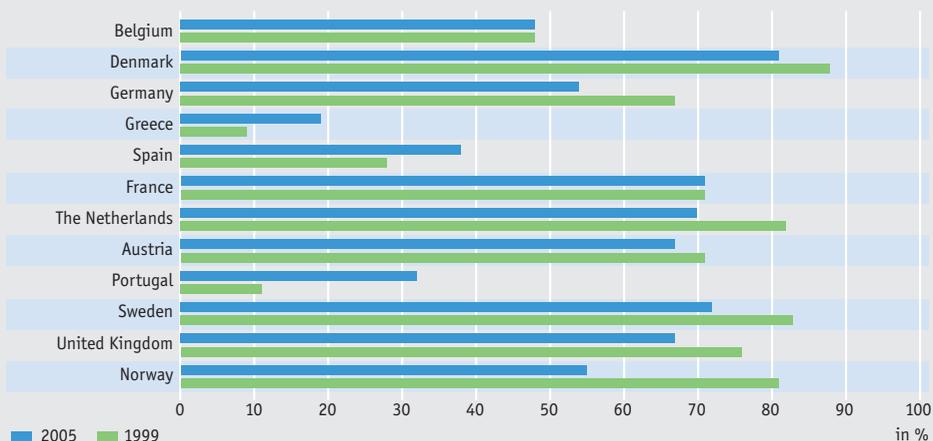
In terms of quantity, the educational opportunities provided for children under the age of three as well as in the dual system of vocational education have recently grown even though they have not yet reached a satisfying number. In addition, qualitative changes have been made such as a large extension of all-day opportunities at school, a larger proportion of integrated early childhood care and the change to bachelor degrees in higher education. At the same time, non-formal opportunities in the areas of youth work and continuing education are cut back.

- **Extension of provisions for children under the age of three in West Germany has only just begun.** Ca. 70,000 places need to be newly created each year in Germany in order to meet the projected target of providing for 35% of children under the age of three by 2013.
- **Extracurricular opportunities at school have been extended to a large degree.** The number of school units offering all-day opportunities has nearly doubled between 2002 and 2006. The all-day provisions, which are not compulsory in most cases, are continuously extended at primary schools, secondary general schools and grammar schools and they have now reached a ratio of 28 to 30% of all schools, with distinct foci in the *Länder*.
- **Decline of out-of-school youth work measures.** A tendency to reduce measures can be discerned for the area of out-of-school areas of learning. Also, the total expenditure on youth work was reduced by 6% between 2000 and 2006 (figure adjusted to inflation).
- **Improvement of offerings in the dual system of vocational education and training while provision rates as such remain too low.** After the supply of vocational training places had reached its low in 2005, the number of places in the dual training system was increased by more than 80,000 places (14%) in 2006 and 2007, but the demand is significantly higher when taking into account unsuccessful applicants from the years before.
- **Extension of bachelor study courses.** In February 2008, the bachelor courses leading to a first academic degree accounted for 80% of all courses at universities of applied sciences and nearly half of all courses offered at universities.
- **Enterprises reduce their supply of continuing education offerings.** Participation rates of enterprises regarding continuing education have decreased considerably from 1999 to 2005. When compared internationally, the continuing education activities of German enterprises can be located at the lower medium scale (**Figure 16**).

This report highlights data regarding pedagogical and academic staff. An urgent need for action is evident with regard to training and professionalising staff in the area of early childhood education as well as in school education, particularly as regards supplementary teachers at general education schools and in vocational education and training.

- **High demand for qualified staff in the area of early childhood education and care, particularly as to provisions offered for children under the age of three.** As far as child day care is concerned, the extension of services for children under three years of age causes a demand for ca. 50,000 additional qualified persons in day care centres and more than 30,000 additional private child minders by 2013. Subsequent endeavours are thus necessary. The extension of early years pedagogy requires further training initiatives, but it

Figure 16: Percentage of enterprises offering continuing education measures in selected EU countries in 1999 and 2005

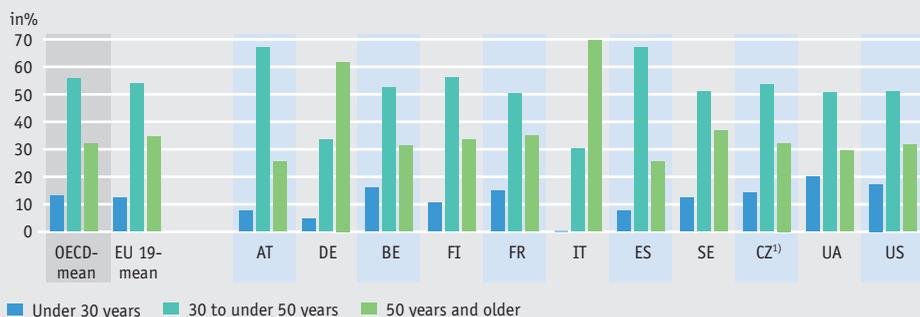


Source: Eurostat, Continuing Vocational Training Survey (CVTS)

also creates a demand for an extension of training and research capacities at universities and universities of applied sciences.

- **Higher demand for pedagogically qualified teachers at schools.** At the lower secondary school level, 60% of all teachers are at least 50 years old. In an international comparison, Germany shows one of the highest ratios of teachers at primary and secondary school levels aged 50 and older. Probably half of the staff currently teaching at schools in Germany will retire within the next 15 years. Educational policy-makers are faced with the particular challenge of replacing these teachers with persons who are pedagogically and psychologically qualified as well as professionally trained in their teaching subjects and pertinent didactics. It is questionable whether this might be possible by employing applicants who have transferred to teaching from other courses (or other short-term measures), who in 2006 made up 3% of all new appointments. Furthermore, the particularly high demand for subjects in the field of mathematics, natural sciences and technology is by no means matched by the choice of courses preferred by students training as teachers. Here, the education system increasingly competes with other segments of the labour market (Figure 17).

Figure 17: Age distribution of teachers in lower secondary schools 2005 in selected countries (in %)



1) Only public educational institutions

Source: Organisation for Economic Co-operation and Development (OECD), Education at a Glance 2007

Crucial Challenges for the Next Years

The scope of educational provisions needs to be widened for some areas of the education system in order to meet the prospective demands and to secure societal progress. This encompasses

- supplying early childhood education and care provisions for children under the age of three,
- enhancing the supply of fully qualifying vocational training places and reducing the detours at the stage of transition from school,
- raising the numbers of university students and higher education graduates and
- improving opportunities for continuing education in adulthood and their use

However, the development of quality is at least as important to education as the enhancement of quantitative provisions. Respective important tasks include

- Reducing the risks faced by children, by implementing early and appropriate means of intervention and support,
- promoting basic competencies at the lower secondary school level as a condition to a successful transition to vocational education and training and higher education,
- reducing the ratio of students leaving school without a final qualification,
- a goal-oriented support of young persons with migration backgrounds, not only continuous training of their language skills.

The authoring group considers it is necessary to highlight three areas that are likely to bear crucial challenges to the education system in the next years:

- **The Structures of vocational education and training require further development.** There might be a tendency of the dual system to lose one of its traditional strengths, that is integrating youths with a lower level of qualification by a vocational training certificate. Progress in the area of extending full-time vocational schooling is yet slow. The transition system has expanded for years and it now bears the brunt in preparing students with low levels of qualification – particularly young people with migration background – for vocational education and training. In this area in particular, it has markedly revealed its advantages, but also its weaknesses in recent years. Hence, the optimisation and re-organisation of the transition system provide a crucial challenge for young people to enter a fully qualifying vocational education in the dual system or a full-time vocational school sooner or with more success. Impacts on the different groups of youths as well as the effectiveness and efficiency of the transition system are subject to closer inspection.
- **Children and youths from migration backgrounds need early, differentiated and continuous support measures.** The integration of children and youths with migration background poses a further crucial challenge, which also pertains to those children who were born in Germany. The last PISA study markedly revealed that their competence scores lag

behind: and they have not caught up yet. The proportion of young people from migration backgrounds is growing in the younger cohorts hence the question of their early and differentiated support becomes increasingly relevant. Supportive measures need to be continued up to the early stage of youth as the transition from school to vocational education proves to be particularly burdensome.

- **The replacement of pedagogical staff as well as the appointment of supplementary pedagogical staff should not call into question existing efforts at professionalisation.** The prospective additional demand for qualified staff in the area of early childhood education and care and at schools constitutes a serious problem. Early childhood education has so far neither been developed as a profession nor as a discipline in Germany despite the fact that the improvement of support for children under the age of three is an issue in educational and family policies. The improvement of maths, sciences and technology-related competencies of youths has been on the agenda for the past ten years and first signs of success can be observed. These would be destroyed if the education system failed to recruit and professionally qualify the teachers required for these school subjects. At this moment, however, it seems as though not even the quantity of teachers that is needed can be met. On the whole, the impending lack of pedagogically qualified teachers might impair the development of school and lesson quality.

