



Eurofound

Educational and training services: Anticipating the challenges

Overview report

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Executive summary

Introduction

This report presents the findings of a study commissioned by Eurofound and carried out by the Danish Technological Institute on anticipating the challenges facing educational and training services across Europe.

The purpose of the study was to provide empirical evidence about how changes in the education and training sector in the 27 EU Member States (EU27) influence the present and future job prospects, skills and working conditions of those employed in the sector as teachers and trainers. Within the overall context of lifelong learning, the sector is undergoing profound changes and the study aims to identify trends that present the greatest challenges, and the most important opportunities, for teachers and trainers. It also seeks to illustrate practices that can serve as a source of inspiration for those working in the field.

Policy context

The study is set in the context of an increasing policy focus on the role of the education and training sector in addressing some of the major policy challenges in Europe and around the world. The sector is called upon to support sustainable growth through, for example, innovation, job creation, inclusion and active citizenship.

The efforts to develop education policies that contribute more directly to overarching strategic goals for Europe is reflected in a large number of policy strategies and initiatives, particularly in the strategic plans for European cooperation in education and training (ET 2010 and ET 2020) and the strategic initiatives within those plans, above all the ‘New skills for new jobs’ initiative. This initiative by the European Commission calls on the education and training sector to be more forward-looking and to align provision more closely with the future needs of the European knowledge economy. Mobility is a key issue and several initiatives have been launched at European level to increase mobility in the labour market and transparency of national education systems. These include the European Qualifications Framework (EQF), the higher education framework (EHEA), and frameworks and networks to promote quality assurance of education and training across Europe. Finally, there is increasing focus on the need to validate and recognise competences acquired outside formal settings and not accompanied by a certificate issued by a national authority.

Nevertheless, the study is also set in a context characterised by an increase in the number and importance of education and training activities that are not guided by either European or national policy. There is a growing commercialisation of education, within and beyond the established education systems. Universities establish global educational programmes as commercial activities, sectors establish their own qualification standards and frameworks, and large companies even establish their own internal ‘academies’ offering company-specific qualifications.

Finally, technology – particularly information and communication technologies (ICT) – plays its own part in the challenges and opportunities for teachers and trainers. E-learning is already well established but is increasingly being combined with novel teaching approaches targeted at specific groups of learners. Nonetheless, the ramifications for the sector of the advent and spread of new social media are not yet well understood.

Key findings

The education and training sector is currently characterised as being quite labour-intensive with employment growth in some areas of the sector (pre-primary and tertiary education) and decline in others (notably upper secondary education). Staff costs are clearly the biggest expenditure in the sector. In most countries, secondary education and training account for about half the expenditure, while primary and higher education each account for about one quarter.

Demographics provide challenges for the sector as a source of employment, but also create opportunities for contributing diversity to labour markets: a pronounced gender and age imbalance means that the sector needs to tackle work–life balance issues, and also that it will be faced with a high replacement demand for some years to come. At present, more than half of the teaching workforce in Europe is over 40 years old. The age imbalance is most pronounced in tertiary education.

At the same time, the sector offers flexible working conditions to women and older workers who might otherwise be squeezed out of the labour market. The findings point to an emerging realisation of the need to improve the appeal of teaching to younger people and make career opportunities more clearly visible. There are indications that there are currently a range of quite different focal points for educational reforms and policy initiatives at EU and national level, and national efforts seem to be more focused on efficient delivery and the role played by the sector in labour market integration.

The study's examination of the skills and competences of teachers and trainers indicates quite clearly that current teaching qualifications are not sufficient to meet the needs of the new types of learners being created by the emerging knowledge economy. Teachers need to become more like coaches, thus developing strong communication skills, and being more attentive to the challenges and opportunities of ICT. When they do engage in continuing professional development, it is mainly delivered through traditional short courses, workshops, seminars and conferences. More innovative forms of delivery like coaching, mentoring and mutual observation are seldom used. In this regard, the study finds that there is huge potential for concerted efforts at both national and EU level to intensify the continuing professional development of teachers and trainers.

The two key uncertainties in the sector's future are identified as the balance between publicly and commercially financed education and training, and the value that will be attached to formal qualifications. The outcome of these two drivers will critically influence the roles of teachers and trainers and their working conditions.

Policy pointers

On the basis of the findings, it is recommended that:

- stakeholders and policymakers at all levels seek improved evidence concerning the current and expected importance (in economic and labour market terms) of the private provision of education, in order to improve the synergies between the public and private parts of the sector;
- more focus be placed at both national and EU level on the continuing education of teachers and trainers in technological and social developments;
- efforts be made to improve the appeal of the education and training sector to attract more young people into teaching;
- skills or competences acquired outside formal settings and not certified by a national authority be validated and recognised to help promote quality assurance of education and training throughout the EU;
- more research be carried out to better understand the ramifications for the sector of the advent and spread of new social media.

About the study

This is the final overview report of a study on education and training services in Europe. The study was carried out by the Danish Technological Institute under contract to the European Foundation for the Improvement of Living and Working Conditions (Eurofound).

Objectives and tasks

In accordance with the terms of reference, the study aims to contribute to the European Commission's 'New skills for new jobs' initiative in two ways. First, it should provide an analysis of the quantitative and qualitative mismatches between demand and supply of labour and skills in the education and training sector, which will ultimately contribute to the sector's employment performance. Secondly, it should assess the performance of the sector and its capacity for ensuring adequate skills upgrading and matching across the economy. To achieve these objectives, the terms of reference required the contractor to perform the following tasks:

- map trends and drivers of change;
- produce case studies;
- develop scenarios.

In the execution of these tasks, the researchers employed mixed methods. These consisted of desk research, statistical analysis, interviews with prominent representatives of the sector, an online survey among Eurofound stakeholders with insight into the sector, and six case studies of innovative undertakings in the sector.

The case studies were selected with a view to illustrating important trends, challenges and approaches identified in the desk study and survey.

Finally, drawing on information from the other parts of the study, four scenarios were developed, each presenting a different future environment for the sectors and its stakeholders. The methodological considerations are detailed in the next chapter. Here, however, it can be noted that an important methodological challenge for the study has been defining and delimiting the sector (see section further below on 'Defining the sector').

The comprehensive geographical scope of the study, which covers the 27 EU Member States (EU27), combined with the complexity of the sector under study, has forced the research team – in close cooperation with Eurofound – to make decisions about the level of analytical depth that could be achieved in each of the tasks.

The outcome is six detailed case studies, a broad mapping of trends and drivers encompassing all educational subsectors and levels across Europe, and four broad scenarios for the future of the sector. It is hoped that these reports can serve to inform discussions among stakeholders and policymakers about what needs to be done to ensure that education and training can play its designated role in achieving European growth and sustainability objectives.

The study is set in the context of an increasing policy focus on the role of the education and training sector in addressing some of the major policy challenges in Europe and at global level. The sector is called upon to support and facilitate sustainable growth, for instance through innovation, job creation, inclusion and active citizenship. The efforts to develop education policies that contribute more directly to overarching strategic goals for Europe is reflected in a large number of policy strategies and initiatives. For example, these include the strategic frameworks for European cooperation in

education and training (ET 2010 and ET 2020) and the strategic initiatives within those frameworks, and the ‘New skills for new jobs’ initiative which calls on the education and training sector to be more forward-looking, and to align its provision more closely with the future needs of the European knowledge economy.

Mobility is a key issue and several initiatives have been launched at European level to increase labour market mobility and transparency of national education systems. These include the European Qualifications Framework (EQF)¹, the European Higher Education Area (EHEA), and frameworks and networks to promote quality assurance of education and training across Europe. Finally, there is increasing focus on the need to validate and recognise competences that have been acquired outside formal settings and are not accompanied by a certificate issued by a national authority.

However, the study is also set in a context characterised by an increase in the number and importance of education and training activities not guided by either European or national policy. There is a growing commercialisation of education within and beyond the established publicly funded systems. Universities establish global education programmes as commercial activities, sectors establish their own qualification standards and frameworks, and large companies even establish their own internal ‘academies’ offering firm-specific qualifications.

Finally, technology – particularly information and communication technologies (ICT) – plays its own part in the challenges and opportunities for teachers and trainers. E-learning is already well established but is increasingly being combined with novel teaching approaches targeted at specific groups of learners. Nevertheless, the ramifications for the sector of the advent and spread of new social media are not yet well understood.

To summarise, the present study is set in this overall context of change, and attempts to provide new answers for a number of familiar questions. How well does the sector perform in the context of change? What are the challenges and obstacles facing teachers and trainers? Which opportunities should be seized by policymakers and those in charge?

¹ http://ec.europa.eu/eqf/home_en.htm.

Study methodology

The study is based on a mapping of the education sector using desk research, statistical data and a survey of a number of experts and Eurofound stakeholders. In addition, the researchers have compiled a range of case studies and have constructed four scenarios for the future of the sector. The resulting draft was sent for consultation to Eurofound stakeholders. The consultation resulted in valuable comments and observations, which helped enrich the study and validate interpretations and conclusions.

Desk research

The desk research encompassed academic literature, publications from think tanks, consultancy reports and reports from interest organisations, policy bodies and public institutions. The statistical overview of the sector is based on data from Eurostat and the Organisation for Economic Co-operation and Development (OECD). In line with the scope of the study, the quantitative parts of the mapping are based on statistical data from existing and publicly available databases. This has important ramifications for the nature of the conclusions that can be drawn, because the existing data infrastructure refers almost exclusively to formal education. Therefore, training (initial and continuing) is underexposed in the study.

Survey

An online survey was carried out among social partners, public authorities and experts in the education and training sectors at both Member State and European level in order to ensure the relevance and quality of the findings to the report's key audiences. The stakeholders included in the survey are outlined below.

- Correspondents from Eurofound's Network of European Observatories or experts on education and training nominated by them.
- Social partners within the European Sectoral Social Dialogue Committee.
- Participants in Eurofound's seminar on 'Skills development in Europe' held in Dublin in December 2010 (up to 50 experts from 11 Member States nominated by social partners and governments).
- Participants of Eurofound's seminar on 'Preparing for the future: maintaining employment in times of crisis' held in Dublin in April 2010 (mainly trade unions from Member States and a few employer organisations in the sector).
- Other Eurofound contacts (social partners, academics, education and organisations of training providers).

The survey touched on challenges and trends in the education sector, national policy and reform developments, the future of the education sector and identification of best practices. It was carried out via the internet over a period of four weeks in December 2010 receiving 98 responses involving stakeholders from 23 countries and some at European level.

Case studies

The case studies include in-depth studies of good practice in anticipating and managing change in the sector at national, regional or local level. The cases were selected to illustrate undertakings that are innovative and have successfully created/saved/transformed jobs for teachers/trainers/educators and promoted their skills upgrade/adjustment/development. The selection of cases was based on the following criteria:

- geographical spread;
- reflection of both formal and non-formal settings of learning;
- reflection of the different levels of education (primary, secondary, higher education and adult/continuing training or education);

- public/private provision of learning;
- the challenges anticipated in the initiative;
- stakeholder involvement.

A long list of more than 20 potential cases was prepared according to these criteria. The list was prepared on the basis of desk research, knowledge from previous assignments and suggestions from Eurofound. Representatives from the cases were contacted and the list was narrowed down to the 13 cases where stakeholders agreed to be interviewed. From this list, the final selection of six cases was made in close collaboration with Eurofound (Table 1).

Table 1: Overview of six cases

Dimension	Setting					Challenge				
	Formal				Non-formal	Ageing	Changing skills needs	Cost-efficiency	Contribute to innovation	Raise skills level among young
	Primary	Secondary	Higher	Adult/continuing						
1. Aalto University, Finland			✓				✓		✓	
2. Teach First, UK	✓	✓					✓		✓	✓
3. FECCOO, Spain	✓			✓		✓		✓		
4. ITpreneurs, Netherlands					✓	✓		✓	✓	✓
5. Mayday, Poland				✓		✓	✓	✓	✓	
6. ATKM Project, Czech Republic				✓			✓	✓	✓	

Scenarios

In line with the requirements for this study, four scenarios have been elaborated. The scenarios aim to illustrate how trends and uncertainties may combine to create different outcomes for the education and training sector, and how these changes may influence restructuring in the sector in terms of skills needs, both qualitatively and quantitatively.

A scenario is a coherent description of the drivers, trends and events that can influence and change the subject of analysis over a given period. However, it is not a prediction, and the scenario analyses and exercises do not aim to predict the future. Given the uncertainty of the future, a scenario is only a possibility, as likely as many others. The scenarios can be a navigation tool and early warning system.

As a tool for policy analysis and strategic analysis to describe a possible future, a scenario must fulfil a number of criteria.

- It should be *plausible*, but does not have to be the most probable scenario.
- It should be *internally consistent* in order to be plausible and to enable a coherent discussion.

- It should *project backwards* from the posited future so that participants can better understand how that future might have arisen.
- It should *contain sufficient information* to describe the functioning of a system.

Scenario and foresight methodology is a science in itself, drawing on a rich palette of related methodologies (such as backcasting, the study of critical and key technologies, cross impact analysis, or the Delphi survey technique).² The development of scenarios in the current study combines methodologies developed by Global Business Network in the United States (systematic variable variation) and the TAIDA method (Kairos Future, Sweden). We are aware of the sector foresight methodology used by the EU Directorate General for Employment, Social Affairs and Inclusion and have indeed taken some of the steps of this model into account; however, a full-blown scenario development according to this methodology would exceed the scope of the current exercise.

For this study, scenario development has taken into account ongoing work being undertaken through the European Commission and its agencies in this field. Two projects initiated by the European Centre for the Development of Vocational Training (Cedefop) have been of particular interest.

Cedefop is attempting to anticipate skills supply and demand up to 2020 (Cedefop, 2010a) by developing an econometric methodology for anticipating skills needs at the European, national and sectoral level. A part of this project is to develop both quantitative and qualitative scenarios for future skills needs in Europe.

The centre has also recently completed an overview study of the changing functions and uses of qualifications, and developed a set of four scenarios to support policymakers as they adjust and reform qualification systems (Cedefop, 2010e).

Other work has informed the scenario exercise of this study, including the work of Finland's Committee for the Future and of the UK Commission for Employment and Skills (UKCES).

More specifically, the scenario construction for this study has drawn on the following data:

- input from the case studies;
- desk research on skills gaps and training issues;
- statistical data;
- foresight studies within the education and training sector.

Defining the sector

Traditionally, the education sector has been subdivided according to levels. For example, on the website of the EU Directorate General for Education and Culture, it is emphasised that 'EU-level activities are being developed to address priority areas in each of the different levels of education and training – early childhood, school, higher, vocational and adult education'.³ These 'levels' reflect a traditional division that attaches importance to governance structures and types of institutions – a division that is currently under discussion and reform throughout Europe.

² The European Foresight Platform (<http://www.foresightplatform.eu/>) contains detailed methodological information and guidance.

³ http://ec.europa.eu/education/lifelong-learning-policy/doc28_en.htm.

The current understanding of levels in education more frequently refers to the concept of levels of qualifications based on learning outcomes. In this perspective, relevance is related to the complexity of the knowledge, skills and competences represented by a qualification rather than to the institution where it was obtained. This understanding of levels underlies the European and national qualifications frameworks. This new understanding of levels is at odds with the traditional understanding. For instance, vocational education qualifications span four qualification levels in some national frameworks, for example in Ireland and France; adult education can be of a vocational or general nature; and higher education is not always academic, as some higher education programmes in various countries have a strong vocational orientation.

To avoid the confusion with qualification levels, we will use the term ‘subsystems’ throughout the report when we refer to governance and type of institution.

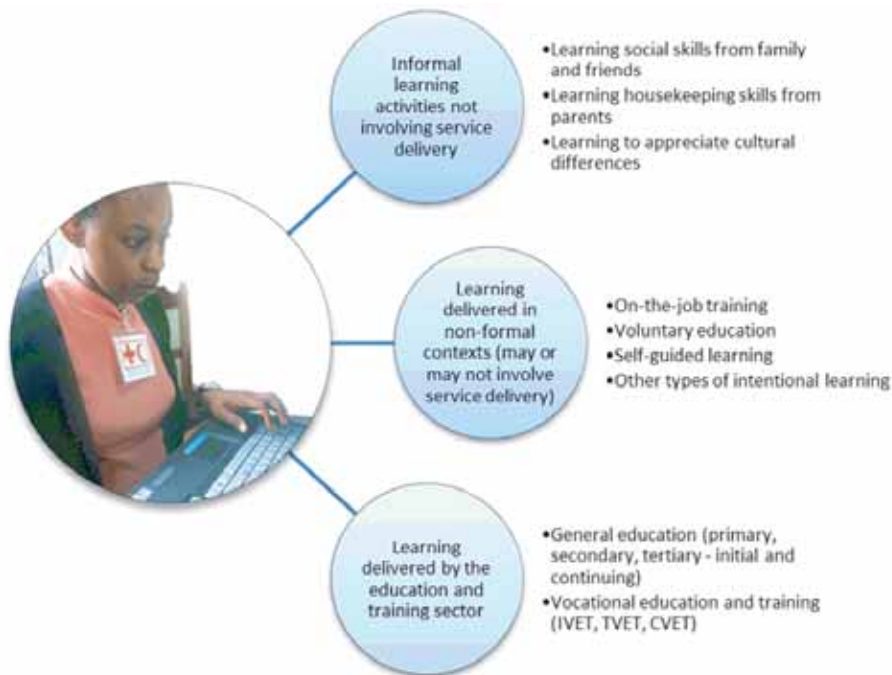
Another methodological challenge of this study is that, increasingly, learning takes place in private or informal settings outside the formal education and training sector, and the line between learners and providers of education or training services becomes blurred when learners provide content, thus becoming ‘teachers’ themselves.

In order to achieve analytical clarity, we have distinguished between the following sectors and types of learning activities.

- *The formal education and training sector and its subsectors* – This sector is well-described and solid statistical evidence is at hand to underpin the mapping and analysis of the sector, assessing its size, structure, performance and challenges. It is important to note here that the focus of the study is on employment and skills needs in the sector. Unlike much existing literature on education, the focus is not so much on differences and similarities between education systems, but rather on trying to understand trends and drivers for labour markets, skills needs and employment conditions across the whole sector. The mapping exercise focuses mainly on the formal education and training sector.
- *The non-formal sector* – Outside the formal education sector, a multitude of bodies (enterprises, organisations, networks) deliver or facilitate learning in non-formal yet structured contexts. These include in-company training, voluntary education systems, commercial training operations and self-guided interactive e-learning. Learning is the common characteristic of all these activities. Due to their diversity, however, and to the fact that they do not lend themselves to statistical categories, the mapping of their size and importance can only be tentative. Nevertheless, we have striven to illustrate the variety of such new ‘educational and training services’ and – where data have been accessible – to assess their economic and social implications.
- *Informal learning activities* – The existence of unorganised learning has to be acknowledged, even though such learning has no set objective or learning outcome and, from the learner’s standpoint, is never intentional (OECD, 2010a).

Figure 1 seeks to illustrate these three distinct types of learning spaces. For the purpose of the current study, we concentrate on activities that fall within the first two categories of formal learning taking place in public education systems and the non-formal sector in which learning may take place in a plethora of different settings, including the home of the learner, but which often have a specific economic focus (enterprise, network, organisation).

Figure 1: Learning spaces and the education and training sector



Note: IVET = Initial vocational education and training; TVET = Technical and vocational education and training; CVET = Continuing vocational education and training.

Source: Authors' own compilation

The education and training sector not only embraces the subsectors of formal, non-formal and informal learning. It has public and private providers, and also voluntary providers such as non-governmental organisations (NGOs) running courses for their volunteers. The sector therefore caters for a diverse audience that includes all age groups, from children to elderly people, and provides general/initial and continuing training and education at all the various levels illustrated in Figure 1.

The clearly-defined scope of the current study, combined with the shortcomings of the data infrastructure, means that the focus is on formal education in the following mapping section. However, as indicated, discussions about the future of the sector would benefit from the existence of a broader and deeper evidence base for the employment and labour market issues related to learning that take place outside the formal sector.

Mapping of the sector

There is currently a substantive knowledge base and solid statistical evidence available for the formal and public part of the education and training sector. In the non-formal sector, knowledge of labour market issues and working conditions is relatively limited.⁴ Consequently, the statistical part of the mapping will present evidence only for the formal sector. Mapping of different aspects of the education sector follows.

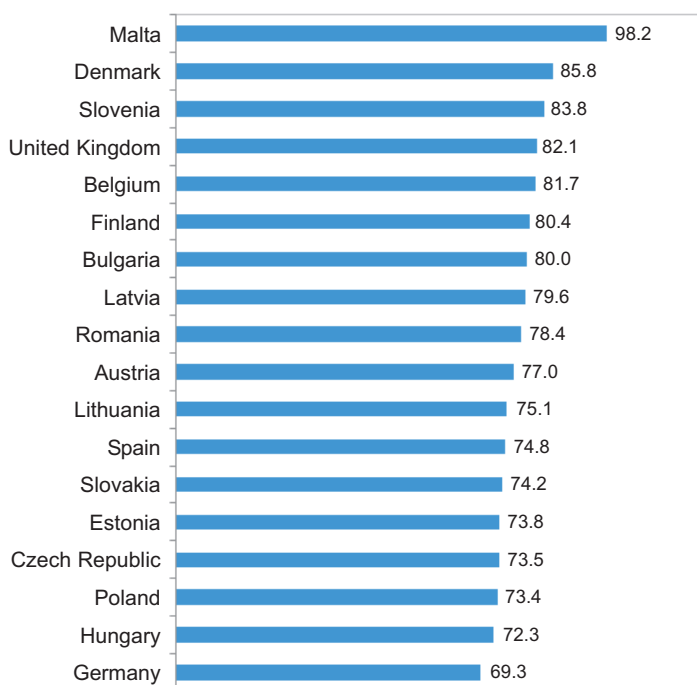
Importance to the European economy

The recent Eurydice report *Key data on education in Europe 2009* produced by the Education, Audiovisual and Culture Executive Agency (EACEA) of the EU shows that the share of gross domestic product (GDP) spent in the EU27 on the public education sector remained stable at around 5.1% between 2001 and 2006.⁵ However, some countries have since increased the proportion of their GDP spent on education considerably, by 20% in Cyprus and Hungary, and more than 10% in the Czech Republic, Ireland, the Netherlands and the United Kingdom. Expenditure on educational institutions coming from private sources is generally less than 1%. Only in Cyprus (1.3%) and the UK (1.7%) is more than 1% of the budget for public education sourced from the private sector (Eurostat data, 2007).

When analysing current expenditure⁶ it becomes evident that, in all EU countries, the sector's biggest cost is its staff, accounting for an average of 71% of total costs across the EU27 in 2006. In some countries, such as Belgium and Portugal, staff costs are as much as 85% of the total education spend.

The cost of staff has been rising since 2006. Figure 2 shows labour costs in the education sector, as a percentage of the total spend, in European countries in 2008.

Figure 2: *Labour costs in the education sector as a percentage of total spending, 2008*



Note: The education sector in Eurostat's database includes NACE codes in section P.
Source: *Eurostat data, 2008*

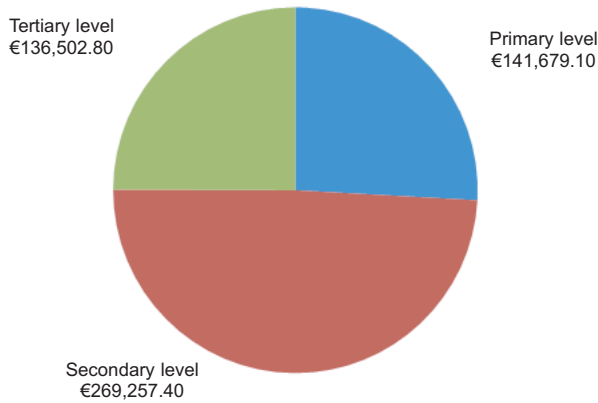
⁴ Although the non-formal sector has not been systematically surveyed, evidence does exist of developments within limited segments of this part of the education sector. For example, Cedefop (2011b) provides information and analysis concerning professional development opportunities for in-company trainers.

⁵ When data were collected for this study (mid 2010), Eurostat data for 2007 were not yet available.

⁶ Current expenditure is divided into two categories: staff wages and costs such as employers' social security contributions, and costs of maintaining buildings, educational materials and operational resources.

Figure 3 shows the total public expenditure (in € millions according to purchasing power standards (PPS)) by educational level for the EU27 in 2007, at current prices.

Figure 3: Total public education expenditure in € millions (PPS) by educational level

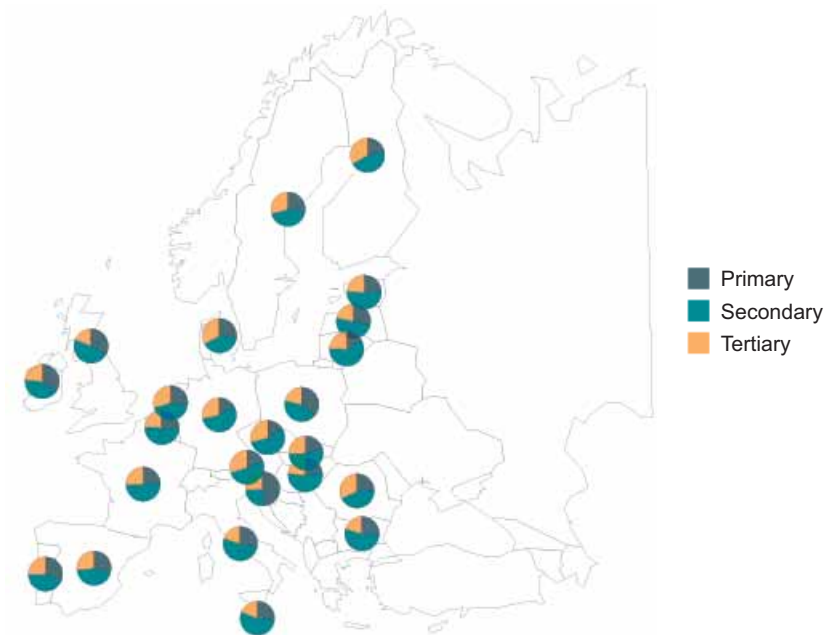


Note: Data for Greece and Cyprus are missing.
Source: Eurostat data, 2008

Generally, all the Member States allocated around 50% of total public education expenditure to secondary education with the exceptions of Denmark (40%) and Lithuania (59%). The shares allocated to primary and tertiary education are almost the same across the board at around 25%.

However, some country variance exists, as illustrated in Figure 4.

Figure 4: Expenditure on education by level as a share of GDP (%)



Source: Data: Eurostat data, 2007. Map: Norwegian Mapping Authority

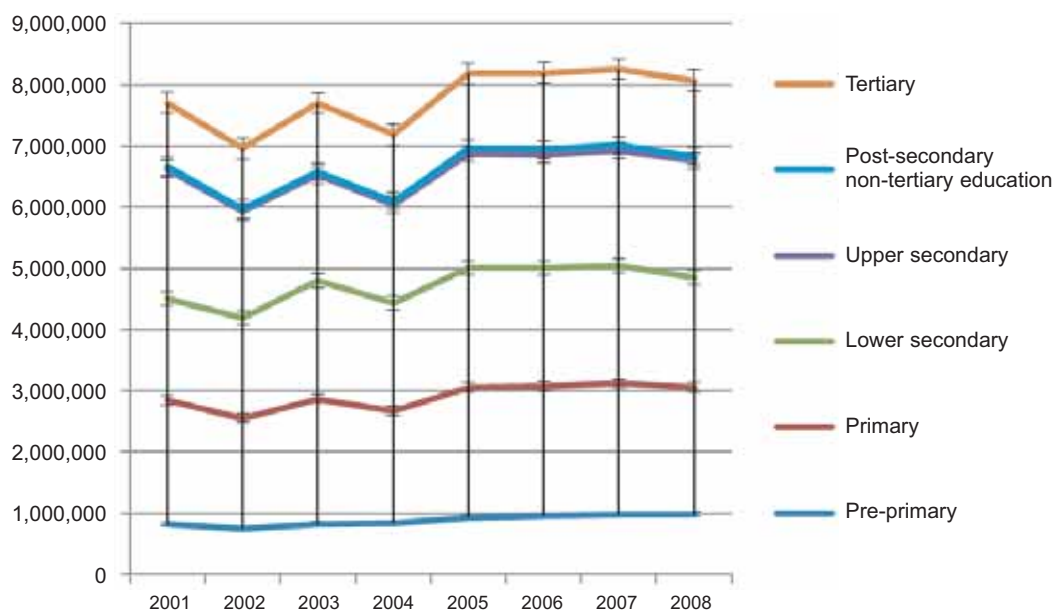
The EACEA Eurydice report *Key data on education in Europe 2009* indicates that the total allocation of GDP to primary education in 2006 in the EU27 was generally less than 2% of GDP (with the exception of Slovenia where expenditure was 2.6% of GDP) The level of education accounting for the largest share of public expenditure on education, expressed as a proportion of GDP, is secondary education, up to a maximum of 3.1%. At the tertiary level, expenditure is around 1.2% of GDP.

Structure of the sector

The occupational structure of the formal education sector is quite simple. Regardless of the various educational subsectors, a division can be made between teaching staff and administrative and managerial staff. The detailed occupational composition of teaching staff varies between educational subsectors, but there is a generic division between full-time qualified teaching staff and part- or full-time teaching staff who do not hold a full teaching qualification.

According to Eurostat data, there was an increase in the total number of employees in the formal education sector in the EU27 between 2001 and 2007, followed by a minor decrease in 2008. The total number of staff in the sector in 2008 was 8,072,085. This may have decreased due to the recent recession because most Member States have had to cut public spending since 2008, affecting the public part of the education sector (euobserver.com). The figure below illustrates employment by educational level from 2001 to 2008 in the EU27⁷:

Figure 5: *Employment by educational level 2001–2008, EU27*



Note: Figures are accumulated, and the interval between lines on the graph shows the numbers employed at each individual level.
Source: Eurostat data, 2001–2008

⁷ The figure does not show shifts between general and vocational education. More detailed figures on the distribution of teachers in vocational programmes are available in Cedefop, 2009.

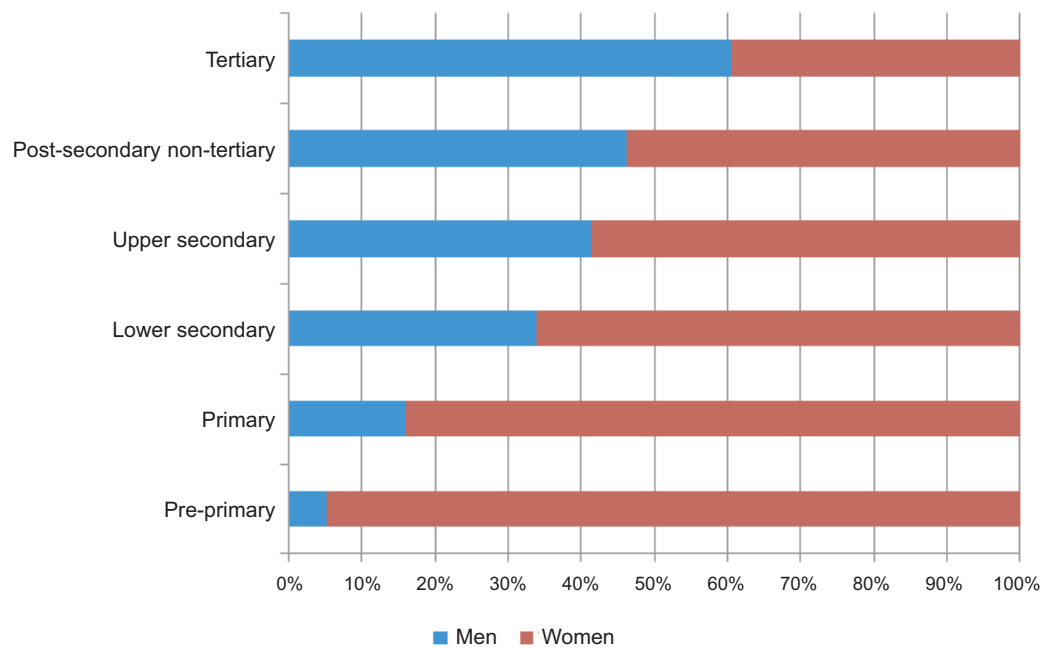
As the figure shows, employment in the sector fluctuated considerably throughout the 2000s. Overall, employment grew by 4.7 percentage points from 2001 to 2008, but this overall figure conceals a huge variation between educational levels:

- employment in post-secondary education increased by 61%, but from a very low starting point of just 47,476 employees in the whole of Europe in 2001;
- employment in both the pre-primary and tertiary levels increased by more than 19% between 2001 and 2008;
- employment in primary education increased by 2.6% and in lower secondary education by 8.1%;
- employment in upper secondary education fell by more than 10%.

Employment by gender

An increasing number of women are working in the formal education sector as teachers and academic staff – 69% of the sector’s workers were women and 31% men in 2008 – and this appears to be a continuing trend (Eurostat data, 2008).⁸ However, the gender differences between various levels of education are distinctive, with an increasing number of male teachers in the higher levels. Figure 6 shows the distribution of men and women teaching at each level in 2008.

Figure 6: *Employment by gender and educational level, EU27, 2008*



Note: Percentages are based on headcounts. Data are missing for Denmark and Greece.
Source: Eurostat data, 2008

⁸ Data are based on full-time units, not headcounts. Data are missing for Denmark, Estonia, Greece, Luxembourg and Portugal.

These gender imbalances challenge the sector in two ways.

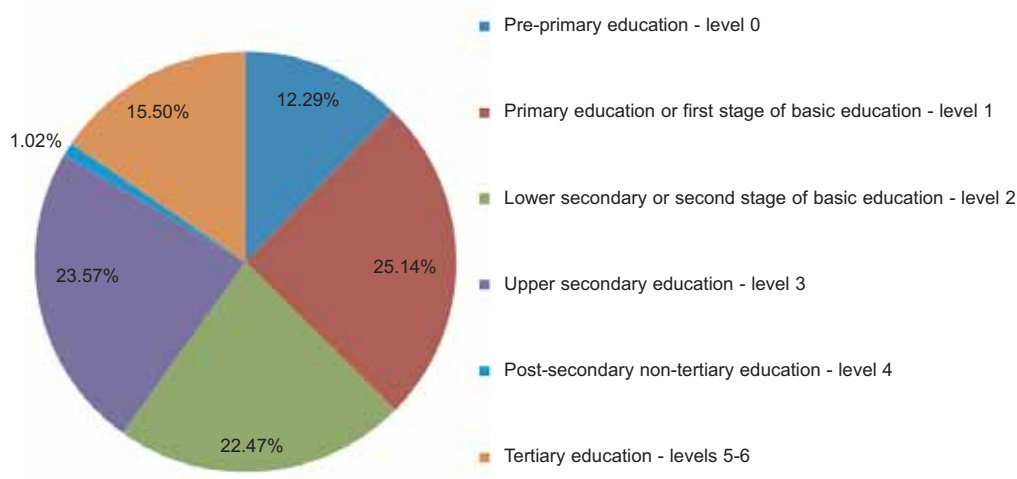
Since women's work is often associated with low status and low pay (Ponzellini, Aumayr and Wolf, 2010) and this may reflect negatively on the prospects for recruiting high-quality staff to early childhood education, which may in turn initiate a vicious circle where low attractiveness, low pay and low quality staff become associated.

In addition, women in many European countries are the primary carers in their families and as a result are often intermittently absent from the labour market, whether for shorter or longer periods, to care for dependent family members. In primary and lower secondary education, where there is a larger proportion of female teachers, this gender-based difficulty of long-term staff retention may make it more difficult to create close-knit teams than in the upper secondary levels or in higher education.

Employment by educational level

When looking at the distribution of employment at the various educational levels in EU27 countries, the majority of teachers work at the primary and secondary levels, accounting for 71% of the total employment. A similar distribution is evident in Member States, although there is some variation.

Figure 7: *Employment by educational level in general and vocational education, EU27, 2008*

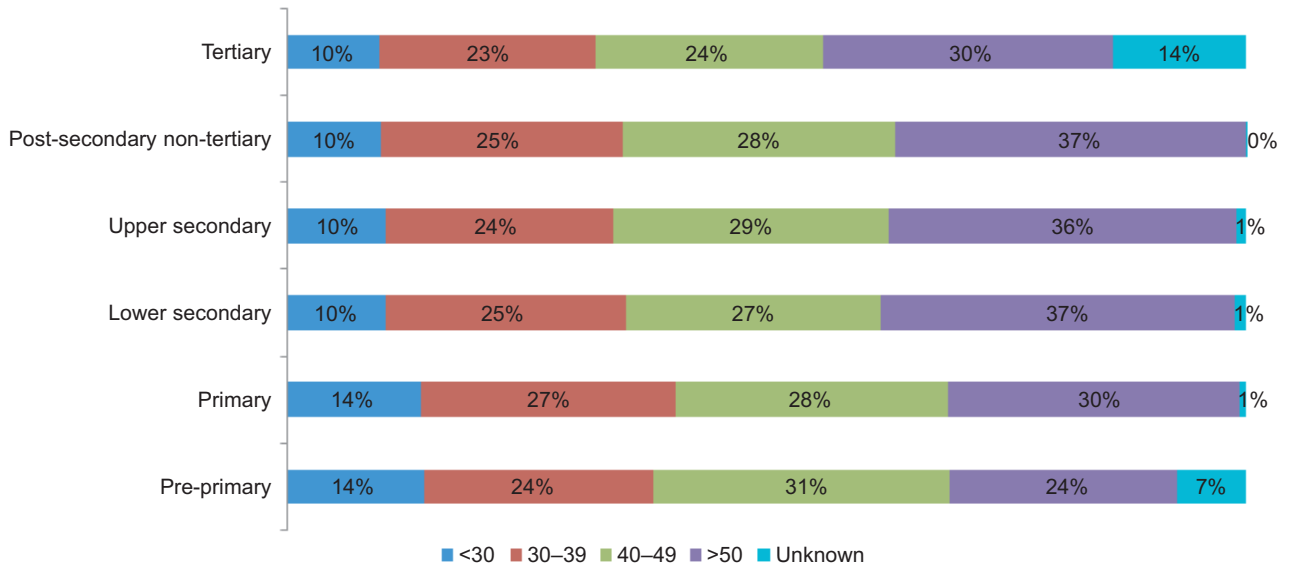


Note: Data from Denmark and Greece are missing; educational levels are as defined by UNESCO's International Standard Classification of Education (ISCED 1997).

Source: Eurostat data, 2008

The age demographic of the EU27 workforce is an issue since more than half of current teaching staff are over 40 years old. An analysis of age distribution by educational level in Figure 8 offers more detailed information about the challenges this presents.

Figure 8: Employment of teachers and trainers by age and educational level, EU27, 2008

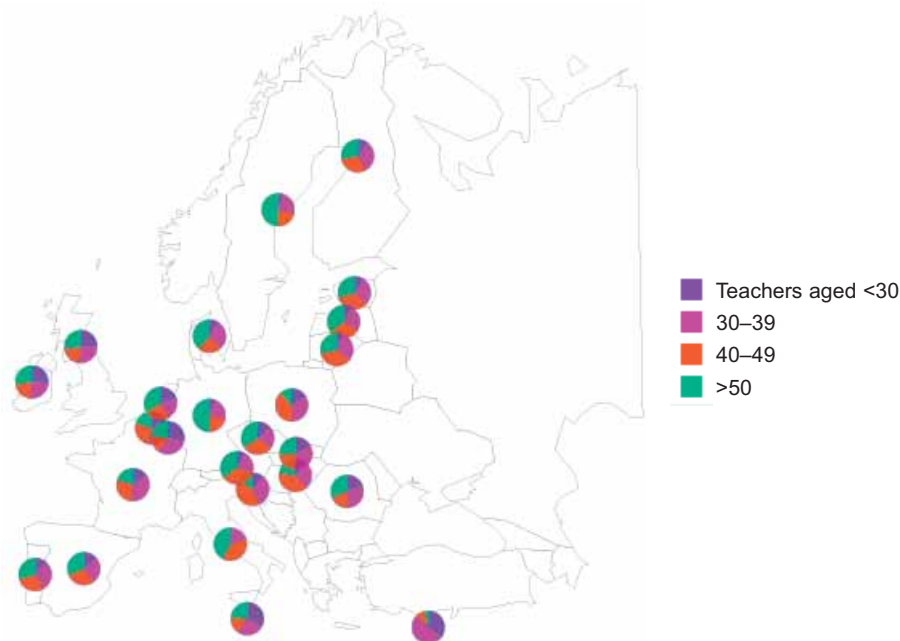


Source: Eurostat data, 2008

In the survey, 24% of respondents identified the ageing of teaching and training staff as a challenge, but five other challenges were rated as more pressing, among them the need to improve institutional performance, and an increasingly diverse student population.

A more in-depth analysis of individual educational levels indicates that the scale of the problems posed by an ageing teaching establishment is unevenly distributed across EU Member States. Figure 9 shows the age distribution of primary school teachers in public and private institutions in 2008 in various Member States.

Figure 9: Age distribution of teachers at primary level (ISCED level 1), by country, 2008 (%)



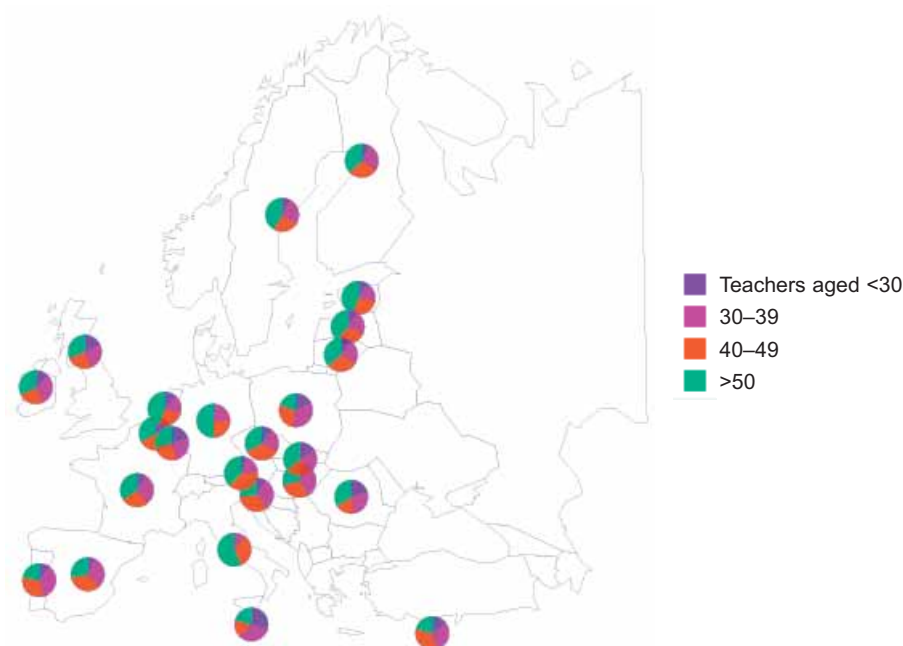
Note: Data are missing for Greece.

Source: Eurostat data, 2008; Map: Norwegian Mapping Authority

Some countries clearly have a markedly ageing teaching profession, such as Germany where 50.3% of the teachers in primary education are more than 50 years old, and Sweden where the figure is 48.8%. At the other end of the scale, in Cyprus only 12.3% of teachers in primary education are 40 or older.

The age distribution of teachers in public and private education institutions at secondary level underlines the challenges associated with ageing (Figure 10).

Figure 10: Age distribution of teachers at secondary level (ISCED levels 2–3), by country, 2008 (%)



Note: Data are missing for Denmark and Greece.

Source: Data: Eurostat data, 2008; Map: Norwegian Mapping Authority

As in the case of primary education, the challenge of ageing is more pronounced in secondary education in some countries than in others. In Italy, 56.2% of the teachers in secondary education are more than 50 years old, and in Germany, the figure is 50.4%. Malta is the only country in the EU27 with less than 45% of its secondary school teachers over 40 years old (38% in 2008).

The situation in higher education is similar to that in primary education, with the exception that an even smaller proportion of teachers at this level are younger than 30 (under 20% in all countries). More than half the teachers in higher education in all countries are more than 40 years old – in France, 70%, and in Italy, 84% – and between 20% (Cyprus) and 56% (Italy) are more than 50 years old.

To summarise, while educational experts do not consider ageing to be the biggest challenge facing the sector, there is no doubt that the demand for newly-qualified staff to replace those who are retiring will increase in years to come. Perhaps the biggest challenge here is whether the sector will then be a sufficiently attractive employer to younger people making career choices.

Training issues and human resource strategies

Regardless of the quality of the initial education and training of teachers and trainers, the speed of change makes it necessary for teachers to keep their skills updated and to participate consistently in professional development, including continuing training and education. In this context, the Teaching and Learning International Survey (TALIS) carried out among teachers by the OECD suggests that teachers working at lower secondary level in both the public and private sector need better support for their professional development. The OECD recommends that policymakers and school leaders ensure that the development opportunities available are effective and meet teachers' needs (OECD, 2007).

Along the same lines, a recent study on the professional development of in-company trainers concludes that they often lack adequate opportunities for professional development (Cedefop, 2010f). One way to improve opportunities for professional development is found in the case study of the Czech Association of Management Trainers and Consultants.

Collaborative 'bottom-up' educational innovation

The Czech Association of Management Trainers and Consultants has taken the lead in the development of five modules to train trainers, setting up associated programmes and networks. Their approach serves to illustrate how innovation in education can be collaborative and follow a 'bottom-up' approach.

This programme tackles a key challenge shared by most modern education and training systems (that is, low levels of access to quality training in the workplace) in a way that is both efficient and well suited to the unregulated character of continuing vocational education and training in the Czech labour market. Czech companies do not have a strong tradition of providing some important aspects of continuing vocational education and training (CVET), particularly soft skills, and small and medium-sized enterprises (SMEs) do not have the economies of scale needed to provide in-house training. Furthermore, public training provision has not responded quickly to the rapid changes of the past 20 years or so or been particularly effective in identifying and meeting firms' continuing training needs. Instead, new forms of training for the trainers themselves, and networking arrangements that add up to an informal community of practice, have 'grown' through bottom-up processes rather than through governmental initiatives or policy.

The springboard was an early, extensive bilateral cooperation involving another EU Member State, and further impetus and development is made possible through the progress afforded, in particular, by projects funded by the European Social Fund (ESF). Thus, the trainers of the trainers in the Moravian-Silesian region (and in the Czech Republic more widely) have a platform through which they can engage and cooperate.

This new platform provides learning opportunities, a setting for professional development in the wider sense, business opportunities and a developing bank of training modules (or other teaching materials) that are designed to develop the competences of the trainers. The modules focus on training methods, teaching and learning, and broader skills that can complement technical expertise in the training offer. Developing concrete training methods and materials in a transnational, but concrete, context is an innovative approach that may serve to increase the capacity in teacher training systems.

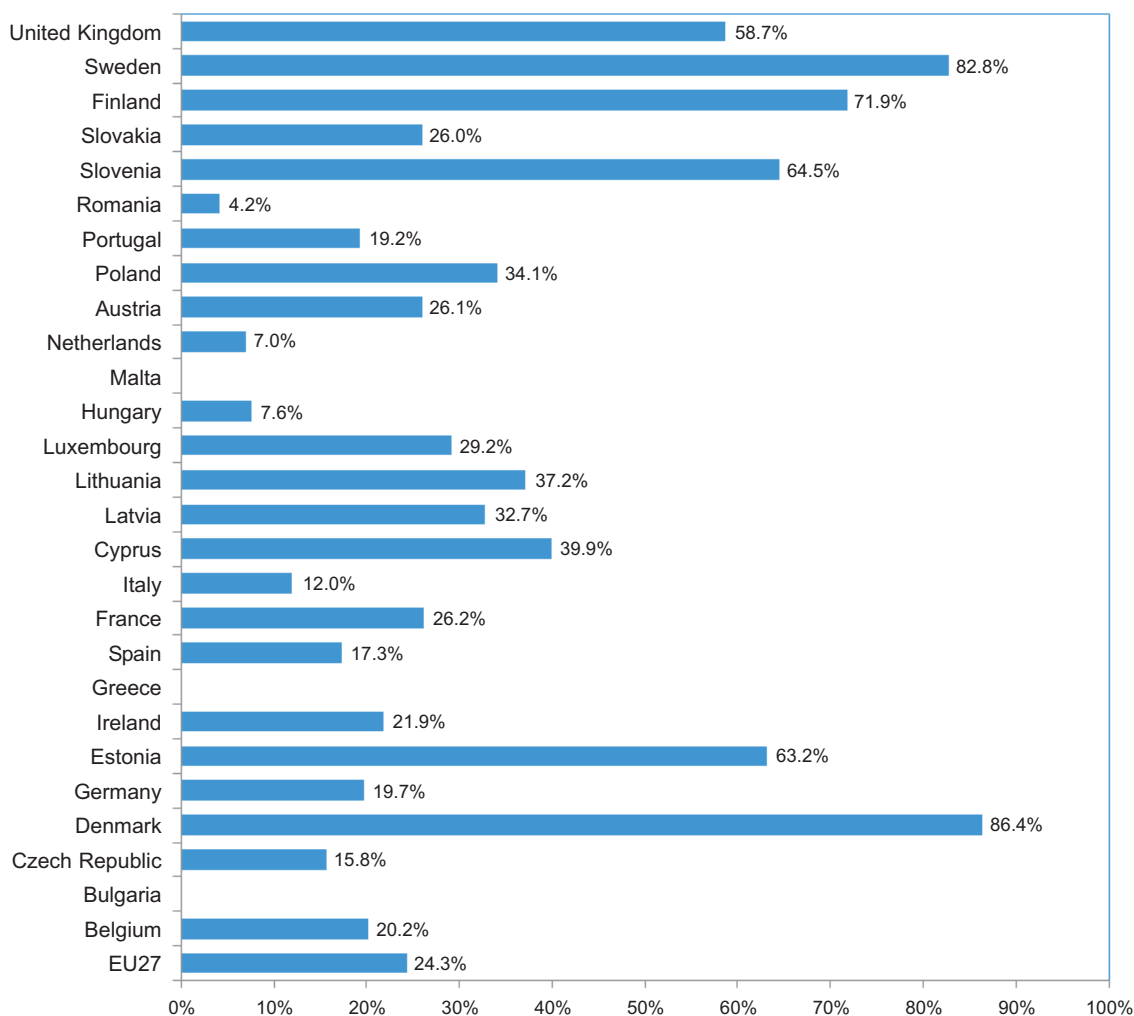
So far, although there are limited links with formal systems of education and training, the initiative has been able to grow in training programmes at the local level. The initiative has been supported by the appropriate public authorities. Stakeholders judge that it has contributed considerably to both the quality of the trainers and, as a result, the quality of the training offer. The tendency is for trainers who are now better trained to become consultants working in the private sector, rather than to become part of the state-financed and regulated system. Some other initiatives in the Czech Republic appear to be engaged in similar, complementary programmes.

Source: *ATKM case study, Czech Republic*

Participation in lifelong learning

Eurostat data can give an indication of the rate of educational staff participation in non-formal education and training. The participation rate varies considerably between countries, with the highest participation rate in the Nordic countries of Denmark, Finland and Sweden. More common is a participation rate of around 20%–30%. Figure 11 shows the participation rates for the EU27 in 2008.

Figure 11: Rate of educational staff participation in non-formal learning, by country



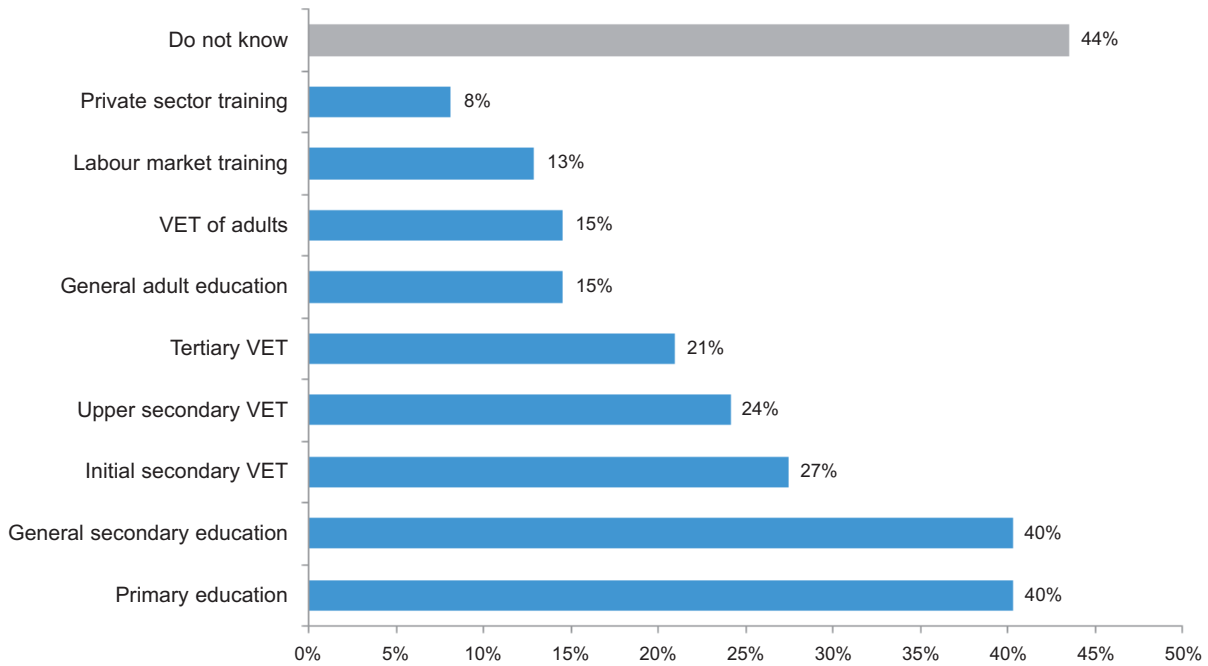
Note: Data for Malta, Greece and Bulgaria are missing

Source: Eurostat data, 2008

The participation rate measures the number of staff who participated in continuous education or training within a given time span, but not the amount or intensity of the training received by a single teacher or trainer. The first results from TALIS suggest that this issue is particularly important when considering teachers in the lower secondary levels. The TALIS data seem to indicate that for this group, policymakers tend to spread resources for professional development among all teachers instead of adopting a more targeted approach (OECD, 2008).

Making participation in continuing education and training compulsory for teachers and trainers might be one way to foster their involvement in lifelong learning. The survey conducted for the present study indicates that only a few educational levels have compulsory professional development for their staff. In addition, it seems that the lowest levels of the formal education system are those most likely to make participation compulsory. Figure 12 shows to what extent participation is compulsory in the various sectors, subsectors and educational levels, as reported by respondents.

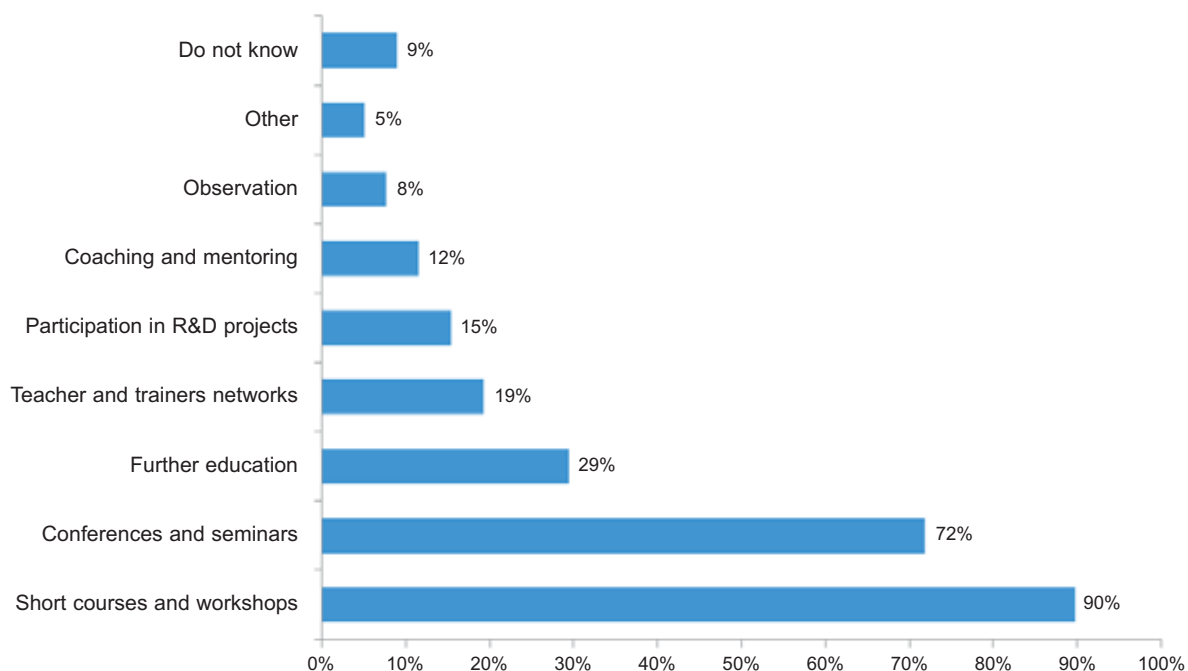
Figure 12: *Compulsory participation in continuing education and training*



Source: *Survey of Eurofound stakeholders from education and training sectors, 2010*

There are different types of professional development activities available for teachers and trainers. For lower secondary teachers, the TALIS results show that the main activities are informal dialogue to improve teaching, workshops and courses, and reading professional literature (OECD, 2008). The most common forms of delivery, when teachers and trainers are offered competence development, are workshops, short courses, conferences and seminars. Further education is used less often. Figure 13 illustrates the forms of delivery used most often, based on information given by respondents who were asked to identify the three forms most used in their experience.

Figure 13: *Forms of delivery of lifelong learning*



Note: R&D = research and development.

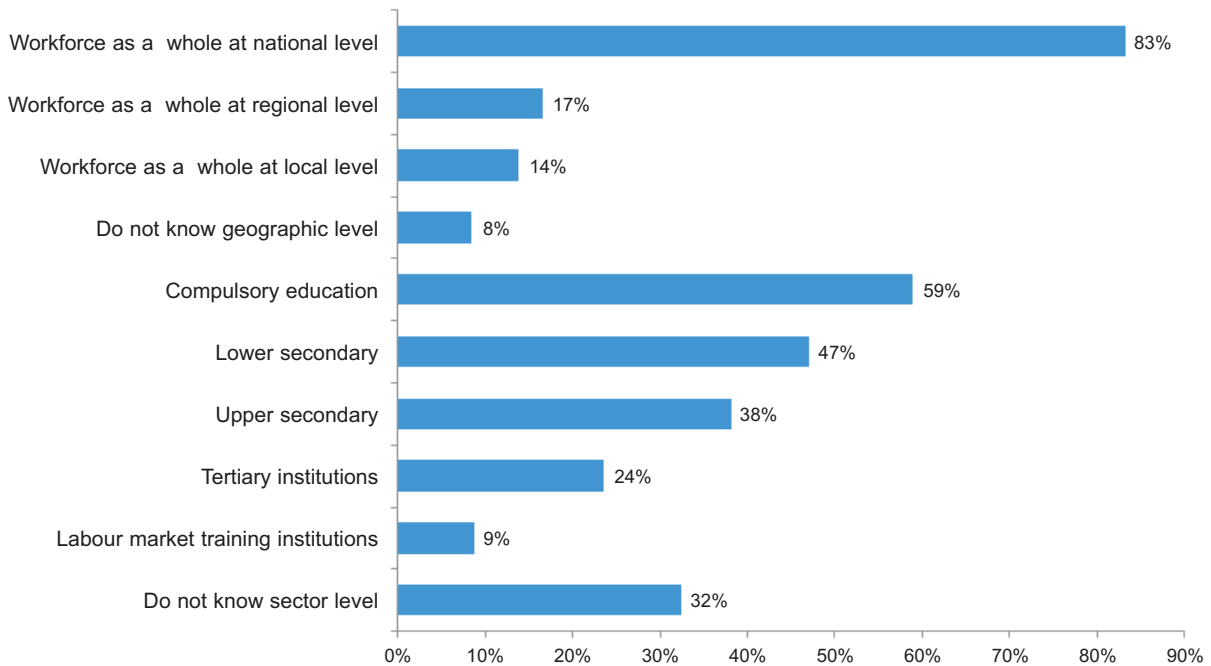
Source: *Survey among Eurofound stakeholders from education and training sectors, 2010*

Human resource strategies

This study shows that 46% of the respondents to the survey indicate that their country has initiated human resource strategies for continuing the professional training or development of teachers and trainers within the past five years. However, 33% of the respondents reply that no such strategy has been initiated in their country. The main reason given for an absence of strategy is that the responsibility lies with the teachers and trainers themselves (66%) or that the responsibility rests with the authority at decentralised levels (21%), and a further 11% indicate that a strategy is underway in their area.

Respondents were also asked to indicate the geographical levels of these strategies, where they existed, and a majority (83%) said that they had been initiated for the workforce as a whole at the national level. Furthermore, it is evident from the data that teachers working in the lower levels of education (compulsory, lower secondary and upper secondary) are more often covered by a human resource strategy for continuing development. Figure 14 shows human resource strategies by geographic level and educational subsector.

Figure 14: Human resource strategies by geographic level and educational subsector



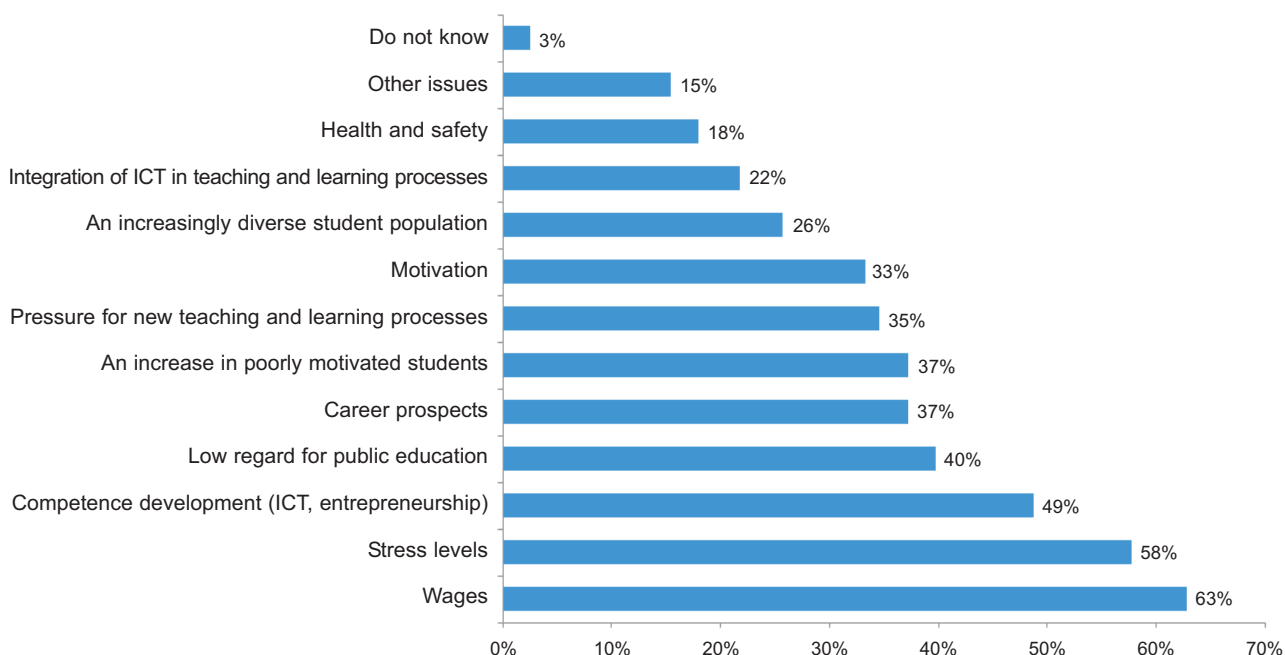
Source: Survey among Eurofound stakeholders from education and training sectors, 2010

Labour market and employment conditions

One issue discussed recently in the European debate has been how attractive the teaching profession is to those making career choices. Its desirability seems to be in decline in many Member States. Other issues that have come to the fore in the public debate about teachers and trainers may provide an indication of the state of both the labour market and employment conditions for the profession.

This study shows that teachers' wages and stress levels are the issues currently most discussed. Figure 15 outlines the relative importance of issues raised in public debate about the working conditions of teachers and trainers. Respondents were asked to tick as many as they thought appropriate.

Figure 15: Issues in public debates about teachers and trainers



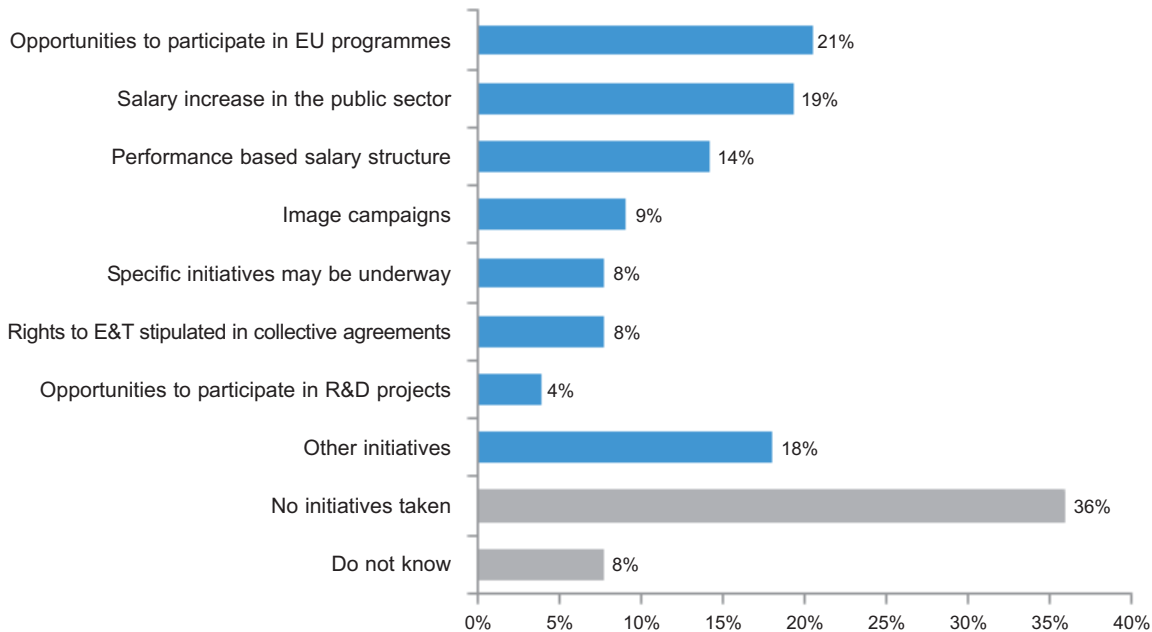
Source: Survey among Eurofound stakeholders from education and training sectors, 2010

In the United States, the decreasing number of young people and especially top graduates going into teaching is considered a major challenge to the continuous development of the education sector, because evidence suggests there is a correlation between the quality of teachers in terms of level of qualifications and school grades and the effectiveness of the schools (McKinsey and Company, 2010). A similar correlation is likely to be evident in Europe too. In this study, for example, a Norwegian employer organisation drew attention to the difficulty of recruiting top graduates into the teaching profession. The European Commission’s Directorate-General for Education, Training, Culture and Youth has recently launched a study on policy measures to improve the attractiveness of the teaching profession in Europe.⁹

The survey indicates that few of the countries have initiated policies to increase the appeal of teaching and training careers in recent years. However, some countries have given opportunities to graduates to participate in EU programmes (21%) as a way to improve the profession’s appeal. Increasing teachers’ and trainers’ salaries and offering quicker salary advancement have been discussed as a way to both attract higher quality staff and improve pupil outcomes, as seen in countries such as Singapore, Finland and South Korea (Dolton et al, 2011). According to the survey respondents, initiatives in their countries to make the teaching profession more attractive include increased salary in the public sector (19%) and the introduction of a performance-based salary structure (14%); nonetheless, when considering the level of public debate on wages (as outlined in Figure 15) the level of focus is rather limited. Figure 16 shows the initiatives being used to make teaching a more attractive profession.

⁹ http://ec.europa.eu/education/calls/doc2510_en.htm.

Figure 16: Initiatives to make teaching a more attractive profession



Source: Survey among Eurofound stakeholders from education and training sectors, 2010

Other initiatives mentioned in the survey include one in Belgium allowing teachers to pursue mixed careers. This means that they can keep a full-time job in the private sector and teach part time in the public sector and receive the benefits associated with being a full-time public-sector teacher.¹⁰ In Slovakia, a credit system has been introduced linking continuing professional development to financial bonuses to give teachers an incentive to continually develop their knowledge and skills.

The British charity ‘Teach First’ not only seeks to improve the appeal of the teaching profession, but also to channel exceptional graduates from the best UK universities into the most socially disadvantaged and challenging schools.

Tackling educational disadvantage

The programme developed by Teach First in the UK is a new way of tackling educational disadvantage by attracting excellent graduates from top universities to the teaching profession. A key principle underlying Teach First’s work is the idea that ‘the positive effects of excellent teaching and leadership can compensate for the principal disadvantages children bring with them to school’ (Teach First, 2007, p. 11). In other words, the quality of the workforce and the leadership in schools are critical for tackling educational disadvantage and improving achievement.

Teach First seeks to contribute to the development of high-quality teachers and leaders in schools in the most deprived areas of the UK in a number of ways. It invests considerable time and effort in recruiting high-quality graduates from top universities. The rigorous assessment and selection process requires candidates to demonstrate their ability across eight key competencies. Finally, it asks its participants to work responsibly and with high impact in schools in challenging circumstances. The distinctive features of Teach First are outlined below.

- *Mission* – The explicit focus on a clear social equity mission distinguishes Teach First from many other teacher training programmes. This goal is explicitly shared with participants from the start of the programme.

¹⁰ The respondent did not elaborate on any particular advantages being referred to.

- *Selection* – Teach First places great emphasis on attracting, identifying and selecting the highest quality graduates into its programme.
- *Leadership focus* – The Teach First teacher training programme is very deliberately called the Leadership Development Programme because its central focus is on leading learning, leading people and leading organisations.
- *Ambassador movement* – Another distinctive feature of Teach First is the emphasis it places on scale and long-term change. Through its ambassador networks and initiatives, there is a concerted attempt to scale up and broaden the impact of the organisation over time.
- *Independence* – As an independent charity, Teach First is an example of a third-sector solution to social problems.

Source: *Teach First case study, UK*

Effectiveness, efficiency and equity in the sector

All European countries have been hit by varying degrees of the global financial recession in recent years, with resulting cuts in public budgets and a demand for more productivity for the same amount of money. This has affected the education sector both in the decline of teaching standards and reductions in teaching establishments (according to forthcoming work by Cedefop). For example, several countries such as Hungary, Italy, Latvia, Lithuania and Poland are coping with extensive cuts in higher education, while in Austria earlier promises to increase public education funding are not being fulfilled. Irish universities saw their 2009 funding decrease by 6%, and a further 10% cutback in their 2010 budgets (euobserver.com, 2010). These developments have increasingly put the effectiveness and efficiency of the public education sector on the agenda. At the same time, there are concerns about whether this may mean that less emphasis is placed on providing equal access to education for all potential students.

The effectiveness and the efficiency of the sector are not only influenced by its working conditions, but also by the attractiveness of the teaching profession. The report recently carried out by McKinsey and Company on school systems in more than 50 countries found that the success of the best-performing national systems, such as Finland, South Korea and Singapore, relied on the recruitment of top graduates to teaching, good working conditions and robust training (McKinsey and Company, 2010).

The evidence and literature about the efficiency of the education and training sector, measured against equitable educational provision for all students, are relatively undeveloped, and lacking any assessment at Member State level. The analytical report on efficiency and equity in European education and training systems prepared for the European Commission (Wössmann and Schütz, 2006) does however give a broad overview emphasising the different challenges of the two concepts in the life cycle of education. The report stresses that:

‘there seem to be strong complementarities between efficiency and equity of opportunity in policies that act at early stages of the education process. However, these seem to turn into trade-offs between efficiency and equity at late stages of the education life cycle. Thus, the earlier equity- and efficiency-enhancing policies set in, the better.’

Equal access to and provision of education and training in the EU have a positive impact on the efficiency of training systems, as indicated in the working hypotheses of the qualitative scenarios for the education sector that are currently being developed by Cedefop. This is evidenced by the participation rates in pre-schooling, school dropouts, gender inequalities and lack of basic skills, to mention a few of the issues created by inequitable systems. In addition, students from more privileged backgrounds are generally able to make the most of the advantages offered by an education system,

and employees with higher-level jobs and qualifications continue to have more opportunities to participate in continuing training than those with lower-level jobs and qualifications (according to the interview with Tom Leney, Cedefop expert).

Markets for private education and training services

European and national policy regimes have introduced new regulations and promoted economic liberalisation by opening up the European markets and sectors such as utilities to competition and private ownership. The same changes have also happened in the field of education. Private investment in education is increasing in the EU, as is the autonomy given to school managements to raise private funds through donations and sponsorship, to hire out their premises, and to use private funds to purchase movable goods (EACEA/Eurydice, 2009). This new paradigm has also had an impact on the role of teachers and trainers.

From lecturers to active participants in multi-disciplinary collaborations

The innovative aspects of Aalto University in Finland have come about through a close collaboration between the education sector, the ministries (Education and Culture; Employment and Economy) and the private business sector in preparing and implementing reforms in higher education. The innovative elements comprise:

- private fundraising for a public institution in higher education;
- introducing collaborative learning, involving both students and companies as both learners and providers of knowledge, and teachers as facilitators of learning processes;
- a new understanding of what constitutes academic excellence;
- continuous professional development with a focus on the teaching aspects of the position of lecturer (rather than on the research aspects);
- the development of a new career path in the university;
- new criteria for assessing potential candidates for academic posts.

Aalto University is changing the roles of university teachers so that they move from being lecturers to becoming active participants in collaborative multidisciplinary learning processes. The approach to learning is problem-based with a focus on the processes of learning. This approach is based on Aalto University's notion that universities need to educate what they call 'T-shaped' people – high-level experts in their own specific fields who also understand key parts of other disciplines and are able to work with experts from these disciplines. The Confederation of Finnish Industries supports this notion. Another important and innovative development is the introduction of a programme of continuing professional education of the academic teaching staff and professors, mainly in the field of pedagogy.

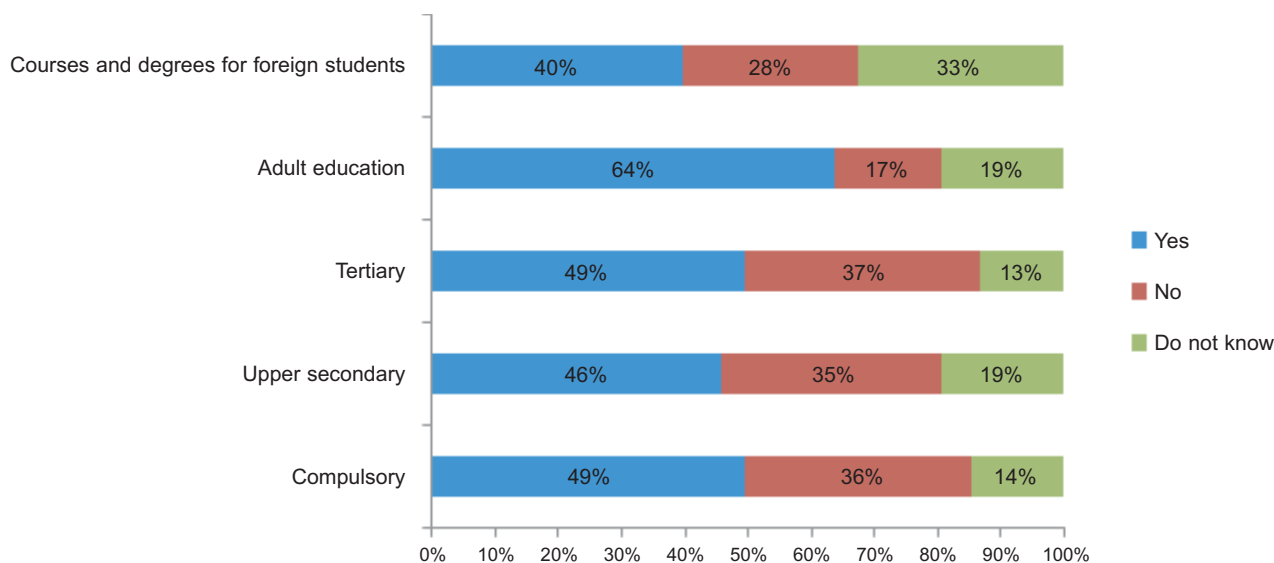
A recruitment system and tenure track that focuses on both research and teaching has been created for professors and is helping shape new perceptions of the role of university teachers.

Source: *Aalto University case study, Finland*

Nevertheless, private investment in education is only significant in four Member States (Cyprus, Germany, Slovakia and the UK). In these countries, it amounts to as much as 17% of the total spent on education, although this is still well behind Japan and Australia (25%), the US (30%) and Korea (40%) (according to forthcoming work by Cedefop). It is also important to note that private provision is difficult to quantify, as it is difficult to assess the amount and value of training provided by employers.

According to survey respondents, there has been a growth in the volume of private provision of education or training over the past three years, especially in the area of adult education (64% responding ‘yes’) as illustrated in Figure 17.

Figure 17: Growth in private provision of education or training



Source: Survey among Eurofound stakeholders from education and training sectors, 2010

The UK is a good example of substantial growth in private education provision which almost doubled between 2000 and 2008. However, this growth in providers has not been matched by a corresponding growth in the size and value of market demand, which appears to be static (Simpson, 2009). The private training market – the market for external training purchased by employers – is worth less than €3.35 billion and is a small part of employers’ total expenditure, the majority of which is spent on in-house training.

The recent cost cutting in public funding may favour the development of private providers across Europe, because the cuts may create more demand as a result of worsening public provision, as one Italian respondent commented. The Netherlands case study also highlights the growing demand for private providers of education and training for vulnerable groups such as immigrants, unemployed people and those with little or no education.

Political and regulatory developments at both European and national level

European level

The EU’s education and training policies have been a top priority since the adoption of the Lisbon Strategy 2000, with the focus on job creation and growth. This focus was intensified with the adoption of the Europe 2020 strategy. The overall aim of Europe’s education and training policies, as set out in the Europe 2020 strategy, is to support smart and sustainable growth by creating mobility and transparency and by establishing the principle of access for all through the

improvement of lifelong learning systems and the validation of non-formal and informal learning.¹¹ The increased focus on education and training has led to a number of EU-level initiatives such as:

- European qualification frameworks (EQF);
- the establishment of the European Quality Assurance Reference Framework (EQUARF);
- a Europe-wide credit system for vocational education and training (ECVET);
- the Bologna process, which aims to establish a system of higher education that facilitates cross-border mobility through a common qualification framework and credit structure;
- the Copenhagen process, which aims to improve the performance, quality and relevance of vocational education and training (VET) through enhanced cooperation;
- promotion of the validation of non-formal and informal learning;
- the establishment of sector councils at the EU level for employment and skills.

The intention is to create closer links between training, education and employment through, for instance, the EU's joint development of the European Skills, Competences and Occupations taxonomy (ESCO) co-ordinated by the Directorate-General for Employment and Social Affairs.

National level

At the national level, most EU Member States have implemented reforms that support the EU 2020 strategy's target for education and training, including the development of national qualifications frameworks (NQF) and a shift to a learning outcomes-based approach (Cedefop, 2011a). Focusing on what a learner knows and can do after having completed a course is a major shift from an approach that previously focused on curriculum content and course duration. The practical effects of this shift are demonstrated in the case study of the MAYDAY partnership in Poland, where one EU-funded project has fed into the adoption of a learning outcomes-based approach among higher education teaching staff.

Adapting to a learning outcomes-based approach

The programme developed through the MAYDAY partnership in Poland brought social partners and higher educational institutions together to create training courses for workers that anticipated their up-skilling needs. The MAYDAY initiative introduces a model for the active support of employees' and enterprises' development in the face of the structural changes in the European economy and focuses on development of lifelong learning. It took an innovative approach to the delivery of new skills to an ageing workforce whose skill-set was no longer relevant.

Course content did not need updating, but the Gdansk Technology University's staff and researchers needed training in new ways of delivering training and education to students with ICT-based tools and e-learning, which are still not commonly used in Poland's formal education system. In addition, the target group of the MAYDAY programme was very different to the traditional university audience, since the objective was to give students practical competences and

¹¹ Non-formal learning is not provided by an education or training institution and typically it does not lead to certification. However, it is structured, in terms of learning objectives, learning time or learning support. Informal learning results from daily life activities related to work, family or leisure. It is not structured (in terms of learning objectives, learning time and/or learning support) (Cedefop, 2007).

skills rather than academic qualifications. Teaching staff therefore had to understand this target group, and become more adaptable and flexible in their teaching methods. The development of these new staff competences was supported by process evaluation that allowed collective reflection on the new methods being learned, and helped the staff to adapt more quickly.

Finally, and importantly, the staff also had to adapt to a learning outcomes approach.

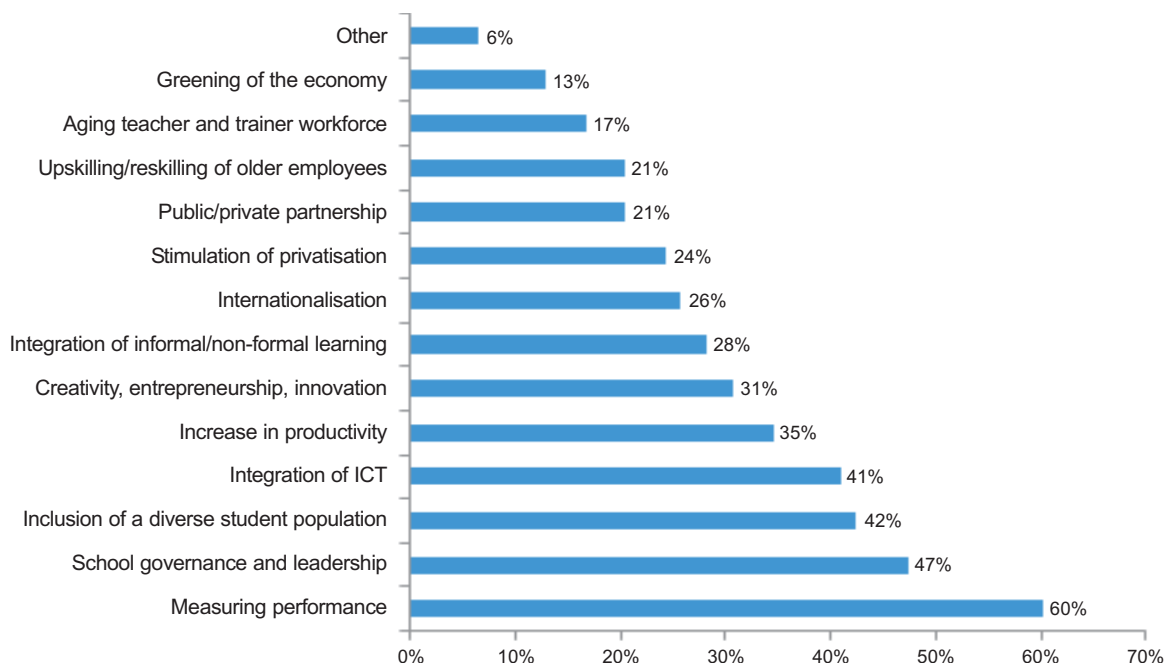
Traditionally, the Polish education system is based on agreed input standards and in mainstream education the focus is whether the student gets the qualification, rather than on what they know and are able to do by the end of a course.

The development and delivery of ICT-based training modules and e-learning modules for MAYDAY gave the university's teaching staff practical experience of shifting their focus to learning outcomes. What they have learned from this process will help the effective implementation of the National Qualifications Framework.

Source: *MAYDAY case study, Poland*

The problem of measuring performance in the learning sector has been the main factor addressed explicitly in recent or current educational reforms at the national level (60%), according to the survey respondents. Respondents were asked to indicate any factors that had been addressed by recent reforms in their countries. Figure 18 shows that school governance and leadership (47%), inclusion of a diverse student population (42%) and integration of ICT teaching methods (41%) were also common targets of national reform.

Figure 18: *Factors targeted by recent or current national educational reform*

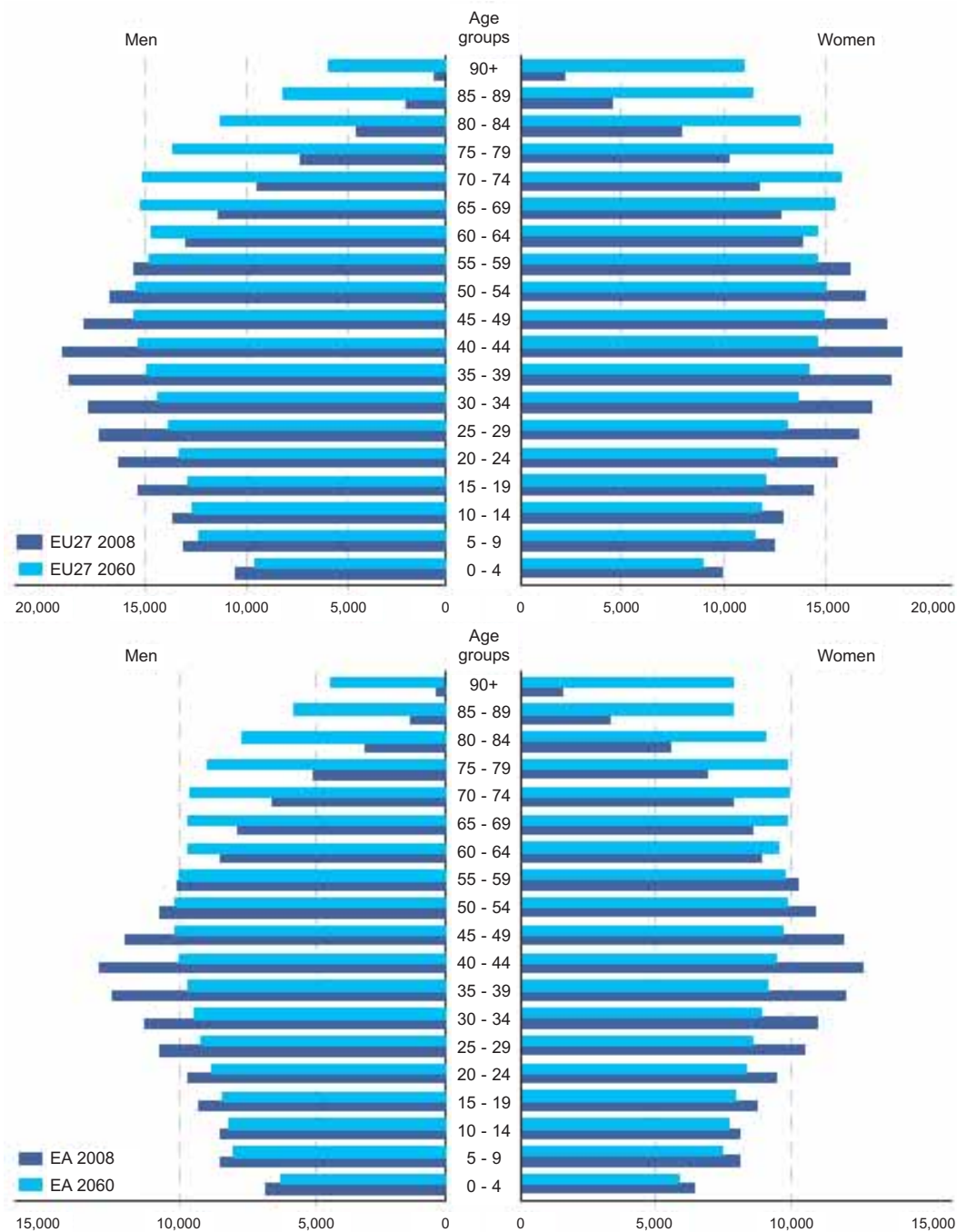


Source: *Survey of stakeholders from education and training sectors, 2010*

Social and demographic developments

The evolution of the age structure of the European population shows the ageing of the population as illustrated by the population pyramids in Figure 19. According to projections made in the *2009 Ageing report*, conducted for the European Commission, longer life expectancy and declining birth rates will significantly alter the ratio of older to younger members of the population; what is now an age 'pyramid' will eventually be closer in shape to a pillar instead (European Commission, 2009).

Figure 19: Population pyramids (in thousands), EU27 and euro area, 2008 and projected in 2060



Note: EA = euro area.

Source: *European Commission, 2009*

These demographic developments and projections, combined with the recent financial recession, have resulted in a number of challenges for various groups already in the labour market, and made it more difficult for those outside the labour market to find a place in it.

This trend will increasingly put pressure on the education sector to assume and develop a stronger integrative function for those groups most vulnerable to exclusion from the labour market, such as migrants, women, disabled people and young people. Education will be an additional route towards integration into society and, hopefully, the labour market. The case study from the Netherlands demonstrates how these groups can be reached in an innovative way through education and training, and also illustrates what this might mean for the changing role of teachers and trainers.

Less talking by teachers, more learning by students

Vulnerable groups that do not usually respond well to traditional teaching methods have been reached by new materials developed by ITpreneurs, and put into practice by ROC Midden Nederland.

The use of digital technology is by no means unusual, but this is a blended approach to learning with digital materials as its basis, and combined with teacher intervention, paper-based materials and exercises to prepare students for life in Dutch society. Teachers act more as coaches or guides, rather than using the more traditional teaching method of ‘talking at’ their students.

Education providers across the Netherlands have used ITpreneurs’ e-learning materials which were developed specifically for immigrants to prepare them for their citizenship exams. Although the materials themselves received much positive feedback from respondents, other factors have been equally crucial to their success, including:

- the political will to prioritise the integration of immigrants;
- public funding for interactive learning materials;
- use of the materials by experienced teachers accustomed to working with ICT and digital media;
- active support for teachers to help them adjust to the new coaching-based teaching method;
- political and institutional recognition of the time it takes for teachers to adjust to new learning methods;
- ITpreneurs’ inclusion of education providers and teachers in the development of content;
- easy access to ICT equipment for students, both at home and at the place of learning.

These additional factors illustrate that solid learning programmes must be combined with new and more interactive learning concepts. A more holistic approach is needed to bring together actors at the political level, providers of learning materials, education institutions and teachers to follow the same strategy.

Source: *ITpreneurs case study, Netherlands*

More women are entering the labour market. The promotion of lifelong learning and ways of validating non-formal and informal skills and competences are particularly relevant for them since their traditional role as family carers means that many women are periodically absent from the labour market. Some may be entering the labour market for the first time.

The majority of young people in Europe have at least one upper secondary qualification – 78% of those aged between 20 and 24, according to the Eurydice report *Key data on education*. This suggests an overall increase since 2002; only three countries have 2% fewer young people attaining this level of qualification – Denmark, Slovakia and Spain (EACEA Eurydice, 2009).

The recent financial recession is particularly challenging for young people who need to gain a foothold in the labour market. In most Member States, there is an increased policy focus on young people who are ‘not in employment, education or training’ (NEETs). They are typically between 15 and 24 years of age. Eurostat and the OECD (OECD, 2010b) estimate that around 16% of the population aged 18–24 in the EU27 was in this category in 2009, although the percentage varies widely between Member States – from 4.6% in the Netherlands to 24% in Bulgaria. The group is quite heterogeneous, including both highly qualified young people looking for jobs and socially excluded young people (Furlong, 2007). Nonetheless, empirical evidence suggests that young people are more likely to be in the ‘NEET’ group if they grow up in disadvantaged circumstances and become educational underachievers, lack support or have poor mental health (Yates and Payne, 2006; Brynner and Parsons, 2002).

The education sector will increasingly need to respond and adapt to these new target groups, and this trend will continue to be reflected in the demand and supply for services. Population ageing in EU27 countries may also lengthen working life and make adult education more relevant to a wider group of people.

New technologies and innovations

Overall, technological developments can be expected to create more global supply chains, shorter production cycles and mass customisation. This will influence the distribution of skills needed across global and local labour markets and have a major impact on policy, research and development and the supply of education and training both nationally and locally. One example is an e-learning initiative in Spain focusing on retraining of teachers.

From lecturers to active participants

An e-learning training programme developed by the Education Federation within the Trade Union Confederation of Workers’ Commissions (FECCOO) in collaboration with Cadiz University in southwestern Spain represents a rethinking of the traditional model of education, and focuses on the needs of the student. The programme takes into account changes in society and in learners’ personal circumstances (being single parents or one of two parents working full time, or living in rural areas with few schools) that require new teaching methods to allow the student to study wherever and whenever they can, and to combine personal life with professional life. Making access to learning easier is also seen as a way of encouraging lifelong learning.

The roles of both teachers and students in learning processes are changing. Increasingly, students take greater responsibility for their own learning, and the role of university teachers is changing from that of lecturer talking without interruption, to becoming strong communicators with excellent pedagogical skills who have a more active dialogue with their students, leading to greater satisfaction for both teacher and student.

Finally, the offer of online courses makes it possible to pay attention to the emerging training needs of various educational fields, while at the same time solving some of the challenges of new technology.

The twin effect of the online courses is that the students become familiar with the content of their course while at the same time acquiring some technological skills by accessing course materials, researching and submitting work by computer, email and internet. Since many of the students are teachers themselves, they can also pass these technological skills on to their own students.

Source: FECCOO case study, Spain

Role of social partners, consumers and other stakeholders

The education sector differs from others because it is difficult to apply the concept of ‘consumers’. It can be argued that learners are consumers, but since learners are usually obliged to participate in training rather than at their own accord and, in many instances, they do not pay for the tuition or teaching they receive, the concept appears misplaced here.

The sector is largely publicly owned and driven and this means that the political level could also be seen as consumers, or at least customers of the sector’s activities. Finally, employers who provide jobs for school leavers or graduates can also be perceived as consumers of educational offers.

While education and training continue to be located primarily in the public domain, a focus on stakeholders seems to provide a more relevant framework for understanding of the sector. Should the sector become more market driven, however, as discussed in two of the scenarios proposed below, then issues about consumer trends and demand will become increasingly relevant.

The main stakeholders in education and training are:

- education ministries and authorities;
- qualification authorities where these exist;
- local authorities;
- teachers’ and trainers’ associations;
- pupils’ and students’ associations;
- parents and their associations;
- employers;
- social partners in the wider labour market.

In some countries, the education authorities and the social partners work in close cooperation to shape regulation, institutional environment and curricula of VET courses. Austria, Denmark, Germany and, to a certain extent, the Netherlands have this style of dual VET educational system. Although this approach may lead to a closer dialogue between stakeholders about future skills needs, this is by no means a given outcome because the outlook of social partners can be narrowly focused on the short-term requirements of their own industry rather than the wider needs of the national or European economy.

Future of the education and training sector

Trends and drivers of change that influence the sector

The following section is based on:

- the results of the mapping in the previous sections;
- information from the survey among Eurofound's stakeholders in the sector;
- information from the case studies;
- trends affecting the sector identified by the research literature on the future of education and by general foresight studies (for instance: Green, 2002; OECD, 2007; Cedefop, 2010a).

Demographic trends

The ageing of European societies because of longer life expectancy and low birth rates, and the resulting lower proportion of people of working age, is a widely understood driver of European policies (European Commission, 2009). For the formal education sector in particular, the ageing of teachers and trainers will increase the demand for newly-trained educators and ensuring the supply of a skilled teaching workforce will require efficient policy responses.

The demographic changes may also affect the occupational structure of the sector. As the youth cohorts entering the general labour market become smaller, the need to develop systems geared towards delivering continuous competence development in the workforce becomes increasingly important. Demand for learning services for those no longer in the labour market are likely to grow too as the increasing number of elderly people in good physical and mental health look for new ways to engage in society (Danish Technological Institute, 2009).

Another important demographic factor concerns migration within European societies, creating a need for the development of multicultural identities. The learning sector will increasingly have to respond and adapt to these linguistic and cultural challenges, and this will continue to be reflected in the demand and supply for services.

Globalisation

The intensified competition in global markets for products and services puts pressure on European companies to develop targeted, efficient and innovative ways of delivering goods and services. This in turn presents a challenge to the authorities responsible for creating and maintaining frameworks that contribute to innovation and competitiveness, including an education sector that delivers competences to manufacturing and services sectors as well as subsectors.

In addition, the globalisation of value chains also means that the structures of European labour markets will continue to change, as certain types of jobs are outsourced. In the early stages, outsourcing was mainly of low-skilled work in the manufacturing industries, but increasingly, product development and innovation is being sourced to other locations as well. These developments present the education and training sector with a number of challenges.

- There is a visible need for innovative solutions to the challenge of how to integrate low-skilled workers and those with obsolete skills into the labour market by upgrading their competences (Cedefop, 2010g).
- There is a need to make educational and training offers that are more in tune with the service economy and the integrated value chains that prove competitive in the global markets.
- From the perspective of workers and students, it is necessary to create a genuinely open European labour market in which the portability of qualifications will be increasingly necessary.

- Education and training services have become a commodity that can be traded like any other service. For example, the third largest export commodity in Australia is education. ICT makes it possible for students to access education services regardless of location. New business models based on open courseware are becoming more prominent and entering the formal education sector, as is the case with ‘tier-one universities’ such as MIT in the US.¹²

ICT – transforming education in existing industrialised training models

The increased development and use of new technologies are having a tremendous impact on changes in the education and training sector and in the value chain from design to delivery, and the co-creation of content. However, the ways in which different types of technology influence the sector vary considerably.

ICT in the education and training sector

ICT is increasingly entering the administrative processes in the sector, in the form of learning management systems. It is also transforming learning processes through techniques such as e-learning, mobile learning and the creation of ICT-supported virtual learning environments emulating classrooms, specific workplace locations such as an aircraft cockpit, an emergency department in a hospital, or a country in the 15th century.

School leaderships, teachers and workforce trainers need to integrate these technologies into education and training in meaningful, productive and innovative ways. This creates the need for specific competence development in managers, teachers and trainers. ICT can be used to support existing schooling and education and training models but they can also pave the pathway for entirely new learning environments that make traditional definitions of formal, informal, and non-formal education obsolete.

New emerging models also tend to go beyond traditional models of delivery, such as through portal solutions where users can provide courses in one area and enjoy being a lifelong learning student in another subject. Europe is in a unique position because the framework programmes and other EU programme initiatives may serve as an advanced learning laboratory for future evidence-based policymaking in education and training.

ICT in the labour market and in society

ICT pervades most spheres in the private sector and in public sector service delivery. Several studies conducted by the Directorate-General for Information Society and Media show that a variable proportion of European citizens do not have sufficient basic skills to enjoy their rights as citizens when, for instance, public services are offered only via the internet. The same citizens also have limited access to labour markets that demand a certain level of ICT skills. Europe may also have missed potential innovation in business service models because its citizens’ ICT skills are generally too low, and because most of the large-scale initiatives to address ICT skills gaps have focused on relatively simple operational skills.

Other technological issues

Technologies other than ICT are creating important business opportunities for European companies and if they are able to seize the opportunities inherent in developments such as nanotechnology, biomedical technologies, imaging technologies or surface technologies, then the educational sector will need to respond to the need for relevant competences.

¹² See OECD/CERI for further information on the open course business model. Open courseware refers to educational material organised as courses and typically distributed as PDF files, as well as smaller chunks of learning, often referred to as learning objects.

New advances in neuroscience and cognition are also likely to influence how, in the near future, the effective personalisation of learning will be addressed, as the education and training sector seeks to meet increasingly diverse needs.

Knowledge as a commodity – knowledge obsolescence

As knowledge – including advanced and specialised knowledge – has become tradeable through codification and global specialisation, it is increasingly not knowledge itself that propels economic growth, but rather the extent to which a society is able to put knowledge to play in innovative ways. The application of knowledge becomes decisive, whether the results are new solutions for global warming or they deal with social challenges such as high levels of vandalism in a community. This trend has driven the agenda on creativity, innovation and entrepreneurship in the Member States. Many countries have or are in the process of implementing entrepreneurship programmes at different levels of education. Research on the type of learning environments that stimulate creativity has become part of a strategic research agenda. Though learning and innovation are closely connected, there is still limited knowledge about what types of learning environments stimulate innovative skills.

In addition, the obsolescence of knowledge in the traditional sense has also led to policy interest in new models of knowledge creation that involve potential users, such as industry. The case study carried out for this report with Aalto University in Finland is an example of this kind of trend.

Environmental issues

The implications of climate change and the need to secure new sustainable energy sources are critical drivers of Europe's innovation agenda. Strategies for the implementation of sustainable growth in the region depend on the availability of relevant competences, ranging from the sustainability expertise of construction workers and fitters to scientific competences at the highest levels. The challenges of climate change are creating new global markets, and it is critical for Europe's competitiveness that it is at the forefront of developments in those markets. Considerable efforts have already been made to identify the skills that will be needed to facilitate 'the greening of Europe' (Cedefop, 2010c) and to predict the knock-on effects for the knowledge and skills bases of teachers and trainers, in particular those working in initial and continuing vocational education and training.

In-company training

For several years, private companies have trained their own employees in company- or product-specific skills and competences through both formal and informal training arrangements. Increasingly, however, large companies, and in particular multinational and global corporations, have established complex in-company training systems, exemplified by the 'corporate academies' and even 'corporate universities' established by a number of large companies. This development has been accelerated by demographic trends, as companies try to attract and retain the most gifted individuals in a shrinking youth cohort through dedicated talent programmes. This is primarily the result of increasingly interdependent global value chains with open models of innovation, where the quality of competences along the whole value chain becomes critical to competitiveness. Electronics specialists Ericsson in Sweden is just one example of such a model, and it even puts resources into 'training' customers to become advanced users of its new products. Another model, adopted by the Danish manufacturer of play materials LEGO, uses 'lead customers' as a source of knowledge generation for new product launches. The company's immense global success relies on also using these lead customers as an innovation source.

Policy trends and debates

A range of different drivers, from the rhetoric of 'knowledge capital' to the issues of an ageing society, have brought education and training to the attention of policymakers across the traditional divide between ministries of education and ministries of labour throughout Europe.

As is the case in the health sector, the demand for all forms of schooling and education could be infinite. Accountability and evidence-based policymaking have therefore become part of policy agendas, along with the economics of education and training. The sector is held accountable both in narrow terms for delivering qualifications to the labour market, and more broadly for contributing to the overall welfare of a society.¹³ In recent years, the notion of lifelong learning has also been expanded to comprise the early childhood years, now seen as critical in creating an active lifelong learner. Similarly, the concept also now incorporates learning as a route to health and active citizenship for the older population who have retired from the formal labour market but are still able to engage in activities that benefit society, such as work in the third sector (voluntary/ non-profit sector).

Development of the education sector

The survey asked respondents to rate a series of hypotheses about what is likely to characterise the development of the education sector within the next five to 10 years.

Table 2 ranks the 10 hypotheses from one to seven (some rankings are shared) showing that the two statements considered most likely to describe these developments are ‘There will be an increase in mergers of educational institutions to improve performance’ and ‘Reform in the education sector will become an ideological battlefield mainly driven by latest media reports’. However, it is notable that the majority of statements have been ranked as neither highly likely nor highly unlikely, suggesting that all seven statements are seen as likely to characterise the future of the learning sector to some extent. ‘Devaluation of lifelong learning’ is the only statement close to being ranked as highly unlikely by the survey respondents.

Table 2: *Likely development of the education sector*

Ranking, from most likely to least likely	Title	Description
1	Merging of educational institutions	There will be an increase in mergers of educational institutions to improve performance
1	Ideological battlefield	Reform in the education sector will become an ideological battlefield mainly driven by latest media reports
2	Education outsourcing	Public authorities will increasingly outsource delivery of education and training services to private providers
3	Education as an exportable commodity	Education will become a major service export for the EU as a whole
4	Digital challenge	Open digital courseware that is free of charge will substantially change delivery models and teacher qualification requirements
4	Evidence-based reforms	Reform in the education sector will increasingly rely on evidence-based research
5	Fundamental changes	Developments in neuroscience, and in social networks, will lead to fundamental changes in the sector
6	Industry as a source of teachers	Growing emphasis on science and technology in all education sectors will lead to recruitment of more teachers and school leaders from industry
6	Performance-based salary	Performance-based salary structures have a positive impact on recruitment of qualified teachers and school leaders and on performance in the sector as a whole
7	Devaluation of lifelong learning	Sourcing of knowledge-based services to southeast Asia will lead to a major decrease in lifelong learning participation as a growing number of Europeans realise that the idea of <i>learning equals earning</i> is no longer true

Source: *Survey among Eurofound stakeholders from education and training sectors, 2010*

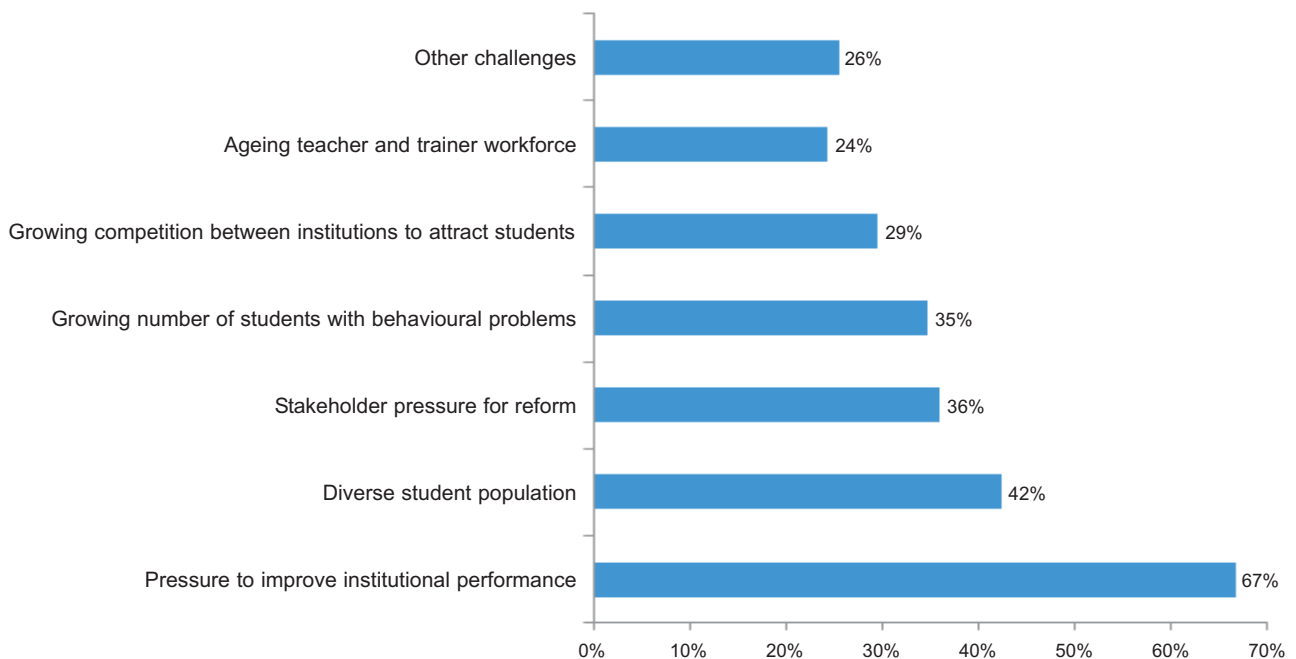
¹³ <http://shop.niace.org.uk/ifll-learningthroughlife.html>.

Challenges facing the education sector

The trends and drivers of change identified will challenge as well as influence the future development of the education sector. Survey respondents were asked to indicate the major challenges facing the sector.

The main challenge facing the education sector was identified as the pressure to improve institutional performance (67%). A diverse student population is also identified as a major challenge (42%). Figure 20 shows the main challenges facing the education sector as it tries to achieve the targets of EU 2020, as identified by the survey respondents.

Figure 20: Major challenges facing the education sector



Source: Survey among Eurofound stakeholders from education and training sectors, 2010

Other challenges mentioned were underfunding of the education sector, declining professionalism of the teaching profession, and the lack of a formal individual process for lifelong learning in the education sector, including the validation of non-formal and informal skills, visualisation of skills, and competence provisioning matching the needs within the different educational subsectors.

Table 3 shows the major challenges facing the education sector as identified by respondents, by their country of origin. A dark cell in the table indicates that respondents from a particular country have indicated this challenge as very important. The lighter the cells, the less importance attached to the challenge. The figures in each cell show the percentage of respondents from each country who have assessed that a particular challenge is of major importance.

Table 3: Major challenges facing the education sector

	Pressure to improve institutional performance	Ageing teacher and trainer workforce	Diverse student population	Growing number of students with behavioural problems	Growing competition between institutions to attract students	Stakeholder pressure for reform	Other
Austria	100%	0%	100%	0%	0%	100%	100%
Belgium	50%	50%	50%	0%	100%	0%	50%
Bulgaria	50%	50%	0%	0%	50%	100%	0%
Czech Republic	100%	0%	0%	0%	0%	33%	0%
Denmark	67%	0%	33%	33%	33%	33%	0%
Finland	50%	25%	50%	25%	0%	0%	0%
France	100%	0%	100%	100%	0%	0%	0%
Germany	75%	25%	100%	25%	25%	25%	0%
Hungary	0%	0%	0%	0%	0%	0%	100%
Ireland	50%	0%	50%	67%	17%	50%	50%
Italy	75%	38%	50%	38%	38%	25%	13%
Latvia	50%	50%	0%	50%	100%	50%	0%
Luxembourg	0%	0%	0%	0%	100%	0%	0%
Malta	50%	0%	17%	67%	17%	50%	0%
Netherlands	100%	100%	0%	0%	0%	0%	0%
Poland	100%	0%	0%	100%	0%	100%	0%
Portugal	100%	0%	0%	33%	33%	67%	33%
Romania	0%	100%	0%	0%	0%	100%	0%
Slovakia	100%	0%	0%	0%	100%	0%	100%
Slovenia	100%	100%	100%	0%	100%	100%	100%
Spain	60%	20%	60%	40%	20%	20%	40%
Sweden	82%	36%	55%	27%	36%	45%	27%
United Kingdom	50%	0%	25%	25%	50%	25%	50%
European level/EU	0%	0%	100%	100%	0%	100%	100%
Other	80%	60%	60%	40%	0%	0%	40%
Total	67%	24%	42%	35%	29%	36%	26%

Source: Survey among Eurofound stakeholders from education and training sectors, 2010

As Table 3 indicates, there does not appear to be a clear common ‘European’ perception of the relative importance of challenges facing the education and training sector. Also, the variation cannot be explained by geography (for example, Scandinavian respondents having a different view than Mediterranean ones) or by difference in education and training systems. However, it should be borne in mind that the survey is by no means representative, and that the number of respondents is relatively small. Wide-ranging conclusions should not be drawn from this table. Still, the picture suggested is one of a Europe where the education sector faces a few challenges common to all, such as pressure to improve institutional performance and the difficulties of an increasingly diverse student population, but where each national system also faces its own individual challenges.

Scenarios for the education and training sector

Four scenarios were developed for the European education and training sector in 2020 with the focus on the labour market and the working conditions of teachers and trainers. The scenarios illustrate plausible hypotheses about the future and provide a tool for forecasting, analysing and formulating policy by all stakeholders in the sector.

A scenario is a coherent description of the possible outcomes of the drivers, trends and events that can influence and change the subject of analysis over a given period. Scenario analyses and exercises do not aim to predict the future, but rather to describe a possibility. Given the uncertainty of the future, it should be explicitly stated that any scenario is only a possibility and is as likely or unlikely as many others.

Tensions between short-term considerations and long-term visions and strategies often affect policymaking. Scenarios are a way of developing more robust, innovative and future-oriented best practices for particular futures. Though often set in a 10–15-year perspective, scenarios can be a navigation tool and early warning system for current conditions. Scenario building can also identify ideas and methods for putting into operation insights generated in case studies and market study. Consequently, scenario analysis should be regarded as a tool offering insight and futures literacy, and as a catalyst for strategic conversations and discussions, but not as an end in itself.

Objectives

The objective of this part of the study is to present a scenario analysis that provides a vehicle to help the sector and policymakers look ahead (with a 10-year lead time) and see the likely opportunities, barriers and requirements for the optimisation of education and training and the sustainable development of its workforce. This objective is pursued as a task split into the following two subgoals.

- To develop exploratory scenarios for the macro drivers influencing the education and training sector. Macro drivers are understood here as trends that, with very few exceptions, cannot be influenced by individuals or political actors.
- To present plausible implications for the educational and training labour market of each scenario.

Methodology

In order to be a forceful tool for policy analysis, and for strategic analysis to describe a possible future, a scenario should fulfil the following criteria.

- It should be plausible, but does not have to be the most probable scenario.
- It should be internally consistent in order to be plausible, and in order to facilitate a coherent discussion.
- It should project backwards from the posited future to the present so that participants can better understand how that future might arise.
- It should contain sufficient information to identify the role of the subject organisation.

The scenario building was designed as a two-stage process.

The first stage was devoted to developing exploratory scenarios. In this case, exploratory means trying to establish different futures that may conceivably emerge as result of different developments of the trends and drivers that we see today. This approach differs from the normative approach, which departs from views of the future as we think it should be. The scenario development was mainly based on desk research by the scenario team without the direct involvement of external sector experts.

The second stage examined the implications that different configurations of the macro drivers would have for the education sector and its stakeholders. This examination was also carried out as desk research, drawing on research literature and the case studies produced as part of this study.

Construction of the scenarios

The construction of the scenarios employs a conceptual framework designed to capture changes in the external environment of service provision by means of five types of drivers and trends:

- sociocultural;
- technical;
- economic;
- ecological;
- political/regulatory.

The scenario team collated opinions on the major trends and drivers that will have had a significant impact on the education sector within each of these categories by 2020.

Around 40 trends and drivers were identified. Some of these were interdependent, while others were assessed as having only marginal influence on the overall development of the sector. Following this analysis, nine main drivers remained that were considered most important.

- Two were social drivers – demographic developments and the value attached to qualifications, such as the value stakeholders would place on certified qualifications.
- Two were technological drivers – the role of ICT in education and the diversification of access to learning experiences.
- Two were economic drivers – the consequences of globalisation for qualifications and increasing pressure on public finances, leading to a drive for efficiency in education and training to give value for money.
- The most important environmental driver was the political and public focus on sustainability, both economic and ecological.
- Finally, the two key political drivers were the labour market and social policy as agenda-setters for education and training, and determining what role markets would be playing in the supply of qualifications and competences in 2020.

The scenario team decided not to build the scenarios based on cyclical economic trends. One reason for this is that a set of scenarios for the sector applying this methodology is already available.¹⁴ But more importantly, it was taken into consideration that other drivers are more likely to be of decisive long-term importance for the sector and, in particular, for the labour market and working conditions of teachers and trainers.

¹⁴ <http://www.cedefop.europa.eu/EN/news/17087.aspx>.

Next, the nine drivers were consolidated and assessed within the team according to two criteria:

- importance (not critical, critical);
- uncertainty (uncertain, certain).

The result of this assessment is shown in Table 4.

Table 4: *Categorisation of drivers of change*

	Certain	Uncertain
Not critical	Demography – both within and outside the sector Political and public focus on sustainability (economic and ecological)	Consequences of globalisation for qualifications Role of ICT in education
Critical	Learners’ access to diverse learning experiences Labour market and social policy as agenda-setters for education and training Increasing pressure on public finances leading to a drive for efficiency in education and training to give value for money	Marketisation/commercialisation - what role will markets play in the supply of qualifications and competences in 2020? Value attached to qualifications – what value will stakeholders place on certified qualifications?

Description of drivers

Demographic developments: Ageing and immigration

Demographic change in Europe has important implications for labour markets in general. However, in addition to the consequences of the demand in years to come for enough teachers to replace the large numbers who are due to retire, ageing also has important implications for the content of teaching and training. As the European workforce grows older, the need for continuing professional development of employees will expand across all occupations and professions. Whereas some training needs relate to skills and knowledge directly related to work situations, there will also be a need to provide training that will allow adults to catch up on basic reading, mathematics and information technology skills. At the same time, the demand for teachers in primary and secondary education and training will decline as youth cohorts shrink (Cedefop, 2009). Teaching adults with long work experience is radically different from teaching primary school children.

Furthermore, the immigration of citizens from third countries (outside the EU) calls for education and training at several levels, such as language training for work and social integration and comprehensive training in basic skills for those who need support to integrate into the European labour markets.

Consequently, demographic developments will certainly create a growing need for the professional development of teachers and trainers to help them tailor their training to diverse target groups. More attention will have to be paid to the training of teachers in adult learning.

Political and public focus on sustainability (economic and ecological)

The ‘greening’ of European societies is not only a political aspiration but also an economic necessity, given the scarcity of fossil fuels and goals set for the reduction of CO₂-emissions. Many occupations will be influenced by the drive towards sustainability, including teachers and trainers; especially those who teach VET subjects where sustainability is a component.

Whereas it is clear that sustainability issues will attract increasing attention in the years leading up to 2020, this driver is not considered critical because it will mainly influence the content of courses and not so much the labour markets or working conditions for teachers or trainers.

Student access to learning experiences

Since medieval times, mainstream formal education has followed a set format, which has not changed radically for hundreds of years. The classroom is considered the arena for learning in which students gather to receive knowledge and skills from the teacher. Non-formal and informal learning has also had a role to play, but qualifications that serve as currency in the labour market have largely been provided by formal education.

Increasingly, however, access to learning experiences has been diversifying. Distance learning has become available in recent years, first in the form of correspondence courses, then as different forms of e-learning, and most recently as online courses. Some formal education institutions offer access to e-learning and, increasingly, this is complemented by commercial ventures offering online courses in specialised sector skills. A more recent phenomenon is online learning experiences that build on mutual responsibility for learning – those with knowledge and skills to offer are connected to those in need of those skills. The free web-based learning tool ‘Livemocha’¹⁵ is an example of a community-based tool for language learning that draws on the input of non-professional correspondents (‘crowd-sourcing’), much the same way that the online encyclopedia Wikipedia is composed of contributions from volunteers rather than paid professionals.

This driver is critical, as it has the potential to alter radically the labour market for teachers and trainers who will find themselves competing with free offers, and will have to adjust training content and methodologies to students who may have achieved relevant skills and knowledge, not from formal education but from ‘non-authorised’ channels. It is certain, however, that the delivery of learning experiences will move towards increased diversity. Any scenario for the sector will therefore need to take into account the development of new routes into learning.

Labour market and social policy as agenda-setters for education and training

Educational reforms at European and national levels increasingly focus on the role of education and training in delivering knowledge, skills and competences for the labour market. This is evident from policy initiatives since the Lisbon declaration, and is most recently expressed in EU 2020 and the initiative ‘New skills for new jobs’. This initiative highlights the need to create a closer link between providers of skills (the education and training sector) and consumers of skills (workplaces, or ‘the world of work’). The value of education for social or ethical purposes, such as underpinning citizenship and democracy, has been downplayed in recent years and has been replaced by a more instrumental understanding of education as a prerequisite for workplace performance. There is no sign that this will change in the future.

Increasing pressure on public finances

The current economic crisis has initiated cuts in public spending in most Member States, and even if the economy picks up in the years leading up to 2020, demographic developments will require increased efficiency in public spending. In recent years, many European countries have seen an increasing political drive towards evidence-based policy and a focus on the principle that taxpayers’ money spent in the public sector should deliver proven effects. In some parts of Europe this has been accompanied by a drive towards privatisation, and the outsourcing of core activities and social insurances such as healthcare and pensions. Indeed, the survey respondents point to financial pressure as the most important challenge that the education sector faces. In view of these developments, the scenario team finds that the pressure for efficiency and value for money in the education and training sector is unlikely to ease over the coming years.

¹⁵ <http://www.livemocha.com>.

Globalisation of qualifications

Globalisation is considered to have a definite impact in these scenarios. There is nothing to indicate that a renewed protectionism could gain foothold within this period. The consequences of this for the education sector, however, are less certain. A number of questions arise in this regard. Will a global market for qualifications take off in this period? Will the export of education concepts continue to be a growing market? Will the education sector need to service a much larger number of migrants (and their children) to help them to live and work in a new country?

Whatever the consequences, it can be considered quite certain that globalisation will continue to impact on the work of teachers and trainers up to 2020. The need for linguistic competences will continue to grow, as will the need to understand the international context of the subjects taught.

Increasing use of ICT in education

Information and communication technologies are rapidly evolving and have been doing so for the past two decades. However, take-up of the new technologies and the opportunities they offer for learning has been slow in the education sector. Schools and universities have mainly adopted ICT solutions that underpin the traditional classroom set-up, even where distance learning is introduced. Notebook PCs, smartboards, tablet PCs and smartphones are hardware solutions that offer opportunities for learning if combined with the relevant software and content but, as yet, these opportunities remain underexploited in the education sector.

There is no doubt that the sector will see an increasing use of ICT in the coming years, but pressure on finances will make this slower than it might otherwise be. An additional problem is that there is little focus in teacher training on the opportunities offered by the new technologies.

Marketisation/commercialisation

In Europe – and certainly when looking at other parts of the world – there are signs of an increase in private sector investment in education. Part of this is closely linked to companies' training and professional development. However, even in the field of general education, which up to now has predominantly been firmly within the domain of the public sector, there has been an increase in the private supply of educational offers from private universities and private primary and secondary schools. To varying degrees in the EU Member States, even publicly funded schools have been granted a certain financial autonomy, allowing them to enter into markets on the supply and demand side. These developments have been accompanied by an increase in ranking systems – such as performance 'league tables' – and indicators of efficiency that contribute further to the creation of markets for education.

Marketisation may take off in a big way in the coming years, accelerated by pressure on public finances. Nevertheless, this is by no means certain. There is no European tradition of a much-segmented market for education, and it is therefore possible that policymakers and stakeholders may rally to ensure a high share of public interest in the sector, believing that education is too important to the whole of society to leave to private actors.

Value attached to qualifications

Current European educational policy reforms are very much based on the idea that the educational level and mobility of citizens can best be supported by systems that allow for transparency in and between national qualification systems. A qualification in this context is understood as a set of learning outcomes that are recognised by a competent authority that is universally regarded as guaranteeing the quality of the qualification. The aim in Europe has been to increase the transparency and comparability of qualifications across the region by introducing common frameworks defining qualification levels, credit systems and quality assurance.

However, the question remains whether these reforms will succeed in upholding the value of publicly recognised or certified qualifications. This depends on whether stakeholders (employers, social partners, education institutions, learners) will continue to attach value to publicly endorsed qualifications, or whether learning will be assessed by stakeholders in a much more fragmented and context-specific way.

Scenario drivers

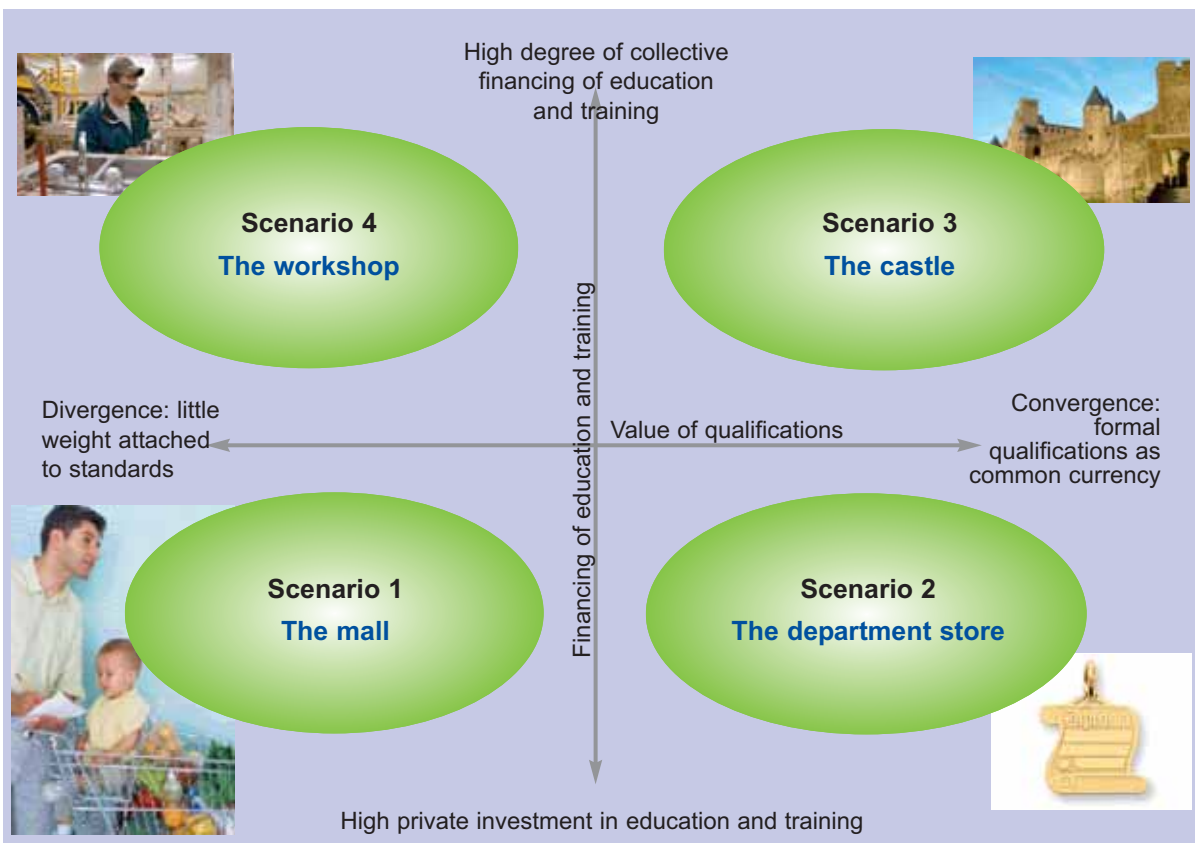
Following this analysis, four drivers were identified as being uncertain in the sense that their outcome cannot be foreseen with any reasonable degree of certainty at the time of writing. The four drivers are:

- the consequences of globalisation for qualifications;
- the role of ICT in education;
- marketisation/commercialisation of the sector;
- the value attached to qualifications.

Of these, the last two were further assessed as being critical in the sense that the development of the sector’s governance, institutional environment, labour market and working conditions rely heavily on the outcome of these drivers. These two factors were also assessed as being the most uncertain.

This gives rise to the four possible scenarios illustrated in Figure 21.

Figure 21: Four scenarios for education and training 2020



Scenario 1: The mall

Education and training offers are fragmented. Public involvement is mainly in general education, and the offer is minimal. People who are more well-off may secure a place in a private school or university and rely on external rankings for quality monitoring. Large companies offer in-company training to employees, and local communities offer learning opportunities, perhaps non-certified, to citizens outside the labour market. Shopping malls often combine an offering of public health or social services and commercial operations. They can also sometimes fall into decay, as one hopeful shop owner is replaced by the next and betting shops and discount chain stores take the place of specialty shopping. The visual representation of this scenario is a person shopping.

Scenario 2: The department store

Overall agreements on mechanisms ensure transparency and recognition of qualifications. European educational reforms have succeeded in creating a shared understanding of the necessity for mutual trust and recognition. Large private operators and sectors see the value in aligning their offers with the public qualification frameworks. Department stores such as Harrods in the UK, Galeries Lafayette in France or KdW in Germany, as opposed to the kind of shopping malls described above, signal quality and service. The visual representation of this scenario is a golden diploma scroll, signifying a guarantee or at least a promise of quality.

Scenario 3: The castle

Public investment in education has been at a sufficiently high level to ensure that the public education sector is able to provide learning opportunities for all across the board. Efficiency is underpinned by qualification frameworks and mutual recognition allowing learners to look for education not only in Europe, but also further afield. This is further underpinned by investment in information technology solutions allowing for more efficiency in administration and in teaching. Castles are characterised by their solidity and their durability. In contrast to other types of built structures, the castles in Europe originate from medieval times or even before. Their solidity means that they can give protection against anarchy and danger, and they are often erected in high places, giving a good view of the surroundings. However, they establish a strong division between those on the inside, to whom they offer protection, and those on the outside and solidity can mean that changes to the structure can be difficult to implement. The visual representation of this scenario is a picture of a castle/walled city.

Scenario 4: The workshop

European reforms have largely failed to create mutual trust in qualifications. Social partners have exerted strong pressures for a more demand-driven public education system delivering skills to employers. Thus, public investments are channelled towards VET and higher professional education. The general education sector focuses on core skills, while higher education in the humanities is not prioritised. An old-fashioned workshop is a place oriented towards the manufacture of specific types of goods. In the workshop, the focus is on the specialist skills of the craftworkers, not on their ability to socialise or their insight into the arts or humanities. The visual representation of this scenario shows a plumber at work.

Detailed summaries of four scenarios

Table 5 outlines the state of each of the two scenario drivers in relation to the four scenarios.

Table 5: *Two key drivers and their combined effects on the four scenarios*

	The mall	The department store	The castle	The workshop
Investments – public or private	Mainly private investments	Mainly private investments	Mainly public investments	Mainly public investments
Value attached to qualifications	Little weight attached to standards	Formal qualifications hold high value	Formal qualifications hold high value	Little weight attached to standards

Scenario 1: The mall

In this scenario, education is largely funded by private investment and little weight is attached to standards or quality control.

Economy and market

Following the crisis, public spending at national and European level has been severely restricted. Austerity measures in some countries have been continued. In spite of the intentions of the Stability and Growth Pact among the euro zone countries, a number of Member States have failed to achieve fiscal sustainability, partly due to old debts and partly due to a non-competitive private sector.

The education sector has been hard hit by cuts in public funding. Schools are run down, and teachers' wages in the public sector continue to be low.

Economic inequality in the European population has continued to increase, and consequently there is a growing segment of the population able to pay for their children's and their own education and training. In view of the state of public education, many companies see a growing need to upskill the workforce to keep up with requirements posed by accelerating technological change and fierce competition in product markets.

This has given rise to a rather segmented market for education with a diverse population of actors. Public education institutions have created separate commercial operations to bolster their shrinking finances; private training companies have expanded their offers so that they now offer primary and secondary education.

Policy

Because resources were cut in national education administrations, the implementation of European educational policies has failed to create mutual confidence in qualifications. In addition, the financial erosion of public education has led to mistrust of the qualifications provided by public schools and universities. Some governments have attempted to strengthen central control with curricula and quality assurance mechanisms, while others have devolved most responsibilities to the municipal level.

Society and culture

As the physical and social infrastructure of education has deteriorated somewhat due to lack of investment, local communities have begun to play an increasingly important role. Informal economy and social projects flourish, and so do learning initiatives based on voluntary efforts. Qualifications play a minor role in most people's lives – it is generally accepted that your opportunities in life are not decided by formal qualifications, but rather by access to people with influence. Nevertheless, learning is still acknowledged as one way to achieve this and to lead a good life. Therefore, non-

formal learning initiatives flourish, but the interest in validating these experiences is limited. For example, retired teachers contribute to local initiatives targeted at young people who have dropped out of public schools or whose parents cannot afford to pay for private education.

Structure of the sector

In this scenario, the public general education systems have not undergone fundamental changes since 2011, since there have been no resources available for anything beyond the basic level, and no political focus on developing the sector. However, attempts to boost efficiency of delivery have brought institutional mergers creating bigger educational units. This has delivered financial savings, but there is a debate about whether quality of teaching and learning outcomes has remained at the same level, has risen, or has declined.

Public vocational training and education, which relies on being able to deliver up-to-date skills needed in the labour market, has declined because there has been a lack of investment in the equipment and skills of the teaching staff. Instead, a plethora of training companies offer learning activities delivering sector-specific knowledge and skills. Such schools or academies tend to be located in regional industrial or commercial clusters and have very close links with industry, and teaching staff generally come from positions within the industry. Their teaching skills are acquired through short courses taught by university staff.

Labour market, skills and competencies

The employment prospects of the public education sector are quite favourable despite initiatives to increase efficiency because a large number of teachers will have retired in the years up to 2020. Working conditions have however changed and, for instance, each teacher is responsible for larger cohorts at every level. In some countries, class sizes have increased, and in others, the number of teaching hours. Real wages in the public education sector have failed to keep up with those in society. Many newly graduated teachers seek employment in private schools or in human resources development in private companies where the pay is considerably better. Competition with graduates from other fields and with those who have expertise rather than formal teaching qualifications is fierce, and a degree, certificate, or diploma in teaching is not considered a particular advantage.

Scenario 2: The department store

In this scenario, formal qualifications are highly valued, but the education sector is mostly funded by private investment.

Economy

The European economies have had difficulties recovering from the financial crisis, and public finances are tight. The result is social polarisation and increased inequality. To improve their situation, many Europeans take advantage of the internal market to move to other Member States where they believe it may be easier to find work or to obtain qualifications that may in turn lead to work. European industry has managed to restructure and remain competitive in the global markets. There are very few low-skilled jobs left in manufacturing, but low-skilled labour remains in services and commerce. This has led to the marginalisation of large groups of mainly low-skilled men who used to work in manufacturing. There have been several initiatives supported at European level to ensure competence development for this group, but these have rarely been successful for its older members.

Policy

European and national reform efforts proved successful in establishing transparent and robust standards for qualifications. Seeing that national reforms made it possible for some national education authorities to engage in a more constructive dialogue with employers and attract investment to the sector, other national authorities were motivated to follow suit.

Even so, public investment in education was restricted and efforts were directed towards the establishment of accreditation systems that would allow private providers to offer recognised qualifications in line with standards developed by national skills and qualifications authorities. Today, the main activity of education authorities is auditing educational institutions to ensure compliance.

Society and culture

Public perception of education is very positive, and it is generally accepted that qualifications are needed to get on in life. Even if there is a large degree of inequality in society, public education is still free for all, and in principle qualifications will open doors to further education or to the labour market. However, although qualifications have been standardised, the existence of a significant group of wealthy people has created a market for ‘better qualifications’. As a result, the ranking of private and public education establishments is widespread.

Structure of the sector

Public education is still organised at national level. As in ‘The mall’ scenario, the sector has undergone significant restructuring, mainly in the form of mergers justified by a need to achieve greater efficiency and resulting in the creation of larger administrative, but geographically distributed, entities.

In this scenario, the private education and training sector has experienced considerable consolidation since the beginning of 2011. Small training companies have had difficulties delivering the required standards and this means that mergers and acquisitions have been plentiful. Today, some of the most successful operators are global training corporations offering a wide range of globally recognised qualifications at all levels. They are complemented by sector-specific training organisations with regional branches.

Systems for validation of non-formal and informally acquired skills and training have taken off after a very hesitant start, but validation today is understood solely as recognition against national, European or global standards. Systems that allow individuals to take national tests based on non-formal or informal learning experiences are established in all education subsystems.

Labour market, skills and competencies

Teacher qualifications are an important component of the quality assurance of qualifications and qualified teachers have access to a diverse labour market with both public and private employers. The global players are able to offer better career prospects and wages than the public sector, and hence public education institutions have difficulty attracting qualified personnel. Teachers who want to pursue an international career obviously need language skills and cultural competences, and these are prioritised in the education of teachers and trainers.

Scenario 3: The castle

In this scenario, education is regarded as a sector in which society as a whole should invest and is therefore largely publicly funded; formal qualifications are highly valued.

Economy and market

The pressure on public finances following the financial crisis limited public spending for some years afterwards. However, in spite of tight national budgets, most European governments have managed to get public support for upholding (if not increasing) investment in education and training in order to support economic growth and welfare. In some countries, these investments are aided by support from the social partners, who see it as being in their interest to ensure that the population is educated to the highest level possible.

Policy

Along with the increase in investment, the European reform agenda has created a common understanding of the desirability of a transparent system of qualifications that allows citizens to have their learning experiences recognised all over Europe (and ultimately, around the world). European systems and frameworks have been implemented in all Member States.

In addition to accountability, demand plays a large role in the planning of curricula. Following on from the ‘New skills for new jobs’ initiative, a great deal of work has been put into establishing definitions of terms and classifications in order to more precisely identify skills needs in the labour market. While this works very well for traditional professions that change little over time, new jobs in emerging sectors tend to fly under the radar of the early warning systems, and so enterprises in these sectors tend to look outside Europe for skilled employees.

Society and culture

The urbanisation of Europe has continued and has accelerated because of increases in the price of transport. Manufacturing industry is located in or next to the big cities. This was made possible by advances in environmental technologies that reduce the negative environmental impact of manufacturing. The manufacturing industry has also ‘greened’ itself and many products address environmental needs by contributing to the reduction of energy consumption and emissions. The larger cities are distinctly multicultural with many nationalities represented particularly in the intellectual middle classes. With increased transparency of qualifications, mobility within Europe has increased, but language barriers and radical nationalism in some segments of populations persist. While innovation still takes place in private industry and services, innovation is no longer a buzzword – the new buzzword is ‘solid’. Those who want to pursue ‘outside-the-box’ enterprises tend to move out of Europe and settle in regions less concerned with formal qualifications.

Structure of the sector

The qualification and credit systems require educational institutions to be accountable to national authorities. Quality assurance systems and continuous monitoring and audits play a great part in this. The increased obligation of institutions to document the quality assurance of their provision, curricula and assessment of learning outcomes has led to the merger of more institutions in order to achieve the necessary administrative capacity to comply. Small institutions see the bureaucracy as a burden, and indeed it is considerable. For private providers, the cost is so considerable that the number of them has dwindled over the years. Social partners outside the sector remain sceptical while recognising the value of qualification frameworks and credit systems as common currency. The education sector in Europe competes with systems in other parts of the world, and the main parameter of competition is the quality of learning outcomes – Europe’s are considered trustworthy all over the world. At the same time, however, other regions of the world excel in developing competences in relation to emerging business opportunities, and because their documentation requirements are not so rigid, they are able to deliver the new competences more quickly than European institutions.

Labour market, skills and competencies

The labour market for teachers and trainers is stable. Retirement rates are high, but there is an adequate supply of young teachers because career prospects in the education sector are generally considered quite good. Teacher education has been improved all over Europe, and with EU support, a set of core competences for the profession has been established which include well-developed language skills and ICT skills. Teaching at a specific level of the national qualification frameworks requires teacher education to a certain level; for instance, teaching at level 2 will require a teacher qualified to at least level 5 in the same framework or a comparable level, using the EQF as a translation device, in another country. This has contributed to professionalisation of the sector, but also introduced a certain rigidity because the very strict qualification requirements mean that it has become more difficult for teachers to change jobs and go to work in other parts of the sector.

Scenario 4: The workshop

In this scenario, education is funded publicly, but little weight is attached to standards or quality control.

Economy and market

In the aftermath of the crisis, tripartite agreements on growth and stability have been made in many European countries. One of these has involved guarantees from public authorities that they will deliver qualified personnel in exchange for jobs, making the public sector and the social partners the main investors in education.

Policy

The reform agenda has failed to take off, since the focus has been on the national level and on ensuring a sufficiently well-trained workforce to be able to reestablish economic growth. Since the focus is on preserving European jobs – particularly in manufacturing and related services – the political focus is on vocational education and training at all levels, from initial VET to academic degrees in fields such as engineering, biomedical sciences and key enabling technologies.

Education providers are given a high degree of autonomy. Policymakers have realised that the creation of national standards would be very costly and create a heavy administrative burden. The focus is not on transparency of qualifications, but on ensuring that the qualifications offered are in demand by employers. Social partners therefore play a decisive role in the development and implementation of curricula.

General education is given less attention – the yardstick is simply whether it delivers young people with relevant general knowledge and skills.

Society and culture

The labour market and labour market performance is at the centre of European culture. A lengthy spell of widespread long-term unemployment and marginalisation of vulnerable groups has left its mark, and mainstream culture emphasises the work ethic and pursuit of a career as central values.

Structure of the sector

VET schools prosper, but there is an ongoing struggle between stakeholders in education and training about which fields should receive most funding. Since 2011, several technical colleges have merged to create mega-schools located in regions with industrial or commercial clusters. Consequently, educational offers are unevenly distributed across Europe, and students often have to move away from home to study for a particular occupation.

To keep up with technological developments, lifelong learning is offered to all and, in particular, training with a view to labour market integration or reintegration is offered; for example, to parents who want to return to work after parental leave.

Labour market, skills and competences

The demand for general subject teachers has declined, but the decline has not led to unemployment because many older teachers have left the labour market. There have been challenges in training VET teachers because this has been seen as somewhat less attractive than the role of general subject teachers. However, more investment has been channelled into the education of VET teachers and trainers, and many HR professionals have opted for a full-time teaching career. The introduction in some of the most advanced VET schools of virtual learning environments has attracted a considerable number of talented teachers and trainers to the profession.

Main findings and conclusions

This study was commissioned to contribute to the European Commission's 'New skills for new jobs' initiative in two ways. Given the scope of the study, it has been successful in achieving its aims.

Its first aim was to provide an analysis of the quantitative and qualitative mismatches between demand and supply of labour and skills in the education sector, which might ultimately contribute to its employment performance. The findings identify specific qualitative mismatches between the skills of the existing teaching labour force and current and future skills needs. The limited scope of the study meant that a detailed quantitative analysis of labour and skills mismatches was not feasible.

The second aim was to assess the performance of the education and training sector and its capacity for providing adequate skills upgrading and matching across the economy. This was achieved through a survey among stakeholders in the sector and in-depth interviews carried out in the case studies. These data clearly identify strengths, challenges and opportunities for the sector and its stakeholders. A more detailed and systematic examination looking at each subsector and taking into account differences between Member States has not been possible, given the scope of the study, but such work would be highly relevant. In particular, it would be helpful to identify performance indicators more directly linked to labour market requirements.

The terms of reference required the contractor to:

- map trends and drivers of change – this was achieved through statistical analysis, desk research and a survey of stakeholders in the sector;
- produce case studies – based on a well-researched range of selection criteria and a tailor-made case study template, six case studies were produced with a good geographical spread and representing a variety of subsectors and specific challenges for teachers and trainers;
- develop scenarios – using information from the mapping and the case studies, scenario drivers were identified and four scenarios elaborated, each illustrating a possible future for the sector.

The main findings and conclusions of the study are presented below.

Mapping of the sector – past and present

The study distinguishes between:

- the formal education and training sector and its various subsectors of primary education, secondary education and training, higher education, and continuing adult education and training;
- bodies that deliver or facilitate learning in non-formal, but structured contexts;
- informal learning activities.

Solid and comparable statistical information concerning economic importance and employment is only available for the formal education sector.

Labour intensive sector with growth and decline in some subsectors

Across Europe, the formal education sector accounts for around 5% of GDP. Staff costs are by far the sector's biggest expenditure, ranging from a little less than 70% of the total budget (Germany) to more than 98% (Malta). In most

countries, secondary education and training account for about half the expenditure, while primary and higher education each account for about one quarter.

Employment in the sector fluctuated between seven and eight million full-time staff in the 2000s. Overall, employment in the sector increased by 4.7%, with most rapid growth in pre-primary and tertiary education, while employment in upper secondary education declined by 10%. It would be interesting to analyse in more detail how this decline is distributed throughout EU Member States and in the different segments of the subsector, such as general versus vocational education, and to look at the implications of the decline for the outcomes of secondary education.

Demographics challenge the sector, but create opportunities for the labour market

There is a heavy gender imbalance in the sector that is most pronounced in the primary and lower secondary subsectors where more than two-thirds of those employed are women. More than half the current teaching establishment in Europe is over 40 years old. The age imbalance is most pronounced in tertiary education.

The gender imbalance presents a specific challenge to the sector's employers (public authorities, schools, training institutions) related to the work–life balance of the employees – particularly in countries where women are also expected to assume the main responsibility for child-rearing and care of sick or elderly family members. The ageing of teachers means that the sector is faced with a high replacement demand over the coming decades, as the oldest employees begin to retire from the labour market.

However, these challenges may be an opportunity when seen from a wider labour market perspective. The education and training sector can offer employment opportunities for two groups (women and elderly people) who, in many European countries, have faced greater difficulty in being fully integrated into and remaining in the labour market.

Non-formal learning and increased opportunity for professional development

Literature studies suggest that there are insufficient opportunities for teachers to consistently develop and update professional skills and competences. A statistical analysis indicates that the participation of educational staff in continuing training varies quite considerably across Europe, from 4% of staff in one 12-month period in Romania to more than 80% in Denmark and Sweden. The survey conducted as part of the study indicated that compulsory participation in continuing training is most common in primary and general secondary education, while it is quite uncommon in those undertakings offering labour market training and in the private training sector. When teachers and trainers do take advantage of continuing professional development, it is most frequently delivered through traditional short courses, workshops, seminars and conferences. More novel forms of delivery such as coaching, mentoring and mutual observation are rarely used.

These observations are supported by the survey respondents' observations about HR strategies for the sector that tend to be generic and generated at the national level. According to 37% of respondents, HR strategies form part of collective agreements for the sector in their country.

Few national initiatives to improve perceptions of teaching careers

The survey results suggest that the main issues addressed in public debate about working conditions in the sector are low pay and high stress levels.

When asked what has been done in their country to improve the appeal of a teaching career, a third of the respondents answered 'nothing'. Among those who have seen such initiatives, most say that national authorities seek to raise the profession's appeal by giving teachers opportunities to participate in EU programmes, while a slightly smaller number say that there have been salary increases. Even fewer report that performance-based salary structures were introduced.

Increasing the appeal of teaching by making careers more visible

Some of the case studies, notably 'Teach First' in the UK and Aalto University in Finland, illustrate innovative approaches that may, if more widely adopted, serve to improve the general reputation of the teaching profession. Though very different, the two case studies share an emphasis on the value of teaching as a career. 'Teach First' stresses the importance of mission and leadership focus, while Aalto University has developed clear career paths for teachers.

Insufficient evidence about private provision of education

The study has looked into the growth of privately funded educational services. In the survey, respondents report this kind of growth mainly in adult education. Statistics about private training markets are not readily available, but figures from the UK indicate a rapid growth in the number of private providers up to 2008. The Dutch case of ITpreneurs, providers of ICT-based teaching materials, illustrates private involvement although not directly in the provision of training. Its innovative aspect is the close collaboration between the training providers, the local authorities and the private provider of training materials. It would be interesting to seek out more collaborations of this type to evaluate their importance to the sector, but also to gather more evidence about private training provision and particularly about developments in private training companies before, during and after the financial crisis.

Differences in reforms and policy initiatives between EU and national levels

At EU level, focus of policy initiatives in the past decade has been on mobility, transparency and the ability of the region's educational systems to anticipate and adapt to new demands from the labour market. Whereas EU initiatives are being implemented in the Member States, it does not seem as if national educational reforms clearly reflect the common strategies and targets of EU 2020. 'Performance measurement' is the factor most frequently addressed in national reforms according to survey respondents, followed by 'School governance' and 'The inclusion of a diverse student population'. Among the issues frequently addressed by national reforms, the inclusion of a diverse student population is the only one directly related to common European strategies and targets. When asked about issues addressed explicitly by national reforms, only a few survey respondents highlight the demographic problems facing the teaching workforce, the need to develop the skills of the ageing workforce in Europe, or the need to develop new skills for a green economy.

New target groups demand new teacher qualifications

It is evident from the case studies that the sector itself is very aware that the demographic and social composition of learners is changing. An ageing workforce needs to be upskilled to avoid marginalisation. An increasing number of migrants require training and new skills to integrate into their new country. Employees increasingly require new skills, but also demand flexible teaching methods that will allow them to learn when it fits best into their personal schedule. Case study interviewees phrase these changes in different ways, but the message is the same: institutions need to move away from qualifications that prove certain lectures were delivered and towards producing learning outcomes that are immediately useful for the learner. Teachers need to be less like preachers and more like coaches, developing strong communication skills, and being more attentive to the challenges and opportunities of ICT.

Future of the education and training sector

The study has identified a range of drivers that are expected to impact on the future development of the education and training sector in the years up to 2020.

Demographic trends

The ageing of European societies will continue to exert an important influence on the sector. In addition to the growing demand for continuous upskilling of older workers, it is expected that there will be an increasing demand for learning services for well-functioning elderly people no longer in the labour market. Migration within European societies and from countries outside the EU will continue to place multiculturalism on the agenda.

Globalisation

Intensified global competition will continue to put pressure on the ability of the European education sector to deliver relevant competences to businesses as they are constantly pressured to innovate and restructure. The pace of restructuring will continue to be high and labour markets volatile as the repertoire of jobs that can be outsourced beyond Europe's borders expands. The education sector will be called upon – even more than it is now – to deliver innovative solutions to the challenge of integrating low-skilled workers and those with obsolete skills into the labour market by upgrading their competences. It will also need to provide new skills for employees in all sectors to meet the changing needs of companies. From the perspective of workers and students, portable qualifications will be increasingly essential. Finally, education will become a more tradable commodity in a global market.

Learning anywhere and anyhow through new networks and relationships

The increased development and use of new technologies will continue to impact the education and training sector in different ways.

In the sector itself, ICT will increasingly be used in administrative processes in the sector, in learning management systems and the learning processes themselves such as e-learning, mobile learning and ICT-supported virtual learning environments. Emerging ICT-supported models for learning include portal solutions, where users can provide courses in one field and enjoy being a lifelong learning student in another subject.

In occupations in the labour market and in society, ICT will continue to pervade most spheres in the business sector and in public-sector service delivery, while the ICT skills of citizens lag behind. The education sector will increasingly be called upon to make up for this mismatch.

Other generic technologies and technologies other than ICT are creating important business opportunities for European companies. If European countries and businesses are to seize the opportunities inherent in areas such as nanotechnology, biomedical technologies, imaging technologies and surface technologies, their educational sectors need to be able to provide the necessary competences.

Knowledge as a commodity and knowledge obsolescence

Knowledge – including advanced and specialised knowledge – is increasingly becoming a tradeable good. This is made possible by standardisation and global specialisation. Therefore, the extent to which a society is able to put knowledge to play in innovative ways becomes a restraining or facilitating factor for growth. The obsolescence of knowledge in the traditional sense requires new models of knowledge creation that also involve potential users in the knowledge-creation process.

Greening of the economy – environmental issues

Climate change and the need to secure new sustainable energy sources will increasingly be critical drivers of the innovation agenda in Europe. Strategies for the implementation of sustainable growth in Europe depend on the availability of relevant competences.

In-company training

Large companies, and in particular multinational and global corporations, increasingly establish complex in-company training systems. This trend is expected to be accelerated by demographic trends as companies try to attract and retain the most gifted individuals in shrinking youth cohorts.

Policy trends and debates

Policy trends are among the least predictable drivers of change in the education sector. However, it can be expected that certain stakeholders will continue to see the sector managed on the basis of more accountability and evidence-based policymaking, in lieu of market mechanisms.

Observations about the development of the learning sector

The survey asked respondents to rank a series of hypotheses, deciding which were most likely to characterise the development of the education sector within the next five to 10 years.

‘There will be an increase in mergers of educational institutions to improve performance’, and ‘Reforms in the education sector become an ideological battlefield mainly driven by latest media reports’ were the two statements ranked as most likely.

‘Devaluation of lifelong learning’ was considered as the most unlikely of the proposed hypotheses, while the other hypotheses – ‘Outsourcing of delivery’, ‘Education as an export’, ‘Digital challenge’, ‘Evidence-based reforms’, ‘Fundamental technological changes’, ‘Industry as a recruitment base for teachers’, and ‘Performance improvements through economic incentives’ – were all considered plausible, but not highly probable, future outcomes.

Future trends and drivers of change can also be seen as future challenges for the sector. The most important challenges identified by the survey were increased political pressure to improve institutional performance and the increasingly diverse student population. Challenges were seen quite differently by respondents from different EU Member States, indicating that solutions should also be country-specific.

Scenarios for the education and training sector

In order to explore further the challenges and opportunities for the sector’s future, four scenarios were developed for 2020, focusing on the labour market and working conditions of teachers and trainers. The aim was to illustrate plausible hypotheses about the future and provide a tool for forecasting, analysis and policy formulation by all stakeholders in the sector.

Scenarios were constructed on the basis of the possible outcomes of two drivers that were identified as both highly unpredictable and highly influential:

- marketisation/commercialisation – what role will markets play in the supply of qualifications and competences in 2020?
- the value attached to qualifications – what value will stakeholders place on certified qualifications in 2020?

The four scenarios arrived at were:

- ‘The mall’, where the sector is driven mainly by private investment and with little weight attached to standards;
- ‘The department store’, where the sector is again mainly driven by private investment, but where formal qualifications are regarded highly;
- ‘The castle’, where the sector has remained largely a public undertaking, and where formal qualifications hold a high value;
- ‘The workshop’, in which education and training is driven by public investment, but where formal qualifications have little value.

The labour market conditions for teachers and trainers vary quite considerably between the four scenarios. In ‘the mall’, educated teachers are faced with increased workloads in the public sector, and their qualifications are not valued highly in the growing private education sector. In ‘the department store’, qualified teachers have access to a diverse labour market with both public and private employers, and there is an international labour market for qualified teachers with good language skills and cultural competences. In ‘the castle’, labour markets for teachers are much as they are known today, except that the implementation of tools to ensure transparency and mobility, coupled with improved evidence-based management, has contributed to raising the appeal of the sector. In ‘the workshop’, there is emphasis on vocational training and education, and most funding for education is channelled in that direction, leading to increased competition for jobs at that level and obliging qualified general education teachers to supplement their initial training.

While each scenario is very different, in all of them teachers and trainers will need to be ready to adapt to changes in their roles and be willing to adjust to new target groups and new learning methods.

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