EUROPEAN COMMISSION

Brussels, 18.04.2011
SEC(2011) 526 final

COMMISSION STAFF WORKING DOCUMENT

Progress towards the common European objectives in education and training (2010/2011)

Indicators and benchmarks

(Part 3)

CHAPTER IV

Enhancing creativity and innovation, including entrepreneurship at all levels of education and training

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Why creativity, innovation and entrepreneurship?

"Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training" is the Strategic Objective 4 of the Strategic Framework for European cooperation in education and training ('ET 2020'). The Council Conclusions of May 2009 in which the framework was agreed underlined the rationale for launching policy reflection in this area

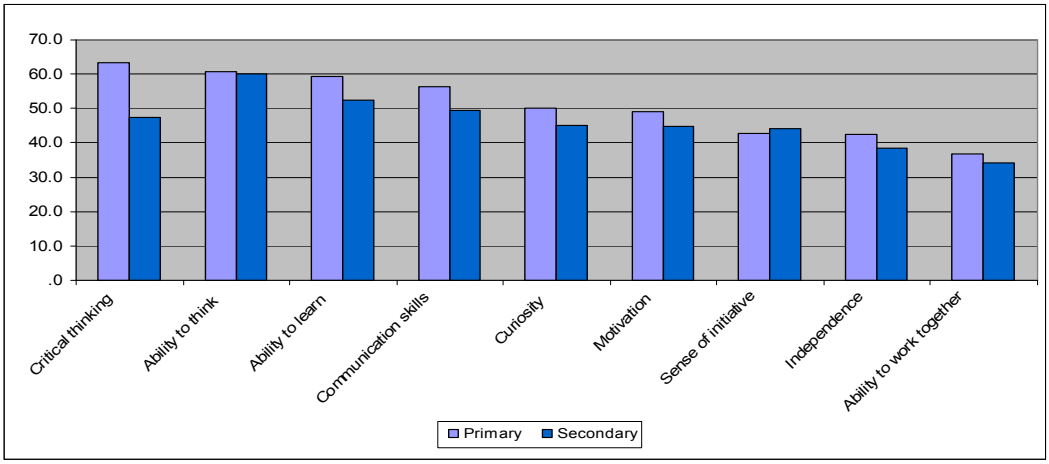
> *"As well as engendering personal fulfilment, creativity constitutes a prime source of innovation, which in turn is acknowledged as one of the key drivers of sustainable economic development. Creativity and innovation are crucial to enterprise development and to Europe's ability to compete internationally. A first challenge is to promote the acquisition by all citizens of transversal key competences such as digital competence, learning to learn, a sense of initiative and entrepreneurship, and cultural awareness. A second challenge is to ensure a fully functioning knowledge triangle of education-research-innovation. Partnership between the world of enterprise and different levels and sectors of education, training and research can help to ensure a better focus on the skills and competences required in the labour market and on fostering innovation and entrepreneurship in all forms of learning"*[1].

The Council further asked the Commission to launch work on how to promote and evaluate progress with regard to this Strategic Objective. The Commission, in the context of 2009 the European Year of Creativity and Innovation (EYCI), launched many initiatives on how to measure creativity and innovation. The International Conference "Can creativity be measured?"[2] and the publication "Measuring creativity"[3] considered possible approaches at regional, national and individual levels. Drawing on these and on international research, this chapter reviews evidence regarding the extent to which creativity, innovation and entrepreneurship are being addressed in education and training.

1. Creativity

The indicators on innovation and creativity at national and regional levels which were presented in "Measuring creativity" could be regarded as indicators of the environment where creativity can flourish. It is clear that precise measures of what constitutes an individual's creativity or that of a group or region do not exist. Rather than seeking to come up with formal measures, this chapter has sought to identify where creativity - the term itself and other expressions of the concept – is appearing within education systems as they address different subject areas and, indeed, all of the eight key competence areas adopted by the Council.

Figure IV.1.1 : Skills and abilities fostered in class by teachers according to school level (%)



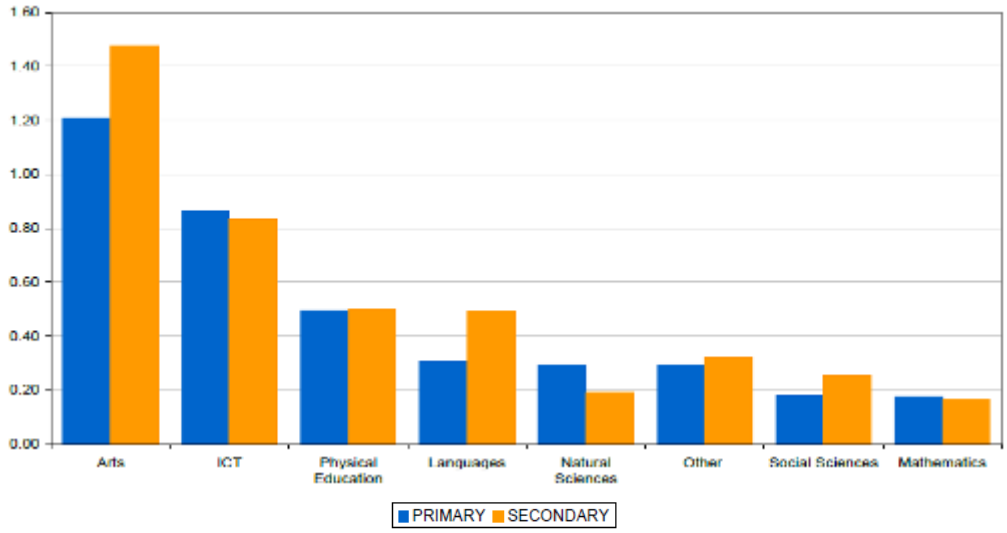
Source: JRC/IPTS, EC/DG EAC and EUN

It is important also to look into possible ways of assessing creativity in teachers[4] - see Figure IV.1.1[5] - and students, and at how it may be possible to assess whether students are leaving schools with the adequate creative capacities.

[1] Council conclusions of 12 May 2009 : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:119:0002:0010:EN:PDF
[2] http://ec.europa.eu/education/lifelong-learning-policy/doc1427_en.htm
[3] http://ec.europa.eu/education/lifelong-learning-policy/doc2082_en.htm
[4] IPTS/JRC, *Creativity in Schools: A Survey of Teachers in Europe* http://ftp.jrc.es/EURdoc/JRC59232.pdf . For this online survey which was posted on the eTwinning website and promoted through national and European channels in September-October 2009, data was gathered from teachers across 32 countries at different school levels. The scope of the analysis is limited to responses (7,659 in total) from teachers teaching in obligatory schooling (ISCED levels 1 and 2) in EU 27. The results of this survey are not representative of the teacher population in Europe due to some raisons, such as the over representation of some countries, and the online mode of

An analysis[6] aimed at measuring the extent to which creativity and innovation are present in school curricula in the EU27 undertook a frequency count of the terms creativity and innovation and synonyms within compulsory curricula – see Figures Ann. IV.2 and IV.3 -. In this analysis, eight subject groups were identified (Figure IV.1.2): Arts (art, music, drama, wood work, history of arts), Languages, Mathematics, Natural Sciences (Biology, Chemistry, Physics, Nature), Social Sciences (history, geography, social studies, civic education, philosophy), Physical Education, ICT (ICT, media, computer science, design and technology, technology) and Other (religious education, ethics, social, personal and health education, home economics). The subject group 'Arts' shows the highest overall occurrence of the terms creativity, innovation and their synonyms, followed by subject groups 'ICT' and 'Physical Education'.

Figure IV.1.2 : Relative occurrence of Creativity, Innovation and synonyms in primary and secondary school curricula in EU27 –curricula subject groups



Source: JRC/IPTS, EC/DG EAC and empirica Gmbh

Overall, two major approaches to creativity emerge. When creativity is defined as a creative task or activity, then it is usually linked to specific subjects such as Art, Music, Languages, and Technologies. The focus is on doing things creatively. The other approach conceives Creativity more broadly and considers it as skills, like 'creative thinking' or 'creative problem solving' which should be encouraged and developed in all subjects. In this more transversal approach, the world Creativity is often linked to capacity building, empowerment, problem solving, self expression and (personal) development of pupils and students and with terms such as: awareness, capacity, independence, initiative, learning, personality, responsibility, skills, solutions, understanding or thinking.

These results need to be handled with great caution when comparing and drawing inferences. There is, for example, a huge variance in the status and relevance to actual educational practices of the compulsory curriculum. And, even if statutorily established as part of the curriculum, listing the terms creativity and innovation does not guarantee their effective practice in schools.

administering the survey and reliance on voluntary participation. Despite these limitations, this survey is unique as it is the first time that such a high number of teachers' opinions on creativity in the EU27 have been collected. The online survey also showed that teachers in Europe believe that creativity is an important transversal competence that should be developed at school and that ICT can enhance creativity. A great majority of teachers also believe that creativity can be applied to every domain of knowledge and to every school subject. However, even when a big majority of teachers believe everyone can be creative, the conditions necessary to favor creativity are not always available in schools (see Figure Ann. IV.1)

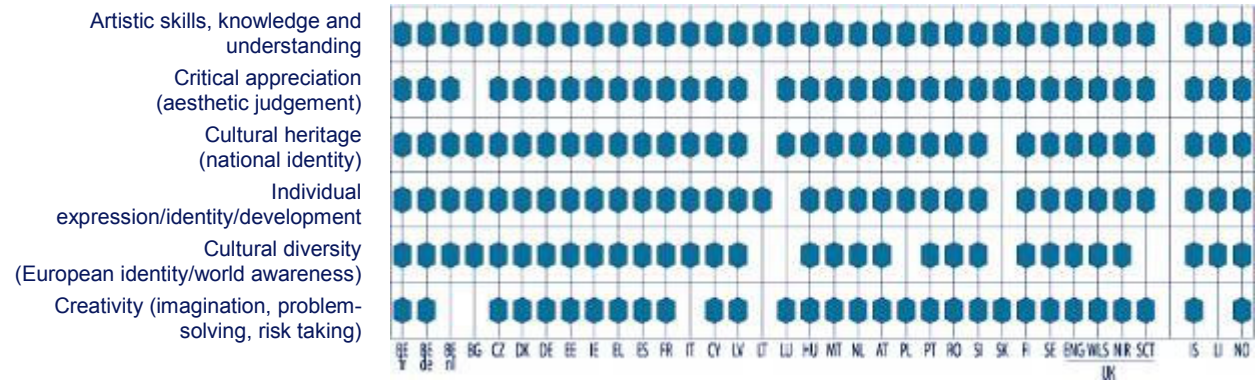
[5] As can be noted in Figure IV.1.1, with the exception of the 'ability to think' and 'sense of initiative', higher percentage of primary teachers claim to *always* foster the listed skills and abilities in their students. The percentages are relative to the total number of respondents who have ticked "always" to the question "How often do you foster the following skills and abilities in your students?"

[6] Heilmann, G., & Korte, W. B, 2010: *The Role of Creativity and Innovation in School Curricula in the EU27: A content analysis of curricula documents,* Seville, EC JRC/IPTS: ftp://ftp.jrc.es/pub/EURdoc/JRC61106_TN.pdf . This report presented an analysis of EU27 school curricula. In total, 37 countries and/or regions were studied, and around 1,200 curricula documents were identified and analysed, using the search terms Creativity and Innovation (and their stems creativ* and innovat*) and five synonyms of these terms selected from an initial list of 15 synonyms from national experts. Even if this analysis presents some restrictions and limitations when comparing and drawing inferences from the results (vast amount of empirical data concerning different countries, different origin/format/style of curricula), however, a major finding of the study is that Creativity and Innovation – the latter to a much lesser extent– effectively feature in the curricula of primary and secondary education in Europe.

1.1 Creativity and cultural awareness and expression

Cultural awareness and expression is essential to the development of creative skills, as it concerns the "appreciation of the importance of the creative expression of ideas, experiences and emotions in a range of media, including music, performing arts, literature, and the visual arts"[7]. Cultural knowledge refers to cultural heritage and to cultural and linguistic diversity. It is linked to skills such as self-expression through the use of different media and art forms, the ability to respond to expressive points of view and the opinions of others, and to identify and realise social and economic opportunities in cultural activities.
Arts and cultural education[8] is present in all national curricula, varying by learning aims/outcomes, by global/detailed definition and by ISCED levels. Figure IV.1.3 shows that six aims are normally present in primary and secondary cultural education – artistic skills, knowledge and understanding, critical appreciation, cultural heritage, individual expression/identity/development, cultural diversity and creativity[9] .

Figure IV.1.3: Aims and objectives of arts and cultural curricula – ISCED 1 and 2 – 2007-2008

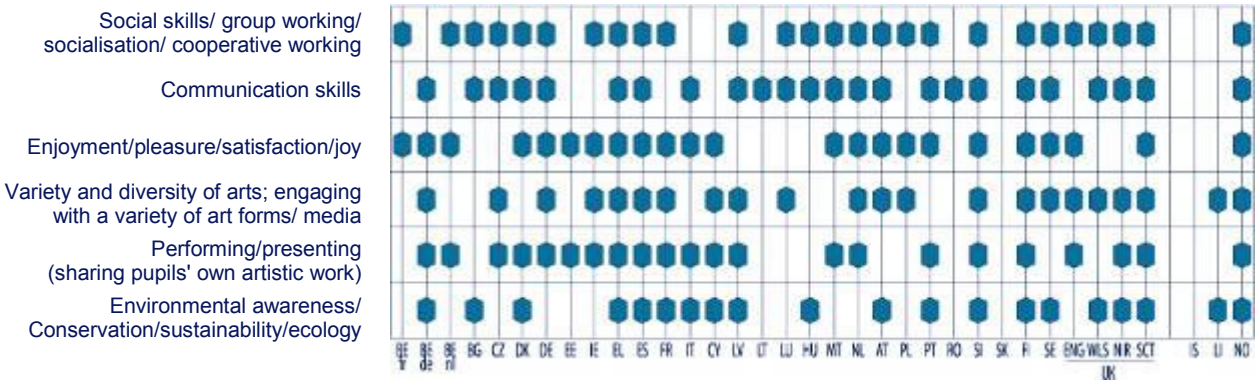


Source: Eurydice

Figure IV.1.4 highlights aims which are not necessarily arts-specific. The objective of developing social skills is present in 26 curricula and especially linked to performing arts such as drama. The development of enjoyment/pleasure/satisfaction/joy – common to all art forms – is an objective in 23 curricula, and communication skills – particularly linked to performing and media arts – are present in 24.
Other commonly found objectives include (not all are shown in the Figures): exposure to various experiences and to various means of artistic expression; skill in performing or presenting a work; and building environmental awareness.

[7] Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences (2006/962/EC) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:EN:PDF
[8] Eurydice: Arts and cultural education in Europe http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/113EN.pdf
[9] **"Artistic skills, knowledge and understanding** are, in general, the skills forming the foundation of 'artistic language' (such as the understanding of colours, lines and forms in the visual arts or, in music, listening and instrumental performance skills). The development of artistic skills tends to include learning the different artistic styles and genres. In that regard, some countries refer to a repertoire of specific works, in particular for music and drama. Artistic understanding tends to focus on artistic concepts, such as understanding the characteristics of different means of artistic expression or the relationship between the artist, his or her cultural and physical environment and his or her works. **Critical appreciation** (aesthetic judgment) is among the six aims most often referred to. It is concerned, in particular, with raising pupils' awareness of the essential features of a work or of a performance and with developing their capacity for critical judgment in evaluating their own work or that of others. (…) **Cultural heritage** (…) is connected with the creation of cultural identity: the learning of cultural forms seeks to develop in a pupil self-understanding as a country's citizen or a member of a group. The understanding of cultural heritage is promoted through contact with works of art, as well as through learning the characteristics of works of art produced in different historical periods and of certain artists' works (sometimes from a predetermined repertoire or from artistic 'canons'). The understanding of **cultural diversity** is another aim common to most of the arts and cultural curricula. The promotion of cultural diversity through the arts also seeks to raise awareness of cultural heritage and modern genres specific to different countries and cultural groups (sometimes with specific reference to European cultures). The **development of individual expression** and the **development of creativity** are two other very widespread aims, although the latter is referred to in slightly fewer countries. The development of children's individual expression by means of the arts is closely linked to their emotional well-being. That type of aim is connected with all art forms but in particular with the visual arts." See: *Eurydice, idem*

Figure IV.1.4: Aims and objectives of arts and cultural curricula – ISCED 1 and 2 – 2007-2008



Source: Eurydice

2. Innovation

The concept of innovation could be defined as the process by which new or significantly improved products, goods, services, processes or methods are brought into being. Traditionally related to the business sector[10], innovation is seen increasingly as having a very broad scope, a vital driver of change, modernisation and of responses to global challenges like climate change, energy and resource efficiency, health and demographic change[11].

Since 2008, the European Innovation Scoreboard (EIS)[12] provides a multidimensional indicator (the "Summary Innovation Index" – SII[13]) aiming at capturing the specificities of different innovation processes and models. The SII is a composite indicator that tracks and benchmarks relative innovation performance across the European Union and Croatia, Turkey, Iceland, Norway and Switzerland.

The 2009 Summary Innovation Index clusters countries in the following four groups:

- Innovation leaders (Denmark, Finland, Germany, Sweden, Switzerland and the United Kingdom), with innovation performance well above the EU27 average;
- Innovation followers (Austria, Belgium, Cyprus, Estonia, France, Iceland, Ireland, Luxembourg, the Netherlands), with innovation performance above the EU27 average but below the one of the innovation leaders;
- Moderate innovators (Iceland, the Czech Republic, Greece, Hungary, Italy, Lithuania, Malta, Norway, Poland, Portugal, Slovakia, and Spain), with innovation performance below the EU27 average;
- Catching up countries (Bulgaria, Croatia, Latvia, Romania, Serbia, and Turkey), with innovation performance well below the EU27 average.

All countries have improved their innovation performance over the last five years. Section 2.1 which follows uses this categorisation of countries to look at two potentially relevant education indicators.

[10] According to the Oslo Manual (OECD and Eurostat, 2005, p. 46) innovation concerns the implementation of new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations. This definition can be encompasses four main types of innovation:

- Product innovation: the inclusion of a good or service that is new or significantly improved with respect its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness of other functional characteristics.
- Process innovation: the implementation of new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.
- Marketing innovation: the implementation of a new marketing method involving significant changes in product design of packaging, product placement, product promoting or pricing.
- Organizational innovation: the implementation of a new organizational method in the firm's business practices, workplace organization or external relations.

[11] Council conclusions of 12 May 2009 : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:119:0002:0010:EN:PDF

[12] http://www.proinno-europe.eu/page/european-innovation-scoreboard-2009

[13] See annex IV.2

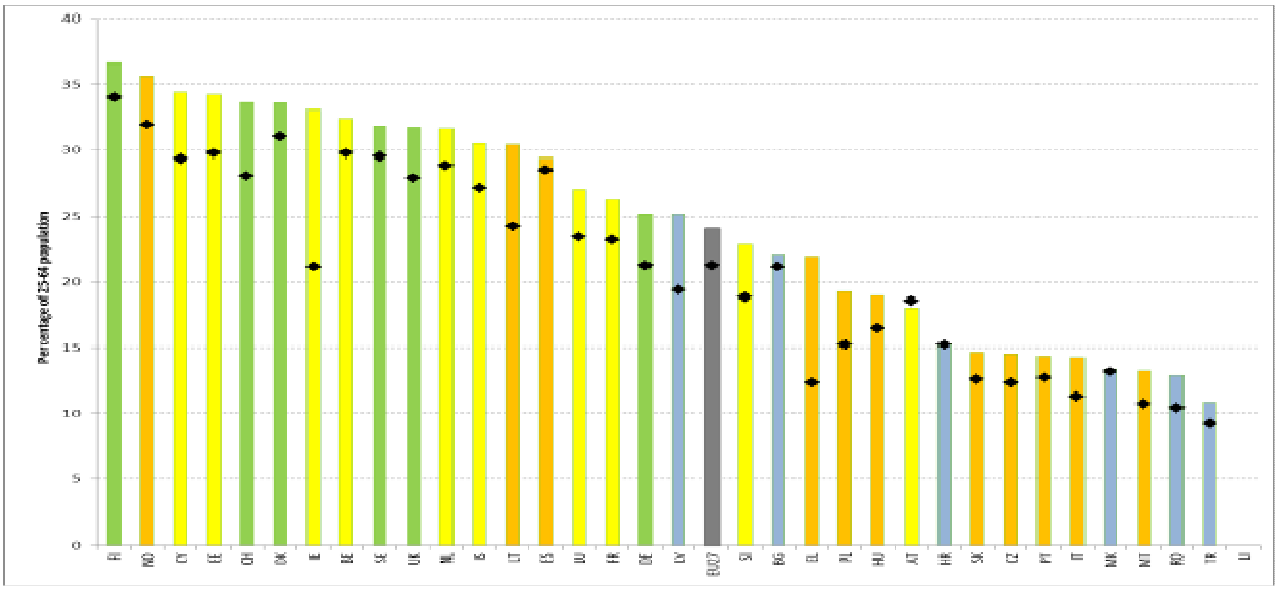
2.1 The role of Education in innovation

The role of education in relation to innovation is to produce the knowledge and skills necessary for people to become innovators and to build habits and ways of working within which innovation can flourish, such as problem solving, good communication and team working skills.

As a basic and somewhat traditional measure of how well education is building innovation, one approach is to focus on how education systems are providing pools of graduates from tertiary education (ISCED 5 and 6) to ensure a proper take-up of knowledge and innovation as well as a sufficient number of personnel to carry out research and development activities[14].

As shown in Figure IV.2.1, the share of population aged 25 to 64 with a high level of education (ISCED 5 or 6) is above the EU27 average (24%) for all the innovation leader countries (ranging from 25.2% of Germany to 36.6% of Finland) and for the innovation followers with the exception of Austria (18%) and Slovenia (22.9%); on the contrary, the indicator is below the EU27 average in all the catching up countries with the exception of Latvia (25.2%).

Figure IV.2.1:
Percentage of population aged 25 to 64 with a tertiary educational attainment (ISCED 5 and 6), 2008

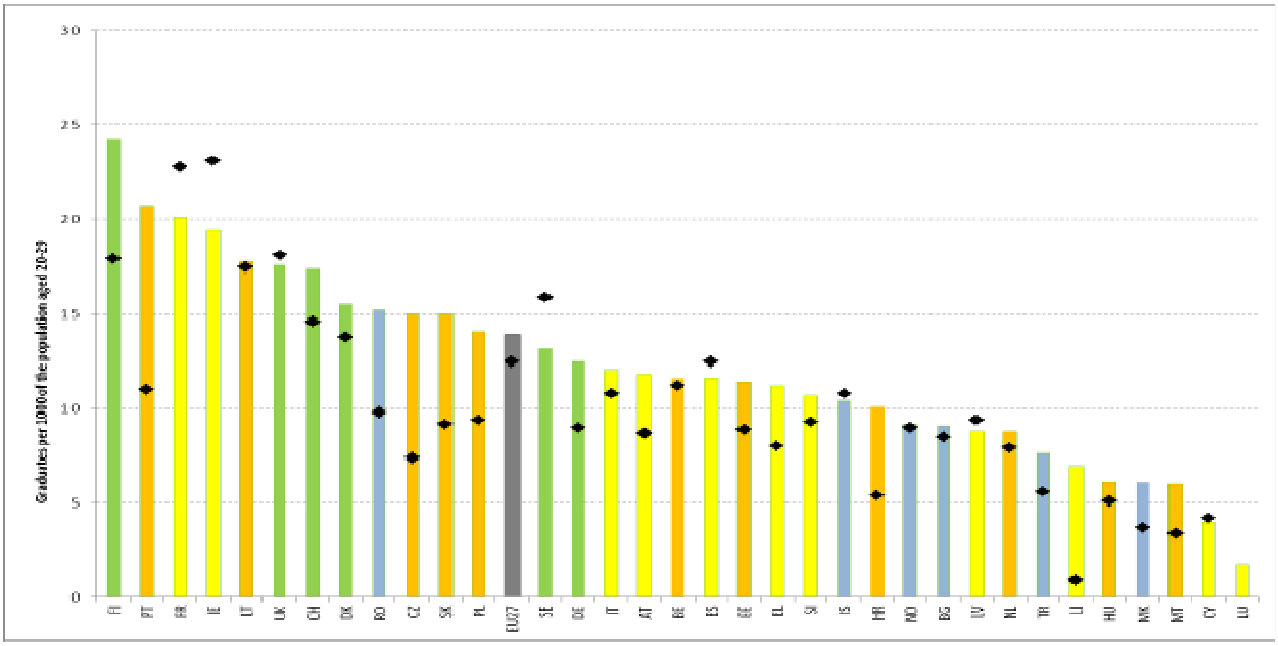


Source: CRELL/JRC based on Eurostat's LFS database (August 2010).
Note: different colours indicate different group of countries: green are the innovation leaders, yellow are the innovation followers, orange the moderate innovators, and blue are the catching up countries. In grey the EU27 average. Bars indicate the value of the indicator in 2008; black markers indicate the value of the indicator in 2004 with the exception of DK (2007), ES and SE (2005), MK and TR (2006).
*MK: The former Yugoslav Republic of Macedonia; see Annex 2

In the period between 2004 and 2008, the share of population which is highly educated has increased in all EU and candidate countries except Austria, Croatia, and Macedonia where it is stable.

[14] http://ec.europa.eu/research/era/pdf/key-figures-report2008-2009_en.pdf

Figure IV.2.2: Graduates in mathematics, science and technology (ISCED 5-6), 2008
Graduates per 1000 of the population aged 20-29



Source: Eurostat, Education statistics (August 2010).
Note: different colours indicate different group of countries: green are the innovation leaders, yellow are the innovation followers, orange the moderate innovators, and blue are the catching up countries. In grey the EU27 average. Bars indicate the value of the indicator in 2008 (except for Italy where the 2007 value has been used); black markers indicate the value of the indicator in 2004 with the exception of FR and MT (2005). For LU it is available only the 2008 value.
*MK: The former Yugoslav Republic of Macedonia; see Annex 2

3. Graduates in Mathematics, Science and Technology

The share of population qualified to university degree level in mathematics, science or technology is an important predictor of the availability of human resources qualified to carry out research and development activities. Figure IV.2.2 shows that in 2008, 1.39% of Europeans aged 20 to 29 received a tertiary degree in mathematics, science or technology, with national performance ranging from 0.18% in Luxembourg to 2.43% in Finland. The "innovation leader" countries perform better than the EU27 average with the exception of Sweden (1.32%) and Germany (1.25%), both just below the EU27 average. The groups of "innovation follower" and "catching up" countries tend to perform below the EU27 average with a few positive exceptions: France (2.01%), Ireland (1.95%) and Romania (1.52%. Almost half of the "moderate innovator" countries perform above the EU27 average on this measure. These are: Portugal (2.07%), Lithuania (1.78%) the Czech Republic (1.5%), Slovakia (1.5%), and Poland (1.41%).

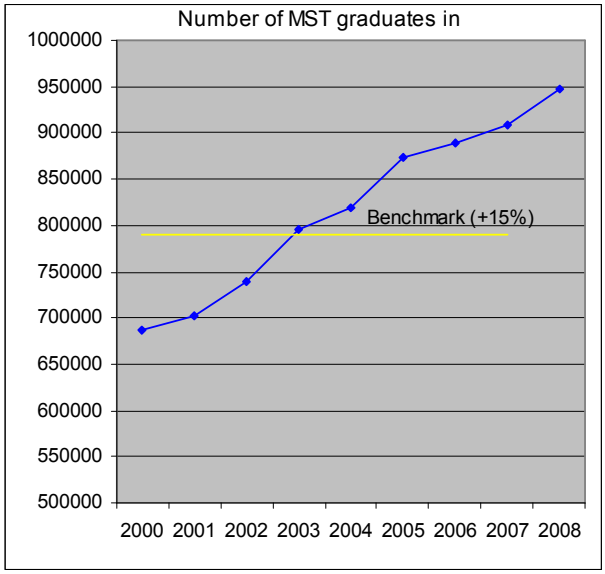
<u>European benchmark</u>
The total number of graduates in Mathematics, Science and Technology in the European Union should increase by at least 15% by 2010[15].

With growth of over 38% in the number of MST graduates in the period 2000-2008, the EU has already progressed at more than twice the rate foreseen by the EU benchmark for 2010 in this field. However, after strong growth in the beginning of the period, the increase decelerated somewhat after 2005. (Figure IV.3.1 and Figure IV.3.3).

In the period 2000-2008 Romania, Portugal and Slovakia showed the highest growth rates (>14%), followed by the Czech Republic and Poland (>10%). Despite the general positive trend, Belgium, Estonia and Malta showed a considerable decrease in numbers in 2008 of 12% or more.

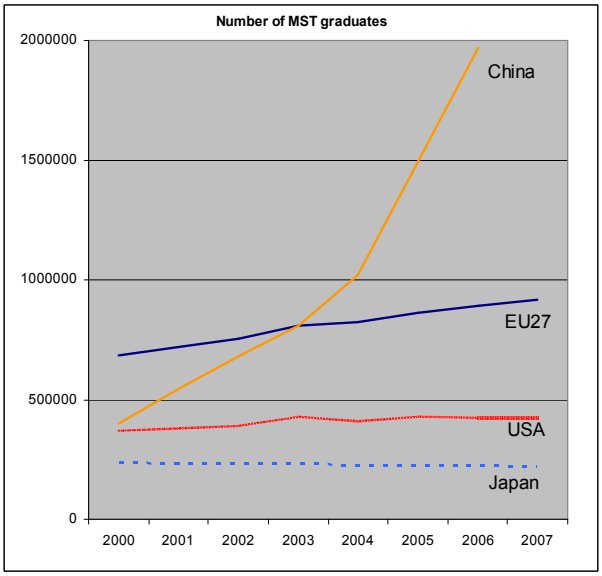
[15] Indicator: *Total number of tertiary (ISCED level 5A, 5B and 6) graduates in mathematics, science and technology. MST includes life sciences, physical sciences, mathematics and statistics, computing, engineering and engineering trades, manufacturing and processing, architecture and building*

Figure IV.3.1: Number of MST graduates (ISCED 5 and 6), 2000-2007



Source: Eurostat (UOE)

Figure IV.3.2: Total number of MST graduates - international comparison of trends, 2000-2007



Source: Eurostat and Statistical Bureau of China

While the EU progressed faster than both the US and Japan in this area (in Japan the number of graduates has decreased since 2000), growth is particularly strong in emerging economies like China, where it has more than quadrupled since 2000 to nearly 2 million in 2006[16] (Figure IV.3.2).

The availability of a large pool of MST graduates in low-wage countries could have a growing impact on high-technology industries worldwide and increasingly affect the comparative advantage (within which the relative abundance of highly skilled workers is an important factor) of developed countries.

Looking at the trend since 2000, the average number of graduates in Mathematics, Science and Technology in the EU was 10.2 per 1000 inhabitants aged 20-29 in 2000 and reached 13.9 in 2008. France, Portugal and Finland now have a relatively high population share of MST graduates, with over 20 per 1000, whereas Luxembourg, Cyprus, Malta and Hungary remain at below 8 per 1000.

The significant growth in numbers of MST graduates that has been achieved since 2000 in the EU might not continue in the coming years. In 2008 the number of MST students didn't increase anymore compared to the year before, suggesting that there will be a slowing down in the number of graduates in the years ahead. Furthermore, demographic trends, especially the decline in birth rates in the Central and Eastern European Member States after 1989, might also pose the risk of stagnation or decline in the absolute number of MST students and graduates after 2010, despite the continuing increase in higher education participation rates.

[16] Chinese figures also include ISCED 4 and hence are somewhat overstated

Figure IV.3.3: Graduates in Mathematics, Science and Technology: growth 2000-2008

	Number of graduates (in 1000)			Per 1000 inhabitants aged 20-29	Growth in graduates per year	Growth in graduates
	2000	2007	2008	2008	2000-2008	2008
EU-27	686.2	908.6	941.2	13.9	4.0	3.6
Belgium	12.9	18.5	15.6	11.6	2.2	-15.7
Bulgaria	8.1	9.3	9.8	9.1	2.5	6.3
Czech Republic	9.4	18.3	22.6	15.0	11.6	23.1
Denmark	8.5	10.1	9.7	15.5	1.7	-4.8
Germany	80.0	111.8	122.9	12.5	5.5	9.9
Estonia	1.5	2.7	2.3	11.4	5.8	-12.6
Ireland	14.5	14.0	14.6	19.5	0.1	4.8
Greece	:	13.0	16.6	11.2	:	27.6
Spain	65.1	73.1	74.7	11.6	1.7	2.1
France	154.8	166.2	163.1	20.1	0.7	-1.9
Italy	46.6	82.2	75.9	11.3	6.3	-7.7
Cyprus	0.3	0.5	0.5	4.0	5.9	-3.1
Latvia	2.4	3.1	3.1	8.8	2.9	-2.8
Lithuania	6.6	8.9	9.0	17.8	4.0	0.1
Luxembourg	0.1	:	0.1	1.8	1.3	:
Hungary	7.2	9.3	8.6	6.1	2.2	-8.1
Malta	0.2	0.4	0.4	6.0	8.6	-14.7
Netherlands	12.5	17.5	17.4	8.8	4.2	-0.7
Austria	7.5	11.6	12.5	11.8	6.6	7.6
Poland	39.2	89.3	89.7	14.1	10.9	0.5
Portugal	10.1	26.6	29.6	20.7	14.4	11.0
Romania	17.1	40.4	51.4	15.2	14.8	27.4
Slovenia	2.6	2.8	3.0	10.7	1.9	7.1
Slovakia	4.7	10.9	13.5	15.0	14.0	24.3
Finland	10.1	12.4	16.1	24.3	6.0	29.5
Sweden	13.0	14.8	14.7	13.2	1.6	-0.9
United Kingdom	140.6	140.6	144.0	17.6	0.3	2.4
Croatia	:	4.1	6.2	10.1	:	48.7
Iceland	0.4	0.5	0.5	10.4	4.3	7.7
MK*	1.2	1.5	2.0	6.1	6.7	33.2
Turkey	57.1	89.8	97.5	7.6	6.9	8.6
Liechtenstein	:	0.0	0.05	7.0	:	-32.6
Norway	4.8	5.3	5.4	9.2	1.3	1.2
USA	369.4	423.6	428.3	10.1	1.9	1.1
Japan	236.7	221.1	214.4	14.3	-1.2	-3.0

Source: DG EAC, calculations based on Eurostat (UOE) data, EU 27 figure estimated for 2008

*MK: The former Yugoslav Republic of Macedonia; see Annex 2
Average annual growth calculated on the basis of years without breaks and for which data were available.
BE: Data for the Flemish community exclude second qualifications in non-university tertiary education; the data also exclude independent private institutions (although the number is small) and the German-speaking community.
EL: No data available for 2000-2003. EU total includes an estimate for Greece for this period.
CY: Data exclude tertiary students graduating abroad. Over half of the total number of Cypriot tertiary students study abroad. The fields of study available in Cyprus are limited
LU: Luxembourg had in the reference period no complete university system, since most MST students study and graduate abroad.
HU: 2004: Changes in data collection on graduates by fields led to breaks in the time series; AT: 2000: ISCED level 5B refers to the previous year.
PL: Data for 2000 exclude advanced research programmes (ISCED level 6).
RO: 2000 data exclude second qualifications and advanced research programmes (ISCED level 6). There is therefore a break in the series in 2004.
SE: 2004: Changes in data collection on graduates by fields led to breaks in the time series.
UK: National data used for 2000; LI: 2003-2004 data exclude tertiary students graduating abroad. The fields of study available in Liechtenstein are limited

3.1 Evolution of the number of MST students

The number of tertiary MST *students* (as opposed to *graduates* discussed above) has increased by about 18% since 2000, or on average by 2.1% per year (Figure IV.3.4). Growth has been particularly strong in Malta, Cyprus and Romania. For some countries, however, the number of MST students stagnated or even declined. The latter was the case in Austria (partly a result of the introduction of tuition fees in 2001/02), Belgium, Spain and Sweden). Growth in the number of students has been slower than growth in the number of graduates since an increasing share of students proceed to take postgraduate degrees. In the EU, MST students accounted in 2008 for nearly a quarter (24%) of the total student population.

Figure IV.3.4: Number of MST students (ISCED level 5 and 6), 2000-2008

	Number of tertiary MST students (in 1000)			Ø Growth per year
	2000	2007	2008	2000-08
EU-27	**3930e**	**4638**	**4632**	**2.1**
Belgium	74.6	62.9	64.4	-1,8
Bulgaria	64.5	64.3	64.8	0,0
Czech Republic	74.5	83.2	103.7	4,2
Denmark	38.3	43.6	41.6	1,0
Germany	587.2	701.2	695.4	2,1
Estonia	11.4	15.8	15.4	3,8
Ireland	45.3	40.6	45.2	0,0
Greece	:	184.5	195.1	3,3
Spain	525.1	499.8	491.9	-0,8
France	:	549.4	547.9	4,0
Italy	433.2	477.6	461.1	0,8
Cyprus	1.8	4.2	4.5	12,0
Latvia	15.1	20.2	20.2	3,7
Lithuania	33.4	48.1	48.0	4,6
Luxembourg	0.4	:	0.7	7,1
Hungary	65.7	79.2	80.0	2,5
Malta	0.7	1.8	1.6	10,6
Netherlands	80.8	85.2	86.3	0,8
Austria	73.9	64.4	72.7	-0,2
Poland	285.2	473.1	462.0	6,2
Portugal	102.2	108.5	112.4	1,2
Romania	124.2	217.0	233.0	8,2
Slovenia	19.7	25.8	27.8	4,4
Slovakia	38.1	53.6	53.8	4,4
Finland	97.9	113.3	111.0	1,6
Sweden	106.0	105.4	100.6	-0,7
United Kingdom	477.4	515.2	491.3	0,4
Croatia	:	32.9	33.5	:
MK	12.0	14.1	15.3	3.1
Turkey	301	506.3	520.4	7.1
Iceland	1.7	2.5	2.7	5.9
Liechtenstein	:	0.2	0.2	:
Norway	26.9	34.1	34.1	3.0
USA	:	2764.7	3031.4	:
Japan	819.4	754.0	733.0	-1.4

Source: Eurostat (UOE)

*MK: The former Yugoslav Republic of Macedonia; see Annex 2

Annual growth per year represents geometric mean.

Additional notes:
Number of students means the total number of full-time and part-time students. Austria: Break in time series in 2003; before 2003 Austria reported students studying more than one field in each of the fields in which they were enrolled, leading to double-counting; since 2003 students have been allocated to only one field. Italy: 2008 does not include MST students at the ISCED 6 level. The EU total for 2003 includes Greece (with 2002 data).

3.2 Evolution of the number of MST graduates by field and educational levels

Growth since 2000 has been very strong in computing (over 80%), while manufacturing, mathematics and architecture showed also robust growth rates. Growth was much slower in engineering, in life sciences and in physical science (Figure IV.3.5).

However, it has to be taken into account that computing has also some of the elements taught in physical science and in mathematics. The lower growth or decline in these fields can partly be attributed to a shift to informatics. There is also a trend to new interdisciplinary studies that are difficult to classify but which impact on the growth of certain fields.

Figure IV.3.5:Number of graduates by field within MST(EU 27)

ISCED fields	Graduates (1000)		Growth (in %)
	2000	2008	2000-08
Life sciences (42)	91.1	97.4	6.8
Physical science (44)	88.9	98.0	10.3
Mathematics, statistics (46)	36.5	49.4	35.3
Computing (48)	86.2	156.0	81.0
Engineering (52)	267.5	312.7	16.9
Manufacturing (54)	31.5	47.2	50.0
Architecture, building (58)	86.5	126.8	46.6

Source: Eurostat; in the case of physical science and computing, no data are available for Romania. Includes estimates for Greece for 2000 and Ireland for 2007.

3.3 *Evolution of the number of MST graduates by type of programme*

The academic programmes requiring an ISCED level 5A second (masters level) degree grew strongly between 2000 and 2008, while the number of new PhDs (ISCED 6 level) increased, but more moderately (see Figure IV.3.6). Occupation oriented degrees at the same time showed overall only slow growth.

Figure IV.3.6: Growth in the number of MST graduates by type of programme

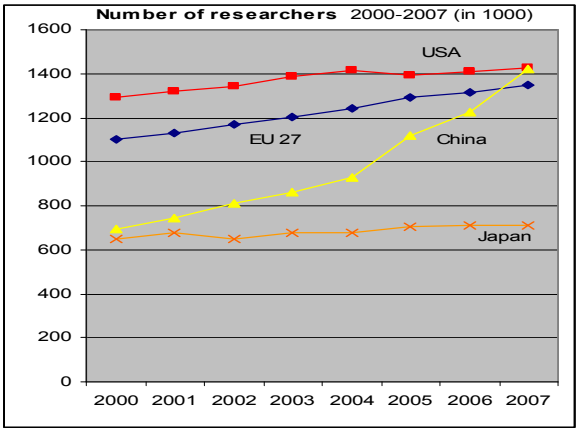
ISCED field	Graduates (in 1000)		Growth (in %)
	2000	2008	2000-2008
Academic programmes, all first degrees (5A)	452.4	586.1	29.6
Academic programmes, second degree (5A)	59.5	152.0	155.5
Occupation-oriented programmes, first qualification (5B)	131.3	140.2	6.8
Occupation-oriented programmes, second qualification (5B)	2.1	0.5	-74.6
Second stage leading to an advanced research qualification (6)	35.7	45.8	28.3

Source: Eurostat (UOE), Note: PHD/Doctorate represent over 95% of all ISCED 6 degrees

3.4 *MST Graduates and researchers on the labour market*

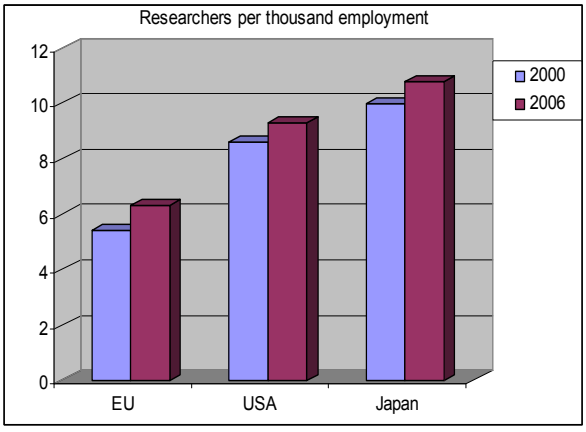
In 2007 about 45 000 or 5% of MST graduates in the EU were PhD graduates (ISCED level 6), compared with 5.3% in the USA and 2.9% in Japan. This represents an increase of almost 30% in the EU as compared to 2000 (Figure IV.3.7). These are graduates with research training who could be expected to proceed to positions as researchers on the labour market. The increase in MST graduates and the comparatively high share of PhD level graduates has, however, not been reflected in the relative numbers employed in research in the EU. The number of researchers (full time equivalents) in the EU increased in the period 2000-2007 by 22.5% or 250 000. Nevertheless, the EU has still fewer researchers on the labour market than the USA, both in absolute terms and as a proportion of the total labour force. In 2007 China overtook the EU in absolute terms while Japan has a much higher proportion of researchers in employment (see Figure IV.3.8). Partly as a result of a lack of career opportunities, a high share of potential researcher graduates opts for non-science and non-engineering career. Some of these graduates furthermore choose to take up positions outside the EU (European Commission, 2005b, p.12).

Figure IV.3.7: Trend in the number of researchers



Source: Eurostat (UOE)

Figure IV.3.8: Researchers per thousand total employment, 2000 and 2006



Source: Eurostat, OECD

4. Entrepreneurship

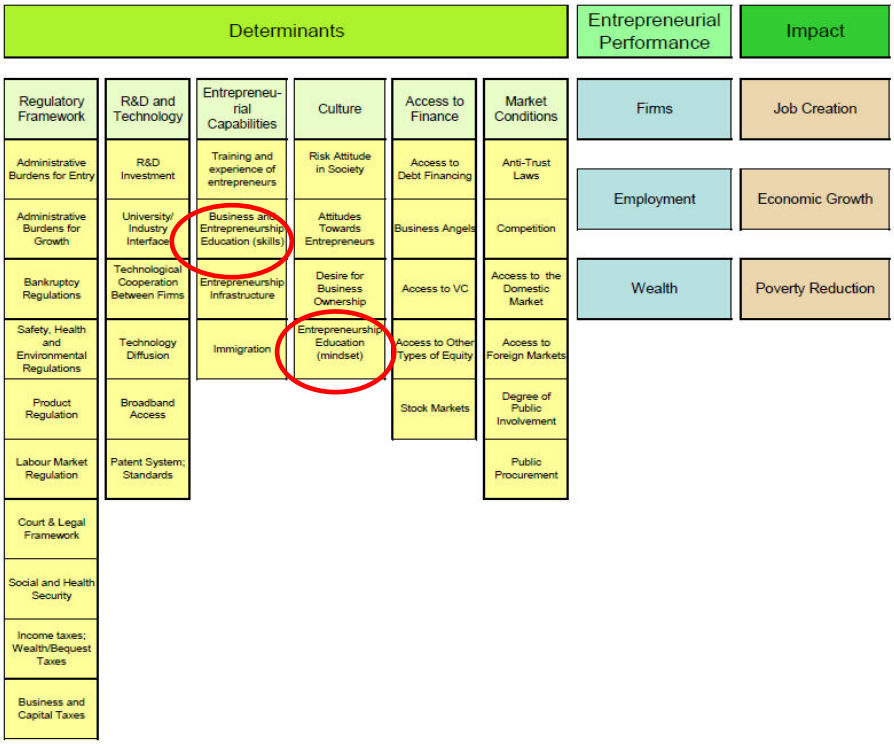
According to the "European reference framework: key competences for lifelong learning" [17], *"sense of initiative and entrepreneurship refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports individuals, not only in their everyday lives at home and in society, but also in the workplace in being aware of the context of their work and being able to seize opportunities, and is a foundation for more specific skills and knowledge needed by those establishing or contributing to social or commercial activity. This should include awareness of ethical values and promote good governance"*.

Entrepreneurship is one of the eight key competences for lifelong learning included in the recommendations of the European parliament and the Council. As a competence, entrepreneurship is based on essential knowledge, skills and attitudes:

- **Necessary knowledge for entrepreneurship** includes the ability to identify available opportunities for personal, professional and/or business activities, including 'bigger picture' issues that provide the context in which people live and work, such as a broad understanding of the workings of the economy, and the opportunities and challenges facing an employer or organisation. Individuals should also be aware of the ethical position of enterprises, and how they can be a force for good, for example through fair trade or through social enterprise.
- **Skills** relate to proactive project management (involving, for example the ability to plan, organise, manage, lead and delegate, analyse, communicate, debrief, evaluate and record), effective representation and negotiation, and the ability to work both as an individual and collaboratively in teams. The ability to judge and identify one's strengths and weaknesses, and to assess and take risks as and when warranted, is essential.
- **An entrepreneurial attitude** is characterised by initiative, pro-activity, independence and innovation in personal and social life, as much as at work. It also includes motivation and determination to meet objectives, whether personal goals or aims held in common with others, including at work.

The OECD-Eurostat Entrepreneurship Indicators Programme (EIP) aims to build a knowledge base measuring the rates at which new firms are created or close down, studying factors which allow enterprises to grow and assessing the impact of small businesses on jobs, turnover and trade. It has provided a framework for indicators on entrepreneurship (see Figure IV.4.1).

Figure IV.4.1: Framework for indicators on entrepreneurship



Source: OECD Eurostat EIP

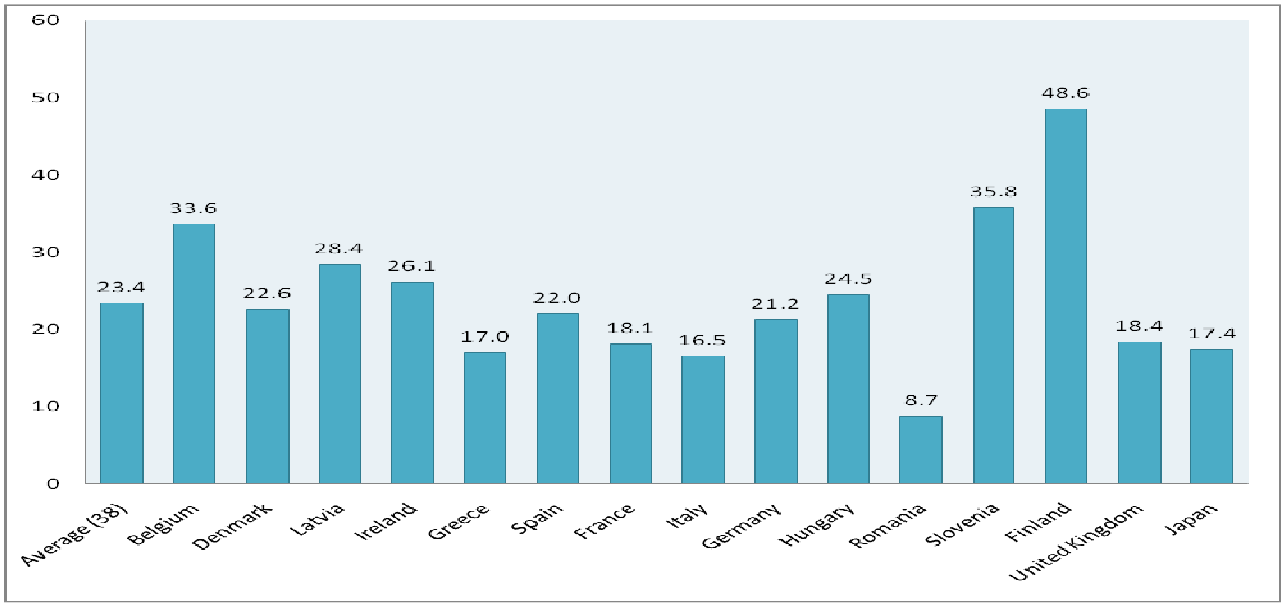
[17] European Commission, "Key Competences for Lifelong Learning - European Reference Framework". 2007. See: http://ec.europa.eu/education/lifelong-learning-policy/doc42_en.htm

4.1. Entrepreneurship education and training: analysis of existing cross-country data

Regarding entrepreneurship education, there is a clear lack of internationally comparable data.

Studies at national and European-wide level suggest that Member States where entrepreneurship is well established in the curricula for general secondary education are still a minority (ES, FI, IE, CY, PL and UK)[18]. Existing cross-country studies provide an idea on the spread of entrepreneurship education in Europe.
The European Commission launched a European survey on Higher Education Institutions (HEIs), with the aim of analysing the state of the teaching of entrepreneurship. The report, published in October 2008, provides an insight into the strengths and weaknesses of the offer of entrepreneurship education in Europe[19]. This survey, conducted in higher education institutions in 31 European Countries, reveals that over 87% of the institutions had some type of activities that could be considered entrepreneurship education. It also found that of about 22%, 27% and 21% of undergraduates, graduates and postgraduate students of those institutions were enrolled in entrepreneurship courses. Based on a questionnaire survey, the survey shows that there is already a share of population with training on starting a business. Notwithstanding this, there are high asymmetries across European countries for which data is available (Figure IV.4.2).

Figure IV.4.2: Population aged 18-64 with training in starting a business

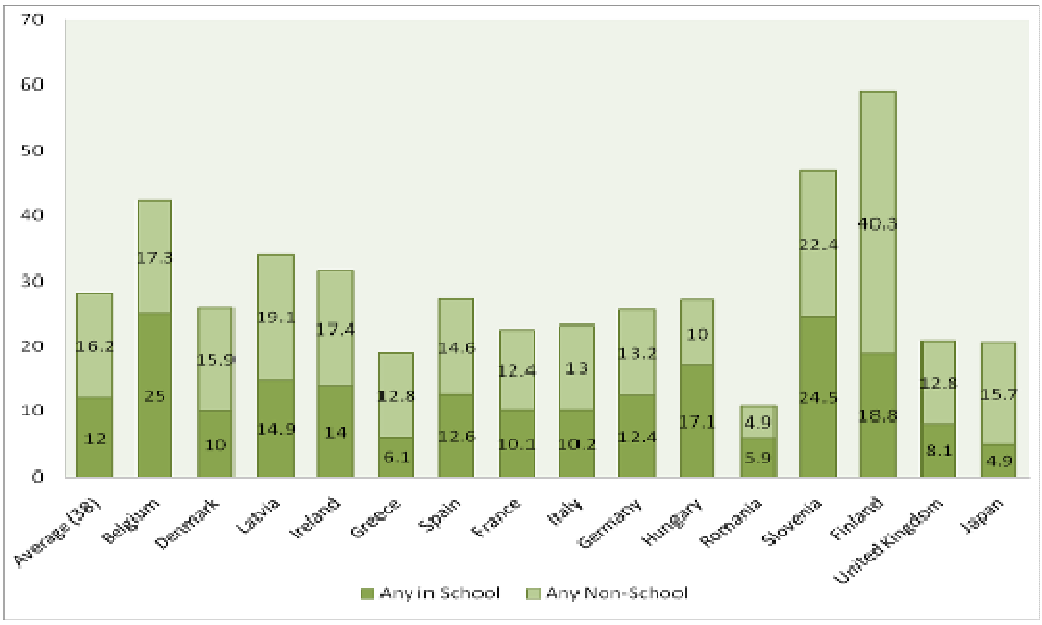


Source: Global Entrepreneurship Monitor 2008
Note: EU Countries for which data is available, Japan and Average for all 38 countries in the sample

Data on qualitative aspects of the courses is even scarcer. A significant proportion of training in entrepreneurship occurs out of school, mainly though formal as opposed to non-formal courses (Figure IV.4.3 and Figure IV.4.4).

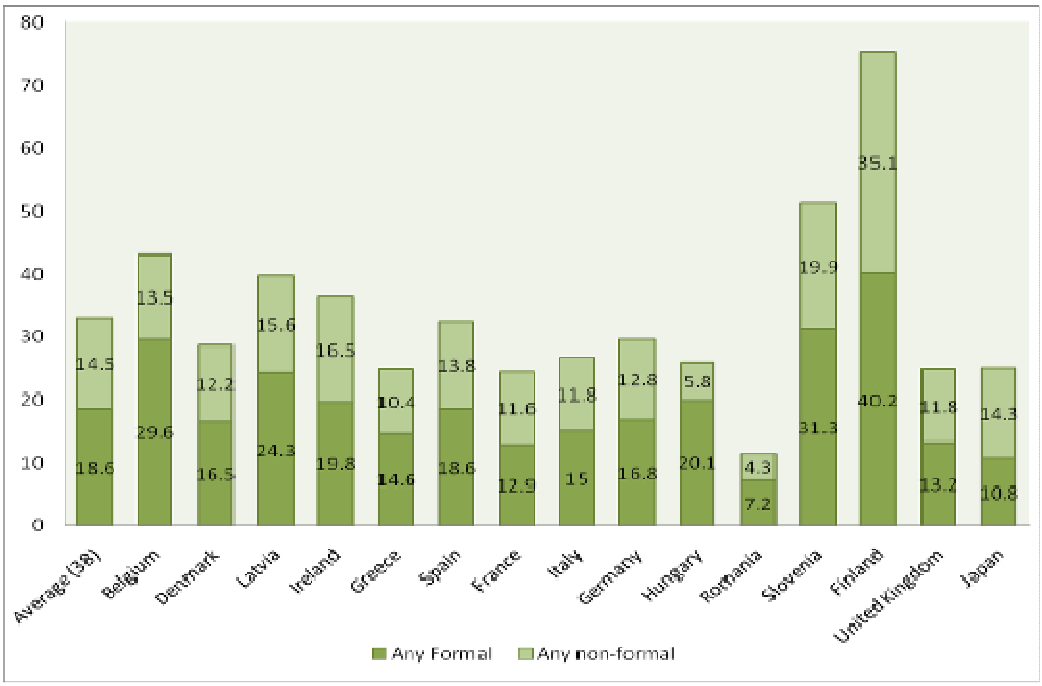
[18] EC (2007). Assessment of the compliance with the entrepreneurship education objective in the context of the spring 2006 Council http://ec.europa.eu/enterprise/policies/sme/files/support_measures/training_education/doc/edu2006_en.pdf
[19] European Commission (2008). *Survey on entrepreneurship in Higher Education in Europe*: http://ec.europa.eu/enterprise/policies/sme/promoting-entrepreneurship/education-training-entrepreneurship/higher-education/index_en.htm

Figure IV.4.3: Population aged 18-64 with training in starting a business in school and non-school



Source: Global Entrepreneurship Monitor 2008
Note: EU Countries for which data is available, Japan and Average for all 38 countries in the sample

Figure IV.4.4: Population aged 18-64 with training in starting a business, formal and non-formal training

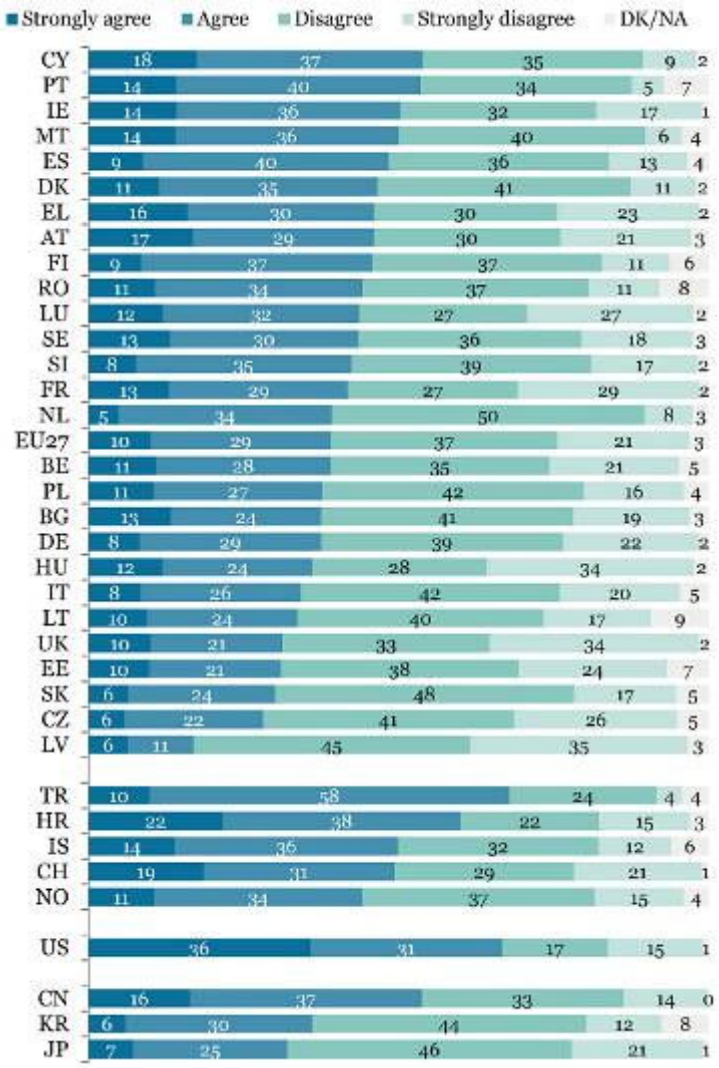


Source: Global Entrepreneurship Monitor 2008
Note: EU Countries for which data is available, Japan and Average for all 38 countries in the sample

The methods used in entrepreneurship education are diverse and include e.g. lecturing, mentoring and company visits. Entrepreneurship education can also occur through extra-curricula activities, from business plan competitions (the most common), to attendance at seminars and participation in mentoring schemes. It is common to have external stakeholders making actual contributions to the institutions entrepreneurship education (see Annex IV.7 and Ann.IV.8)

There are few data also on the impact/ effects of entrepreneurship education. With the Eurobarometer Survey on entrepreneurship, the European Commission has been monitoring the evolution of public opinion and perceptions in the EU Member States about the role of school education developing a sense of initiative and an entrepreneurial attitude. In the last Survey[20], it is interesting to notice that, between the EU Member States, only interviewees in Cyprus (55%) and Portugal (54%) agreed for the majority part that their school education gave them the necessary skills to run a business. Countries which recorded a particularly low level of agreement on this point were the Czech Republic (28%), Slovakia (30%), Estonia and the UK (31%). On the other hand, more than a third of respondents in Latvia (35%), Hungary and the UK (34%) strongly *disagreed* with this statement (see Figure IV.4.5).

Figure IV.4.5: "My school education gave me skills and know how that enable me to run a business"



Source: EU Flash Eurobarometer 283, *Entrepreneurship Survey*, 2009, p.100

[20] Flash Eurobarometer 2009 http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/eurobarometer/fl283_en.pdf

Annexes

ANNEX 1

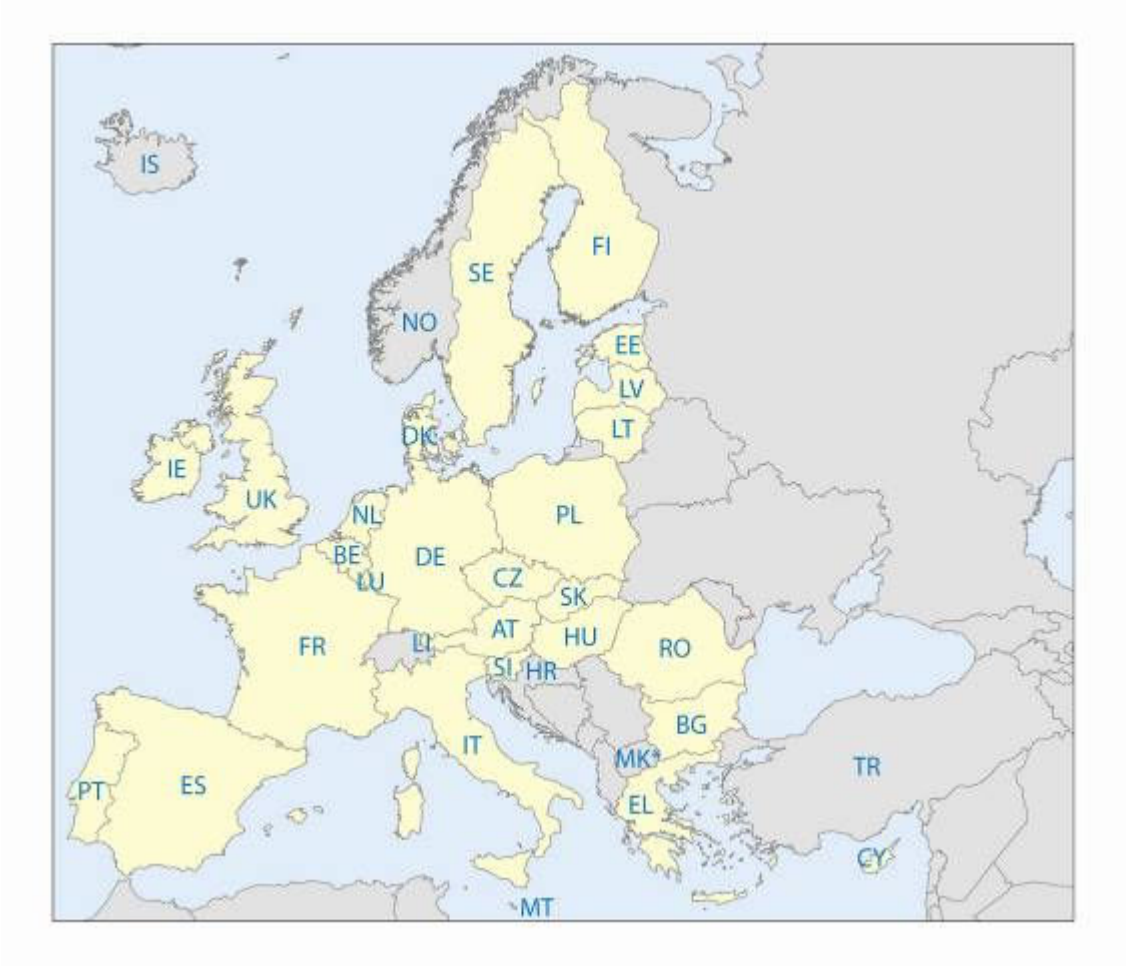
STANDING GROUP ON INDICATORS AND BENCHMARKS

Austria	Mr	Mark	**NÉMET**	Federal Ministry for Education, Arts and Culture
Belgium (Flemish community)	Ms	Isabelle	**ERAUW**	Flemish Ministry of Education and Training
Belgium (French community)	Ms	Nathalie	**JAUNIAUX**	Communauté française de Belgique
Bulgaria	Ms	Irina	**VASEVA-DUSHEVA**	Ministry of Education and Science
Cyprus	Ms	Athena	**MICHAELIDOU**	Cyprus Pedagogical Institute
Czech Republic	Mr	Vladimir	**HULIK**	Institute for Information on Education
Denmark	Mr	Liv Maadele	**MOGENSEN**	Ministry of Education
Estonia	Ms	Tiina	**ANNUS**	Ministry of Education and Research
Finland	Ms	Kirsi	**KANGASPUNTA**	Ministry of Education
France	Mr	Claude	**SAUVAGEOT**	Ministry of National Education
Germany	Ms	Daniela	**NOLD**	Statistisches Bundesamt
Germany	Mr	Jens	**FISCHER-KOTTENSTEDE**	Hessisches Kultusministerium
Germany	Ms	Suzanne	**VON BELOW**	Bundesministerium für Bildung und Forshung
Greece	Mr	Dimitrios	**EFSTRATIOU**	Ministry of National Education
Greece	Mr	Nikos	**PAPADAKIS**	Ministry of Education and Religious Affairs
Hungary	Ms	Judit	**KÁDÁR-FÜLÖP**	Ministry of Education and Culture
Iceland	Mr	Gunnar Jóhannes	**ÁRNASON**	Office of Evaluation and Analysis
Ireland	Ms	Deirdre	**DUFFY**	Department of Education and Science
Italy	Ms	Annamaria	**FICHERA**	Ministry of Education
Italy	Ms	Gianna	**BARBIERI**	Ministry of Education
Lithuania	Mr	Ričardas	**ALIŠAUSKAS**	Ministry of Education and Science
Luxembourg	Ms	Marion	**UNSEN**	Ministry of Education and Training
Malta	Mr	Raymond	**CAMILLERI**	Directorate for Quality and Standards in Education
Netherlands	Ms	Pauline	**THOOLEN**	Ministry of Education, Culture and Science
Norway	Mr	Oyvind	**BJERKESTRAND**	Ministry of Education and Research
Poland	Ms	Anna	**NOWOZYNSKA**	Ministry of National Education
Portugal	Mr	Nuno	**RODRIGUES**	Ministry of Education
Romania	Mr	Gabriel	**RADU**	Ministry of Education, Research and Youth
Slovakia	Mr	Jaroslav	**JURIGA**	Ministry of Education
Slovenia	Ms	Zvonka	**PANGERC PAHERNIK**	Slovenian Institute for Adult Education
Spain	Mr	Enrique	**ROCA**	Institute of Evaluation
Spain	Ms	Isabel	**ALABAU**	Institute of Evaluation
Spain	Mr	Jesús	**IBAÑEZ MILLA**	Ministry of Education and Science
Sweden	Mr	Per	**BÅVNER**	Ministry of Education and Research
United Kingdom	Mr	Steve	**LEMAN**	Department for Children, Schools and Families
United Kingdom (Scotland)	Mr	Peter	**WHITEHOUSE**	Scottish Executive
Organisations	Ms	Katja	**NESTLER**	Cedefop
	Mr	Jens	**JOHANSEN**	European Training Foundation

ANNEX 2

LIST OF ABBREVIATIONS

Country abbreviations



EU	**European Union**	RO	Romania
BE	Belgium	SI	Slovenia
BG	Bulgaria	SK	Slovakia
CZ	Czech Republic	FI	Finland
DK	Denmark	SE	Sweden
DE	Germany	UK	United Kingdom
EE	Estonia		
EL	Greece	**CC**	**Candidate Countries**
ES	Spain	HR	Croatia
FR	France	IS	Iceland
IE	Ireland	MK*	The former Yugoslav Republic of Macedonia
IT	Italy		
CY	Cyprus	TR	Turkey
LV	Latvia		
LT	Lithuania	**EEA**	**European Economic Area**
LU	Luxembourg	LI	Liechtenstein
HU	Hungary	NO	Norway
MT	Malta		
NL	Netherlands	**Others**	
AT	Austria	JP	Japan
PL	Poland	US/USA	United States of America
PT	Portugal		

* ISO code 3166. Provisional code which does not prejudge in any way the definitive nomenclature for this country, which will be agreed following the conclusion of negotiations currently taking place on this subject at the United Nations (http://www.iso.org/iso/country_codes/iso_3166_code_lists.htm)

General abbreviations

ACCI	the active citizenship Composite indicator
AES	Adult Education Survey
ALL	Adult Literacy and Life-skills Survey
ARWU	The *Academic ranking of World Universities*
CLA	Classification of Learning Activities
CEDEFOP	European Centre for the Development of Vocational Training Centre européen pour le développement de la formation professionnelle
CEPES	Centre Européen pour l'enseignement supérieur/ European Centre for Higher Education (UN organisation based in Bucharest)
CEPS	Centre for European Policy Studies
CHE	Centre for Higher Education Development
CILT	UK National Centre for Languages
CIS	Community Innovation Survey
CIVED	Citizenship Education Survey (IEA study of 1999)
CPS	Current Population Survey
CRELL	Centre for Research on Lifelong Learning (depending on JRC, European Commission)
CVET	Continuing vocational education and training
CVT	Continuing Vocational Training
CVTS	Continuing Vocational Training Survey
DEA	Data Envelopment Analysis
DTI	Danish Technological Institute
ECTS	the European Credit Transfer System
ECVET	European Credit for Vocational Education and Training
EEA	European Economic Area (EU 27+Norway, Iceland and Liechtenstein)
EIT	European Institute of Technology
EMU	European Monetary Union
ENQA	European Network of Agencies
EPL	Employment Protection Legislation
ESI	Essential Science Indicator
ETF	European Training Foundation
ESCS	Economic, social and cultural status
ESPAIR	Education par le sport de plein air contre le décrochage scolaire
ESS	European Social Survey
EQF	European Qualifications Framework
EUA	European University Association
EUR PPS	Euro in purchasing power parities (taking into account different price levels)
EURYDICE	Education Information Network in the European Community
EU-SILC	EU-Statistics on Income and Living Conditions
FTE	Full-time equivalent
GCSE	General Certificate of Secondary Education
GDP	Gross Domestic Product
GERESE	European Group of Research on Equity of Educational Systems
GED	General Education Diploma
GNP	Gross National Product
HEI	Higher Education Institution
IALS	International Adult Literacy Survey
ICCS	International Civic and Citizenship education survey
ICT	Information and Communication Technology
IEA	International Association for the Evaluation of Educational Achievement
ILO	International Labour Organisation (UN-Organisation based in Geneva)
IREG	International Ranking Expert Group
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
JRC	Joint Research Centre (European Commission)
LFS	Labour Force Survey
MEDSTAT	Regional co-operation programme between the European Union and 10 Mediterranean Countries (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestinian Authority, Syria, Tunisia and Turkey)
MST	Maths, science and technology
NACE	Classification of Economic Activities in the European Community
NEET	Not in employment, education or training
NER	Net Enrolment Rate
NFER	National Foundation for Educational Research

NGOs	Non-government organisations
OMC	Open Method of Co-ordination
OECD	Organisation for Economic Co-operation and Development
OJC	Official Journal of the European Communities
PIAAC	Programme for the International Assessment of Adult Competencies (OECD study)
PIRLS	Progress in International Reading Literacy Survey
PISA	Programme for International Student Assessment
PLA	Peer Learning Activity
PPS	Purchasing Power Standards
R&D	Research and development
SCI	Science Citation Index
SEN	Special Educational Needs
S&E	Science and engineering
SENDDD	Statistics on students with disabilities, learning difficulties and disadvantages
SES	Socioeconomic status
SSCI	Social Science Citation Index
TALIS	Teaching and Learning International Survey (OECD study)
TAFE	Technical and Further Education College
THE	Times Higher Education
TIMSS	Trends in International Mathematics and Science Study
UIS	UNESCO Institute for Statistics (based in Montreal)
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization (based in Paris)
UOE	UIS/OECD/Eurostat (common data collection)
VET	Vocational education and training
WUR	World University Ranking

ANNEX 3

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ANNEX 4

STATISTICAL ANNEX

Figure Annex II.4.4. Distribution of persons aged 20-34 who are not in formal education, by activity status and by time elapsed since completion of the highest level of education, EU27, 2009 (%)

Source: CRELL (Forthcoming) based on Eurostat (LFS) data.

Figure Annex III.1:
Participation in early childhood education (between 4-years-olds and starting of compulsory primary)

	Entrance age to primary education	age range	2008	2007	2006	2005	2004	2003	2002	2001	2000
EU27			92.3	90.7	89.7	88.4	88.0	87.8	88.0	86.8	85.6
BE	6	4-5	99.5	99.7	99.9	100.0	99.8	100.0	100.0	100.0	99.1
BG	7	4-6	78.4	79.8	80.5	82.5	83.2	83.9	81.1	73.2	73.4
CZ	6	4-5	90.9	92.6	92.6	94.4	94.0	93.7	93.7	92.0	90.0
DK	7	4-6	91.8	92.7	92.0	91.8	96.9	94.9	93.5	93.7	95.7
DE	6	4-5	95.6	94.5	93.0	86.6	85.5	86.4	88.4	87.7	82.6
EE	7	4-6	95.1	93.6	94.9	98.7	97.1	93.6	86.9	88.3	87.0
IE	4	4-5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a
EL	6	4-5	**m**	68.2	70.9	70.8	70.6	70.6	69.2	69.3	69.3
ES	6	4-5	99.0	98.1	98.5	99.8	100.0	100.0	100.0	100.0	100.0
FR	6	4-5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
IT	6	4-5	98.8	99.3	100.0	100.0	100.0	100.0	100.0	100.0	100.0
CY	6	4-5	88.5	84.7	84.7	74.7	70.8	68.1	68.3	70.4	64.7
LV	7	4-6	88.9	88.2	87.2	87.7	85.0	85.7	70.2	67.2	65.4
LT	7	4-6	77.8	76.6	75.8	71.3	69.7	68.9	64.1	61.2	60.6
LU	6	4-5	94.3	93.9	95.0	94.8	89.5	83.5	97.7	95.3	94.7
HU	6	4-5	94.6	95.1	94.5	93.9	95.1	94.7	93.3	92.5	93.9
MT	5	4	97.8	98.8	95.5	94.4	97.5	98.7	92.6	95.0	100.0
NL	5	4	99.5	98.9	74.2	73.4	74.0	73.0	99.1	98.1	99.5
AT	6	4-5	90.3	88.8	88.2	87.6	87.7	88.1	87.0	86.0	84.6
PL	7	4-6	67.5	66.8	64.0	62.1	60.9	59.6	58.4	58.5	58.3
PT	6	4-5	87.0	86.7	86.8	86.9	84.9	85.7	83.7	81.5	78.9
RO	6	4-5	82.8	81.8	81.2	81.2	80.3	73.9	72.3	68.5	67.6
SI	6	4-6	90.4	89.2	88.6	86.6	86.4	86.2	86.8	86.0	85.2
SK	6	4-5	79.1	79.4	79.4	79.7	78.3	77.2	75.4	76.4	76.1
FI	7	4-6	70.9	69.8	68.1	66.9	66.9	65.5	65.0	62.0	55.2
SE	7	4-6	94.6	94.0	91.3	92.8	92.4	89.4	86.6	85.7	83.6
UK	5	4	97.3	90.7	90.9	91.8	92.9	95.3	100.0	99.0	100.0
HR	7	4-6	68.0	65.2	61.9	59.1	55.9	54.1	n.a.	n.a.	n.a.
MK*	6-7	4-5	28.5	26.1	24.6	22.9	21.0	20.9	17.7	17.3	17.4
TR	6	4-5	34.4	26.7	23.2	18.6	14.8	14.5	13.0	11.9	11.6
IS	6	4-5	96.2	95.4	95.7	95.8	95.5	94.5	93.5	93.3	91.8
LI	7	4-6	83.2	84.5	84.2	83.5	82.3	80.4	n.a.	n.a.	69.3
NO	6	4-5	95.6	94.3	92.4	90.0	88.0	85.4	83.1	81.3	79.7
CH	6-8	4-6	77.9	79.1	78.9	77.4	75.6	74.8	73.5	n.a.	n.a.
US	6	4-5	65.4	69.6	68.2	71.5	70.6	71.1	75.2	74.8	69.9
JP	6	4-5	97.0	96.4	95.6	96.8	95.9	94.9	94.5	94.9	95.5

Source: Eurostat (UOE)
Data on population extracted in May 2010
UK: break in series between 2002 and 2003 due to changes in the methodology.
NL: break in series between 2003 and 2006. Different reference dates for ages.
*MK: The former Yugoslav Republic of Macedonia; see Annex 2

Figure Annex III.2: Ratio of pupils to teachers (ISCED 0)

	2008	2007	2006	2005	2004
EU27	**13.7**	**14.1**	**14.2**	**14.2**	**14.9**
BE	15.9	16.0	16.0	16.1	15.6
BG	11.4	11.4	11.5	11.5	11.5
CZ	13.7	13.6	12.5	13.5	13.4
DK	6.2	6.0	na	6.6	6.9
DE	13.8	14.4	14.3	13.9	13.9
EE	na	na	8.3	7.1	7.1
IE	na	na	na	na	8.9
EL	na	11.9	12.4	12.5	12.7
ES	13.1	13.7	14.0	14.1	13.9
FR	19.0	19.2	19.3	19.3	18.8
IT	11.2	11.8	12.4	12.4	12.5
CY	17.6	17.7	18.1	18.5	18.7
LV	10.6	10.9	13.5	14.4	13.9
LT	7.5	7.8	8.9	8.4	8.2
LU	12.2	12.6	na	na	na
HU	10.9	10.8	10.7	10.7	10.5
MT	13.2	na	12.7	11.2	na
NL	na	na	na	na	na
AT	16.3	16.4	16.8	17.0	17.4
PL	18.8	18.6	18.0	17.9	na
PT	14.7	15.9	15.0	15.4	16.5
RO	17.4	17.8	18.2	18.3	18.4
SI	9.4	9.4	9.4	9.6	na
SK	13.3	13.4	13.5	13.6	12.5
FI	11.4	11.4	12.0	12.5	12.7
SE	6.1	11.6	11.4	11.9	11.2
UK	17.9	13.2	14.9	11.9	12.7
HR	12.6	12.4	12.2	12.6	10.2
MK*	7.5	11.3	10.8	11.5	11.3
TR	27.1	25.9	26.3	19.7	18.7
IS	7.2	7.1	6.9	na	6.7
LI	10.8	11.1	13.1	13.2	15.5
NO	na	na	na	na	na
CH	na	na	na	na	na
US	13.4	10.3	10.2	10.6	10.5
JP	16.5	16.8	17.0	17.4	17.7

Source: IT 2008 only public sector
EU27: EE, IE, EL and NL not included
*MK: The former Yugoslav Republic of Macedonia; see Annex 2

Figure Annex III.3: Early leavers from education and training (Percentage of the population aged 18-24 with at most lower secondary education and not in further education or training)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU - 27	17.6 (e)	17.2 (e)	17	16.6 (b)	16.1	15.8	15.5	15.1	14.9	14.4
Belgium	13.8	13.8	14.1	14.3	13.1 (b)	12.9	12.6	12.1	12	11.1
Bulgaria	:	20.5	20.7	21.9	21.4	20.4	17.3	14.9	14.8	14.7
Czech Republic	:	:	5.7	6.5 (b)	6.3	6.2	5.1	5.2	5.6	5.4
Denmark	11.7	9.2	9	10.4 (b)	8.8	8.7	9.1	12.5 (b)	11.5	10.6
Germany	14.6	12.3	12.5	12.8 (i)	12.1	13.5 (b)	13.6	12.5	11.8	11.1
Estonia	15.1	14.4	13.2	12.9	13.1	13.4	13.5	14.4	14	13.9
Ireland	:	:	14.6	13.1 (b)	13.1	12.5	12.1	11.6	11.3	11.3
Greece	18.2	17.1	16.5	16 (b)	14.7	13.6	15.5	14.6	14.8	14.5
Spain	29.1	29.7	30.7	31.6	32	30.8 (b)	30.5	31	31.9	31.2
France	13.3	13.5	13.4	13.2 (b)	12.8	12.2	12.4	12.6	11.9	12.3
Italy	25.1	25.9	24.2	23.0	22.3	22.0	20.6	19.7	19.7	19.2
Cyprus	18.5	17.9	15.9	17.3 (b)	20.6	18.2 (b)	14.9	12.5	13.7	11.7
Latvia	:	:	16.9	18	14.7	14.4	14.8	15.1	15.5	13.9
Lithuania	16.5	14.9	13.4 (b)	11.4	10.5 (b)	8.1	8.2	7.4	7.4	8.7
Luxembourg	16.8	18.1	17	12.3 (b)	12.7	13.3	14	12.5	13.4	7.7 (b)
Hungary	13.9	13.1	12.2	12 (b)	12.6	12.5	12.6	11.4	11.7	11.2
Malta	54.2	54.4	53.2	49.9	42.1 (b)	38.9	39.9	38.3	39	36.8
Netherlands	15.4	15.1	15.3	14.3 (b)	14.1	13.5	12.6	11.7	11.4	10.9
Austria	10.2	10.2	9.5	9 (b)	9.5 (i)	9.1	9.8	10.7	10.1	8.7
Poland	:	7.4	7.2	6	5.6 (b)	5.3	5.4	5	5	5.3
Portugal	43.6	44.2	45.0	41.2	39.4 (b)	38.8	39.1	36.9	35.4	31.2
Romania	22.9	21.7	23	22.5	22.4 (b)	19.6	17.9	17.3	15.9	16.6
Slovenia	:	6.4	5.1	4.6 (u)	4.3 (u)	4.9 (u)	5.6	4.1 (u)	5.1 (u)	5.3 (u)
Slovakia	:	:	6.7	5.3 (b)	6.8	6.3	6.6	6.5	6	4.9
Finland	9 (i)	9.5 (i)	9.7 (i)	10.1 (i)	10 (i)	10.3 (i)	9.7 (i)	9.1 (i)	9.8 (i)	9.9 (i)
Sweden	7.3	10.2 (b)	10	9.2 (p)	9.2 (p)	10.8 (p)	13 (p)	12.2 (p)	12.2 (p)	10.7 (p)
United Kingdom	18.2	17.8	17.6	12.1 (b)	12.1	11.6	11.3	16.6 (b)	17	15.7
Croatia	:	:	8	7.9	5.4	5.1 (u)	4.7 (u)	3.9 (u)	3.7 (u)	3.9 (u)
Iceland	29.8	30.9	28.8	20.3 (b)	24.9	24.9	25.6	23.2	24.4	21.4
MK*	:	:	:	:	:	:	22.8	19.9	19.6	16.2
Turkey	59.3	58.2	55	53	54.5	51.7	48.8	46.9	45.5	44.3
Liechtenstein	:	:	:	:	:	:	:	:	:	:
Norway	12.9	8.9	13.5	6.3 (b)	4.7	4.6	17.8 (b)	18.4	17	17.6
Switzerland	7.3	6.6	6.7	9.7 (b)	9.5	9.7	9.6	7.6	7.7	9.2

Source: Eurostat (UOE)
:=Not available e=Estimated value b=Break in series i=See explanatory text u=Unreliable or uncertain data p=Provisional value
*MK: The former Yugoslav Republic of Macedonia; see Annex 2

Figure Annex III.4: Participation in informal learning by learning method (rates)

	Total	Learn from a family member, friend or colleague	Learn using printed materials	Learn using computers	Learn through television/radio/video	Learn by guided tours of musems, historical/ natural/industrial sites	Learn visiting learning centres (including libraries)
Country	Total	Total	Total	Total	Total	Total	Total
EU	46.5	19.2	35	26.9	18.3	10.4	8.1
BE	34.9	15.2	22.5	24.3	7.1	4.8	7.4
BG	28	8.6	18.3	17.8	13.1	2	3.2
CZ	54.7	18.9	42.1	33.2	29	8.5	6.5
DE	52.4	18.8	40.4	33.9	15.8	8	6.8
EE	44.8	27.2	28.9	27	22.6	15.9	14.4
EL	20.7	5.6	16.3	11.8	8.3	2	2.4
ES	28	11.1	16.6	15.7	6.7	5.2	5.1
FR	63.8	26.5	46.1	42.1	39.8	24.6	17.1
IT	41.2	24	26.6	23	15.1	13.3	4.6
CY	63.6	33.3	44.7	22.8	32.7	8.7	5.1
LV	53.9	33.1	41.3	28.3	36.8	10.5	11.3
LT	45.3	20.7	32.7	23.9	16.4	3.9	9.6
HU	26.2	11.6	18.6	15.2	16.4	6.2	5.7
NL	:	:	:	:	:	:	:
AT	75.7	44.1	61.7	43.1	38.4	31.5	14.4
PL	25.4	9	20.5	17.1	11.3	3.2	6.4
PT	38.9	24.4	22.2	20.5	10.1	5.3	3.4
SI	62	26.8	45.8	41.7	26.7	20	26.1
SK	84.1	38.5	67.6	51.5	69.8	19.7	20.5
FI	54.6	17.3	38.3	32.1	12.1	11	27.8
SE	76	43.9	60.2	54.9	25.4	22.6	23.5
UK	53.7	14.3	50.4	19	13	3.3	5.7
HR	44.6	24.8	30.1	27.1	25.4	8	9.8
NO	72.3	45.5	51.6	47.5	26.6	19.7	18.1

Source: Eurostat (AES)
Note: Data for Poland not included in the EU average because of the very high non response rate.

Figure Annex III.5: Numbers of pupils enrolled at ISCED 3 level by sex and by programme orientation – 2008

Country	Total		Males		Females	
	general	vocational and pre vocational	general	vocational and pre vocational	general	vocational and pre vocational
EU (27 Countries)	49.7	50.3	44.3	55.7	55.3	44.7
Belgium	27.1	72.9	27.0	73.0	27.1	72.9
Bulgaria	47.7	52.3	38.4	61.6	57.7	42.3
Czech Republic	25.8	74.2	20.7	79.3	30.9	69.1
Denmark	52.0	48.0	44.9	55.1	58.9	41.1
Germany	42.5	57.5	36.9	63.1	48.8	51.2
Estonia	68.0	32.0	57.1	42.9	78.4	21.6
Ireland	66.1	33.9	68.2	31.8	64.1	35.9
Greece	69.1	30.9	61.5	38.5	77.3	22.7
Spain	56.2	43.8	53.5	46.5	58.6	41.4
France	55.8	44.2	50.4	49.6	61.4	38.6
Italy	40.6	59.4	29.9	70.1	52.0	48.0
Cyprus	87.4	12.6	78.9	21.1	96.1	3.9
Latvia	65.2	34.8	58.0	42.0	72.2	27.8
Lithuania	73.7	26.3	67.3	32.7	80.3	19.7
Luxembourg	37.9	62.1	34.6	65.4	41.2	58.8
Hungary	75.6	24.4	70.2	29.8	81.2	18.8
Malta	49.9	50.1	38.9	61.1	63.0	37.0
Netherlands	32.9	67.1	31.0	69.0	34.8	65.2
Austria	22.9	77.1	18.6	81.4	27.9	72.1
Poland	53.8	46.2	43.6	56.4	65.2	34.8
Portugal	69.3	30.7	65.6	34.4	72.6	27.4
Romania	35.2	64.8	28.2	71.8	42.6	57.4
Slovenia	35.5	64.5	28.6	71.4	42.8	57.2
Slovak Republic	27.7	72.3	22.6	77.4	32.7	67.3
Finland	32.1	67.9	28.8	71.2	35.1	64.9
Sweden	43.2	56.8	39.8	60.2	46.3	53.7
United Kingdom	68.6	31.4	68.7	31.3	68.5	31.5
Croatia	27.1	72.9	20.0	80.0	34.2	65.8
MK*	40.2	59.8	34.9	65.1	46.2	53.8
Turkey	61.0	39.0	58.4	41.6	64.3	35.7
Iceland	65.9	34.1	60.2	39.8	71.1	28.9
Liechtenstein	21.7	78.3	15.0	85.0	31.3	68.7
Norway	44.8	55.2	37.2	62.8	53.0	47.0
Switzerland	35.2	64.8	29.0	71.0	42.5	57.5
United States	:	:	:	:	:	:
Japan	76.0	24.0	73.3	26.7	78.9	21.1

Source: Eurostat
***MK: The former Yugoslav Republic of Macedonia; see Annex 2**

Figure Annex III.6: Average number of foreign languages learned per pupil in primary education (ISCED I) in 2000 and 2008

	2000	2008
EU 27	0.5	1.0
Belgium	0.4	0.4
Belgium (fr)	0.4	0.5
Belgium (nl)	0.3	0.3
Bulgaria	0.2	0.8
Czech Republic	0.4	0.7
Denmark	:	0.7
Germany	0.2	0.6
Estonia	1.1	1.1
Ireland	0.0	0.0
Greece	:	1.4
Spain	0.8	1.0
France	0.5	:
Italy	0.6	1.0
Cyprus	0.5	0.6
Latvia	0.5	0.8
Lithuania	0.3	0.6
Luxembourg	1.8	1.8
Hungary	:	0.5
Malta	1.0	:
Netherlands	:	0.3
Austria	0.9	:
Poland	0.7	0.8
Portugal	:	:
Romania	0.6	0.6
Slovenia	:	0.5
Slovakia	0.4	0.6
Finland	0.8	0.8
Sweden	0.9	1.1
United Kingdom	:	1.0
Croatia	:	:
Iceland	0.5	0.8
MK*	0.0	0.6
Turkey	:	:
Norway	1.0	1.0

Source: Eurostat, UOE
***MK: The former Yugoslav Republic of Macedonia; see Annex 2**
For notes see:
http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Foreign_language_learning_statistics

Figure Annex III.7: Average number of foreign languages learned per pupil in general lower and upper secondary education, and in pre-/vocational programmes in upper secondary education in 2000 and 2008

Country	**ISCED level 2 General 2000**	**ISCED level 2 General 2008**	ISCED level 3 General 2000	ISCED level 3 General 2008	ISCED level 3, prevocational and vocational 2000	ISCED level 3, prevocational and vocational 2008
EU 27	1.3	1.4	0.9	1.4	0.9	1.1
Belgium	1.0	1.2	1.5	2.2	0.9	1.3
Belgium (fr)	0.7	0.9	1.0	1.8	0.5	0.8
Belgium (nl)	1.5	1.4	2.1	2.5	1.8	1.5
Bulgaria	1.1	1.3	1.2	1.8	0.7	1.5
Czech Republic	1.1	1.1	1.3	2.0	1.1	1.3
Denmark	1.7	1.9	1.3	1.6	:	0.9
Germany	1.2	1.3	0.7	1.4	0.4	0.5
Estonia	2.0	2.0	2.1	2.3	1.8	1.8
Ireland	1.0	1.0	0.9	0.9	:	1.0
Greece	:	2.0	:	1.1	0.9	0.8
Spain	1.5	1.4	1.1	1.2	1.0	1.0
France	1.5	1.5	1.6	2.0	1.0	1.1
Italy	1.1	2.0	1.2	1.3	1.1	1.4
Cyprus	:	2.0	:	1.8	1.0	1.2
Latvia	1.5	1.7	:	1.8	:	:
Lithuania	1.7	1.8	1.8	1.5	1.6	0.9
Luxembourg	2.5	2.5	2.2	3.0	1.7	2.0
Hungary	0.7	1.0	1.2	1.4	1.2	0.8
Malta	2.1	:	0.8	:	0.1	:
Netherlands	:	2.0	:	2.6	:	:
Austria	1.1	:	1.3	:	1.2	:
Poland	1.3	1.1	1.4	1.5	1.1	1.6
Portugal	:	:	:	:	:	:
Romania	1.9	2.0	1.3	2.0	1.0	1.6
Slovenia	1.0	1.4	1.5	2.0	1.3	1.3
Slovakia	1.1	1.2	1.4	2.0	1.3	1.4
Finland	2.3	2.2	:	2.7	:	:
Sweden	1.7	1.7	1.7	2.2	1.1	1.1
United Kingdom	:	1.0	:	0.6	:	:
Croatia	:	:	:	:	:	:
Iceland	2.1	2.0	1.3	1.8	0.7	0.6
MK*	1.2	1.7	1.3	:	:	:
Turkey	:	:	:	:	:	:
Norway	1.7	1.6	:	1.6	:	0.6

Source: Eurostat, UOE*
***MK: The former Yugoslav Republic of Macedonia; see Annex 2**
For notes see:
http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Foreign_language_learning_statistics

Figure Annex III.8: Proportion of pupils learning English, French, German and Spanish in lower and upper general secondary education in 2008 (% of total no. of pupils at the level)

Country	Pupils learning English at lower secondary education - Isced 2	Pupils learning English at upper secondary education - Isced 3	Pupils learning French at lower secondary education - Isced 2	Pupils learning French at upper secondary education - Isced 3	Pupils learning German at lower secondary education - Isced 2	Pupils learning German at upper secondary education - Isced 3	Pupils learning Spanish at lower secondary education - Isced 2	Pupils learning Spanish at upper secondary education - Isced 3
EU 27	91..8	76.8	26.7	22.3	11.9	20.8	9.4	15.9
Belgium	44.0	94.1	55.8	48.1	0.7	28.4	-	4.7
Belgium (fr)	38.2	90.3	-	-	1.6	6.1	0	7.3
Belgium (nl)	46.6	97.9	93.0	97.9	0	51.5	0	2.5
Bulgaria	77.6	87.2	7.1	14.8	13.0	36.7	1.5	8.3
Czech Republic	87.0	100	2.5	22.9	21.0	58.3	0.8	9.2
Denmark	99.4	91.7	10.6	10.7	78.6	55.4	0	25.4
Germany	95.6	91.4	25.5	26.8	0	0	2.8	17.0
Estonia	94.4	96.2	1.8	6.9	17.3	39.2	0.1	1.3
Ireland	0	0	65.8	58.2	20.6	16.8	11.2	11.0
Greece	99.2	95.0	54.2	8.2	41.9	3.3	0	0
Spain	97.9	94.3	38.3	27.0	2.3	1.1	0	0
France	97.2	99.4	0.0	0.0	14.9	21.5	33.9	64.0
Italy	99.8	93.9	74.9	19.9	8.6	7.0	16.0	5.7
Cyprus	99.9	89.9	93.9	34.4	1.2	2.4	0.1	11.3
Latvia	96.2	96.6	0.8	4.0	16.4	30.4	0	0.5
Lithuania	93.7	88.1	3.6	4.4	18.6	22.6	0	0.4
Luxembourg	54.5	95.5	100	95.5	100	95.5	0	7.6
Hungary	59.7	78.0	0.6	6.6	37.8	49.4	0.1	2.2
Malta	-	-	-	-	-	-	-	-
Netherlands	-	100	-	70.5	-	85.8	-	0
Austria	-	-	-	-	-	-	-	-
Poland	76.7	80.6	1.2	8.2	25.6	48.9	0.2	1.3
Portugal	-	-	-	-	-	-	-	-
Romania	97.3	96.5	86.9	83.4	10.2	12.5	0.5	2.6
Slovenia	96.9	97.1	2.8	10.9	33.5	72.1	2.0	8.6
Slovakia	74.2	98.0	1.9	16.5	31.0	69.5	0.2	6.0
Finland	99.3	99.0	6.4	18.3	12.5	29.2	0	11.1
Sweden	100	99.9	16.3	20.8	21.6	27.6	35.6	42.3
United Kingdom	-	0	-	32.3	-	11.8	-	8.2
Croatia	-	-	-	-	-	-	-	-
Iceland	99.3	73.4	1.9	15.0	3.2	26.4	3.6	20.8
MK*	98.4	-	46.7	-	26.5	-	-	-
Turkey	-	-	-	0.7	-	-	-	-
Norway	100	97.9	15.1	15.2	24.1	24.2	25.0	19.8

Source: Eurostat, UOE *

***MK: The former Yugoslav Republic of Macedonia; see Annex 2**

For notes see: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Foreign_language_learning_statistics

Figure Annex III.9: Knowledge of two or more languages by ISCED level (%) in adult population (25-64)

	No ISCED	ISCED 0-2	ISCED 3-4	ISCED 5-6
EU	**28.5**	**11.3**	**28.3**	**52.4**
Belgium	51.5	24.8	54	75
Bulgaria	25.9	3.4	25.6	50.5
Czech Republic	33.5	9.8	29.8	72.3
Denmark	52.1	36.6	53.3	64.8
Germany	30.2	16	25.1	52.2
Estonia	55.9	31.6	49.5	75.7
Ireland	:	:	:	:
Greece	11.9	2.1	11.9	28.7
Spain	17.9	7.3	21.2	33.6
France	22.9	11.6	18.8	44
Italy	27.6	8.5	41.6	57.1
Latvia	54.9	25.7	48.6	87
Lithuania	66.1	32.7	60.8	89.1
Luxembourg	:	:	:	:
Hungary	7.6	0.5	3.9	31.1
Netherlands	:	:	:	:
Cyprus	26	9	24.7	43.6
Austria	29.3	14.3	26.5	56.7
Poland	23.7	2.7	17.7	58.9
Portugal	26.4	12.4	56	71.7
Romania	:	:	:	:
Slovenia	71.8	43.6	73.4	90.8
Slovakia	68	39.3	64	88
Finland	67.9	46.5	60	92.7
Sweden	50.4	36	46.4	69.3
United Kingdom	0	0	0	0
Croatia	28.9	10	31.4	57
Norway	74.7	66.3	70.6	87.4

Source: Adult Education Survey 2007

Figure Annex III.10: Digital (computer) skills by gender

Percentage of Europeans (EU27) aged 16 to 74 with low, medium and high computer skills

Gender	Year	Low	Medium	High	Total
Male	2009	11	23	32	66
	2007	11	22	31	64
	2006	11	21	29	61
Female	2009	15	27	18	60
	2007	15	27	15	57
	2006	15	25	14	54

Data source: Eurostat, Information Society Statistics (July 2010).

Figure Annex III.11: Digital (computer) skills by age-group

Percentage of Europeans (EU27) aged 16 to 74 with low, medium and high computer skills

Age-group	Year	Low	Medium	High	Total
16-24	2009	14	35	43	92
	2007	13	35	41	89
	2006	13	36	37	86
25-54	2009	14	28	25	67
	2007	14	27	23	64
	2006	14	25	21	60
55-74	2009	12	15	8	35
	2007	10	13	7	30
	2006	10	11	7	28

Data source: Eurostat, Information Society Statistics (July 2010).

Figure Annex III.12: Digital (computer) skills by level of education

Percentage of Europeans (EU27) aged 16 to 74 with low, medium and high computer skills

ISCED	Year	Low	Medium	High	Total
0-2	2009	12	19	12	43
	2007	11	16	11	38
	2006	10	15	10	35
3-4	2009	14	27	24	65
	2007	13	27	23	63
	2006	13	26	22	61
5-6	2009	11	32	46	89
	2007	12	32	44	88
	2006	13	32	42	87

Data source: Eurostat, Information Society Statistics (July 2010).

Figure Annex III.13: Variation of digital (computer) skills in the period 2006-2009
Average annual variation of the percentage of individuals aged 16 to 74 with low, medium and high computer skills

	Average annual variation (values in %)			
	Low	Medium	High	Total
EU27	**2.5**	**2.8**	**6.0**	**3.9**
Belgium	6.3	5.5	-6.5	1.6
Bulgaria	0.0	11.5	5.3	6.3
Czech Republic	-4.4	-3.1	10.7	0.6
Denmark	2.3	3.0	-6.6	-1.2
Germany	-2.0	1.1	1.2	0.4
Estonia	0.0	3.6	0.0	3.1
Ireland	-2.6	21.6	5.0	7.4
Greece	-2.4	2.3	-6.7	-2.3
Spain	0.0	3.2	6.8	4.2
France	0.0	15.0	12.6	11.6
Italy	4.0	1.9	10.6	6.0
Cyprus	-8.0	-3.9	15.1	4.2
Latvia	-11.7	4.8	12.3	2.0
Lithuania	-10.1	-1.7	19.1	4.7
Luxembourg	2.9	6.0	5.3	5.2
Hungary	11.9	1.6	2.6	4.0
Malta	14.5	-1.8	-1.6	1.4
Netherlands	-6.7	1.1	6.6	2.1
Austria	2.7	6.5	-2.2	2.0
Poland	0.0	1.8	8.4	2.9
Portugal	11.2	4.6	8.7	7.9
Romania	9.4	0.0	21.6	8.7
Slovenia	6.3	1.6	0.0	1.7
Slovakia	-1.9	3.2	7.3	3.0
Finland	6.3	-3.6	4.4	1.8
Sweden	8.5	-3.1	-11.2	-3.0
United Kingdom	7.7	0.0	3.7	3.0
Croatia	:	:	:	:
Iceland	7.2	0.9	-3.9	0.0
MK*	-4.2	11.9	38.7	5.0
Turkey	:	:	:	:
Liechtenstein	:	:	:	:
Norway	2.0	2.3	0.9	1.6

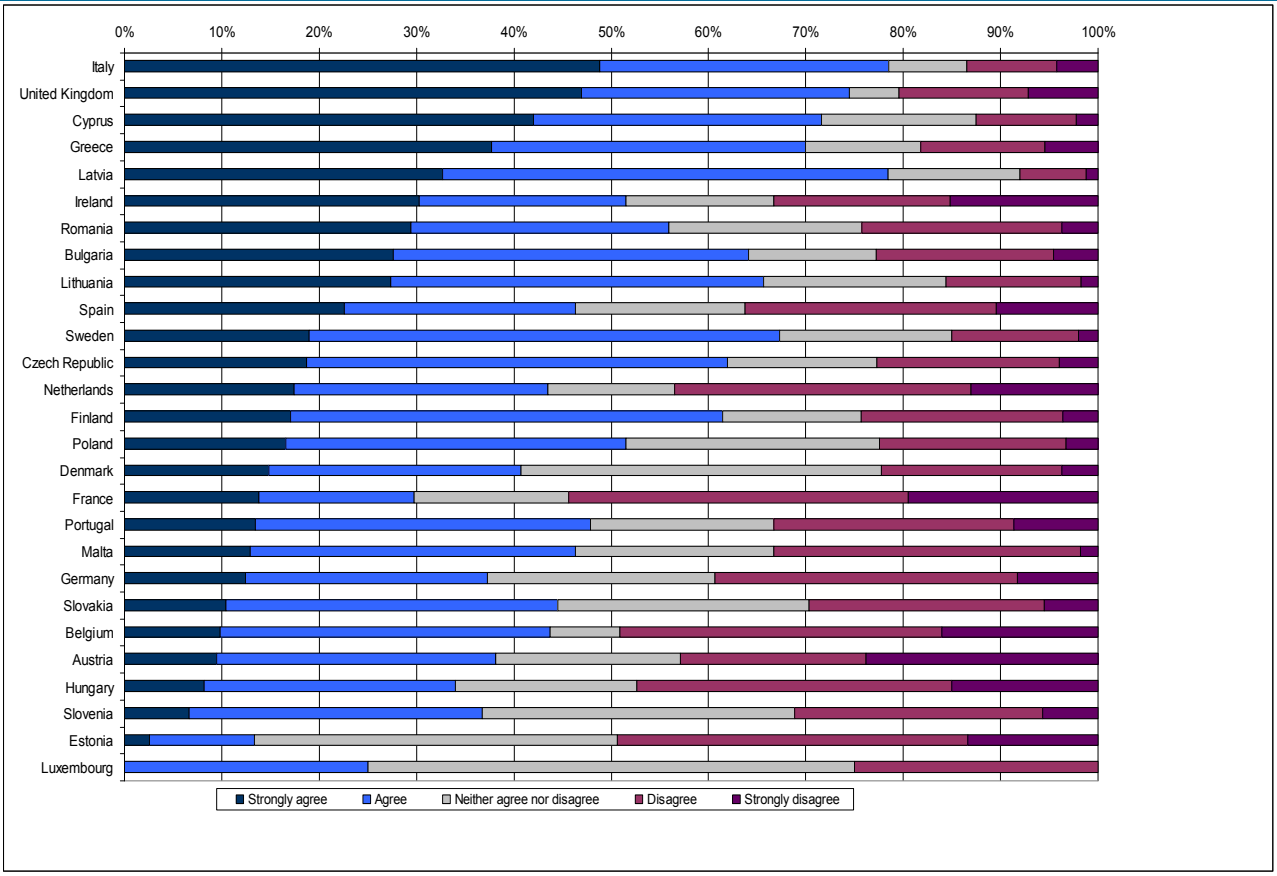
Source: CRELL, Data source: Eurostat, Information Society Statistics
(:) Missing or not available
***MK: The former Yugoslav Republic of Macedonia; see Annex 2**

Figure annex III.14: average scores in PISA 2009 science and mathematics

	Science				Mathematics			
	Natives	Migrants		Difference	Natives	Migrants		Difference
Results for 2009		2nd generation	1st generation	Natives/1st gen		2nd generation	1st generation	Natives/ 1st gen
EU 18 countries	**512**	**463**	**442**	**70**	**509**	**466**	**450**	**59**
EU 25 countries	**510**	**468**	**450**	**59**	**503**	**466**	**451**	**52**
Belgium	521	447	441	80	529	459	454	75
Bulgaria	433	:	:	:	431	:	:	:
Czech Republic	502	452	498	4	494	452	490	4
Denmark	508	430	415	93	510	447	426	84
Germany	538	462	461	77	527	469	464	63
Estonia	532	489	492	40	516	479	475	41
Ireland	513	522	486	27	492	496	467	25
Greece	475	446	417	58	472	446	407	65
Spain	495	467	431	64	491	456	425	66
France	508	443	430	78	507	443	430	77
Italy	494	451	411	83	487	450	420	67
Cyprus	:	:	:	:	:	:	:	:
Latvia	495	471	:	:	483	465	:	:
Lithuania	493	468	:	:	479	461	:	:
Luxembourg	509	445	457	52	511	456	466	45
Hungary	503	530	505	-2	491	512	492	-1
Malta	:	:	:	:	:	:	:	:
Netherlands	532	466	457	75	534	477	479	55
Austria	508	434	405	103	507	450	431	76
Poland	510	:	:	:	496	:	:	:
Portugal	496	474	464	32	490	450	461	29
Romania	429	:	:	:	428	:	:	:
Slovenia	518	458	435	83	488	447	414	74
Slovakia	491	504	:	:	498	501	:	:
Finland	556	494	463	93	542	498	479	63
Sweden	506	440	408	98	507	454	416	91
United Kingdom	519	508	483	36	497	486	460	37
Croatia	489	470	460	29	462	455	447	15
Iceland	499	:	420	:	510	:	440	:
MK*	:	:	:	:	:	:	:	:
Turkey	455	:	:	:	466	:	:	:
Liechtenstein	534	502	482	52	543	526	519	24
Norway	505	443	432	73	502	463	445	57
USA	510	475	481	29	494	464	477	18
Canada	535	515	521	14	531	519	523	8
Japan	540	:	:	:	530	:	:	:
Korea	539	:	:	:	548	:	:	:
Shanghai (China)	576	:	:	:	601	:	:	:

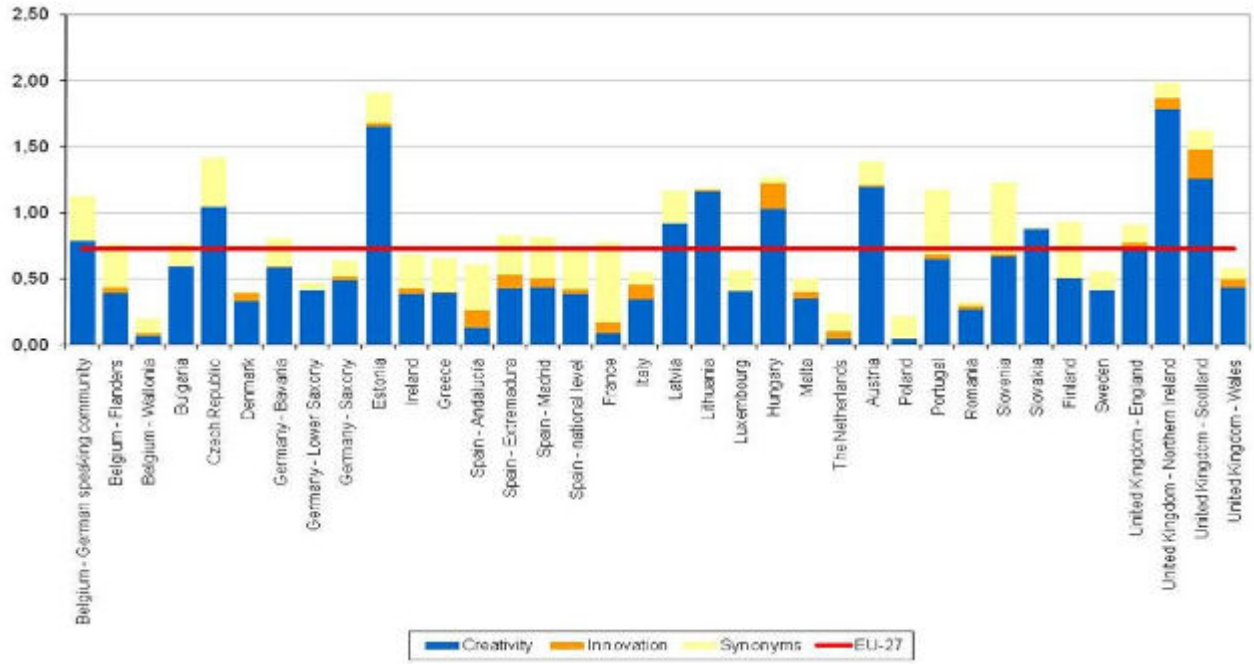
Source: OECD (PISA)
***MK: The former Yugoslav Republic of Macedonia; see Annex 2**

Figure Annex IV.1 : Percentage of teachers agreeing with the important role of creativity in education per country



Source: JRC/IPTS, EC/DG EAC and EUN: Online survey with teachers from EU 27

Figure Annex IV.2 : Relative occurrence of Creativity, Innovation and synonyms in primary and secondary school curricula in EU27



Source: JRC/IPTS, EC/DG EAC and Empirica Gmbh (Page 18)

Figure Annex IV.3 : Relative occurrence of Creativity, Innovation and synonyms in primary and secondary school curricula in EU27[21]

Country	Occurrence of CREATIVITY (1)	Occurrence of INNOVATION (2)	Occurrence of all Synonyms (3)	All terms (1)+(2)+(3)
EU-27	**0.52**	**0.03**	**0.17**	**0.73**
Belgium - German speaking community	0.79	0.00	0.33	**1.12**
Belgium - Flanders	0.39	0.04	0.33	**0.74**
Belgium - Wallonia	0.07	0.02	0.11	**0.20**
Bulgaria	0.59	0.00	0.17	**0.76**
Czech Republic	1.04	0.00	0.37	**1.41**
Denmark	0.33	0.06	0.00	**0.40**
Germany - Bavaria	0.58	0.01	0.22	**0.80**
Germany - Lower Saxony	0.41	0.00	0.05	**0.46**
Germany - Saxony	0.48	0.03	0.13	**0.64**
Estonia	1.65	0.03	0.23	**1.90**
Ireland	0.39	0.04	0.26	**0.68**
Greece	0.39	0.00	0.26	**0.66**
Spain - Andalucía	0.13	0.14	0.34	**0.60**
Spain - Extremadura	0.42	0.11	0.30	**0.83**
Spain - Madrid	0.43	0.07	0.31	**0.81**
Spain - national level	0.39	0.03	0.30	**0.72**
France	0.09	0.09	0.61	**0.78**
Italy	0.34	0.11	0.10	**0.55**
Latvia	0.92	0.00	0.25	**1.16**
Lithuania	1.16	0.01	0.01	**1.18**
Luxembourg	0.40	0.00	0.16	**0.56**
Hungary	1.02	0.20	0.05	**1.27**
Malta	0.35	0.05	0.11	**0.50**
The Netherlands	0.04	0.05	0.14	**0.24**
Austria	1.19	0.02	0.18	**1.37**
Poland	0.04	0.00	0.17	**0.22**
Portugal	0.65	0.03	0.50	**1.18**
Romania	0.27	0.03	0.03	**0.32**
Slovenia	0.67	0.02	0.54	**1.52**
Slovakia	0.88	0.00	0.01	**0.89**
Finland	0.50	0.00	0.43	**0.93**
Sweden	0.41	0.00	0.15	**0.59**
United Kingdom - England	0.73	0.04	0.14	**0.91**
United Kingdom - Northern Ireland	1.78	0.08	0.12	**1.98**
United Kingdom - Scotland	1.25	0.23	0.14	**1.62**
United Kingdom - Wales	0.43	0.06	0.08	**0.58**

Source: JRC/IPTS, EC/DG EAC and Empirica Gmbh

[21] Relative occurrences stand for the number of hits of the search terms per thousand curricula words.

Figure Annex IV 4: Summary Innovation Index 2009

Scores and growth in the last five years

	Summary Innovation Index	
	2009	Average annual variation (values in %)
EU27	**0.478**	**1.8**
Belgium	0.516	1.6
Bulgaria	0.231	6.7
Czech Republic	0.415	4.8
Denmark	0.574	0.1
Germany	0.596	2.6
Estonia	0.481	5.5
Ireland	0.515	1.6
Greece	0.370	5.3
Spain	0.377	1.4
France	0.501	1.2
Italy	0.363	1.3
Cyprus	0.479	6.0
Latvia	0.261	4.9
Lithuania	0.313	3.0
Luxembourg	0.525	1.4
Hungary	0.328	2.2
Malta	0.343	6.0
Netherlands	0.491	1.4
Austria	0.536	1.6
Poland	0.317	2.9
Portugal	0.401	5.2
Romania	0.294	8.1
Slovenia	0.466	3.6
Slovakia	0.331	3.4
Finland	0.622	2.5
Sweden	0.636	0.7
United Kingdom	0.575	0.2
Croatia	0.286	2.2
MK*	:	:
Turkey	0.227	5.5
Iceland	0.481	2.8
Liechtenstein	:	:
Norway	0.382	1.0
Switzerland	0.694	3.3

Source: European Commission (2010a)
(:) Missing or not available
***MK: The former Yugoslav Republic of Macedonia; see Annex 2**

Figure Annex IV.5: Percentage of the population aged 25 to 64 with a tertiary educational attainment (ISCED 5 and 6)

	2004[a]	2008	Average annual variation (values in %)[b]
EU27	**21.3**	**24.0**	**3.1**
Belgium	29.8	32.5	2.2
Bulgaria	21.2	22.1	1.1
Czech Republic	12.3	14.6	4.2
Denmark	31.0	33.6	8.2
Germany	24.9	25.2	4.3
Estonia	29.8	34.2	3.6
Ireland	21.2	33.1	11.8
Greece	12.3	22.0	15.5
Spain	28.5	29.4	1.1
France	23.2	26.2	3.1
Italy	11.3	14.3	6.1
Cyprus	29.3	34.4	4.1
Latvia	19.4	25.2	6.7
Lithuania	24.2	30.4	5.9
Luxembourg	23.4	27.0	3.6
Hungary	16.5	19.0	3.6
Malta	10.7	13.2	5.4
Netherlands	28.9	31.6	2.3
Austria	18.6	18.0	-0.7
Poland	15.2	19.3	6.1
Portugal	12.7	14.3	3.1
Romania	10.4	12.9	5.4
Slovenia	18.8	22.9	5.0
Slovakia	12.6	12.7	3.9
Finland	34.0	36.6	1.9
Sweden	29.5	31.9	2.6
United Kingdom	27.9	31.7	3.3
Croatia	15.2	15.3	0.1
MK*	13.2	13.4	0,6
Turkey	9.2	10.9	8.6
Iceland	27.1	30.5	3.0
Liechtenstein	:	:	:
Norway	32.0	35.7	2.8
Switzerland	28.1	33.6	4.6

Source: CRELL based on Eurostat's LFS database (August 2010)
(:) Missing or not available
***MK: The former Yugoslav Republic of Macedonia; see Annex 2**
[a] All data refers to 2004 except for DK (2007), ES and SE (2005), MK and TR (2006) due to break in series
[b] Based on the period 2008-2004 except for DK (2008-2007), ES and SE (2008-2005), MK and TR (2008-2006)

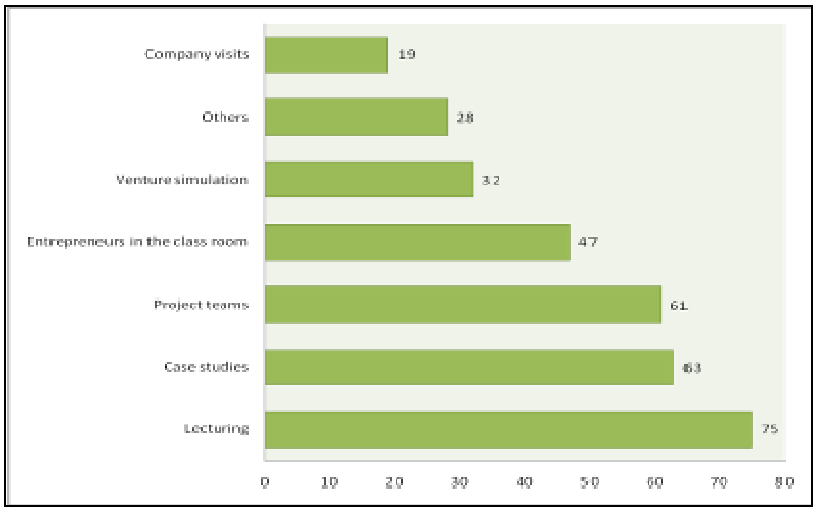
Figure Annex IV.6 Graduates in mathematics, science and technology (ISCED 5-6)

Graduates per 1000 of the population aged 25-64

	2004[a]	2008	Average annual variation (values in %)[b]
EU27	**12.5**	**13.9**	**2.7**
Belgium	11.2	11.6	0.9
Bulgaria	8.5	9.1	1.7
Czech Republic	7.4	15.0	19.3
Denmark	13.8	15.5	2.9
Germany	9.0	12.5	8.6
Estonia	8.9	11.4	6.4
Ireland	23.1	19.5	-4.1
Greece	8.0	11.2	8.8
Spain	12.5	11.6	-1.9
France	22.8	20.1	-4.1
Italy	10.8	12.1‡	3.9
Cyprus	4.2	4.0	-1.2
Latvia	9.4	8.8	-1.6
Lithuania	17.5	17.8	0.4
Luxembourg	:	1.8	:
Hungary	5.1	6.1	4.6
Malta	3.4	6.0	20.8
Netherlands	7.9	8.8	2.7
Austria	8.7	11.8	7.9
Poland	9.4	14.1	10.7
Portugal	11.0	20.7	17.1
Romania	9.8	15.2	11.6
Slovenia	9.3	10.7	3.6
Slovakia	9.2	15.0	13.0
Finland	17.9	24.3	7.9
Sweden	15.9	13.2	-4.5
United Kingdom	18.1	17.6	-0.7
Croatia	5.4	10.1	16.9
MK*	3.7	6.1	13.3
Turkey	5.6	7.6	7.9
Iceland	10.8	10.4	-0.9
Liechtenstein	0.9	7.0	67.0
Norway	9.0	9.2	0.6
Switzerland	14.6	17.4	4.5

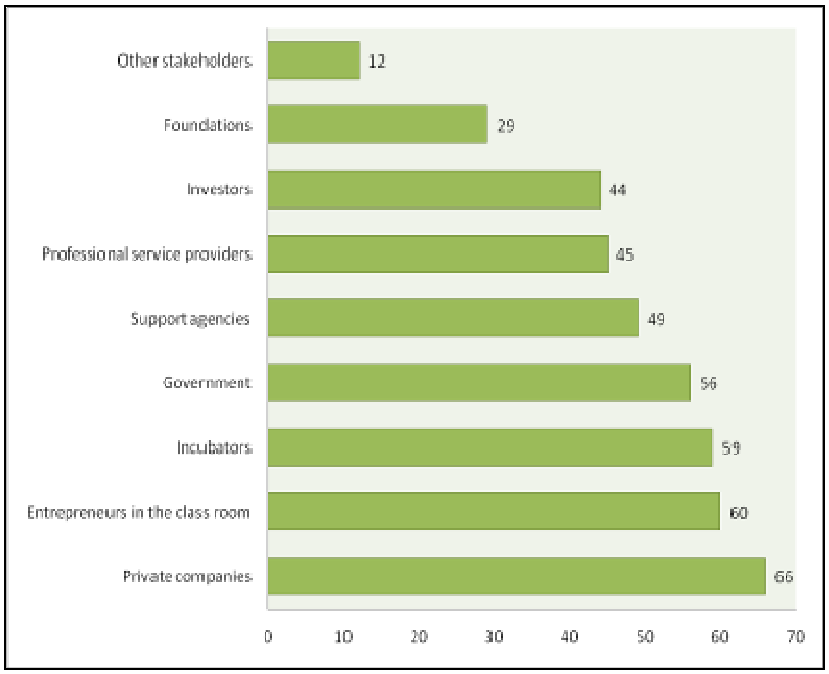
Source: Eurostat (August 2010)
(:) Missing or not available
‡ 2007 value
***MK: The former Yugoslav Republic of Macedonia; see Annex 2**
[a] All data refers to 2004 except for FR and MT (2005), and IT (2007) due to break in series
[b] Based on the period 2008-2004 except for FR, MT (2008-2005) and IT (2007-2004)

Figure Annex IV.7: Use of different teaching methods in entrepreneurship education in higher education institutions (%)



Source: European Commission (2008) Survey on entrepreneurship in Higher Education in Europe.

Figure Annex IV.8: Links with externals stakeholders in entrepreneurship education in higher education institutions (%)



Source: European Commission (2008) Survey on entrepreneurship in Higher Education in Europe.

ANNEX 5

COUNTRY TABLES

• European Union

AUSTRIA

		Austria		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		84.6%	90.3%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	19.3%	21.5%[06]	21.3%	20.0%	17.0%	15%
	Mathematics	20.0%[06]	23.2%	24.0%[06]	22.2%	-	15%
	Science	16.3%[06]	21.0%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		10.2%	8.7%b	17.6%	14.4%	10%	10%
Upper secondary attainment (age 20-24)		85.1%	86.0%	76.6%	78.6%	85%	-
MST graduates (tertiary education)	Increase since 2000	-	66.4%[08]	-	38.1%[08]	+15%	-
	Share of females	19.9%	24.2%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		(16.0%)	23.5%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		8.6%[03]	13.8 %	8.5%[03]	9.3% p	12.5%	15%
Investment in education % of GDP		5.74%	5.40%[07]	4.88%	4.96%[07]	-	-

BELGIUM

		Belgium		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		99.1%	99.5%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	19.0%	17.7%	21.3%	20.0%	17.0%	15%
	Mathematics	17.3%[06]	19.1%	24.0%[06]	22.2%	-	15%
	Science	17.0%[06]	18.0%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		13.8%	11.1% b	17.6%	14.4%	10%	10%
Upper secondary attainment (age 20-24)		81.7%	83.3%	76.6%	78.6%	85%	-
MST graduates (tertiary education)	Increase since 2000	-	19.0%[08]	-	38.1%[08]	+15%	-
	Share of females	25.0%	25.9%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		34.5%	42.0%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		8.6%[04]	6.8%	8.5%[03]	9.3% p	12.5%	15%
Investment in education % of GDP		6.0%[01]	6.02%[07]	4.88%	4.96%[07]	-	-

BULGARIA

		Bulgaria		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		73.4%	78.4%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	40.3%	41.0%	21.3%	20.0%	17.0%	15%
	Mathematics	53.3%[06]	47.2%	24.0%[06]	22.2%	-	15%
	Science	42.6%[06]	38.8%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		20.5%[01]	14.7%	17.6%	14.4%	10%	10%
Upper secondary attainment (age 20-24)		75.2%	83.7% b	76.6%	78.6%	85%	-
MST graduates (tertiary education)	Increase since 2000	-	21.8%[08]	-	38.1%[08]	+15%	-
	Share of females	45.6%	37.0%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		19.8%	27.9%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		1.3%[03]	1.4%	8.5%[03]	9.3% p	12.5%	15%
Investment in education % of GDP		3.97%	4.13%[07]	4.88%	4.96%[07]	-	-

CYPRUS

		Cyprus		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		64.7%	88.5%[08]	85.6%	92.3%[08]		95%
Low achievers (15 year-olds; PISA study results)	Reading	-	-	21.3%	20.0%	17.0 %	15%
	Mathematics	-	-	24.0%[06]	22.2%	-	15%
	Science	-	-	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		18.5%	11.7% b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		79.0%	87.4%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	58.3%[08]	-	38.1%[08]	+15 %	-
	Share of females	31.0%	37.4%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		31.1%	44.7%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		7.9%[03]	7.8 % b	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		5.35%	6.93%[07]	4.88%	4.96%[07]	-	-

CZECH REPUBLIC

		Czech Republic		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		90.0%	90.9%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	17.5%	23.1%	21.3%	20.0%	17.0 %	15%
	Mathematics	19.2%[06]	22.3%	24.0%[06]	22.2%	-	15%
	Science	15.5%[06]	17.3%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		5.7%[02]	5.4%b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		91.2%	91.9%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	141.3%[08]	-	38.1%[08]	+15 %	-
	Share of females	27%	30.1%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		13.6%	17.5%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		5.1%[03]	6.8%	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		3.97%	4.13%[07]	4.88%	4.96%[07]	-	-

DENMARK

		Denmark		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		95.7%	91.8%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	17.9%	15.2%	21.3%	20.0%	17.0 %	15%
	Mathematics	13.6%[06]	17.1%	24.0%[06]	22.2%	-	15%
	Science	18.4%[06]	16.6%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		11.7%	10.6%b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		72.0	70.1% b	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	14.3%[08]	-	38.1%[08]	+15 %	-
	Share of females	28.5%	36.4%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		33.1%	48.1%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		24.2%[03]	31.6%	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		8.29%	7.83%[07]	4.88%	4.96%[07]	-	-

ESTONIA

		Estonia		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		87.0%	95.1%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	13.6%[06]	13.3%	21.3%	20.0%	17.0 %	15%
	Mathematics	12.1%[06]	12.6%	24.0%[06]	22.2%	-	15%
	Science	7.7%[06]	8.3%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		15.1%	13.9%	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		79.0%	82.3%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	57.1%[08]	-	38.1%[08]	+15 %	-
	Share of females	35.7%	42.1%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		30.8%	35.9%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		6.7%[03]	10.5%	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		6.10%	4.85%[07]	4.88%	4.96%[07]	-	-

FINLAND

		Finland		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		55.2%	70.9%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	7.0%	8.1%	21.3%	20.0%	17.0 %	15%
	Mathematics	6.0%[06]	7.8%	24.0%[06]	22.2%	-	15%
	Science	4.1%[06]	6.0%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		9.0%	9.9%	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		87.7%	85.1%	76.6%	78.6%	85 %	-
MST graduates (tertiary education)	Increase since 2000	-	59.5%[08]	-	38.1%[08]	+15 %	-
	Share of females	27.3%	33.1%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		40.3%	45.9%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		22.4%[03]	22.1 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education % of GDP		5.89%	5.91%[07]	4.88%	4.96%[07]	-	-

Source: Eurostat (UOE, LFS) and OECD (PISA)

[01]= 2001, [03]= 2003, [06] = 2006, [07] =2007, [08] =2008, e= estimate, b = break, p = provisional,
PISA: reading: 18 EU countries, maths and science: 25 EU countries
"EU Benchmarks" are defined as "EU average performance levels" (weighted averages)

FRANCE

		France		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		100%	100%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	15.2%	19.8%	21.3%	20.0%	17.0%	15%
	Mathematics	22.3%[06]	22.5%	24.0%[06]	22.2%	-	15%
	Science	21.2%[06]	19.3%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		13.3%	12.3% b	17.6%	14.4%	10%	10%
Upper secondary attainment (age 20-24)		81.6%	83.6% b	76.6%	78.6%	85%	-
MST graduates (tertiary education)	Increase since 2000	-	5.4%[08]	-	38.1%[08]	+15%	-
	Share of females	30.8%	28.2%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		27.4%	43.3%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		7.1%[03]	6.0%	8.5%[03]	9.3% p	12.5%	15%
Investment in education % of GDP		6.03%	5.59%[07]	4.88%	4.96%[07]	-	-

GERMANY

		Germany		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		82.6%	95.6%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	22.6%	18.5%	21.3%	20.0%	17.0%	15%
	Mathematics	19.9%[06]	18.6%	24.0%[06]	22.2%	-	15%
	Science	15.4%[06]	14.8%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		14.6%	11.1% b	17.6%	14.4%	10%	10%
Upper secondary attainment (age 20-24)		74.4%	73.7% b	76.6%	78.6%	85%	-
MST graduates (tertiary education)	Increase since 2000	-	53.5%[08]	-	38.1%[08]	+15%	-
	Share of females	21.6%	31.1%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		25.7%	29.4%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		6.0%[03]	7.8%	8.5%[03]	9.3% p	12.5%	15%
Investment in education % of GDP		4.46%	4.50%[07]	4.88%	4.96%[07]	-	-

GREECE

		Greece		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		69.3%	68.2%[08]	85.6%	92.3%[08]		95%
Low achievers (15 year-olds; PISA study results)	Reading	24.4%	21.3%	21.3%	20.0%	17.0 %	15%
	Mathematics	32.3%[06]	30.3%	24.0%[06]	22.2%	-	15%
	Science	24.0%[06]	25.3%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		18.2%	14.5% b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		79.2%	82.2%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	26.5%[08]	-	38.1%[08]	+15 %	-
	Share of females	%	41.9%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		25.4%	26.5%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		2.6%[03]	3.3%	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		3.39%	4.04%[05]	4.88%	4.96%[07]	-	-

HUNGARY

		Hungary		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		93.9%	95.1%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	22.7%	17.6%	21.3%	20.0%	17.0 %	15%
	Mathematics	21.2%[06]	22.3%	24.0%[06]	22.2%	-	15%
	Science	15.0%[06]	14.1%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		13.9%	11.2% b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		83.5%	84.0% b	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	18.9%[08]	-	38.1%[08]	+15 %	-
	Share of females	22.6%	25.7%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		14.8%	23.9%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		4.5 %[03]	2.7 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		4.42%	5.20%[07]	4.88%	4.96%[07]	-	-

IRELAND

		Ireland		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		75.0%	72.0%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	11.0%	17.2%	21.3%	20.0%	17.0 %	15%
	Mathematics	16.4%[06]	20.8%	24.0%[06]	22.2%	-	15%
	Science	15.5%[06]	15.2%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		14.6%[02]	11.3% b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		82.6%	87.0%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	1.0%[08]	-	38.1%[08]	+15 %	-
	Share of females	37.9%	30.4%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		27.5%	49.0%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		5.9%[03]	6.3%	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		4.28%	4.90%[07]	4.88%	4.96%[07]	-	-

ITALY

		Italy		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		100%	98.8%[08]	85.6%	92.3%[08]		95%
Low achievers (15 year-olds; PISA study results)	Reading	18.9%	21.0%	21.3%	20.0%	17.0 %	15%
	Mathematics	32.8%[06]	24.9%	24.0%[06]	22.2%	-	15%
	Science	25.3%[06]	20.6%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		25.1%	19.2%	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		69.4%	76.3%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	73.6%[08]	-	38.1%[08]	+15 %	-
	Share of females	36.6%	38.4%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		11.6%	19.0%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		6.3 %[04]	6.0 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		4.55%	4.29%[07]	4.88%	4.96%[07]	-	-

LATVIA

		Latvia		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		65.4%	88.9%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	30.1%	17.6%	21.3%	20.0%	17.0 %	15%
	Mathematics	20.7%[06]	22.6%	24.0%[06]	22.2%	-	15%
	Science	17.4%[06]	14.7%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		16.9%[02]	13.9%	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		76.5%	80.5% b	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	11.5%[08]	-	38.1%[08]	+15 %	-
	Share of females	31.4%	32.2%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		18.6%	30.1%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		7.8 %[03]	5.3 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		5.64%	5.00%[07]	4.88%	4.96%[06]	-	-

LITHUANIA

		Lithuania		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		60.6%	77.8%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	25.7%[06]	24.3%	21.3%	20.0%	17.0 %	15%
	Mathematics	23.0%[06]	26.2%	24.0%[06]	22.2%	-	15%
	Science	20.3%[06]	17.0%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		16.5%	8.7% b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		78.9%	86.9% b	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	36.4%[08]	-	38.1%[07]	+15 %	-
	Share of females	35.9%	33.5%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		42.6%	40.6%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		5.9%[04]	4.5 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		5.90%	4.67%[07]	4.88%	4.96%[07]	-	-

Source: Eurostat (UOE, LFS) and OECD (PISA)

[01]= 2001, [03]= 2003, [06] = 2006, [07] =2007, [08] =2008, e= estimate, b = break, p = provisional,
PISA: reading: 18 EU countries, maths and science: 25 EU countries
"EU Benchmarks" are defined as "EU average performance levels" (weighted averages)

LUXEMBOURG

		Luxembourg		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		94.7%	94.3%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	(35.1%)	26.0%	21.3%	20.0%	17.0 %	15%
	Mathematics	22.8%[06]	23.9%	24.0%[06]	22.2%	-	15%
	Science	22.1%[06]	23.7%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		16.8%	7.7% b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		72.7%[03]	76.8% b	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	11.1%[08]	-	38.1%[08]	+15 %	-
	Share of females	-	48.2%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		21.2%	46.6% b	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		6.5 %[03]	13.4 % b	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		3.74%[01]	3.15%[07]	4.88%	4.96%[06]	-	-

MALTA

		Malta		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		100.0%	97.8%[08]	85.6%	92.3%[08]		95%
Low achievers (15 year-olds; PISA study results)	Reading	-	-	21.3%	20.0%	17.0 %	15%
	Mathematics	-	-	24.0%[06]	22.2%	-	15%
	Science	-	-	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		54.2%	36.8% b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		40.9%	52.1% b	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	33.9%[08]	-	38.1%[08]	+15 %	-
	Share of females	26.3%	28.4%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		7.4%	21.1%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		4.3%[04]	5.8 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		4.49%	6.31[07]	4.88%	4.96%[06]	-	-

NETHERLANDS

		Netherlands		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		99.5%	99.5%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	(9.5%)	14.3%	21.3%	20.0%	17.0 %	15%
	Mathematics	11.5%[06]	13.4%	24.0%[06]	22.2%	-	15%
	Science	13.0%[06]	13.2%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		16.6%	10.9%b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		71.9%	76.6%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	39.3%[08]	-	38.1%[08]	+15 %	-
	Share of females	17.6%	18.9%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		26.5%	40.5%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		16.4 %[03]	17.0 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		4.96%	5.32%[07]	4.88%	4.96%[07]	-	-

POLAND

		Poland		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		58.3%	67.5%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	23.2%	15.0%	21.3%	20.0%	17.0 %	15%
	Mathematics	19.8%[06]	20.5%	24.0%[06]	22.2%	-	15%
	Science	17.0%[06]	13.2%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		7.4%[01]	5.3%	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		88.8%	91.3%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	100.0%[08]	-	38.1%[08]	+15 %	-
	Share of females	35.9%	40.3%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		12.5%	32.8%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		5.0 %[04]	4.7 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		4.89%	4.91%[07]	4.88%	4.96%[07]	-	-

PORTUGAL

		Portugal		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		78.9%	87.0%[08]	85.6%	92.3%[08]		95%
Low achievers (15 year-olds; PISA study results)	Reading	26.3%	17.6%	21.3%	20.0%	17.0 %	15%
	Mathematics	30.7[06]	23.7%	24.0%[06]	22.2%	-	15%
	Science	24.5[06]	16.5%	20.2%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		42.6%	31.2%	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		43.2%	55.5%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	193.2%[08]	-	38.1%[08]	+15 %	-
	Share of females	41.9%	34.1%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		11.3%	21.1%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		4.3 %[04] p	6.5%	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		5.42%	5.30%[07]	4.88%	4.96%[07]	-	-

ROMANIA

		Romania		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		67.6%	82.8%[08]	85.6%	92.3%[08]		95%
Low achievers (15 year-olds; PISA study results)	Reading	41.3%	40.4%	21.3%	20.0%	17.0 %	15%
	Mathematics	52.7%[06]	47.0%	24.0%[06]	22.2%	-	15%
	Science	46.9%[06]	41.4%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		22.9%	16.6%	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		76.1%	78.3%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	89.1%[08]	-	38.1%[08]	+15 %	-
	Share of females	35.1%	43.1%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		8.9%	16.8%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		1.4%[04]	1.5 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		2.86%	4.25%[07]	4.86%	4.96%[07]	-	-

SLOVAKIA

		Slovakia		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		76.1%	79.1%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	27.8%	22.3%	21.3%	20.0%	17.0 %	15%
	Mathematics	20.9[06]	21.0%	24.0%[06]	22.2%	-	15%
	Science	20.2[06]	19.3%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		6.7%[02]	4.9% b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		94.8%	93.3%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	185.8%[08]	-	38.1%[08]	+15 %	-
	Share of females	30.1%	36.8%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		10.6%	17.6%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		3.7%[03]	2.8 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		3.93%	3.62%[07]	4.88%	4.96%[06]	-	-

SLOVENIA

		Slovenia		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		85.2%	90.4%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	16.5[06]	16.5%[06]	21.3%	20.0%	17.0 %	15%
	Mathematics	17.7[06]	20.3%	24.0%[06]	22.2%	-	15%
	Science	13.9[06]	14.8%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		6.4%[01]	5.3% u,p	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		88.0%	89.4%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	16.0%[08]	-	38.1%[08]	+15 %	-
	Share of females	22.8%	26.5%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		18.5%	31.6%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		13.3 %[03]	14.6 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		5.89%[01]	5.19%[07]	4.88%	4.96%[07]	-	-

Source: Eurostat (UOE, LFS) and OECD (PISA)

[01]= 2001, [03]= 2003, [06] = 2006, [07] =2007, [08] =2008, e= estimate, b = break, p = provisional,
PISA: reading: 18 EU countries, maths and science: 25 EU countries
"EU Benchmarks" are defined as "EU average performance levels" (weighted averages)

SPAIN

		Spain		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		100.0%	99.0%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	16.3%	19.6%	21.3%	20.0%	17.0 %	15%
	Mathematics	24.7%[06]	23.7%	24.0%[06]	22.2%	-	15%
	Science	19.6%[06]	18.2%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		29.1%	31.2% b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		66.0%	59.9%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	14.8%[08]	-	38.1%[08]	+15 %	-
	Share of females	31.5%	30.2%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		29.2%	39.4%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		10.5 %[05]	10.4%	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		4.28%	4.35%[07]	4.88%	4.96%[07]	-	-

SWEDEN

		Sweden		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		83.6%	94.6%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	12.6%	17.4%	21.3%	20.0%	17.0 %	15%
	Mathematics	18.3[06]	21.1%	24.0%[06]	22.2%	-	15%
	Science	16.4[06]	19.2%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		7.3%	10.7% b,p	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		85.2%, b	86.4% p	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	13.3%[08]	-	38.1%[08]	+15 %	-
	Share of females	32.1%	33.4%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		31.8%	43.9%p	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		17.5%[01]	22.2% p	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		7.21%	6.69%[07]	4.88%	4.96%[07]	-	-

UNITED KINGDOM

		United Kingdom		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		100%	97.3%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	19.0[06]	18.4%	21.3%	20.0%	17.0 %	15%
	Mathematics	19.8[06]	20.2%	24.0%[06]	22.2%	-	15%
	Science	16.7[06]	15.0%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		18.2%	15.7% b	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		76.7%	79.3%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	17.8%[08]	-	38.1%[08]	+15 %	-
	Share of females	32.1%	31.2%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		29.0%	41.5%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		20.0%[07]	20.1 %	8.5%[03]	9.3% p	12.5 %	15%
Investment in education Public spending on education,% of GDP		4.46%	5.39%[07]	4.88%	4.96%[07]	-	-

• *Candidates countries*

CROATIA

		Croatia		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		45.9%[03]	68.0%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	-	22.5%	21.3%	20.0%	17.0 %	15%
	Mathematics	-	33.2%	24.0%[06]	22.2%	-	15%
	Science	-	18.5%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		8.0%[02]	3.9% u	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		90.6%[02]	95.1%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	12.68%[08]	-	38.1%[08]	+15 %	-
	Share of females	-	33.2%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		16.1%	20.5% u	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		1.8% [03]	2.3 %	8.5%[03]	9.3%	12.5 %	15%
Investment in education Public spending on education,% of GDP		3.72%[02]	4.07%[07]	4.88%	4.96%[07]	-	-

ICELAND

		Iceland		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		57.8%	96.2% [08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	14.5%	16.8%	21.3%	20.0%	17.0 %	15%
	Mathematics	-	17.0%	24.0%[06]	22.2%	-	15%
	Science	-	17.9%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		29.8%	21.4%	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		46.1%	53.6%	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	4.28%[08]	-	38.1%[08]	+15 %	-
	Share of females	37.9%	34.2%[07]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		31.0%	41.8%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		29.5%[03]	25.1%	8.5%[03]	9.3%	12.5 %	15%
Investment in education Public spending on education,% of GDP		5.93%	7.36%[07]	4.88%	4.96%[07]	-	-

The former Yugoslav Republic of Macedonia

		MK		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		17.4%	28.5% [08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	60.0%	-	21.3%	20.0%	17.0 %	15%
	Mathematics	-	-	24.0%[06]	22.2%	-	15%
	Science	-	-	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		22.8%[06]	16.2%	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		·	81.9	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	6.70%[08]	-	38.1%[08]	+15 %	-
	Share of females	41.6%	42.8%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		-	14.3%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		2.3[06]	3.3%	8.5%[03]	9.3%	12.5 %	15%
Investment in education Public spending on education,% of GDP		3.35%[02]	3.39% [03]	4.88%	4.96%[07]	-	-

TURKEY

		Turkey		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		11.6%	34.4% [08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	-	24.5%	21.3%	20.0%	17.0%	15%
	Mathematics	-	42.1%	24.0%[06]	22.2%	-	15%
	Science	-	30.0%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		58.8%	44.3%	17.6%	14.4%	10%	10%
Upper secondary attainment (age 20-24)		38.6%	50.0%	76.6%	78.6%	85%	-
MST graduates (tertiary education)	Increase since 2000	-	6.92%[08]	-	38.1%[08]	+15%	-
	Share of females	31.1%	30.6%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		-	14.7%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		1.2% [03]	2.3%	8.5%[03]	9.3% p	12.5%	15%
Investment in education % of GDP		3.48%	2.86% [06]	4.88%	4.96%[07]	-	-

Source: Eurostat (UOE, LFS) and OECD (PISA)

[01]= 2001, [03]= 2003, [06] = 2006, [07] =2007, [08] =2008, e= estimate, b = break, p = provisional,
PISA: reading: 18 EU countries, maths and science: 25 EU countries
"EU Benchmarks" are defined as "EU average performance levels" (weighted averages)

• *EFTA country: Norway*

NORWAY		Norway		EU average		EU Benchmarks	
		2000	2009	2000	2009	2010	2020
Participation in early childhood education (4 years old - year before start of comp. primary)		49.3%	95.6%[08]	85.6%	92.3%[08]	-	95%
Low achievers (15 year-olds; PISA study results)	Reading	17.5%	14.9%	21.3%	20.0%	17.0 %	15%
	Mathematics	-	18.2%	24.0%[06]	22.2%	-	15%
	Science	-	15.8%	20.3%[06]	17.7%	-	15%
Early leavers from education and training (age 18-24)		13.3%	17.6%	17.6%	14.4%	10 %	10%
Upper secondary attainment (age 20-24)		95.0%	69.7% b	76.6%	78.6%	85 %	-
MST graduates (higher education)	Increase since 2000	-	1.32%[08]	-	38.1%[08]	+15 %	-
	Share of females	26.8%	29.6%[08]	30.7%	32.6%[08]	Improve gender balance	-
Higher education attainment (age 30-34)		37.7%	47.0%	22.4%	32.3%	-	40%
Adult participation in lifelong learning (age 25-64; 4 weeks period)		17.1% [03]	18.1%	8.5% [03]	9.3%	12.5 %	15%
Investment in education Public spending on education,% of GDP		5.42%[01]	6.76% [07]	4.88%	4.96% [07]	-	-