European benchmarks in education and training:
follow-up to the Lisbon European Council

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COMMUNICATION FROM THE COMMISSION

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EXECUTIVE SUMMARY

1. In this Communication the Commission invites the Council to adopt European Benchmarks for education and training systems in areas which are central for the achievement of the strategic goal set in March 2000 by the Lisbon European Council: to make Europe by 2010 'the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion'.

2. To respond to this challenge, the Heads of State and Government agreed some concrete common objectives of education and training systems in Europe, within the overarching principle of lifelong learning, in view of:

   - Improving the quality and effectiveness of education and training systems in the EU;
   - Facilitating the access of all to education and training systems;
   - Opening up education and training systems to the wider world.

   The 2002 European Council in Barcelona stressed the importance of education and training in the achievement of the Lisbon ambitions, by setting a new overall goal "to make Europe's education and training systems a world quality reference" by 2010.

3. The joint detailed work programme on the objectives of education and training systems, adopted by the Commission and the Council, sets out how the open method of co-ordination will be applied using indicators to measure progress, benchmarks to set concrete goals and exchange of experiences and peer reviews to learn from good practice. Progress will be monitored against agreed indicators expressed as average levels of performance of (1) the 15 EU Member States, and (2) the three best performing Member States. European benchmarks will be used where feasible and adopted by the Council.

4. In this Communication, the term "benchmark" is used to refer to concrete targets. These are grouped into six areas:

   – Investment in education and training
   – Early school leavers
   – Graduates in Mathematics, Science and Technology
   – Population having completed upper secondary education
   – Key competencies
   – Lifelong Learning

5. As Articles 149 and 150 of the EC Treaty make clear, Member States have full responsibility for the content and organisation of their education and training systems. It is therefore primarily the Member States who should take action to follow up the conclusions of the Lisbon Summit.

6. The Commission invites the Council to adopt the following European benchmarks :

- **By 2010, all Member States should at least halve the rate of early school leavers, with reference to the rate recorded in the year 2000, in order to achieve an EU-average rate of 10% or less.**

- **By 2010, Member States will have at least halved the level of gender imbalance among graduates in mathematics, science, technology whilst securing an overall significant increase of the total number of graduates, compared to the year 2000.**

- **By 2010, Member States should ensure that average percentage of 25-64 years olds in the EU with at least upper secondary education reaches 80% or more.**

- **By 2010, the percentage of low-achieving 15 year olds in reading, mathematical and scientific literacy will be at least halved in each Member State.**

- **By 2010, the EU-average level of participation in lifelong learning should be at least 15% of the adult working age population (25-64 age group) and in no country should it be lower than 10%.**

The Commission invites Member States to continue to contribute to the achievement of the Lisbon objective of substantial annual increases in per capita investments in human resources, and , in this respect, to set transparent benchmarks to be communicated to the Council and Commission as the Detailed Work programme on the Objectives sets out.

7. The Commission invites the Council to adopt the benchmarks proposed in this communication no later than May 2003, so that they can be taken into account in the interim report on the implementation of the detailed work programme on the objectives of education and training systems in Europe, which the European Council has asked the Commission and the Council to submit to the Spring European Summit in 2004. In addition, Member States will (as agreed in the joint detailed work programme) on a voluntary basis communicate the national benchmarks that have been adopted in the fields.

1. INTRODUCTION

"People are Europe's main asset and should be the focal point of the Union's policies"[1]

8. In a "knowledge society", education and training rank among the highest political priorities. Acquiring and continuously updating and upgrading a high level of knowledge, skills and competencies is a prerequisite for the personal development of all citizens and for their participation in all aspects of society, ranging from active citizenship to their successful integration into the labour market. The concept of

[1] Lisbon European Council: Presidency Conclusions, point 24

"lifelong learning" underlies the different strategies pursued in Member States to help citizens meet these challenges[2].

1.1. Follow-up to the Lisbon Conclusions in the field of education and training

9. The Lisbon European Council (March 2000) set the strategic goal for Europe to become by 2010 "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion". It emphasised the central role of education and training in responding to the challenges implied by this objective. The Heads of State and Government furthermore invited the Ministers of Education to agree upon "concrete objectives for education and training systems". On the basis of a proposal from the Commission[3], the Council adopted a "Report on the concrete future objectives of education and training systems" in February 2001[4].

10. The Report on the future concrete objectives of education and training systems was presented to the Stockholm European Council in March 2001. The report set out the following three strategic objectives for education and training systems :

- Improving the quality and effectiveness of education and training systems in the EU.
- Facilitating the access of all to education and training systems.
- Opening up education and training systems to the wider world.

11. Within these three strategic objectives, the report defined thirteen concrete objectives and set out for each a number of key issues to be addressed and an indicative list of indicators to be used to measure their implementation through the "Open Method of Co-ordination" (see section 1.2 below). The importance of following up the Lisbon conclusions in the field of education and training is furthermore underlined by initiatives taken in the Employment guidelines[5], in the strategy for developing a European Research Area and within the Broad Economic Policy Guidelines (BEPG).

12. The European Council meeting in Stockholm asked for a detailed work programme to be submitted to the Spring 2002 European Council as a follow-up to the Report on the future objectives of education and training systems.

13. On the basis of a further proposal from the Commission, the Council adopted that work programme[6], which was subsequently endorsed by the Barcelona European Council in March 2002. The Barcelona Council also stressed the importance of education and training in the achievement of the Lisbon target by setting a new overall goal "to make Europe's education and training systems a world quality

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2 European Commission Making a European Area of Lifelong Learning a Reality (COM (2001) 678 final)

3 Communication from the Commission Report on the Concrete Future Objectives of Education and Training Systems (COM (2001) 59 final)

4 Council document 6365/02 of 14/2/2001

5 The European employment strategy features a horizontal guideline on lifelong learning and specific guidelines that focus on employment related aspects of education and training.

6 Detailed work programme on the follow-up of the objectives of Education and training systems in Europe (2002/C 142/01)

reference by 2010". Finally, the European Council invited "the Council and the Commission to submit jointly to the European Spring Council in 2004 an intermediate report on the implementation of the work programme."

1.2. The Open Method of Co-ordination in the field of education and training.

14. The Open Method of Co-ordination is to be applied as an instrument for the development of a coherent and comprehensive strategy in education and training within the framework of Articles 149 and 150 of the Treaty. The Open Method of Co-ordination is described as a "*means of spreading best practice and achieving greater convergence towards the main EU goals"*. The Lisbon Council Conclusions indicated that it would be *used "a fully decentralised approach using variable forms of partnerships* and *designed to help Member States to develop their own policies progressively"*.

15. The means of implementation of the Open Method of Co-ordination involves tools such as indicators and benchmarks as well as the exchange of experiences, peer reviews and the dissemination of good practice.

16. The Detailed work programme on the follow-up of the objectives of education and training systems in Europe makes use of existing indicators, and adopts the following standard format to be used in the measurement of progress.

Model to be used for Monitoring Progress Regarding Education and Training within the Open Method of Co-ordination

	Present Levels			Progress		Benchmarks	
Indicator	Average (EU)	Average of 3 best performing (EU)	USA and Japan	*Up till 2004*	*Up till 2010*	*for 2004*	*for 2010*

17. The indicators that will be used in this monitoring process in relation to individual objectives should be analysed together with other selected indicators in order to evaluate the progress made towards achieving the specific objectives. The applied indicators should be disaggregated by gender where relevant. The "Standing Group on Indicators" set up by the Commission will contribute to refining and developing the indicators that will be applied building on synergies with other groups, like the Employment Committee Indicators Group and the Economic Policy Committee. This work will be carried out in cooperation with Eurostat, Eurydice and Cedefop and international organisations such as OECD.

18. The work programme clearly describes how progress in education and training will be monitored and measured: "On the basis of chosen indicators for each objective an interim report foreseen in 2004 and the final report foreseen in 2010 will include an evaluation of progress made. Where feasible, European-wide benchmarks will be set by the Council. Furthermore, the reference criteria (benchmarks) for 2004 and 2010 will be communicated by the Member States on a voluntary basis. This process of

implementation will require the availability of national statistical data according to the indicators chosen." [7]

1.3. Setting European Benchmarks for Education and Training System

19. Several Community policy documents set out targets and objectives for education and training. Such targets can be found in the e-Learning and in the e-Europe 2002 and 2005 action plans [8], in the Lifelong Learning Communication [9] as well as in the Skills and Mobility Action Plan [10] and in the Communication More Research for Europe – towards 3% of GDP [11]. Other targets have been set by the Commission in such fields as mastering foreign languages or educational mobility or in relationship with the gender dimension in Community policies.

20. In this Communication, the term "benchmark" is used to refer to concrete targets in relation to which it is possible to measure progress. The term "benchmarking" is used where comparative data are presented with a view to identifying the relative level of performance of individual countries in the EU or in Europe more broadly. Where possible, the comparison will be made against the "wider world" as represented by the US and Japan, using for each indicator data (1) for the average of the 15 EU Member States and (2) for the average of the three best performing Member States.

21. The six areas within which benchmarks are discussed in this Communication have been chosen either because quantified objectives and targets have been set explicitly at EU level by the European Council (e.g. in the fields of investment in education or early school-leaving), and because they are central to strategic goals set in the Objectives Report and to the overarching principle of lifelong learning. The key indicators analysed in this Communication are chosen from those set out in the "Detailed work programme on the follow-up of the objectives of education and training systems in Europe".

22. Furthermore, by identifying the three best performing countries[12] according to the model adopted by the Council, the analyses contained in this Communication support the work on the exchange of experience and peer-reviews which is currently being launched as part of the Open Method of Co-ordination. It consists in identifying countries and groups of countries, which show particularly promising levels of performance and developments within each of the six areas[13].

23. The Commission has examined whether to translate the proposed European benchmarks into benchmarks at the national level, in particular in order to take into

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7 Idem.

8 Communication from the Commission, The eLearning Action Plan – Designing tomorrow's Education (COM(2001)172 final. (28.03.2001)

9 Communication from the Commission, Making the European Space of lifelong Learning a Reality (COM(2001)678 final (21.11.2001)

10 Communication from the Commission, Commission's Action Plan for Skills and Mobility COM(2002)72 (08.02.2002)

11 Communication from the Commission, More Research for Europe – towards 3% of GDP (COM (2002) 499 final (11.09.2002)

12 In this Communication we pursued the goal of identifying the three best performing countries by using the criteria of the average performance, using all data available for each country and for EU-15 during the period of 1991-2001.

13 Detailed statistical information and charts for each of the six areas can be found in the Annex.

account wide performance variations among Member States, as illustrated by the annexes to this document. For reasons of subsidiarity, but also believing that all Member States should remain mobilized around ambitious objectives as set by the European Council, the Commission has at this stage chosen not to do so. However, it is obvious that Member States with low performance levels will have to make a significantly greater effort than others for the common European benchmarks to be achieved. It also clear that Member States that already have achieved high performance in an area, would need to make substantial efforts to achieve further improvement.

2. EUROPEAN BENCHMARKS IN EDUCATION AND TRAINING

2.1. Investment in Education and Training

24. The Lisbon Council Conclusions call for "*a substantial annual increase in the per capita investment in human resources*", pointing out that the future of the European economy depends very largely on the skills of its citizens, and these in turn need the continuous updating that is a feature of knowledge societies.

25 In all countries, investment in education is a high priority "investment for the future" and therefore also a major spending item in public budgets. In most OECD countries public expenditure on education grew by over 5% during the period 1995 to 1999 and its proportion of the public budget increased during the same period from 12.0% to 12.7%. In the European Union, some 11.20 % of public expenditure is devoted to education (1999)[14]. In Denmark, the education share of public spending increased from 13.1% in 1995 to 14.9% in 1999, in Sweden from 11.6% to 13.6% and in the Netherlands, from 9.1% to 10.4%. In Greece, Ireland and Portugal it grew by even more than 15%. However, the national income, expressed in terms of GDP, grew even faster during that period.[15]

26 This indicator gives an incomplete picture, since it does not include the private expenditure by firms (ex. on the job and work based training) and households, which are of central importance for human resource development. Private investment in education covers different proportions of total investment in education, ranging from less than 10% (P, S, DK, Aus, F, NL, Irl) to 22% (D) of total expenditures in education and training in the Member States (1999, all educational strands).

27 Given the significant demographic changes in many Member States it is especially pertinent to look at the development of "investments per student". It can be seen that in non-tertiary education and training strands expenditure per student has increased between 1995 and 1999 by more than 20% for example in Greece, Portugal and Spain whereas total expenditure in tertiary education per student (in average 35% represent investment in research) have increased by more then 20% in for example Ireland, Greece and Spain during the same period.

28 The above indications seem in line with the ambitions set by the European Council, but a more detailed examination of trends of expenditure as a percentage of GDP

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14 European Commission (2002) Key Data on Education in Europe, 2002 Eurydice and Eurostat, Luxembourg.

15 OECD (2002) Education at a Glance, Paris.

gives rise to a more cautious evaluation. Although the data (see annex 1) are not complete for the most recent years, they show, on average up till 1999, slightly falling relative levels of public expenditure in education as a percentage of the GDP. Should this declining trend be confirmed for the most recent years and continue in the coming years, the average EU-15 level would be approximately 4% of GDP in 2010, whereas the 5.0 % for 1999 is equal to the US level and above that of Japan (3.5 %).

29 The three best performing countries, according to this indicator, are three Scandinavian countries : Sweden, Denmark and Finland where public investment in education and training represents more than 6% of GDP. Sweden and Denmark show rising trends which, if sustained to 2010, would lead to rate of public investment in education of 9% of GDP. Finland, however, shows a declining trend.

Key Indicator for Monitoring Progress Regarding Public Expenditure on Education as a Percentage of GDP (1999).[16]

	EU Average	Average of 3 best performing countries (EU)	USA	Japan
Public Expenditure on Education as a Percentage of GDP	5,0%	7,4%	5.0%	3.5%

Source: Eurostat education statistics.

30 The above data do not at this stage allow for clear conclusions to be drawn. However, they give reason for caution and for particular attention to the development of public expenditure as a percentage of GDP, in line with the Lisbon objective of ensuring a "substantial annual increase in the per capita investment in human resources". Declining public expenditure would indeed indicate that the public sector is leaving an increasing responsibility to private investments in education and training (households and enterprises) to answer the challenges of the knowledge society. Although it is clear that significant efforts will be required by all parties, declining public expenditure could jeopardise the European social model marked by equal access for all to learning throughout life and the provision of quality education and training.[17]

31 In view of the provisional and incomplete nature of available data, the Commission does not recommend a specific benchmark in this field. However, Member States should recognise their responsibility for ensuring that total expenditure on education and training, both public and private, responds appropriately to the Lisbon requirements; and should do so on the basis of transparent, publicly acknowledged benchmarks whilst respecting the requirements of the Stability and Growth Pact.

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16 Data for the US and Japan (1998). F: Educational expenditure figures do not include DOM (Departements d'Outre Mer). UK: Estimates, based on data for UK financial years which run from 1 April to 31 March.L: Missing

17 The European Social Model is referred to in Par 22 of the Barcelona Conclusions where the model is defined as follows : "The European social model is based on good economic performance, a high level of social protection and education and social dialogue".

The Commission invites Member States to continue to contribute to the achievement of the Lisbon objective of substantial annual increases in per capita investments in human resources, and, in this respect, to set transparent benchmarks to be communicated to the Council and Commission as the Detailed Work programme on the Objectives sets out.

32 At the same time, the Commission stresses that, although a certain quantity of investment is a necessary precondition to successful learning, there is evidence that an increase in investment in education and training does not necessarily on its own, improve quality. Concerning compulsory education a re-analysis of the TIMSS-data[18] shows that more costly education systems do not necessarily perform better in terms of student outcomes. Therefore, it is crucial to target funds towards areas with the highest rate of return in quality terms. New approaches to investment are needed to ensure the acquisition of the new types of knowledge and competencies required by the knowledge-based society, both by (potential) learners and by learning facilitators. A wide range of learning incentives should be developed for all citizens, with a special attention to the gender dimension, in and outside the labour market.

2.2. Early School Leavers

33. The Lisbon conclusions[19] included some quantified objectives for the education and training systems in Europe, which were subsequently introduced in the Employment guidelines for 2001. A specific goal was set : to halve by 2010 the number of 18 to 24-year olds with only lower secondary education who are not in education and training. This rate of early school leavers (the so-called "drop-out rate") has always been a central concern and has been used as a central strategic indicator not only in relation to the Luxembourg process on co-ordination of employment policies, but also in the list of structural indicators for the follow-up to the Lisbon process. The current trend in the rates of early school-leaving provide some, positive messages, concerning EU average levels, but major efforts will have to be made by the Member States, also in the coming years, to reach the Lisbon goals in the field.

34. To reach a common European benchmark regarding early school leavers, Member States with relative low performance levels will have to make a significantly greater effort than others for the common European benchmarks to be achieved, as set out in Paragraph 23.

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[18] TIMMS, Third International Maths and Science Survey; Ludger Wössmann, Schooling Resources, Educational Institutions, and Student Performances: The International Evidence Kiel Working Papers No. 983, Kiel Institute for World Economics, May 2000.

[19] Paragraph 26.

Key Indicator for Monitoring Progress Regarding Early School Leavers (2001)

	EU Average	Average of 3 best performing countries (EU)
Early school leavers neither in education nor in training[20]	19,4%[e]	10.3 %

e :estimates

No comparable data are available for the US and Japan.

Source: Eurostat. Labour Force Survey,

35. Present trends show in general clearly decreasing levels of early school-leavers in the Member States. In Spain, Italy, Greece, France, Belgium and Finland, an extrapolation of present trends shows that the level of early school-leavers would be at least halved before 2010. In Spain and Italy, the levels would then have fallen from more than 35% in the early 1990s to less than the present levels of the 3 best performing countries (i.e. below 10%) in 2010.

36. Other Member States, in particular the three best performers in the field (Sweden, Finland and Austria) show less impressive declines in the levels of early school-leaving as these levels are already low. The present trends show stable levels in Denmark and the Netherlands, while a slight increase of the early school leavers levels was registered in Sweden. In Germany, the rate of early school leavers has recently increased strongly, mainly due to changes in the composition of the population as a result of recent immigration movements (the arrival of a significant number of young early school leavers).

37. The overall EU average rates of early school-leaving are falling and would, if trends were to continue until 2010, lead to approximately 15% of 18-24 years olds "having left school early", but this reduction would not be sufficient to meet the objective set in the Lisbon Conclusions of halving the number of early school leavers. Considerable efforts will have to be made in a number of Member States to enable the EU to fulfil it.

The Commission invites the Council to adopt the following European benchmark on decreasing levels of early school leavers in the Member States :

– **By 2010, Member States should at least halve the rate of early school leavers with reference to the rate recorded in the year 2000, in order to achieve an EU-average rate of 10% or less.**

2.3. Graduates in Mathematics, Science and Technology

38. Europe must do more to encourage children and young people to take a greater interest in science and mathematics, and to ensure that those already working in scientific and research fields find their careers, prospects and rewards sufficiently satisfactory to keep them there. Motivating more young people to choose studies and careers in the scientific and technical fields in a short and medium term perspective,

[20] IRL: missing. Eurostat has no comparable data for the UK where GCSEs are considered upper secondary qualifications and therefore are not comparable with other countries. Due to particular socio-economic and geographical situation of Luxembourg (notably the high proportion of students enrolled in higher education outside the country and the very high percentage of non residents working in Luxembourg), the data of this indicator are not comparable with those of other countries.

and ensuring gender balance in these areas, are two essential issues for the Lisbon strategy. The European Union is, in fact, already a relatively high performer in the number of graduates in mathematics, science and technology, in comparison with the US or Japan, although less so, when relative population size is considered.

39. This impressive European performance is not however translated into a greater number of researchers in the labour market. The total number of graduates working as research scientists and engineers in Europe is about 25% below that of the US, but still 33% higher than in Japan. Although high-level graduates in Europe bring their competencies and skills to other parts of the labour market, the economy does not seem to draw sufficiently on their research potential. This will become particularly important as the EU moves to reach the 3% of GDP target on research.

Number of graduates (ISCED 5 and 6) in Mathematics, Science and Technology and Number of researchers and engineers in the EU, the US and Japan(2000/1999)[21]

Countries	Graduates	Researchers and engineers
EU (15)	555.647	919.796
US	369.391	1.219.407
Japan	236.670	658.910

Source :DG RTD, Third European Report on S&T Indicators (forthcoming) - Data source: Eurostat education statistics.

40. To answer these challenges, the environment for employing graduates in the fields need to be improved in Europe, including factors affecting research and development and a better functioning labour market as well as career and personal rewards. Member States should however also answer these challenges by ensuring that a greater proportion of students at European universities is encouraged to take degrees in mathematics, science and technology and a greater proportion of graduates is encouraged to take up careers in public and private European research laboratories, also supporting the Community strategy for developing a European Research Area

41. There is a huge disparity between Member States regarding the ratio of graduates in mathematics, science and technology per 1000 inhabitants (ages 20-29), with Ireland far beyond other countries (with a score of 23.9 for the year 2000) and countries such as Italy, the Netherlands, Austria, Portugal and Luxembourg with scores below 8 per 1000 (2000)[22]. If the present trends of development in the field were to continue, the diversity between countries would persist and might even increase. Countries which have a relatively high proportions of graduates in these fields such as France, Ireland, Finland and the UK would, if current trends were maintained, by 2010 have reached a level in excess of 20 graduates in mathematics, science and technology per 1000 inhabitants. Other countries, which have scores below 10 at present, have been showing very stable levels throughout the last decade; this is the case of Germany and the Netherlands. In the case of Denmark, the relative number of graduates in mathematics, science and technology has been falling steadily and is at present 8.2

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21 Graduates (2000), Researchers and Engineers (1999). For number of graduates, no data for Greece Covers graduates in science, mathematics, computing and engineering.

22 Very limited data series on this indicator are available for B, Gr and Lux,

(1999), whereas it was close to 10 during the first years of the 1990s. Should this trend continue, Denmark would have less than 5 graduates in mathematics, science and technology per 1000 inhabitants in 2010. The most recent data for the years 1998 and 1999 show however a stabilisation at a level just over 8 per thousand. In Spain, Portugal, Austria, Italy and Sweden the relative number of graduates in Mathematics, science and technology has increased considerably.

Increases in number of graduates in Mathematics, Science and Technology between 1993 and 2000 (rounded figures)

	B	DK	D	E	F	IRL	I	NL	AT	P	FIN	S	UK
Female graduates	6%	7%	-3%	152%	27%	83%	74%	-10%	55%	94%	41%	134%	25%
Total	-7%	-23%	-25%	128%	23%	43%	74%	-11%	77%	72%	10%	68%	6%

Source: Eurostat education statistics
No data available for GR and Lux

42. One particularly important way of answering the challenges of increasing the number of graduates in these fields is, as many Member States have done during recent years, to address the question of the lower motivation of females teenagers in maths, science and technology studies and careers. Gender balance is an especially important challenge in this area. Relatively fewer women than men choose to pursue degrees in mathematics, science and technology and even fewer women choose careers in research. It is however clear that the greater part of the overall increase in the number of graduates in the areas is in several countries a consequence of an increase in the number of female graduates. This has been the case in particular in Spain, Sweden, Portugal and Ireland. Male graduates in the field of mathematics, science and technology however still greatly outnumber female graduates. More than twice as many men than women graduates from these fields in Belgium, Denmark, Germany, Spain, France, the Netherlands, Austria, Finland and UK (2000). 80% of graduates in technological fields such as engineering, manufacturing and construction are males.

Relative ratio of male/female graduates in Mathematics, Science and Technology (2000)

B	DK	D	E	F	IRL	I	NL	AT	P	FIN	S	UK
3,0	2,1	3,6	2,1	2,3	1,6	1,7	4,7	4,0	1,6	3,0	2,1	2,1

Source: Eurostat education statistics
DK, F, I (1993-1999)

43. The best performing countries as concerns the proportion of women graduates in mathematics, science and technology are Ireland, Italy, and Portugal. A gender balance has however not been achieved in any Member State. It is mainly by significantly increasing the number of women researchers that Member States will be enabled to meet the challenge of global competition in this field.

The Commission invites the Council to adopt the following European benchmark on the number of graduates in mathematics, cience and technology:

By 2010, all Member States will have at least halved the level of gender imbalance among graduates in the above mentioned fields whilst securing an

overall significant increase of the total number of graduates, compared to the year 2000.

2.4. Upper secondary education attainment

44. In recent years, many Member States have established extensive action plans and reforms in order to promote participation in the technical, professional and general strands of upper secondary education. National benchmarks in the field have frequently been discussed and set. The rate of completion of secondary education has been increasing steadily in most Member States. The average rate in the Union has risen from around 50% of the population in the beginning of the 1990s, to some 66% in the year 2000.

Key Indicator for Monitoring Progress regarding Population having completed Upper Secondary Education (2001)[23]

Indicator	EU Average	Average of 3 best performing countries (EU)
Percentage of population aged 25 to 64 having completed at least upper secondary education	65.7%	82.7%

Data source:Eurostat, Labour Force Survey.
No comparable data are presently available for the US and Japan.

45. These developments have of course profound impacts on the percentage of the adult population with at least upper secondary education. The average percentage of adults (25-64) with at least upper secondary education would increase to about 80% by 2010. The three best performers, Germany, Denmark and Sweden, would, if present trends were maintained, show rates near 90% in 2010. To raise educational attainment in the population and in the labour market to that level, while still ensuring high levels of educational quality for all, is extremely important in order to reach the Lisbon objectives for the European knowledge economy and knowledge society. The increase in participation in upper secondary level education should happen while ensuring the ongoing reinforcement of quality of education.

46. Also in this area, Member States with relative low performance levels will have to make a significantly greater effort than others for the common European benchmarks to be achieved, as set out in Paragraph 23.

The Commission invites the Council to adopt the following European benchmark on population having completed upper secondary education

- By 2010, Member States should ensure that the EU average percentage of 25-64 years olds with at least upper secondary education reaches 80% or more.

2.5. Key competencies

47. Key competencies represent a package of knowledge, skills and attitudes which all individuals need for employment, inclusion, subsequent learning as well as personal fulfilment and development. These competencies should be acquired by the end of

[23] See Footnote 20

compulsory schooling. They are a prerequisite for participation in lifelong learning. Research demonstrates in fact that participation in lifelong learning is closely linked to successful participation in previous education.

48. The fundamental role of key competencies in our societies has been spelt out in the detailed work programme[24] which describes key competencies as consisting of the following principal areas: Numeracy and literacy (foundation skills), Basic competencies in mathematics; science and technology; Foreign languages; ICT skills and use of technology; Learning to learn skills; Social skills; Entrepreneurship; and General culture.

49. At present, the most reliable comparable indicator of key competencies is provided by the OECD PISA survey that covers the attainment levels in reading literacy, mathematics and science for 15-years-olds. These statistics can be considered reliable proxies for the whole set of "skills for the knowledge society" since they identify population groups who are inadequately prepared for contemporary challenges and for lifelong learning. The national average data presented in the table below shows the performance of the countries involved in the PISA survey in the two areas:

Key Indicator for Monitoring Progress Regarding Key Competencies

Indicator	EU Average	Average of 3 best performing countries (EU)	USA	Japan
Attainment levels in Mathematical Literacy (15 years old)(scores)	494	536	493	557
Attainment levels in Reading Literacy (Aged 15) (Scores)	498	535	504	522

Source: OECD/Pisa survey 2000

50. These results have been subject to extensive debates in many Member States due to unexpectedly low results (e.g. in Germany and Luxembourg) or to the exceptional performance for example of Finland.

51. In each of these areas it is important to differentiate between those students who attain adequate scores and those who do not, in order to identify those who have reduced chances of success in society and in the labour market.

52. Forceful policy indications may be gathered by identifying low performers in the three areas in the following way. The PISA study describes students' proficiency in for example reading literacy in terms of five levels. Each proficiency level is associated with certain tasks which students at this proficiency level are assumed to be able to complete. Students who have reached the highest level (5) are expected to be capable "of completing sophisticated reading tasks, such as managing information that is difficult to find in unfamiliar texts" or " being able to evaluate critically and build hypotheses". At the lowest level (1) of proficiency, students are capable of

[24] See footnote 6

"completing only the least complex reading tasks developed for PISA, such as locating a single piece of information, identifying the main theme of a text, or making a simple connection with everyday knowledge".

53. The analysis of the PISA results shows that a certain number of students do not reach even the lowest proficiency level (1). While performance at level 1 or below cannot be directly equated with illiteracy, it is safe to assume that students at this level of attainment will experience serious difficulties when dealing with written information and thus with any learning process dependent upon written material.

54. Again, as is the case in other areas analysed in this Communication there are huge differences between countries and this provides a good basis for the exchange of experiences, but implies that different levels of effort are required from different countries. How can countries like Germany, Greece, Portugal, or Luxembourg learn from the obvious success of Finnish education in these fields ? Much can be done here to improve performances and thereby raise the quality of education and training in Europe closer to the level of the best in the world. Europe needs to make a special effort in ensuring the provision of basic competencies to all. This need had already been recognised by the High Level Task Force on Skills and Mobility when it stated that "Member States should establish a guarantee by the year 2006 that all citizens are provided with an opportunity to acquire the basic skills".[25]

55. To achieve common European benchmarks in the field of key competencies, Member States with relative low performance levels will have to make a significantly greater effort than others for the common European benchmarks to be achieved, as set out in Paragraph 23.

The Commission therefore invites the Council to adopt the following European benchmark on the acquisition of key competencies in the Member States

- By 2010, the percentage of low-achieving 15 year-olds in reading, mathematical and scientific literacy will be at least halved in each Member State, compared to the year 2000.

2.6. Participation in Lifelong Learning

56. In its final Communication on 'Making a European area of lifelong learning a reality' the Commission defined lifelong learning as: 'All learning activity undertaken throughout life, with the aim of improving knowledge, skills and competencies within a personal, civic, social and/or employment-related perspective.' [26]

[25] Communication from the Commission, Commission's Action Plan for Skills and Mobility COM(2002)72 (08.02.2002)

[26] Communication of the Commission 'Making a European area of lifelong learning a reality' COM(2001)678final(21.11.2001)

Key Indicator for Monitoring Progress Regarding Participation in Lifelong Learning (2001).

	EU Average	Average of 3 best performing countries (EU)
Participation of 25 to 64 year-olds in lifelong learning	8.4% [e]	19.6% [e]

Indicator Definition: "Participation of 25 to 64-year-olds in any kind of education and training in the 4 weeks preceding the survey"
e : estimates
Source: Eurostat, Labour Force Survey

57. Lifelong learning is not only an underlying concept for European co-operation in education and training policies, it is first and foremost a need for all individuals in a knowledge society. Individuals must update and complement their knowledge, competencies and skills throughout life to maximise their personal development and to maintain and improve their position in the labour market. Adult education, and indicators to measure adult competencies, will here play a strategic role.

58. In order to monitor progress towards a knowledge society with the highest levels of participation in education and training for its citizens, the Commission has analysed data on the proportion of the population aged 25 to 64 who followed any kind of education and training in the previous 4 weeks.

59. The average EU-15 percentage is some 8,4% (2001), although the variation between countries is very high. From this follows that for any period of a month, 8-9 out of 100 people will have participated in education and training activities. The three best performing countries are the UK, Sweden and Denmark[27] followed closely by Finland and the Netherlands. The average level of the three best performing countries is above 20% (2001). Among these three countries, very different trends are in evidence. Should current trends continue [28], participation in Sweden would by 2010 fall to almost half its present level; on the other hand, participation in the UK would double to more than 30%. The average trend across EU-15 is strongly increasing. Participation in lifelong learning is central to the achievement of the Lisbon objectives. Relevant national authorities should in particular promote the participation in lifelong learning of people with low levels of qualifications, who hitherto have been strongly underrepresented.[29]

60. The implementation of lifelong learning strategies in the Member States is at the very heart of the follow-up of he Lisbon objective. Only by striving towards the highest levels of participation for its citizens in education and training throughout life can a knowledge society flourish to the benefits of all. Lifelong learning is indeed an inherent part of the European social model. In this specific strategic area the Commission therefore proposes, apart from a European benchmark, to set a specific European minimum level of participation in the Member States. To achieve common European benchmarks in the field of lifelong learning, Member States with relative

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27 This analysis is based on the limited data series available based on 1996-2001 data. No data for Ireland. Estimated data for Sweden (2001)

28 The trend for Sweden is based on the only data available for the years: 1996, 1997, 1999, 2000, 2001(estimate)

29 Indicators in lifelong learning highlighting the importance of vocational training could be identified by using especially the CVTS 1 and 2 surveys on participation in training in enterprises.

low performance levels will have to make a significantly greater effort than others for the common European benchmarks to be achieved, as set out in Paragraph 23.

The Commission invites the Council to adopt the following European benchmark on participation in lifelong learning in the Member States

- By 2010, the EU-average level of participation in lifelong learning should be at least 15% of the adult working age population (25-64 age group) and in no country should it be lower than 10%"

3. CONCLUSIONS

61. The Commission invites the Council to adopt the European benchmarks proposed in this Communication. The Commission also invites Member States to continue to contribute to the achievement of the Lisbon objective of substantial annual increases in per capita investments in human resources and , in this respect, to set transparent benchmarks to be be communicated to the Council and Commission as the Detailed Work programme on the Objectives sets out. The benchmarks would need to be adopted by May 2003, so that they can be taken into account in the interim report on the implementation of the detailed work programme on the objectives of education and training systems in Europe, which the European Council has asked the Commission and the Council to submit to the Spring European Summit in 2004.

Annex 1

Statistical Data and Trend Analyses of Selected Indicators

Public expenditure on education and training

Public expenditure on education and training as a percentage of GDP

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU	(:)	(:)	(:)	(:)	5,2i	5,2i	5,1i	5,0i	5,0i	(:)	(:)
B	(:)	(:)	(:)	(:)	5,0i	5,0i	4,9i	5,2	5,5i	(:)	(:)
DK	(:)	(:)	(:)	(:)	7,7	8,1	7,9	8,2	8,0i	(:)	(:)
D	(:)	(:)	(:)	(:)	4,7	4,8	4,7	4,7	4,7	(:)	(:)
EL	(:)	(:)	2,7	3,0	2,9	3,1	3,4	3,5	3,7	3,5e	3,5e
E	(:)	4,8	4,9	4,7	4,7	4,7	4,5	4,5	4,5	4,5e	4,4e
F	5,3i	5,6i	5,9i	5,9i	6,0i	5,9i	6,0i	5,9i	5,9i	5,8e	5,7e
IRL	5,4	5,6	5,9	5,9	5,5	5,3	5,2	4,9	4,6	4,5e	(:)
I	5,4	5,4	5,4	5,0	4,9	4,9	4,6	4,6	4,5	4,6e	4,5e
L	(:)	(:)	(:)	(:)	4,3	4,0	4,1	(:)	(:)	(:)	(:)
NL	5,1	5,4	5,2	5,1	5,0	5,0	4,8	4,9	4,8	4,9e	4,9e
A	(:)	(:)	(:)	(:)	6,5	6,4	6,3	6,3	6,3	(:)	(:)
P	(:)	(:)	(:)	(:)	5,4	5,5	5,6	5,6	5,7	(:)	(:)
FIN	7,2	7,3	6,9	6,7	6,9	7,0	6,5	6,2	6,2	6,0e	(:)
S	(:)	(:)	7,6	7,5	7,5	7,6	7,9	8,0	7,7	8,4e	8,3e
UK	5,0i	5,2i	5,2i	5,2i	5,0i	4,8i	4,7i	4,6i	4,6i	4,9e	(:)

Source: Eurostat education statistics
e = data for 2000 and 2001 are estimates
i = see footnotes
(:) = Data not available
BE: only Flemish Community for 1995-1997
BE, DK: change in coverage in 1999
FR: educational expenditure figures do not include OD's (Overseas Departments).

UK: estimates, based on data for UK financial years which run from 1 April to 31

Early School Leavers

Percentage of the population aged 18 to 24 years, not in education and training, with only pre-primary, primary or lower secondary education (ISCED levels 0-2).

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
B	18,1	17,4	16,1	15,1	12,9	12,7	14,5	15,2	12,5	13,6
DK	15,2	8,5	8,6	6,1	12,1	10,7	9,8	11,5	11,6	16,8
D	(:)	(:)	(:)	(:)	13,3	12,9	(:)	14,9	14,9	12,5
EL	25,2	25	23,2	22,4	20,7	19,9	19,8	17,8	17,1	16,5
E	40,4	37,7	36,4	33,8	31,5	30,3	29,8	29,5	28,8	28,6
F	(:)	17,2	16,4	15,4	15,2	14,1	14,9	14,7	13,3	13,5
IRL	27,1	24	22,9	21,4	18,9	18,9	(:)	(:)	(:)	(:)
I	37,7	36.9b	35,1	32,4	31,3	29,9	28,4	27,2	25,3	26,4
L	42,2	36,8	34,4	33,4	35,3	30,7	(:)	19,1	16,8	18,1
NL	(:)	(:)	(:)	(:)	17,6	16	15,5	16,2	15,5	15,3
A	(:)	(:)	(:)	13,6	12,1	10,8	(:)	10,7	10,2	10,2
P	50	46,7	44,3	41,4	40,1	40,6	46.8b	45,5	43,1	45,2
FIN	(:)	(:)	(:)	(:)	11,1	8,1	7,9	9,9	8,9	10,3
S	(:)	(:)	(:)	(:)	7,5	6,8	(:)	6,9	7,7	10,5
UK	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)
EU	(:)	(:)	(:)	(:)	21.7e	20.8e	(:)	20.7e	19.7e	19.4e

Source: Eurostat, Labour Force Survey:
(:) = Data not available
b= break in series
e= estimate
Possible lack of comparability for E, F and P between 1997 and 1998 and for S between 2000 and 2001.
UK: Data not shown. A definition of 'upper secondary attainment' has still to be agreed with this country.
Comparable data not available for US and JP
EU-15: estimations on the basis of the available data. 1999-2001 results estimated on the basis of 1997 data for IRL.

Graduates in science and technology

Share of graduates in science and technology per 1000 inhabitants aged 20-29 : (total), males and females.

Totals

	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)
B	9,2	(:)	(:)	(:)	(:)	(:)	(:)	9,7	(:)
B (VL)	(:)	(:)	6,6	5,4	(:)	5,4	5,5	(:)	(:)
DK	9,8	(:)	9,6	9,4	(:)	8,1	8,2	(:)	(:)
D	8,2	8,9	9,3	9,3	9,1	8,8	8,6	8,2	*(:)*
EL	3,8	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)
E	4,4	5,1	5,8	6,6	7,6	8,0	9,5	9,9	(:)
F	14,2	(:)	(:)	(:)	17,5	18,5	19,0	(:)	(:)
IRL	19,1	21,0	21,4	21,9	21,8	22,4	(:)	23,2	(:)
I	2,9	2,8	2,9	4,1	5,0	5,1	5,4	(:)	(:)
L	(:)	(:)	(:)	(:)	(:)	1,4	(:)	1,8	(:)
NL	5,5	5,4	5,6	6,6	(:)	6,0	5,8	5,8	(:)
A	(:)	3,2	3,3	3,6	4,3	7,7	6,8	7,1	(:)
P	2,4	3,8	3,9	4,1	4,8	(:)	(:)	6,3	(:)
FIN	13,2	13,0	13,0	13,1	15,8	15,9	17,8	16,0	(:)
S	6,2	6,3	7,3	7,4	7,8	7,9	9,7	11,6	12,4
UK	12,9	13,7	13,5	14,3	14,5	15,2	15,6	16,2	(:)
US	10,3	10,9	11,2	11,5	(:)	9,6	9,7	10,2	(:)
JP	(:)	(:)	12,7	12,5	(:)	(:)	(:)	(:)	(:)

Source: Eurostat education statistics,

Share of graduates in science and technology per 1000 inhabitants aged 20-29 : (total), males and females.

Males

	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)
B	14,1	(:)	(:)	(:)	(:)	(:)	(:)	14,4	(:)
B (VL)	(:)	(:)	9,8	8,1	(:)	8,2	8,3	(:)	(:)
DK	14,7	(:)	14,5	13,9	(:)	11,1	11,0	(:)	(:)
D	13,2	14,2	14,9	14,8	14,4	13,7	13,2	12,6	(:)
EL	5,2	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)
E	6,2	7,0	7,9	8,9	10,2	10,7	12,7	13,2	(:)
F	19,8	(:)	(:)	(:)	24,5	25,4	26,4	(:)	(:)
IRL	26,6	28,7	29,5	28,4	28,1	29,2	(:)	28,6	(:)
I	3,6	3,5	3,6	5,2	5,7	6,2	6,7	(:)	(:)
L	(:)	(:)	(:)	(:)	(:)	2,7	(:)	(:)	(:)
NL	8,9	9,0	9,3	10,8	(:)	9,9	9,5	9,5	(:)
A	(:)	4,8	4,9	5,3	6,4	12,7	10,9	11,3	(:)
P	(:)	5,1	5,0	5,2	5,7	(:)	(:)	7,8	(:)
FIN	20,8	20,8	20,8	20,7	23,6	23,7	26,1	22,7	(:)
S	9,4	9,5	10,9	10,9	11,2	11,4	13,6	15,5	16,1
UK	18,3	19,3	19,4	20,2	20,4	21,1	21,5	21,4	(:)
US	15,4	16,2	16,4	16,6	(:)	13,3	13,5	13,8	(:)
JP	(:)	(:)	22,0	(:)	(:)	(:)	(:)	(:)	(:)

Source: Eurostat education statistics and population Statistics

Share of graduates in science and technology per 1000 inhabitants aged 20-29 : (total), males and females.

Females

	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)
B	4,1	(:)	(:)	(:)	(:)	(:)	(:)	4,9	(:)
B (VL)	(:)	(:)	3,3	2,6	(:)	2,5	2,6	(:)	(:)
DK	4,6	(:)	4,6	4,6	(:)	5,1	5,3	(:)	(:)
D	2,8	3,1	3,3	3,4	3,5	3,5	3,7	3,6	(:)
EL	2,4	(:)	(:)	(:)	(:)	(:)	(:)	(:)	(:)
E	2,6	3,2	3,6	4,2	5,0	5,2	6,3	6,4	(:)
F	8,4	(:)	(:)	(:)	10,6	11,6	11,6	(:)	(:)
IRL	11,4	13,0	13,2	15,4	15,4	15,5	(:)	17,8	(:)
I	2,2	2,0	2,2	3,0	4,2	3,9	4,1	(:)	(:)
L	(:)	(:)	(:)	(:)	(:)	0,1	(:)	(:)	(:)
NL	1,9	1,7	1,8	2,2	(:)	2,1	1,9	2,1	(:)
A	(:)	1,5	1,7	1,8	2,1	2,7	2,6	2,8	(:)
P	(:)	2,6	2,9	3,1	3,9	(:)	(:)	4,9	(:)
FIN	5,2	4,8	4,9	5,2	7,6	7,8	9,1	8,9	(:)
S	3,0	3,0	3,6	3,8	4,2	4,2	5,6	7,6	8,4
UK	7,2	8,0	7,4	8,0	8,3	9,1	9,5	10,8	(:)
US	5,1	5,5	5,6	6,1	(:)	5,7	6,0	6,5	(:)
JP	(:)	(:)	22,8	(:)	(:)	(:)	(:)	(:)	(:)

Source: Eurostat education statistics and population Statistics

(:) = Data not available
Luxembourg: Luxembourg does not have a complete university system; refers only to ISCED level 5B first degree. No breakdown by gender
Austria: ISCED level 5B refers to previous years except for 1998/99: ISCED level 5B is missing
Japan: In 1996 breakdown by sex is not available

Remark: The footnotes refer to all three tables above.

Upper secondary education attainment

Percentage of the population aged 25 to 64 having completed at least upper secondary education

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU	(:)	(:)	(:)	57.6e	57,9	59,4	(:)	64.3e	65.4e	65,7
B	52,7	53,7	55,7	57,4	59,6	60,7	59,5	60,2	60,9	61,8
DK	76,2	83,6	78,3	81,3	79,0	80,0	80,0	81,1	81,3	81,5
D	81,7	81,2	83,6	82,8	80,3	82,0		81,6	82,7	83,9
EL	39,7	42,3	44,8	46,2	47,9	49,4	51,4	53,9	55,1	55,4
E	26,0	27,6	29,8	32,0	34,6	36,1	37,0	38,7	40,7	42,4
F	(:)	59,2	60,6	61,9	61,7	62,7	62,4	63,4	64,5	65,4
IRL	44,1	46,4	47,2	49,4	51,9	51,3	(:)	(:)	(:)	61,5
I	35,4	34.3b	36,4	38,1	39,7	41,4	44,0	45,8	47,9	46,2
L	36,1	41,9	49,1	44,7	47,1	47,8		64,0	62,7	60,8
NL	(:)	(:)	(:)	(:)	64,7	65,9	65,9	66,2	67,4	68,4
A	(:)	(:)	(:)	70,8	72,6	75,1	76,2	76,8	78,1	79,3
P	21,4	21,5	22,5	23,6	23,6	23,8	20.7b	22,0	22,3	21,2
FIN	(:)	(:)	(:)	70,1	71,2	72,6	73,3	74,5	76,0	76,5
S	(:)	(:)	(:)	76,1	76,4	76,7	77,4	78,8	79,3	82,7
UK	49,8	50,4	52,1	53,2	52,9	55,3	(:)	80,9	81,5	82,0

Source: Eurostat, Labour Force Survey:
(:) = Data not available
b= break in series
e= estimate
Possible lack of comparability for E, F and P between 1997 and 1998 and for S between 2000 and 2001.
UK: Lack of comparability. GCSE, O level have been considered as upper secondary education qualification.
EU-15: estimations on the basis of the available data. 1999-2001 results estimated on the basis of 1997 data for IRL.

Key Compentencies

OECD/PISA survey (2001): Scores in Member States, the US and Japan

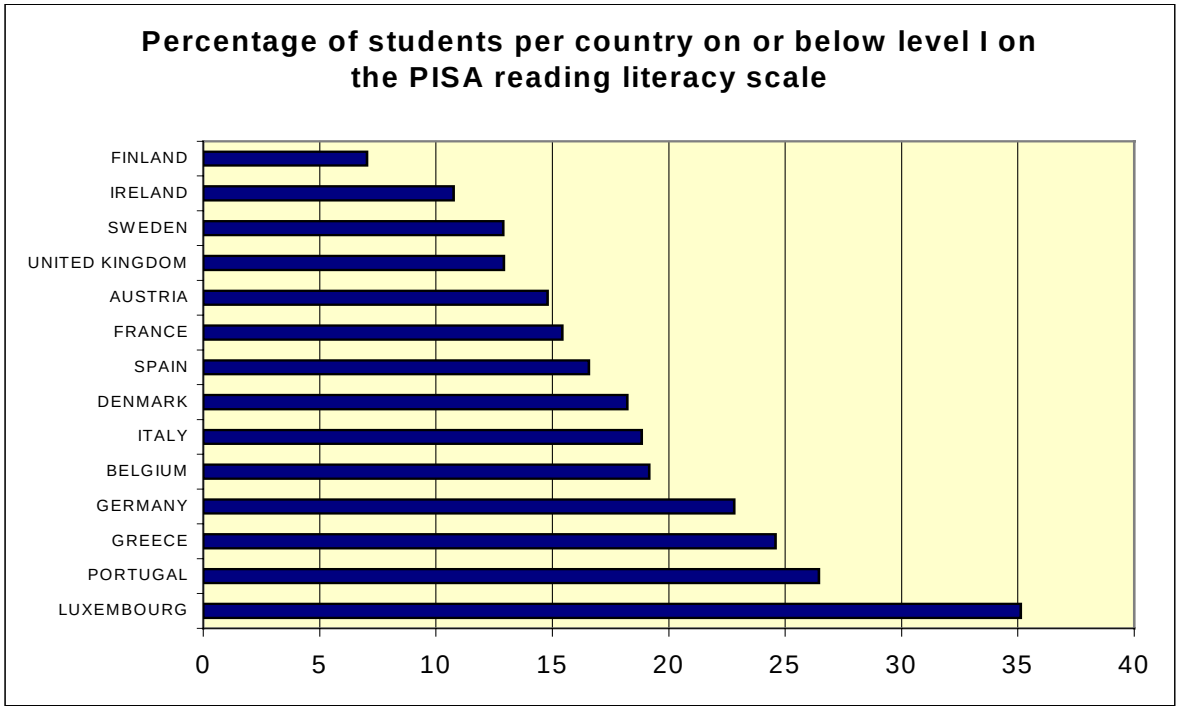
OECD/PISA survey (2001): Scores in Member States, the US and Japan in Reading, Mathematical and Scientific Literacy.[30]

	Literacy scores		
	Reading	Mathematics	Sciences
B	507	520	496
DK	497	514	481
D	484	490	487
GR	474	447	461
Sp	493	476	491
F	505	517	500
Irl	527	503	513
I	487	457	478
L	441	446	443
A	507	515	519
P	470	454	459
FIN	546	536	538
S	516	510	512
UK	523	529	532
US	504	493	499
JP	522	557	550

Source: OECD/PISA (2001) survey

[30]The results of the Netherlands have been published only partially in the OECD PISA report, because the Netherlands did not meet the required response rate of 80%. Nevertheless the response received was representative (CITO, December 2001).

Low achievers in Reading Literacy in Member States (15 years olds), level I or below on the PISA reading literacy scale (% of total)



Source: DG Education and Culture - Data source: OECD/PISA, 2001-Score of the Netherlands: see footnote[31]

[31] The results of the Netherlands have been published only partially in the OECD PISA report, because the Netherlands did not meet the required response rate of 80%. Nevertheless, the response received was representative (CITO, December 2001)

Lifelong learning - Adult participation in education and training

Percentage of the population aged 25 to 64 years, having followed any kind of education or training in the 4 weeks preceding the survey reference week

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU	(:)	(:)	(:)	(:)	5.7e	5.8e	(:)	8,2	8.5e	8.4e
B	2,3	2,7	2,7	2,8	2,9	3,0	4,4	6,9	6,8	7,3
DK	16,2	15,6	15,1	16,8	18,0	18,9	19,8	19,8	20,8	17,8
D	(:)	(:)	(:)	(:)	5,7	5,4	5,3	5,5	5,2	5,2
EL	1,2	1,1	1,0	0,9	0,9	0,9	1,0	1,2	1,1	1,4
E	3,4	3,5	3,9	4,3	4,4	4,5	4,3	5,1	5,1	4,9
F	2,9	3,0	2,9	2,9	2,7	2,9	2,7	2,6	2,8	2,7
IRL	3,4	3,5	3,9	4,3	4,8	5,2	(:)	(:)	(:)	(:)
I	2,9	3.4b	3,7	4,0	4,4	4,9	4,8	5,5	5,5	5,1
L	2,9	2,6	3,3	2,9	2,9	2,8	5,1	5,3	4,8	5,3
NL	15,1	14,3	13,6	13,1	12,5	12,6	12,9	13,6	15,6	16,3
A	(:)	(:)	(:)	7,7	7,9	7,8	(:)	9,1	8,3	8,2
P	3,6	3,2	3,5	3,3	3,4	3,5	3.0b	3,2	3,3	3,3
FIN	(:)	(:)	(:)	(:)	16,3	15,8	16,1	17,6	19,6	19,3
S	(:)	(:)	(:)	(:)	26,5	25,0	(:)	25,8	21,6	17,5
UK	12,5	10,8	11,5	(:)	(:)	(:)	(:)	19,2	21,1	21,7

Source: Eurostat, Labour Force Survey
(:) = Data not available
b= break in series
e= estimate

Annex 2

Criteria for Identifying the Three Best Performing Countries

The detailed work programme for the implementation of the Concrete Objectives for Education and Training systems in Europe includes indicators for measuring progress within each of the Objective areas. The work programme specifies, that data on the "EU-15 average" and the "average levels of three best performing countries" would be used for monitoring progress. The present Communication, therefore uses these indicators of progress within the six areas of the Communication. The Council has however not defined how the three best performing countries should be identified. Alternative choices would be either to calculate best performing countries by concentrating on the most recent period (latest year with available data) or to base the analysis on a longer time period. In the table below the analysis has been made on the basis of three alternative methods of calculation.

The "Three Best Performing Countries" according to Alternative Criteria of Calculations

Areas	Alternative criteria for identifying the three best performing countries within each area.		
	Last year of available data	Average of the years 1996 – 2001 (average of data available)	Average of the years 1991-2001 (average of data available)
Investment in education and training	Sweden Denmark Austria	Denmark Sweden Austria	Denmark Sweden Finland
Early school Leavers	Sweden Austria Finland	Sweden Austria Finland	Sweden Austria Finland
Graduates in mathematics, science and technology (Total)	Ireland France Finland	Ireland France Finland	Ireland France Finland
Population having completed Upper Secondary Education	Germany Sweden UK	Germany Denmark Sweden	Germany Denmark Sweden
Participation in Lifelong Learning	UK Finland Denmark	Sweden UK Denmark	UK Sweden Denmark

In this Communication we pursued the goal of identifying the three best performing countries by using the criteria of the average performance during the period of 1991-2001, using all data available for each countries.