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## REPORT

on the report from the Commission to the Council and the European Parliament on 'Designing tomorrow's education: promoting innovation with new technologies'  
(COM(2000) 23 – C5-0147/2000 – 2000/2090(COS))

Committee on Culture, Youth, Education, the Media and Sport

Rapporteur: Alexandros Alavanos



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## PROCEDURAL PAGE

By letter of 27 January 2000 the Commission forwarded to Parliament its report on 'Designing tomorrow's education: promoting innovation with new technologies' (COM(2000) 23 – 2000/2090(COS)).

At the sitting of 17 March 2000 the President of Parliament announced that she had referred the report to the Committee on Culture, Youth, Education, the Media and Sport as the committee responsible and the Committee on Industry, External Trade, Research and Energy and the Committee on Employment and Social Affairs for their opinions (C5-0147/2000).

At the sitting of 14 April 2000 the President of Parliament announced that she had also referred the report to the Committee on Women's Rights and Equal Opportunities for its opinion.

The Committee on Culture, Youth, Education, the Media and Sport had appointed Alexandros Alavanos rapporteur at its meeting of 22 February 2000.

It considered the Commission report and the draft report at its meetings of 5 June, 19 September and 10 October 2000.

At the last meeting it adopted the motion for a resolution unanimously.

The following were present for the vote: Giuseppe Gargani, chairman; Vasco Graça Moura and Ulpu Iivari, vice-chairmen; Konstantinos Alyssandrakis (for Alexandros Alavanos), Ole Andreasen, Pedro Aparicio Sánchez, Giorgio Celli, Christine de Veyrac, Jillian Evans (for Christa Prets), Marco Formentini, Janelly Fourtou, Geneviève Fraisse, Lissy Gröner, Cristina Gutiérrez Cortines, Ruth Hieronymi, Othmar Karas, Elizabeth Lynne, Lucio Manisco, Mario Walter Mauro, Pietro-Paolo Mennea, Jens Dyhr Okking, Barbara O'Toole, Doris Pack, Roy James Perry, Peter Sichrovsky, The Earl of Stockton, Kathleen Van Brempt, Luckas Vander Taelen, Eurig Wyn, Teresa Zabell Lucas, Sabine Zissener and Myrsini Zorba (for Phillip Whitehead).

The opinions of the Committee on Industry, External Trade, Research and Energy, the Committee on Employment and Social Affairs and the Committee on Women's Rights and Equal Opportunities are attached.

The report was tabled on 17 October 2000.

The deadline for tabling amendments will be indicated in the draft agenda for the relevant part-session.

## MOTION FOR A RESOLUTION

### **European Parliament resolution on the report from the Commission to the Council and the European Parliament on 'Designing tomorrow's education: promoting innovation with new technologies' (COM(2000) 23 – C5-0147/2000 – 2000/2090(COS))**

*The European Parliament,*

- having regard to the Commission report (COM(2000) 23 – C5-0147/2000<sup>1</sup>),
  - having regard to Articles 126 and 127 of the EC Treaty,
  - having regard to the Commission communication (COM(2000) 318)<sup>2</sup>,
  - having regard to its resolution of 10 October 1985 on new technologies and school systems<sup>3</sup>,
  - having regard to its resolution of 11 November 1986 on education and training in new technologies<sup>4</sup>,
  - having regard to its resolution of 13 March 1997 on the information society, culture and education<sup>5</sup>,
  - having regard to the conclusions of the Lisbon European Council meeting of 23 and 24 March 2000 on the transition to a competitive, dynamic and knowledge-based economy,
  - having regard to the conclusions of the Santa Maria da Feira European Council meeting of 19 and 20 July 2000 on the follow-up to the Lisbon European Council meeting,
  - having regard to Rule 47(1) of its Rules of Procedure,
  - having regard to the report of the Committee on Culture, Youth, Education, the Media and Sport and the opinions of the Committee on Industry, External Trade, Research and Energy, the Committee on Employment and Social Affairs and the Committee on Women's Rights and Equal Opportunities (A5-0299/2000),
- A. whereas we are now living in an information society which is an inescapable reality and is in constant development, and in which new technologies have an increasingly influential role,
- B. whereas the Lisbon European Council (23-24 March 2000) concluded that every citizen must be equipped with the skills needed to live and work in the existing and future information society; whereas it is particularly important to ensure that the education sector has the resources it requires to enable young people to master the new knowledge and

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<sup>1</sup> OJ C (not yet published).

<sup>2</sup> OJ C (not yet published).

<sup>3</sup> OJ C 288, 11.11.1985, p. 128.

<sup>4</sup> OJ C 322, 15.12.1996, p. 55.

<sup>5</sup> OJ C 115, 14.04.1997, p. 116.

communication tools and to adjust to the extremely fast pace of technological change; whereas the eLearning initiative (an educational offshoot of the eEurope initiative) was introduced with this in mind,

- C. whereas the new link between information and communication technology (ICT) and the education sector forms part of a broader process which the Lisbon European Council described as the establishment of a 'learning society', based on the desire to ensure that every member of European society takes part in lifelong learning,
- D. whereas, regardless of the limits imposed by the principle of subsidiarity, citizens should be offered freely available services created in the European Union institutions and providing them with easier access to programmes, methods and content in the field of information and communication technologies,
- E. whereas there is a genuine consensus among the Member States as to the vital need to ensure that all educational establishments in Europe are given access to new technologies (in view of the wide range of opportunities which they offer) and to ensure the spread – and, thereby, a genuine democratisation – of the 'digital culture',
- F. whereas Europe is lagging some way behind the United States in terms of the use of ICT in educational establishments; whereas in today's society it is essential for every European citizen to have a basic understanding of new technologies so as to ensure that Europe can remain competitive and continue to innovate in the future and thereby retain its position as a leading world power,
- G. whereas the development of ICT should cover all aspects, including hardware, software and quality content indicators,
- H. whereas, although it was originally based mainly on economic and agricultural concerns, the European Union can no longer focus exclusively on such matters and must now initiate a drive towards a Europe based on knowledge, culture and values; whereas, in general, the concept of European citizenship has yet to be given concrete form and the best way of doing so is to give the education sector more of a European dimension,
- I. whereas new technologies have many advantages and offer new educational benefits which can be used to fill in the gaps left by traditional methods of learning; whereas those technologies must be used to complement traditional methods rather than clash with them,
- J. whereas, if optimum use is to be made of new technologies in education, students must be taught how to search for and manage content ('being taught how to learn'), rather than memorising it,
- K. whereas ICT are instruments or supports and must be supplemented by policies on the content, uses and quality of education, whose management should be the responsibility of the authorities or the educational establishments,
- L. whereas information and communication technology can help to improve teaching and training since it can be used continuously and repeatedly, at the user's own pace, and encourages an interactive approach and active learning, which is based on curiosity,

discovery and experimentation; whereas above all it makes educational establishments more open to the outside world by fostering a desire to learn foreign languages and building bridges between what is happening in school and what is happening outside, including in other countries (networks for the exchange of information with museums, libraries, research institutes or other schools),

- M. whereas new technologies can be of great help to people with handicaps or learning difficulties; whereas modern technology can enable certain people (such as the children of itinerant workers, the inhabitants of remote areas and the elderly), for whom full-time attendance at traditional educational establishments is impossible, to train and learn on a regular basis,
- N. whereas equal access to new technologies must be ensured in accordance with the principle of fairness, so that no one is deprived of information and knowledge; whereas, on the contrary, new technologies should help to strengthen social cohesion,
- O. whereas the introduction of new technologies in schools provides the education sector with an opportunity to adjust to the realities and needs of the labour market and thus to provide young people with an education that will be of use to them both in their daily lives and in their future occupations,
- P. whereas equipping schools with computers is not an end to itself and whereas a computer is first and foremost a tool - a teaching aid - and therefore cannot take the place of or even compete with the special relationship that exists between pupils and teachers and which is based on physical presence and dialogue,
- Q. whereas the ultimate goal of education is to pass on knowledge and know-how that will enable students to become genuinely independent; whereas this applies in particular to the use of new technologies; whereas the presence and guidance of qualified staff who receive specialised, extensive and constantly updated training is required in order to ensure that the use of new technologies for educational purposes is beneficial,
- R. whereas, owing to the wide range of opportunities provided by new technologies and the boundless information available on the Internet, the effectiveness of using ICT in the education sector can only be maximised if the equipment and content made available are reliable and relevant and the necessary preparatory work has been carried out beforehand,
- S. whereas the introduction of ICT affords an opportunity for Member States to conduct an overall review of the education process (curricula, school timetables, the methods used to test knowledge, etc.), with particular reference to priorities and resources,
- T. whereas the information society entails both risks and major opportunities which call for the establishment of a specific regulatory framework, particularly with a view to protecting minors against content which is not aimed at them,
- 1. Notes the Commission's report and the various causes for concern which it highlights such as the fact that Europe is lagging behind the United States in terms of innovation and technological advance and that most educational establishments in the EU are still seriously under-equipped;

2. Calls on the Commission and the Member States to make further efforts to bridge the gulf between the European Union and United States regarding the use and command of IT in education and business;
3. Welcomes the recommendations in the Commission's report on designing tomorrow's education and promoting innovation with new technologies, especially as regards promoting innovation, developing quality on the supply side, and strengthening social cohesion;
4. Welcomes the progress made in the Member States' national action plans for introducing information and communication technology (ICT) in schools;
5. Notes that in the employment policy guidelines for 2000 the Member States adopted the objective of equipping their schools with computers and facilitating Internet access by the end of 2002; calls on Member States to define these general objectives by means of practical quantitative and qualitative indicators;
6. Welcomes the stress placed by the Commission on the vital need to promote and foster linguistic and cultural diversity when new technologies are introduced into schools, so as to avoid a situation in which some languages hold sway over others, given that genuine equality between official languages is one of the founding principles of the Union;
7. Welcomes the Council's and Commission's recent initiatives to promote ICT in schools and urges the Commission to monitor closely the effectiveness of the relevant measures, the progress made and the generalisation of best practice;
8. Asks the Commission and the Member States to ensure that women and men have universal access to new technologies, with lower access charges, greater cost efficiency and improved diversity and quality of services, since it is essential to preserve the original features of each country and to reduce disparities in access to ICT while promoting European content and access to it;
9. Notes that there is a wide disparity among the Member States as regards their capacities for exploiting new technologies in schools and their opportunities to do so, and that an effort must be made to reduce, and even eliminate, the discrepancy in this area;
10. Calls on the Commission to ensure that women and men have equal access to general and vocational training leading to careers in the information society;
11. Observes that in order to create a socially just information society, access to information and communications technologies should be open to citizens of all socio-economic strata and age groups; calls on Member States and the Commission, in this connection:
  - to promote measures to facilitate access to information and communications technologies for all pupils, including outside regular education;
  - to promote exchanges of know-how concerning how to use ICT between pupils and parents;



- in developing teaching software, to devote special attention to the specific needs of children with learning difficulties or disabilities;
12. Deplores the fact that the Commission's report considers education solely from the traditional angle of children and young people learning in educational establishments, thereby ignoring the essential role played by lifelong learning, which is aimed at adults and all those outside the traditional learning environment who wish to acquire knowledge and receive training and which is wholly in keeping with the goal set by the Lisbon European Council of establishing a 'learning society';
  13. Calls for new technologies to be made available to all citizens, including those no longer of school age and no longer on the labour market, through the creation of 'electronic communication centres' situated in local authority areas in every region of Europe;
  14. Notes the Commission recommendation that points to the regrettable lack of studies conducted on the use made of ICT in schools, and calls therefore on the relevant bodies to develop and use accurate and appropriate indicators which enable actual practice to be thoroughly assessed and monitored;
  15. Calls on the Commission to set the immediate objective of defining the scientific correlation between information and communication technologies and school results by commissioning studies and taking any effective action so that the investment made produces measurable results;
  16. Stresses that the necessary introduction of ICT into the school system must not lead to information overload, that it should be combined with pupils' needs for free time and the cultivation of imagination and creativity, and should take account in every way of the psychological aspects of their age and help develop communication within the school group;
  17. Calls on the Commission to include the training of teachers in the use of ICT as one of the priority areas in the programmes on lifelong training financed from the Structural Funds;
  18. Proposes that educational and teaching systems should be promoted not only through public funds but also through private investment in new technologies in order to speed up the introduction of these new systems;
  19. Calls on the Commission, with due regard for the principle of subsidiarity, to assist Member States with implementation of the eLearning initiative and, *inter alia*, to make their work easier by means of a network for the exchange of experience between Member States;
  20. Calls on the Commission to put forward a plan for making optimum use of public investment in ICT. This plan should cover the problems associated with digital libraries and public points of access to digital media with a view to reducing inequalities and better serving the public interest and the interests of European citizens;
  21. Points out that a quarter of the jobs created in the 1990s related to activities associated

with the information society and that this trend on the employment market has persisted; consequently students need to be properly prepared for a labour market dominated by new technologies;

22. Calls for substantial investment in the education sector so it will be possible to respond to rapid change in the area of new technology;
23. Requests that the Commission, in order to show its support for the Bologna agreements on the creation of a university area of knowledge, should promote joint programmes for the development of ICT, in order to encourage partnerships between different universities to disseminate common knowledge and the voluntary award of the same qualifications;
24. Calls on the Commission to develop programmes to encourage knowledge mobility, scientific and technical cooperation, and technology transfer, and to promote the convergence of ICT languages and supports;
25. Calls on the Commission, together with the Member States, to make use of Community instruments and programmes in pursuing the jointly established goals; the Member States are therefore encouraged to use their Structural Fund allocations for the purpose of equipping schools with computer facilities and training teachers, while a contribution from the educational, cultural and research programmes could be envisaged;
26. Calls on the European Union and the Member States to encourage training in the new technology sectors and to give businesses adequate technical and financial support to deal with the rapid change in the ICT field, including in particular SME's, micro-businesses and independent skilled workers, as called for by the Multiannual Programme for Enterprise and Entrepreneurship (2001-2005);
27. Stresses the importance of encouraging ICT in education as well as in business so as to meet the challenges of the new economy, combat social exclusion and enable certain regions of the European Union to catch up in their economic development;
28. Points out that ICT can create a transnational social and economic area, a factor that must be taken into account in economic, social, education, training and work policies;
29. Calls on the Council and the Commission to set up state or public information and communication networks for education to ensure that there are technological infrastructures;
30. Calls on the Commission and Council, in accordance with Article 158 (ex Article 130a) of the Treaty, which lays down the objective of 'reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions or islands, including rural areas', to introduce a programme financed from the Structural Funds setting up a European educational network of information and communication technologies, which public and private educational centres can join voluntarily. The aim is to create public networks of information and communication infrastructures;
31. Recommends that the Commission undertake a survey of the ICT equipment and how it is used for teaching purposes in the various countries, as this is the only way to complement

and allocate aid for learning in information and communication technologies;

32. Calls on the Member States to make the provision of basic and, in particular, continuing training in new technologies compulsory for teachers and future teachers (which is not currently the case in over half the countries of Europe), so as to ensure that all teachers have the skills they require to use new technologies for teaching purposes while taking a critical approach to them, in particular the Internet (teaching young people to distinguish between information and advertising, between fiction and reality, between the virtual and the real, etc.);
33. Encourages the Member States to implement priority measures for less-favoured areas and vulnerable or disadvantaged groups (such as women, the elderly, minorities, the disabled and the low-skilled), involving the provision of carefully targeted assistance aimed at enabling them to attain satisfactory skills levels and ensuring that resources are allocated more effectively;
34. Calls on the Member States to promote the conversion of teaching and training centres into centres for acquiring knowledge that are versatile and accessible to all, as recommended in the Lisbon conclusions, and to encourage libraries to play to the full their key role in providing universal access to networks and multimedia content;
35. Requests that the Council and Commission, in the interests of all those who wish to pursue learning in Europe, whatever their nationality and status, develop minimum quantity and quality indicators relating to minimum hardware and software requirements, and the quality and appropriateness of content;
36. Calls for the education sector itself to focus on teaching systems, using new technologies and quality content, as a basis for learning and knowledge;
37. Calls on the Commission to support the production and dissemination of high-quality educational software under the Community programmes relating to research and training and further training;
38. Urges the Member States to foster the establishment of links between educational establishments and social bodies and firms with a view to the joint development of relevant, high-quality software which meets the real needs of learners and can be used effectively in ongoing education and training, while taking care to ensure that such a partnership does not undermine the objectiveness and reliability of the content;
39. Stresses that the introduction of ICT should not only be a process emanating 'from above', but should take place in interaction with society owing to the extremely wide range of circumstances and the complexity of the problems involved; considers, therefore, that parents associations, teachers, psychologists etc. should be encouraged to take part in that process;
40. Stresses that, while the Member States have set up varying strategies and policies seeking to promote the dissemination of new technologies in education, and training in their use, cooperation among themselves and with the European Union remains an essential precondition for their success;

41. Calls on the Member States to give tax incentives to suppliers of multimedia equipment and services who offer special rates to educational establishments;
42. Welcomes the Commission's intention to promote fast Internet access for students, and hopes that it will make an effort to promote coordination with the European Research Area;
43. Calls on the Member States to take action to bring down telecommunications prices, with particular reference to the cost of Internet access, as recommended by the Santa Maria da Feira European Council (19 and 20 June 2000);
44. Calls on the Community's financial bodies, such as the European Investment Bank (EIB), to contribute to the efforts being made by the Member States to provide equipment and training;
45. Considers that the problem of adapting schools to the extremely rapid advances and changes in ICT should be studied in the light of budget, technological infrastructure and educational continuity;
46. Instructs its President to forward this resolution to the Commission and Council and the governments and parliaments of the Member States.

## EXPLANATORY STATEMENT

### *Introduction*

Although education was not seen as a priority area of Community action and policy right from the start of the European integration process, over recent years steps have been taken to remedy this situation with a view to responding to new needs and out of a desire to ensure that education is accorded appropriate importance within the European Union. The fundamental role played by education and training was formally acknowledged in the Maastricht Treaty, as is borne out in particular by Articles 126 and 127 of the EC Treaty.

That acknowledgement has been accompanied by the realisation that the EU cannot remain a mere economic grouping but must be first and foremost a community of peoples and of individuals. The institutions are thus paying growing attention to everything which has a direct impact on the lives of EU citizens, and education now stands in a good position in the EU's scale of priorities.

The European Union is now emphasising the importance of knowledge and information. Knowledge is at a premium in today's world, and will become even more so as each new technological advance consolidates the expansion of the information society. The EU has thus decided to adjust to this new situation by introducing a policy of promoting the use of the new technologies in the education sector in particular.

### *The unquestionable advantages of new technologies*

The introduction of ICT in schools provides a unique opportunity to review the learning process and improve the quality of the teaching provided. The new technologies have new and unique advantages which make them the ideal complement to traditional educational methods. They can remedy the current structural weaknesses in the learning process. The activities made possible by ICT are based mainly on the principle of interactivity and can therefore help to offset any tendency towards passivity in students, who are all too often confined to the role of listeners. Furthermore, they make educational establishments – and, thereby, students – more open to the outside world.

Encouraging citizens to familiarise themselves with and master these new tools is a means of enabling them to feel at ease in today's and tomorrow's world. This is particularly true of the world of work, which is becoming increasingly demanding and in which a basic knowledge of computers has now become an almost automatic requirement. At the same time, however, new technologies are an advantage in one's own private life: email provides a new means of communicating and the existence of new technologies and networks that can be used at any time of the day or night gives us all an opportunity to further our knowledge and keep up with new developments easily and without having to call on outside help.

### *An ambitious European policy*

Europe must continue to play its role as a dynamic community and a driving force by encouraging the Member States to launch campaigns aimed at raising awareness of the new

technologies, together with framework programmes to equip all learning centres with computer facilities. Europe must in this way foster a steady improvement in the general level of knowledge among its population, with a view to becoming a genuine 'learning society' – a competitive society based on knowledge and in which knowledge is the driving force.

The EU intends to pursue its current approach, which consists in acknowledging that it is lagging behind the United States, taking action to catch up rapidly and, above all, attempting to get ahead of the Americans. Its ultimate goal, as laid down by the Lisbon European Council of 23 and 24 March 2000, is to become the leading knowledge- and innovation-based economy in the world within the next few years.

The EU is now engaged in practical action aimed at meeting this ambitious target. In the mid-1980s, it started looking into the wide range of opportunities which ICT affords and became aware of the educational benefits that could be brought by its use in schools. Nonetheless, despite the signal lack of quality indicators, all the studies conducted show that the new technologies have not become as much a part of everyday life as might have been hoped and that their educational potential is by no means being used to the full in most Member States. This is the reason for the recent introduction of the eLearning initiative, aimed at providing educational establishments with the necessary equipment and ensuring that ICT becomes an integral part of the teaching process throughout Europe. Hardware, content and services must therefore be of a high quality and must afford everyone a certain degree of autonomy in the use of new technologies. The Union is becoming increasingly open to rapid technological change, which makes it well prepared to adjust to new developments.

#### *Adjustments to be made*

It must nonetheless be pointed out that, despite the efforts being made, there are still a number of shortcomings and problems as regards ICT and its introduction in schools in Europe. Firstly, the EU is lagging a long way behind the United States. Classrooms are ill-equipped – if at all – with computer facilities, and not all teachers have been trained in how to use new technologies for educational purposes. Moreover, there is a sore need for an overall policy to bring all the various initiatives together and enable best practice to be disseminated, and curricula are still too dependent on the goodwill shown by certain teachers.

There are also major disparities between individuals, educational establishments, regions and countries in terms of access to new technologies. One of the principal challenges for the EU is to ensure that everyone has equal access to these new sources of knowledge and information. The most alarming feature of such disparities is that they reflect the same gap between northern and southern Europe that is so often to be seen in other areas. For the sake of fairness and EU cohesion, these differences must be reduced as far as is possible and genuine equality of access must be provided for everyone, irrespective of where they come from. This is particularly important in view of the imminence of the next enlargement: Europe must be able to preserve its cohesion, even with a larger number of Member States.

Lastly, Europe cannot focus simply on ensuring that the youngest members of society are at home with new technologies. In today's world, education requires a broader approach and must be closely linked to the notions of culture and lifelong learning. Access to knowledge and information must know no boundaries and no discrimination.

The educational revolution which the introduction of ICT into all the schools in the Member States entails provides the EU with a unique opportunity to give the education sector a more European dimension through the development of specific content (European software, etc.) and the networking of all educational establishments in Europe. 'Virtual mobility' will then complement - and in many cases be the first step on the way to - physical mobility within the Union.

21 September 2000

**OPINION OF THE COMMITTEE ON INDUSTRY, EXTERNAL TRADE,  
RESEARCH AND ENERGY**

for the Committee on Culture, Youth, Education, the Media and Sport

on the report from the Commission to the Council and the European Parliament on designing tomorrow's education and promoting innovation with new technologies  
(COM(2000) 23 – C5-0147/2000 – 2000/2090(CNS))

Draftsman: Willy C.E.H. De Clercq

**PROCEDURE**

At its meeting of 19 April 2000, the Committee on Industry, External Trade, Research and Energy appointed Willy C.E.H. De Clercq draftsman.

It considered the draft opinion at its meetings of 13 September 2000 and 19 September 2000.

At the last meeting it adopted the following conclusions by 32 votes to 0 with one abstention.

The following were present for the vote: Carlos Westendorp y Cabeza, chairman, Nuala Ahern, vice-chairman, Peter Michael Mombaur, vice-chairman, Ward Beysen (for Nicholas Clegg), Yves Butel, Felipe Camisón Asensio (for Concepció Ferrer), Giles Bryan Chichester, Claude J.-M.J. Desama, Harlem Désir, Glyn Ford, Jacqueline Foster (for Malcolm Harbour), Pat the Cope Gallagher, Neena Gill (for Erika Mann), Norbert Glante, Lisbeth Grönfeldt Bergman (for Anders Wijkman), Michel Hansenne, Werner Langen, Marjo Tuulevi Matikainen-Kallström, Eryl Margaret McNally, Elizabeth Montfort, Angelika Niebler, Reino Kalervo Paasilinna, Yves Piétrasanta, Samuli Pohjamo (for Colette Flesch), John Purvis, Imelda Mary Read, Mechtild Rothe, Esko Olavi Seppänen, Astrid Thors, Jaime Valdivielso de Cué, Alejo Vidal-Quadras Roca, Dominique Vlasto and Myrsini Zorba.



## SHORT JUSTIFICATION

This opinion relates to two documents submitted by the Commission, firstly the Commission report entitled 'Designing tomorrow's education and promoting innovation with new technologies' (COM(2000)23), and second the Communication on 'e-Learning' (COM(2000)318).

1. The Commission report entitled 'Designing tomorrow's education and promoting innovation with new technologies' assesses the Member States' progress in developing national action plans seeking to incorporate information and communication technology (ICT) tools into school education.

Your draftsman welcomes these advances in promoting innovation, developing quality on the supply side and strengthening social cohesion. These last factors are an essential part of achieving the objective of educating young Europeans and helping to integrate them in the new economy.

Your draftsman stresses the need for rapidly bridging the gulf between the development of ICT in the United States – where students already benefit from the extensive availability of computers – and in the European Union: there is a risk that this gap will result in young Europeans lagging behind as regards the quality of their studies and the level of their training for future work.

Your draftsman also stresses the rapidity with which the world of new technology is developing and changing: he would therefore like to see investment in education so the courses on offer are not out of date and keep pace with ICT developments.

Likewise, particular attention should be given to teacher training: teachers may be of a high standard but they are relatively unprepared as regards the tools and learning opportunities offered by ICT.

Taking account at the same time of business requirements, your draftsman calls on the European Union and the Member States not to neglect the need to provide companies with the financial and technical help required for active participation in the world of new technologies and to give their employees a good level of training. In this connection, fostering ICT in schools and companies must go hand in hand: by pursuing both these goals the European Union and the Member States will ensure that the new economy will not only represent a challenge but prove a success and that the risks of economic and social marginalisation will be limited and even eliminated.

In conclusion, your draftsman would like particular attention to be given to the transnational dimension of developing new technology at the social, economic and educational level. The Member States and the European Union are therefore asked to concentrate on this aspect when drawing up relevant policies in the fields of education, training and work.

2. The communication on 'e-Learning' follows on from the strategic goal set for the Union by the Lisbon European Council, 'to become 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 also represents a deepening of the objectives set out in the Commission's communication 'eEurope - An Information Society For All' which identified '[bringing]European youth into the digital age' and 'Fast Internet for researchers and students' as some of the sectors in which action was needed.

In this context education is a priority: the training of tomorrow's adults and their teachers must not be neglected, given the rapid pace of development of the information society.

Your draftsman supports the communication and calls on the Member States to show the political will, and on the Fifteen and the European Union to cooperate closely, so as to enable the objectives set out there to be fully achieved; he also calls on the research sector and on business to make a contribution to the pursuit of these objectives.

Your draftsman also calls for more clarity from the Commission about the measures to be adopted and the funding needed to achieve them, both from the Community budget and out of Member States' contributions. Clarification is also called for on how the resources from the European funds (structural funds, research funds) are to be allocated to the initiatives provided for in the 'e-Learning' communication.

Furthermore, your draftsman draws attention to the costs which families and schools have to bear for the purchase of computers and access to the Internet, and hopes that these can be reduced in order to achieve the objectives set out in the communication.

Finally, your draftsman hopes for greater coordination between the initiatives set out in the 'e-Learning' communication and the European Research Area, and calls on the Commission to encourage the production of educational software and multimedia tools in all the Community languages in cooperation with industry.

## **CONCLUSIONS**

The Committee on Industry, External Trade, Research and Energy calls on the Committee on Culture, Youth, Education, the Media and Sport, as the committee responsible, to incorporate the following conclusions in its report:

1. Welcomes the progress made in the Member States' national action plans for introducing information and communication technology (ICT) in schools;
2. Welcomes the recommendations in the Commission's report on designing tomorrow's education and promoting innovation with new technologies, especially as regards promoting innovation, developing quality on the supply side, and strengthening social cohesion;

3. Calls on the Commission to take steps to carry out a reliable analysis of ITC applications, to classify and evaluate information sources and establish indicators, and to consider the statistical processing of the above to be a top priority, with the emphasis on standardisation of data;
4. Calls on the Commission to set the immediate objective of defining the scientific correlation between information and communication technologies and school results by commissioning studies and taking any effective action so that the investment made produces measurable results;
5. Calls on the Commission to take steps to improve the indicators used to measure the qualitative features of the educational process so that we have reliable and, as far as possible, uniform data;
6. Calls on the Commission to put forward a plan for making optimum use of public investment in ICT. This plan should cover the problems associated with digital libraries and public points of access to digital media with a view to reducing inequalities and better serving the public interest and the interests of European citizens;
7. Points out that a quarter of the jobs created in the 1990s related to activities associated with the information society and that this trend on the employment market has persisted; consequently students need to be properly prepared for a labour market dominated by new technologies;
8. Calls on the Commission and the Member States to make further efforts to bridge the gulf between the European Union and United States regarding the use and command of IT in education and business;
9. Calls for substantial investment in the education sector so it will be possible to respond to rapid change in the area of new technology;
10. Points out that the training of teaching staff is a priority and stresses the urgent need for a comprehensive reform of the educational system so that the learning of ICT is incorporated into an everyday context for schoolchildren and students;
11. Calls on the European Union and the Member States to encourage training in the new technology sectors and to give businesses adequate technical and financial support to deal with the rapid change in the ICT field, including in particular SME's, micro-businesses and independent skilled workers, as called for by the Multiannual Programme for Enterprise and Entrepreneurship (2001-2005);
12. Stresses the importance of encouraging ICT in education as well as in business so as to meet the challenges of the new economy, combat social exclusion and enable certain regions of the European Union to catch up in their economic development;
13. Points out that ICT can create a transnational social and economic area, a factor that must be taken into account in economic, social, education, training and work policies;

14. Welcomes the Commission's communication on e-Learning, which will give a major boost to the dissemination of new technologies in education and to training in their use, and considers that, in order to achieve the objectives set out in the communication, it is essential for the Member States to show the necessary political will;
15. Stresses that, while the Member States have set up varying strategies and policies seeking to promote the dissemination of new technologies in education, and training in their use, cooperation among themselves and with the European Union remains an essential precondition for their success;
16. Considers that all sectors - technological research, business and public authorities - must make a contribution to the pursuit of the objectives set out in the 'e-Learning' communication;
17. Notes that there is a wide disparity among the Member State as regards their capacities for exploiting new technologies in schools and their opportunities to do so, and that an effort must be made to reduce, and even eliminate, the discrepancy in this area;
18. Calls on the Commission to define precisely the measures to be adopted both at EU and at national level, in order to achieve the objectives set out in the 'e-Learning' communication;
19. Calls for new technologies to be made available to all citizens, including those no longer of school age and no longer on the labour market, through the creation of 'electronic communication centres' situated in local authority areas in every region of Europe;
20. Welcomes the Commission's intention to submit all the initiatives adopted in implementation of the 'e-Learning' communication to an analysis of education and training policy measures in order to assess the progress achieved in attaining the objectives set, the effectiveness of measures and policies implemented and the dissemination of best practice and the contribution made to the wider debate on this matter;
21. Calls on the Commission to define clearly the budgetary resources which will fund the initiatives set out in the 'e-Learning' communication and to determine the respective share of national and European funding in these initiatives; also calls on the Commission to clarify which budget headings are entered in the 2001 budget for the funding of measures relating to the objectives set out in this communication;
22. Calls on the Commission to redirect the available financial resources (structural funds, funds for research, etc.) towards projects relevant to this initiative: it must be made clear which funds will finance which initiatives;

23. Welcomes the Commission's intention to promote fast Internet access for students, and hopes that it will make an effort to promote coordination with the European Research Area;
24. Notes that the price of computers is an obstacle to the purchase of computer equipment by families and schools, and that the cost of computers and of Internet access must be reduced in order to achieve the objectives set out in the communication on 'e-Learning';
25. Calls on the Member States to give early consideration to the Commission's initiatives/recommendations on reducing the costs of Internet access (reducing the price of line rental, granting of licences, unbundling of the local loop) and to examine without delay the arrangements for putting them into practice;
26. Stresses the need to make available new multilingual information and communication technologies; hopes in particular that the Commission will undertake support measures so as to encourage the production of educational software and multimedia tools in all the official languages of the European Union in cooperation with industry.

10 May 2000

## **OPINION OF THE COMMITTEE ON EMPLOYMENT AND SOCIAL AFFAIRS**

for the Committee on Culture, Youth, Education, the Media and Sport

on the report from the Commission to the Council and the European Parliament on designing tomorrow's education: promoting innovation with new technologies  
(COM(2000) 23 – C5-0147/00 – 2000/2090(COS))

Draftsman: Michel Rocard

### **PROCEDURE**

The Committee on Employment and Social Affairs appointed Michel Rocard draftsman at its meeting of 28 March 2000.

It considered the draft opinion at its meeting of 8 May 2000.

At the latter meeting it adopted the conclusions below with 8 votes in favour and 5 abstentions.

The following were present for the vote: Michel Rocard, chairman and draftsman; Jillian Evans, Carlo Fatuzzo, Ilda Figueiredo, Hélène Flautre, Stephen Hughes, Dieter-Lebrecht Koch (for Mann), Jean Lambert, Mario Mantovani, Claude Moraes, Herman Schmid, Miet Smet and Helle Thorning-Schmidt.

## SHORT JUSTIFICATION

In 1996 the Council of Education Ministers adopted a resolution relating to educational multimedia software in the fields of education and training<sup>1</sup> with the aim of establishing a general framework for the development of a common education policy.

Since 1996 the technical parameters have changed enormously. The capacities of computers and transmission channels have increased many times over, use of the Internet and e-mail is growing at an astronomical rate, and it is estimated that the software on offer is replaced by updates every 9 months.

At national level, Member States have adopted various action plans with the aim of integrating the instruments of information and communications technology (ICT) into schooling. The Commission report takes stock of the progress made by Member States and at the same time indicates the challenges for the future. From the committee's point of view, the following aspects are important:

### Equipping schools with ICT:

Under the terms of the employment policy guidelines, Member States have adopted the objective of equipping their schools with computers and giving all pupils and students access to the Internet by the end of 2002. At first sight, this seems very ambitious, but a comparison with the USA makes it clear that Europe is by no means a pioneer in this respect: in the USA it is intended that every class should be linked to the Internet by 2000, while most EU States aim only to link all schools to the Internet by 2002.

Upon closer examination, the objective set in the employment policy guidelines is not very precise. It will therefore be necessary for Member States to define it more clearly in their action plans for employment in terms of quantitative and qualitative indicators (e.g. types of school, standard of quality of equipment, number of users per computer).

### Software development:

The Commission observes that the market for multimedia educational programs is still underdeveloped and, above all, fragmented. However, in order for multimedia educational programs and services of quality to be made available, cooperation in partnership is needed between the authorities and industry, as are greater investment in education and changes in teaching methods. Technical, cultural, economic, social and institutional aspects need to be taken into account. The European Community could make valuable contributions to the development of innovative educational software, with due allowance for the European dimension, under the Community programmes relating to research (telematics applications) and education (Socrates and Leonardo).

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<sup>1</sup> OJ C 195, 6.7.1996, p. 8

### Adapting teaching methods and teacher training:

ICT must not simply be tacked onto traditional educational structures. On the contrary, a radical reorganisation of education is called for in terms of physical space, time and substance, the aim being to adopt an integrated approach: lessons at the computer must be complemented by others where the emphasis is on interaction between the teacher and pupils. The physical structure needs to be altered and the strict division of lessons into units of time reconsidered. A new look also needs to be taken at educational objectives: in future, learning of facts should become less important, as the emphasis shifts to promoting problem-solving skills and methods and the ability to make evaluations. Changes to teaching plans should go hand in hand with measures relating to teacher training and in-service training. On the one hand, teachers must be made more aware of how ICT can be used in teaching, while on the other hand, more will have to be done in teacher training to promote teaching skills and social and problem-solving skills. Community programmes relating to training and further training, especially Socrates and Leonardo, could make a valuable contribution here.

### ICT and social integration:

With the growing use of ICT, there is a danger that society may become divided into those who know how to use the new ICT tools and those who do not. The issue of access to the new technologies is therefore a priority from the point of view of society. Promoting ICT should not be confined to schools – or, worse still, certain segments of schools – but must extend to all social and age groups. In other words, it is important to devote attention to equality of opportunity when it comes to access to the new technologies.

## **CONCLUSIONS**

The Committee on Employment and Social Affairs calls on the Committee on Culture, Youth, Education, the Media and Sport, as the committee responsible, to incorporate the following points in its motion for a resolution:

1. Notes that in the employment policy guidelines for 2000 the Member States adopted the objective of equipping their schools with computers and facilitating Internet access by the end of 2002; calls on Member States to define these general objectives by means of practical quantitative and qualitative indicators;
2. Notes that, because of the rapid pace of development of information technologies, large recurrent investments in education will be needed, and advocates that, in order to finance such investments, partnerships be established between the public and private sectors;
3. Calls on the Commission to support the production and dissemination of high-quality educational software under the Community programmes relating to research and training and further training;
4. Considers that the introduction of information and communication technologies in schools should be accompanied by a comprehensive reform of schooling; calls on the



Commission to support this reform by means of basic research into teaching methods under the Community's research policy and by promoting teacher training and in-service training drawing on the Structural Funds;

5. Observes that in order to create a socially just information society, access to information and communications technologies should be open to citizens of all socio-economic strata and age groups; calls on Member States and the Commission, in this connection:
- to promote measures to facilitate access to information and communications technologies for all pupils, including outside regular education;
  - to promote exchanges of know-how concerning how to use ICT between pupils and parents;
  - in developing teaching software, to devote special attention to the specific needs of children with learning difficulties or disabilities.

9 October 2000

## **OPINION OF THE COMMITTEE ON WOMEN'S RIGHTS AND EQUAL OPPORTUNITIES**

for the Committee on Culture, Youth, Education, the Media and Sport

on the report from the Commission to the Council and the European Parliament on designing tomorrow's education: promoting innovation with new technologies  
(COM(2000) 23 – C5-0147/2000 – 2000/2090 (COS))

Draftsman: Helena Torres Marques

### **PROCEDURE**

At its meeting of 11 July 2000 the Committee on Women's Rights and Equal Opportunities appointed Helena Torres Marques draftsman.

It considered the draft opinion at its meetings of 2 and 9 October 2000.

At the latter meeting it adopted the following conclusions by 18 votes to 2.

The following were present for the vote: Theorin, chairman; Eriksson, vice-chairman; Van Lancker, vice-chairman; Evans, vice-chairman; Torres Marques, draftsman; Aviles Perea, De Sarnez, Fraisse, Ghilardotti, Gröner, Karamanou, Klass, Kratsa, Lulling, McNally, Prets, Sartori, Sörensen, Valenciano Martínez-Orozco and Izquierdo Rojo (for Rodríguez).

## SHORT JUSTIFICATION

This opinion is being presented in connection with an analysis of progress achieved in the area of education, information and communication technology and teacher training with a view to preparing for a new stage in European cooperation in this sphere.

Following resolutions and conclusions adopted by the Education Council in 1996, the Commission has carried out an assessment of progress achieved in the past three years and examined the conditions conducive to more harmonious development of actual practice and technologies.

It should be noted, moreover, that the European Council summit in Lisbon set the objective of the introduction of a 'learning society'. This objective emphasises the essential challenge presented by lifelong training, which goes beyond an approach solely focused on learning at school and concerns the child's environment, and in particular his or her parents.

### - *A more ambitious European policy*

Your draftsman recognises the potential and the opportunities offered by the information society in terms of job prospects and access to decision-making. She is aware, nevertheless, of the need for measures to be adopted to avoid creating a society divided between those able to utilise, and take advantage of, technical progress and those that remain ignorant of, and outside, the information society.

Your draftsman wishes to point out that women represent a majority of the excluded section of the population. The development of new information technologies must therefore take place within an inclusive process and not represent a source of further exclusion. Additional efforts need to be made in relation to girls, women teachers and women in their capacity as mothers.

The European Union must promote the development of a consistent global strategy over time. Access to new technology should not be confined to schools, but should include all social groups, with attention being paid in particular to ensuring equal opportunities in terms of access to new technology. Promoting the development of high quality provision means stepping up public investment by way of priority in the quality of Internet access structures (fast connections, local networks) and not only in schools but also in public places such as libraries and multi-purpose premises.

### - *Strengthening social cohesion*

The process of bringing about more widespread use of ICT in education can only be reinforced if initiatives introduced take account at all levels of the needs of those who are less advantaged because of economic, social or geographical circumstances.

We would point out that, in the vast majority of situations, responsibility for following through the child's schooling, outside the school, lies with the mother. In the case of single parent families and among the more disadvantaged, the responsibility is all the greater.

The Commission needs to pay greater attention to the need to introduce specific programmes to ensure more equal access and encourage the development of alternative ways of raising awareness and providing training and access to ICT for such sections of the population, and in particular women.

- ***From information and communication technology (ICT) to interactive multimedia services***

Education presupposes quality and consistency of information. That information has to be identified, structured and combined in a relevant way in a specific context. Greater understanding is needed of the challenges presented, which should be more clearly defined. ICT can be conducive to active teaching methods and enable the quality of teaching to be improved.

We would note that use of educational multimedia is still based essentially on video, television programmes and software. Use of the Internet and electronic mail is still lagging well behind.

The uses of ICT for the most advanced teaching purposes are to be found in primary education. This involves the use of more varied, attractive, game-oriented multimedia software for purposes of socialisation. There should also be access for everyone at the secondary level in order to avoid information technologies remaining a male-dominated field. The Commission needs, at this stage, to pay careful attention to multimedia content, which too often is designed by men, and promote a positive role for girls.

The challenges presented from the point of view of education also relate to the new opportunities for exchanges between pupils, teachers, parents and external partners, given the possibilities for interaction via the Internet. This means motivating and supervising children, so as to allow such exchanges, based on curiosity, discovery and experimentation, to become a part of the education process. In addition to training in the necessary tools, there is a need for investment in training focused on innovative teaching practices. Parents and those involved in education should be able to be brought together within the context of local initiatives.

Finally, specific measures need to be taken to encourage women to go into the multimedia industry, and to ensure that content meets girls' needs, avoiding gender stereotypes.

- ***Transforming the acquisition of knowledge***

Education policies and the modernisation of education systems present essential demands. Information technologies are not merely teaching material to be added to a syllabus. Transforming the way in which knowledge is acquired can have the effect of changing all aspects of teaching and learning.

The increase in the number of women in the teaching profession has not led to a comparable rise in the number of women holding positions of responsibility. Continuous training should

encourage and assist women to apply for posts involving promotion. Regrettably, education systems can all too often be observed to be responsible for maintaining discrimination based on gender in society, throughout a person's school career.

## CONCLUSIONS

The Committee on Women's Rights and Equal Opportunities calls on the Committee on Culture, Youth, Education, the Media and Sport, as the committee responsible, to incorporate the following points in its motion for a resolution:

1. Notes that, within the framework of the new guidelines for employment strategy adopted at the European Council summit in Lisbon, the promotion of a high level of employment is an essential objective of the Union; for women, this is to mean an increase from 51 % to 60 % over the next ten years. Any new growth in employment should also entail a significant increase in employment rates among women; information and communication technologies (ICT) offer Europe new opportunities in terms of growth and job creation;
2. Notes that new technologies are a vital factor in development, but could also lead to a new form of discrimination and exclusion of women, who are already under-represented in this sector. Considers that it is important to avoid the information society's aggravating the divisions in society in general and on the labour market; to that end, all pupils must be ensured equal access to training in information technologies and in particular access for girls must be promoted. It is essential that women are included in the development process, bearing in mind that one in two jobs is created in the new technology sector. Everyone should be aware of the place of women in the labour force and of likely future requirements for human resources in this sector (more than 1.6 million persons up to 2004). ). The opportunity to implement an inclusive process by developing training programmes suited to women should not be lost;
3. Calls on the Commission, within the framework of future Community programmes, to encourage the drive in terms of research and social and technical experimentation in order to anticipate likely developments in the area of the organisation of education and training and to bring best practice into widespread use. The objective is to encourage the exchange of knowledge between pupils and parents within a multi-purpose environment accessible to all;
4. Welcomes the Commission's report and considers that the Commission should commit itself to measures in the following three areas:
  - promotion of initiatives favouring pragmatic approaches involving support, coordination and development of exchanges of experience in connection with such initiatives, taking account of women's needs and in particular the needs of those who are less advantaged because of economic, social, geographical or other circumstances or because of disabilities. Outside school hours, schools should be favoured as a place for access to training, the idea being to allow full benefit to be derived from public investment in this area;

- encouragement for the development of appropriate educational software (containing progressive levels allowing pupils to advance at their own pace), by means of cooperation between schools and companies, avoiding gender stereotypes and providing positive models for girls;
  - ensuring that the quality of products is provided for in a service contract between suppliers and schools in order to ensure that they are kept continuously up to date;
  - pursuing discussions with the sectors concerned in order to try to find a solution to the problem of licences for software programmes for schools;
5. Stresses its commitment to the concept of the 'learning society', namely the necessity for people to participate in lifelong training, taking account of the fact that women still today have a dual role. Women and girls should be encouraged to take part in education and training programmes, in particular in scientific and technical subjects, leading to a wider choice of occupations. Priority must be given to women teachers in order to enable them to have use of suitable, high-performance equipment both in the school and at home, for the purpose of providing lifelong training;
  6. Requests that priorities in terms of equipment and infrastructure are laid down in view of the rapid development in information technology sectors. It would be desirable for public investment to focus by way of priority on the area of Internet access infrastructures (fast connections, local networks) and the development of high quality on-line services and content;
  7. Calls, for the same reasons, for concentration of public investment, which should mean the authorities facilitating, inter alia, the purchase or hire of computers by families and developing specific measures for disadvantaged families in order to promote equality of access, equipping and connecting-up of homes;
  8. Notes that accessing the new technologies means being at the centre of the world. Local initiatives, which provide a necessary context for access to infrastructures, should promote awareness among all men, and in particular all women, of the fact that the new technologies allow access to professional, geographical and cultural networks, making distance and peripheries irrelevant. In certain respects, such networks can promote social and regional cohesion;
  9. Stresses that each country of the European Union, with the support of the European Commission, must strive to ensure that advertising agents do not present new technologies as essentially designed for men. They must exploit women's abilities in this area, bearing in mind that knowledge of new technologies is primarily passed on by women teachers, who represent the great majority of the teaching world at the level of compulsory education.