SURVEY ON TECHNOLOGY ENHANCED LEARNING IN SOUTH EASTERN EUROPE

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THE EUROPEAN TRAINING FOUNDATION (ETF) IS THE EUROPEAN UNION'S CENTRE OF EXPERTISE SUPPORTING VOCATIONAL EDUCATION AND TRAINING REFORM IN THIRD COUNTRIES IN THE CONTEXT OF THE EU EXTERNAL RELATIONS PROGRAMMES

SURVEY ON TECHNOLOGY ENHANCED LEARNING IN SOUTH EASTERN EUROPE

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EXECUTIVE SUMMARY

Information and communication technologies (ICT) are considered as particularly relevant in providing a foundation for lifelong learning for citizens. Confident use of the new tools for accessing widespread knowledge are core skills in the emergence of the knowledge-based economy 'in order to be on a better footing in terms of equal opportunities in a world in which digital functions are proliferating'[1]. ICT facilitate further development of human capital; incorporated in education and training reform strategies they contribute to an inclusive society and the well-being of citizens.

Making the new technologies work for the requirements of the lifelong learning and knowledge-based economies is a challenge for South Eastern Europe (SEE) countries. The modernisation of the economy, changes in the education systems, changes in the interactions between governments and citizens; all these require a broad-based policy approach that will recognise the potential of new technologies.

Through its insight into technology enhanced learning in Bulgaria, Romania and Turkey, as well as the Western Balkan countries – Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia and Montenegro (including Kosovo) – this *Survey on technology enhanced learning in South Eastern Europe* offers policy-makers a means to better understanding of the ways in which e-learning as a tool can

complement ongoing reform in the education and training sector. The survey highlights where gaps exist and what policy measures might be recommended to feed into the overall reform process in SEE countries that could be reflected in Phare, CARDS or other relevant EU programmes. It also aims to continue and complement the efforts the European Training Foundation (ETF) has made to date in the fields of technology enhanced learning, thus contributing to the implementation of the eEurope Action Plan, the eLearning Action Plan and the eLearning Programme, which is of relevance not only to Member States but also to SEE countries.

The survey was undertaken by an ETF team together with an external expert, from July to December 2004. It employed different methodological tools – questionnaires in English and local languages, field visits and desk-based analyses and research. The stakeholders involved in the survey were mainly ETF partners in the region that had cooperated in the overall education/labour market reform context. They included government ministries (education, labour/employment, economy, finance and others) and associated agencies; universities; training centres and institutes (including distance education centres); chambers of industry and commerce; employers' associations; national observatories; statistics institutes; national and international foundations; international donor organisations; industrial enterprises (private sector); secondary and vocational education and training (VET) schools.

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[1]   COM(2000) 318 final, 'eLearning – Designing tomorrow´s education', 24.5.2000, p. 4.
      http://europa.eu.int/comm/education/programmes/elearning/comen.pdf

The term e-learning used in the survey refers to the concept of technology enhanced learning and reflects the wider EU notion of 'the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration'[2].

Although there is a lack of reliable data in the SEE countries, which makes the assessment more difficult, the survey still provides a good basis for judging the situation of e-learning in the region. SEE countries are committed to further developing e-learning: for example the Ministry of Education and Science in Croatia provides ICT equipment for VET schools and general secondary schools in the country in line with the e-Croatia Programme adopted in 2003; while Bulgaria and Romania, on their way to EU membership, adopted the eEurope+ Action Plan in 2003, in which considerable attention is paid to the implementation of ICT in education and training.

To grasp the different characteristics of e-learning as a tool, the survey traces the tangible indicators of policies on teaching and using information technologies. It is structured around six key areas: legal and policy arrangements, public awareness, infrastructure, methodology, teaching and learning resources, and national and international cooperation and networking.

Follow-up in-depth reviews at national level, including recommendations for implementation in a specific country context, might be considered as a follow-up to the survey.

MAIN FINDINGS

Legal and policy arrangements

There are several laws relating to ICT in the majority of the countries reviewed, which may have some impact on e-learning. However, there is no specific law in any of the SEE countries in which the current status of e-learning is laid down. In most of the target countries there is no strategy (programme, action) to facilitate e-learning in line with the EU eLearning Action Plan, and the Ministry of Education is the coordinating body in the field of e-learning. In key e-learning policy areas considered crucial for the countries – investment in and promotion of ICT infrastructure and equipment in public and private education or training institutions; initial training and upgrading of teacher/trainers to enable them to provide and manage e-learning as an integral part of education and training; development of contents (educational software, programmes, courses, modules, etc.) and quality assurance mechanisms; development of efficient e-learning support services (national e-learning portals, sector-related databases, support hotlines, etc.), the survey clearly indicated a general urgent need for action.

Public awareness

Public awareness plays a pivotal role in the development of e-learning in the target countries. It is important to point out the two, interlinked, dimensions of public awareness in this connection – awareness in its literal meaning and that of basic acceptance. The overall picture suggests that in general the level of acceptance of e-learning is not high. The reason for this is not basic objections or resistance to e-learning as a whole, but a general lack of awareness of its character, advantages and potential. However, the survey showed that acceptance of e-learning among university teachers is comparatively good and is similar to EU countries – universities are pioneers when it comes to developing, introducing and implementing new learning technologies and methodologies.

Infrastructure

About 80% of education and training institutions (ETIs) in the targeted countries indicated that they are insufficiently equipped to set up and deliver e-learning programmes. However, most ETIs made

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2   COM(2001) 172 final, 'The eLearning Action Plan – Designing tomorrow's education', 28.3.2001, p. 2.
     http://europa.eu.int/eur-lex/en/com/cnc/2001/com2001_0172en01.pdf

clear that, although they had indicated a variety of investment needs and do indeed plan to invest in these fields to develop e-learning, they will have problems covering these needs given their serious lack of funds. The survey indicated that the main areas for investment included both hardware and software, as well as video conferencing and e-learning platforms.

Methodology

The current situation and long-term developments in ETIs in the target countries show a clear trend towards increasing use of ICT and tools facilitating the development of e-learning, including the Internet, email, CD-ROM/DVD, LCD projector and video conferencing. Most ETIs intend to introduce and develop e-learning within their current organisational structures. Organisational changes are considered necessary once a certain level of e-learning use has been achieved. The largest current extent of use of the Internet, email and CD-ROM was found with respondents from Croatia (27%), the former Yugoslav Republic of Macedonia (30%) and Kosovo (23%–37%). The survey indicated that the countries do not pay much attention to such 'classical' means of communication as video and audio tapes or television and radio broadcasts in connection with advanced ICT and e-learning tools. A clear trend emerged towards increasing numbers of advanced e-learning programmes, including web-based and computer-based training and blended learning, although the majority of institutions do not apply any special quality-assessment methods.

Teaching and learning resources

In terms of the availability of e-learning resources (institutional, human, programme, ICT, material, financial, Internet access for teachers/trainers and learners), the survey indicated a moderate level, whereas the availability of financial resources is particularly low. Learners are not provided with special support to allow them to make effective use of e-learning programmes. A closer look at the current human resources involved or to be involved in e-learning in the targeted countries reveals that ICT skills training is not

included, or only partially included, in the curricula of teacher/trainer initial training and that there is no regular upgrading or retraining in this field.

National and international networking

About 90% of ETIs are not involved in any national and/or international e-learning consortia. Such networks and programmes include EDEN, Phare, Socrates and the Fifth Research and Technological Development (RTD) Framework Programme. The few ETIs that had been involved in these programmes clearly indicated that they had benefited in terms of awareness of EU learning policy and programmes, access to know-how and development of skills, not to mention funding. The survey indicated that capacity building among teachers, trainers and relevant administrative staff, which should mainly be implemented through the efficient transfer of knowledge from the EU to the target countries, would prepare the ground for effective cooperation with EU countries on e-learning. The introduction of changes such as EU funding of equipment, active participation in EU projects and the development of a national e-learning strategy, for example in the form of an action plan, were seen as crucial to ensure effective cooperation.

RECOMMENDATIONS

As the potential of ICT in education and training is not fully exploited in SEE countries, the suggestion is to integrate e-learning in the ongoing education and training reform process while taking into account country specificities. Further development of the legal framework is required to support the comprehensive integration of ICT into education and training, awareness-raising activities and implementation of pilot projects, setting up sustainable resources for financing e-learning, changing organisational structures and bodies to reflect innovations introduced through e-learning, and teacher training in ICT including curriculum reform, as well as systematic data and information collection to pave the way for better national and international cooperation.

Action in all areas relating to e-learning policy is urgently required. Investment in and development of infrastructure (mainly equipment) and technologies is considered to be an essential prerequisite for the more effective use of e-learning in education and training. Raising awareness of e-learning on a nationwide scale is also a very high priority. Well-targeted promotional campaigns at national level through a variety of channels – the media, ministries and other stakeholders – should be carried out to this effect. The need to train teachers and trainers is a major requirement to enable staff to handle e-learning technologies and methodologies in a professional way and is considered as one of the preconditions for the successful implementation of any e-learning policy.

1 INTRODUCTION

1.1 OVERVIEW OF EUROPEAN COMMISSION E-LEARNING INITIATIVES AND ACTIONS IN EU MEMBER STATES

Information and communication technologies can contribute to the improvement of education and training; providing the foundation for developing the lifelong learning skills at the core of the EU movement towards a knowledge-based society. Supporting the efforts of the member states in this direction, the European Commission has adopted a number of documents that provide the policy framework, strategic basis and operational guidelines for all projects and activities relating to e-learning in the EU.

The 'eLearning – Designing tomorrow's education' initiative, launched at the European Council meeting in Feira (Portugal) in June 2000, sets out the guidelines and actions through which member states should reach the Lisbon goal for Europe 'to become the most competitive and dynamic knowledge-driven economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion' by 2010[3].

The e-learning initiative comprises four main lines of action: infrastructure and equipment; training; favourable conditions and priority areas for innovation and development; and strengthening cooperation and dialogue at all levels. Defined as 'the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration'[4], e-learning brings together the general thinking of the Council on the effective

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[3]   COM(2000) 318 final, op. cit., p. 3.

[4]   COM(2001) 172 final, op. cit., p. 2.

integration of ICT in education and training.

The initiative is further supported by the eLearning Action Plan 2001–04, launched by the European Commission on 28 March 2001 as part of the more comprehensive eEurope 2002 Action Plan. Covering areas such as eGovernment, eBusiness and eHealth, the Action Plan presents ways and means of implementing the e-learning initiative. 'The intention is to involve education and training players, as well as the relevant social, industrial and economic players, in order to make lifelong learning the driving force behind a cohesive and inclusive society, within a competitive economy[5].' This Action Plan 'identifies the areas in which it will contribute, and mentions the programmes and instruments that will enable EU Member States and other European countries participating in these programmes to act'. Moreover, the Action Plan 'sets out concerted key measures for each of its lines of action (infrastructure, training, services and content, cooperation)'[6]. The aim is to allow Europe to exploit its strengths and overcome the barriers holding back the uptake of digital technologies and contribute to increased competitiveness.

The eEurope+ Action Plan included the former acceding countries, now EU Member States, as well as Bulgaria and Romania, in the process. Several assessments have been carried out on the implementation of the Action Plan in all 25 EU countries, Bulgaria and Romania, through the use of benchmarking and monitoring surveys. The results are collected in a progress report issued in February 2004[7].

The European Commission's steps towards realising the vision of technology serving lifelong learning are based on Decision No 2318/2003/EC of the European Parliament and the Council of 5 December 2003 which establishes the eLearning Programme (2004–06) as 'a multi-annual programme for the effective integration of information and communication technologies (ICT) in education and training systems in Europe (eLearning Programme)[8]. The programme is open to the 25 EU Member States as well as to candidate countries. Its objectives are:

(a) to identify the actors concerned and inform them of ways and means of using e-learning for promoting digital literacy;
(b) to exploit the potential of e-learning for enhancing the European dimension in education;
(c) to provide mechanisms for supporting development of European quality products and services, and for exchange and transfer of good practices;
(d) to exploit the potential of e-learning in the context of innovation in teaching methods with a view to improving the quality of the learning process and fostering the autonomy of learners.

The decision also outlines the areas and actions of interventions together with implementing procedures.

Taking a longer perspective on the development of education and training (2001–10), an ICT Working Group has been set up mainly focusing on the educational use of ICT in schools, including initial vocational education.

The future sees the development of a new programme (2007–13) which aims at integrating e-learning both at education sector level (school education, higher education and advanced training, initial and continuing VET, adult education[9]) and in a horizontal way through transversal programmes to encourage lifelong learning and innovation[10].

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[5] Ibid.

[6] Ibid.

[7] The complete progress report is available on the European Commission website. http://europa.eu.int/information_society/eeurope/2005/doc/all_about/benchmarking/eeuropeplus_progress_report.pdf

[8] Decision No 2318/2003/EC, OJ L345, 31.12.2003. http://europa.eu.int/eur-lex/lex/JOHtml.do?uri=OJ:L:2003:345:SOM:en:HTML

[9] These European Commission programmes include Comenius, Erasmus, Leonardo da Vinci and Gruntivig.

The eEurope 2005 Action Plan, launched by the European Commission on 28 May 2002, focuses on 'the widespread availability and use of broadband networks throughout the Union by 2005 […] and the security of networks and information, eGovernment, eLearning, eHealth and eBusiness'[11]. As the successor of eEurope 2002 Action Plan, it comprises four separate but interlinked tools: **policy measures** – identifying those areas where public policy can provide added value; **good practices** – to facilitate the exchange of experience; **benchmarking** – to better monitor and focus policy measures; and **overall coordination of existing policies** – bringing synergies between proposed actions.

The eEurope 2005 Action Plan has recently been followed up by a Communication, which sets as its main objective 'to take stock of the achievements, consider the coming challenges and identify policies to address them'. It also 'aims to launch a broad policy debate on an EU Information Society strategy beyond 2005. It gives an indication of the main areas where EU level policy on ICT can make a difference'[12].

The Communication launches a process of reflection in order to put into place a new policy agenda by 2006. The EU Member States, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, as well as the eEurope Advisory Group, will be part of this process over the coming period.

1.2 OVERVIEW OF E-LEARNING INITIATIVES AND ACTIONS IN SEE COUNTRIES

The Stability Pact for South Eastern Europe has included the Western Balkan countries as a regional activity in the EU process through eSEEurope[13]. The eSEEurope Agenda for the Development of the Information Society was signed in Belgrade on 29 October 2002 by Stability Pact partners Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, and Serbia and Montenegro, which have committed themselves to implement the Agenda.

The current situation concerning the development of an e-learning policy framework and its implementation in the individual target countries is briefly outlined below.

In Albania, a National Strategy for Development of ICT was accepted by the government in early 2003, but its implementation has been delayed. There is no specific national e-learning action plan.

In Bosnia and Herzegovina, a Policy, Strategy and Action Plan for Information Society development has been prepared by the Ministry of Transport and Communications together with the United Nations Development Programme (UNDP). Although the policy and strategy are still not formally accepted, there are important state initiatives, programmes and projects relating to information society development[14]. Three key laws on electronic signature, e-business and certification were recently adopted.

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[10] These European Commission programmes include transversal programmes in policy development, ICT, language learning, dissemination, as well as the Jean Monnet Programme (European Institutions, European Associations). More information can be found on the European Commission website, Directorate-General Education and Culture. (http://www.europa.eu.int/comm/education/programmes/elearning/index_en.html)

[11] European Council, 'Barcelona Presidency Conclusions', para. 40. http://ue.int/ueDocs/cms_Data/docs/pressData/en/ec/71025.pdf

[12] COM(2004) 757 final, 'Challenges for the European Information Society beyond 2005', 19.11.2004, p. 4. http://europa.eu.int/information_society/eeurope/2005/doc/all_about/new_chall_en_adopted.pdf

[13] Countries participating in eSEE: Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia and Montenegro, Moldova. http://www.eseeinitiative.org/

[14] *The ICT Sector Status Report*, November 2004; eSEEurope Stability Pact.

In Croatia, compared with other countries in the region, the developments are linked to a strong policy background and conditions for e-development. A development strategy, 'Croatia in the 21st Century', was prepared in 2000. The Croatian e-government strategy is set out in the 'e-Croatia 2007' programme, adopted in December 2003 based on the principles and priorities outlined in the eSEE initiative[15]. The e-Croatia strategy sets the objective of providing online access to key services in public administration, health, education and the justice system by 2007. In addition to developments in terms of policy, legislation and regulations, in Croatia there are strong ICT infrastructures and services, creating a climate for decreasing the digital divide. In terms of e-learning, a number of pioneering projects and activities are taking place.

In the former Yugoslav Republic of Macedonia an official national ICT strategy has not yet been formally developed and accepted. However, a strategic document was adopted by the government and endorsed by parliament in 2002 – 'e-Declaration 2002'[16], which suggests the introduction of ICT education at the level of basic education.

In Serbia, a strategy for ICT development has not yet been finalised. Most of the activities defined by the eSEE Agenda are under development but have not been implemented.

In Montenegro, a national Information Society Strategy and Action Plan were prepared and a Draft National Strategy adopted in June 2004[17]. In accordance with the strategy, a government body has been set up and some initiatives taken to develop information society.

Compared with the rest of the target countries, the development of the information society in Kosovo has made least progress. Related policy and strategy have not been formally developed and accepted. Several initiatives have however been taken, mainly dependent on the involvement of international organisations and agencies.

In Bulgaria there has been a National ICT Strategy since 1999 and a new version is currently under development. In 2001, Bulgaria joined the eEurope+ Action Plan initiative, the implementation of which is under way. Several specific projects have been funded and launched by UNDP, such as the development of a Coordination Centre on ICT, the development of a National Research and Educational Network for information society technologies, and the establishment of a broad network of public telecentres (T-centres) to provide services (including e-learning) to the widest possible range of users in small or economically underdeveloped communities.

In Romania a National ICT Strategy was adopted in 2001. A project to specifically implement this strategy was aimed at the development of e-governance at national level. In 2001, Romania joined the eEurope+ Action Plan initiative and implementation is under way. According to the Romanian Ministry of Education, 57% of schools had Internet access in 2003[18].

The Turkish government has adopted an Urgent Action Plan, with e-learning as one of its main components, which aims to reach EU standards.

1.3 ENVIRONMENT RELEVANT TO THE SURVEY

Socio-economic situation in South Eastern Europe

During the 1990s, all the countries of South Eastern Europe faced a dramatic decrease in their productive capacity and economic output. Although in the first years of the 21st century the region has been growing fast in

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15   http://www.mvp.hr/progr_vlade2004.htm

16   http://www.itu.int/wsis/geneva/coverage/statements/fyrmacedonia/mk.html

17   http://www.gom.cg.yu/files/1098887088.doc

18   Central and Eastern Europe, Information Society Benchmarks, *Country Analyses*, September 2004.

Table 1: Unemployment rate in South Eastern Europe countries, 2003

	Albania	Bosnia and Herzegovina	Croatia	Serbia	Montenegro	Kosovo	EU-15
Unemployment rate (%)	22.7	n/a	14.1	18.2	24.5	n/a	7.7

Source: ETF Key Indicators database from Labour Force Survey.

relation to the rest of the world and the economic climate seems to be improving[19], production levels still remain lower than at the end of the 1980s (with the exception of Croatia), while serious structural economic problems must be faced for dynamic economic growth to generate substantial job creation.

The privatisation process, in particular that of major companies employing large numbers of people, remains slow (with the exception of the former Yugoslav Republic of Macedonia). The small and medium-sized enterprise (SME) sector, the importance of which is generally recognised, remains modest due to uncertainty and lack of trust as well as reduced access to development funds by potential small businesses.

Economic growth in Bosnia and Herzegovina, Kosovo and Montenegro is still dependent on international assistance (or aid-led economic growth) with unclear perspectives for self-sustaining domestic growth until now. Modernisation of the public administration systems, one of the main EU priorities for the region[20], is ongoing and most countries in the region still need to make serious efforts to address the corruption that creates a negative economic environment.

Labour markets are rigid and characterised by low mobility of the labour force, with the result that those in work hold on to their jobs (even in cases of underemployment or hidden unemployment) while those who do lose their jobs, together with new entrants, remain on the unemployment register for long periods or work in the informal sector. Unemployment remains high. Young people, low qualified, refugees and displaced persons, Roma and other ethnic minorities are particularly exposed to (long-term) unemployment[21].

In 2003 the unemployment rates were still much higher than in EU countries (Table 1).

In view of this complex economic and social situation, high levels of emigration have deprived the region of the most dynamic and often well-educated part of the population.

According to INSTAT data, 600 000 Albanians – mainly 20–30 year-old men – have emigrated in the last 10 years. This amounts to 18% of the total population. In Serbia 300 000 people, mostly well-educated, have left. Substantial emigration levels are also reported from the former Yugoslav Republic of Macedonia, with the better-educated making up a high percentage. The same situation exists in Kosovo and Montenegro[22].

Over 50% of the population of South Eastern Europe are involved in low-productive and low-skilled activities such as artificial employment in public enterprises and unstable jobs in the informal sector, or are not involved in any activity at all, either because they stay longer in education or are simply inactive. Most people are therefore completely dissociated from the labour market, giving rise to a negative impact on the (re)generation of skills. In combination with emigration and the 'brain drain', there is a risk of creating a structural

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19 European Commission, 'The Western Balkans in transition', *European Economy*, Occasional Papers No 1, January 2003.

20 European Commission, Communication to the Council and the European Parliament on the Stabilisation and Association process for countries of South Eastern Europe, COM(99) 235 final, 26.5.1999.

21 Fetsi, A., ETF, 'Vocational education and training reforms in South Eastern Europe', *ETF Yearbook 2004*, ETF, 2004, p.58.

22 Fetsi, op. cit. p. 60.

Table 2: Participation rates (%) in education and training, 2002

	Albania	Croatia	FYR of Macedonia	Serbia and Montenegro	Kosovo	EU-15
15-year-olds	49.5	91.8	80.8	91.0	52.2	98.3
17-year-olds	34.8	83.9	70.8	79.7	36.9	–
18-year-olds	18.0	59.8	47.1	56.5	n/a	74.0
20-year-olds	14.0	32.8	21.0	n/a	n/a	48.0

Source: ETF Key Indicators database from Labour Force Survey.

shortage of skilled labour in the short- and mid-term, thus adding an additional constraint to the economic and social development of the region[23].

The situation becomes even more serious when one takes into account that some countries, such as Albania, Bosnia and Herzegovina and the former Yugoslav Republic of Macedonia, started the modernisation of their societies almost a decade ago. Large numbers of people who have been continuously exposed to unemployment, irregular employment and poverty may have already become discouraged and developed a culture of dependence and occasionally illegality[24]. On the other hand, Croatia (which is the best off country in the region in both economic and social terms), Serbia and Montenegro (including Kosovo) have only recently entered the process of social modernisation and despite their serious socio-economic problems still have a chance to prevent serious deskilling of their populations if unemployment/inactivity and poverty does not become a chronic phenomenon.

In terms of participation in education and training, the situation is still problematic in some countries (Albania and Kosovo), particularly in upper secondary and tertiary education (Table 2). There is typically a low access of poor, rural, Roma and other minority populations as well as a high drop-out rate.

The tense economic situation in most of the SEE countries is at least partly mirrored by public expenditure on education, which has slightly increased over the last few years although still below the EU average (Table 3).

Bulgaria, Romania and Turkey

Bulgaria has technically completed accession negotiations with the EU. On its way to Europe, Bulgaria has achieved remarkable results. The creation of the

Table 3: Public expenditure on education and training, 2002

Country	% of total public expenditure	% of GDP
Albania	8.4	2.7
Bosnia and Herzegovina*	15.8	4.1
Croatia	15.6	4.2
FYR of Macedonia	–	–
Serbia [r]	8.5	4.7
Montenegro [1]	11.2	4.2
Kosovo	7.5	3.6
EU 25 [1,e]	–	5.1

Sources: ETF Key Indicators database; Eurostat.

[1] Year of reference 2001
* Data refer to Republika Srpska only
[e] Estimation
[r] Revised value

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[23] Ibid.

[24] Ibid.

Currency Council in 1997, the consolidation of public finances, including a remarkable reduction of foreign indebtedness (national dept only 35.8% of GNP), far-reaching structural reforms and privatisation of nearly all state enterprises have contributed to macroeconomic stability.

The Bulgarian economy continues to develop rapidly. The annual GDP growth rate was 4.3% in 2003. The labour force activity rate of the population aged 15–64 was 60.9% in 2002, which is low compared with the EU average of 69.7%. In 2003 the unemployment rate was 13.6%, down from 17.8% in the previous year. The youth unemployment rate went also down (27.7% in 2002). Long-term unemployment remains an issue of concern. National data shows that 66.3% of the total unemployed in the fourth quarter of 2003 were long-term unemployed[25].

By and large, the general economic development in Romania has been positive over the last few years. The annual GDP growth rate in 2003 at constant prices was 4.9%. GDP per capita represented 28% of the EU-15 average and about 26% of the EU-25 average. Changes in the structure of gross value added were minimal compared with the previous year. In 2003 the structure of gross value added in the GDP was as follows: services 49%, industry 31%, agriculture 13% and construction 6%[26].

Despite this generally positive development, there is still a great need for reform. Government economic policy focuses on the privatisation of the still numerous state enterprises. Some 50% of all employees work in private businesses. In 2003 the foreign trade balance deficit increased by 35% compared with the previous year. Reform in the employment sector is making little progress. The unemployment rate in 2002 was 7%. However, there is a very high rate of hidden unemployment and long-term unemployment is a serious problem.

Following deep recession and a severe economic and financial crisis in 2001, Turkey has recently been on the way to economic recovery. According to the Turkish State Institute of Statistics, in 2003 the provisional GDP annual growth was 5.9%. The employment rate was very low, 46% in 2002 compared with the EU average (64%). Female participation in the labour market was also very low (26%) compared with the EU average (52%). The Household Labour Force Survey data from the third quarter of 2003 indicate that the unemployment rate was 10.3%, a slight decrease on the previous year (10.6%). The unemployment rate in the non-agricultural sector is 14.6% while unemployment for educated youth (having completed secondary education) is 25.4%. In the 12–17 age group, 948 000 children are currently working, a decrease of 22.3% over the previous year. Some 58.9% of these children work in rural areas and 55.6% of them are male.

The ICT environment

The ICT environment in the countries considered in the survey is difficult to assess, given the limited data and in particular data comparable to EU statistics. However the data below allow the situation to be judged to a certain extent.

Croatia and Bulgaria are relatively well equipped with telephone main lines, although they are still far behind EU countries. A similar situation exists with personal computers, with Croatia being much better equipped than the other target countries (Table 4).

Concerning the number of Internet users, there is a clear increase in all target countries in 2003 compared with the previous year, with Croatia, Bulgaria and Romania being fairly well off, although still far below EU figures (Table 5).

ICT expenditure as a percentage of GDP shows that although there is a trend of improvement compared with previous

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[25]   ETF, Enlargement, Bulgaria, *Country profile*, December 2004. http://www.etf.eu.int/

[26]   *Review of progress in vocational education and training reform in Romania*, ETF, 2004.
       Data from New Cronos database and Structural Indicators, Eurostat, 2004.

Table 4: ICT data for countries in the survey

	Telephone main lines per 1 000 inhabitants (2001)	Personal computers per 1 000 inhabitants (2001)
Albania	50	7.6
Bosnia and Herzegovina	111	–
Croatia	365	85.9
FYR of Macedonia	263	–
Serbia and Montenegro, including Kosovo	229	23.4
Bulgaria	359	44.3
Romania	184	35.7
Turkey	285	40.7
EU-15	540	310.0

Sources: Development Data Group, World Bank; Eurostat, 2000 data.

Table 5: Internet usage

	Internet users per 10 000 inhabitants (2002)	Internet users per 10 000 inhabitants (2003)
Albania	38.96	97.63
Bosnia and Herzegovina	262.12	n/a
Croatia	1 803.84	2 318.24
FYR of Macedonia	484.50	n/a
Serbia and Montenegro, including Kosovo	597.01	787.17
Bulgaria	807.59	2 058.38
Romania	1 041.71	1 905.24
Turkey	728.39	805.46
EU-15	6 800.00	–

Sources: International Telecommunication Union; Eurostat.

years, Bulgaria, Romania and Turkey are still about 50% of the EU-15 and EU-25 average (Table 6)[27].

A country's 'e-readiness' is essentially a measure of its e-business environment, a collection of factors that indicate how amenable a market is to Internet-based opportunities. It is basically used to denote to what degree a given country, society, social group or organisation is aware of ICT, has adjusted and is prepared to use ICT. In terms of the e-readiness index based on rankings prepared for the 100 most developed countries for 2004, Bulgaria is ranked 40th with an e-readiness

score of 4.71 (out of 10); Romania is ranked 43rd with e-readiness 4.23 (out of 10); while Turkey which is ranked 39th scores 4.51 (out of 10)[28].

In 2004 a study of the competitiveness of Western Balkan companies was conducted with the support of the European Commission, in which a total of 2 166 companies from all five countries took part. The study also looked at company access to information technologies, revealing that email use appears to be very low, as 50% of the companies in the survey said that they have only one email account for the whole

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[27]   Eurostat Structural Indicators: ICT expenditure, 2004.

[28]   Economist Intelligence Unit e-readiness rankings, 2004.
http://www.ebusinessforum.com/index.asp?layout=rich_story&doc_id=5768

Table 6: ICT expenditure as % of GDP

	2001	2002	2003	2004
Bulgaria	1.6	1.7	1.8	1.8
Romania	1.0	1.3	1.7	1.8
Turkey	1.3	1.0	0.8	n/a
EU-25	3.1	2.9	2.9	2.9
EU-15	3.2	3.0	3.0	2.9

Source: Eurostat Structural Indicators.

Table 7: Digital Access Index categories and variables

Category	Variable
Infrastructure	Fixed telephone subscribers per 100 inhabitants
	Mobile cellular subscribers per 100 inhabitants
Affordability	Internet access price as % of gross national income per capita
Knowledge	Adult literacy
	Combined primary, secondary and tertiary school enrolment level
Quality	International Internet bandwidth (bits) per capita
	Broadband subscribers per 100 inhabitants
Usage	Internet users per 100 inhabitants

Source: International Telecommunication Union.

Table 8: Digital Access Index for countries in survey, 2002

High access	Sweden	0.85
Upper access	Croatia	0.59
	Bulgaria	0.53
Medium access	Romania	0.48
	Turkey	0.48
	FYR of Macedonia	0.48
	Bosnia and Herzegovina	0.46
	Serbia and Montenegro	0.45
	Albania	0.39
Low access	Niger	0.04

Source: International Telecommunication Union.

company; while 34% have email addresses for key employees only[29].

The ITU Digital Access Index measures the overall ability of individuals in a given country to access and use ICT. It consists of eight variables organised into five categories (Table 7).

The index revealed that only Bulgaria and Croatia belong to the group of countries with upper access, while the rest of the countries involved in the survey have medium digital access (Table 8).

[29] PARTNERS, a EUROCHAMBRES initiative, *Competitiveness of Western Balkan companies*, 1st edition, 2004. http://www.eurochambres.be/PDF/pdf_balkan/Final%20report.pdf

2 BACKGROUND INFORMATION RELATING TO THE SURVEY

2

2.1 ETF ACTIVITIES IN THE FIELD OF TECHNOLOGY ENHANCED LEARNING

The ETF, on behalf of the European Commission, managed three Phare multi-country programmes in open and distance learning (ODL) from 1996 to December 2000. The first two programmes (€5 million each for the period 1996–99) covered 11 countries – Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia and Albania. The last programme (€1 million from 1999–2000) extended the activities to include Bosnia and Herzegovina and the former Yugoslav Republic of Macedonia.

The main aims of the programme were:

1. to establish ODL infrastructures in the countries, including:

    ■ national contact points for ODL in each country;

    ■ 40 regional ODL study centres;
    ■ the building-up of ODL expertise and know-how within the national contact points and ODL study centres and their host institutions.

2. to establish a critical mass of ODL courses in areas of strategic importance to socio-economic development in the Phare countries through:

    ■ national and local course development;
    ■ transnational course development;
    ■ a European studies programme.

3. to provide a strategic assessment of the further development of ODL in Central and Eastern Europe through:

    ■ a strategic study on legislation, accreditation, recognition and quality assurance methods applied to ODL;
    ■ a strategic study on infrastructure and market development relating to ODL in Central and Eastern Europe.

The first two programmes underwent a comprehensive programme evaluation covering 11 countries between May and July 1999. Concerning the last programme, an evaluation was carried out between March and April 2000, which included a study on the state of e-learning in the acceding and candidate countries. In addition, the ETF carried out, in August and September 2000, a small survey among the National Contact Points and Study Centres, aimed at providing an overview on the sustainability of the programme's results. The exercise was repeated in 2002/03 at the request of the European Commission and European Parliament. It showed that most of the Study Centres were continuing to deliver courses and have further developed their activities, including increased cooperation with EU member states. Recent feedback from the countries suggests that most of the Study Centres have continued their activities in 2004.

2.2 OBJECTIVES OF THE SURVEY

The present survey is intended to continue and complement the efforts the ETF has made to date in the fields of ODL and e-learning, thus contributing to the implementation the eEurope Action Plan, the eLearning Action Plan and the eLearning Programme, which is not only of relevance to Member States but also to SEE countries.

The specific objective of this survey is to collect information and provide an overview of technology enhanced learning in the Western Balkan countries – Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia and Montenegro (including Kosovo), as well as Bulgaria, Romania and Turkey. The results will feed into the overall reform process in the partner countries. In particular, the survey focuses on the use of ICT in education and training, ICT penetration in schools, target students, use of ICT in the classroom (methodology, assessment, credits obtained) and the

existent legislation to facilitate the use of ICT in the classroom and e-learning in general. The survey also attempts to understand where gaps exist (i.e. digital divide, costs, accessibility) and what policy measures might be recommended, to be reflected in Phare, CARDS or other relevant EU programmes.

2.3 THE CONCEPT OF TECHNOLOGY ENHANCED LEARNING

Generally, the concept of technology enhanced learning refers to the use of information and communication technologies (ICT) in education and training. It is often used as a synonym for e-learning. However, some other terms relating to e-learning have been used by respondents and in the questionnaire. These are:

- open and distance learning (ODL),
- web-based training or web-based learning (WBT),
- computer-based training (CBT),
- online learning.

E-learning is a broader term than online learning (Figure 1). It may be considered a special form of ODL, whereas online learning or WBT is a generic term for training/instruction via the Internet or Intranet (LAN or WAN). In contrast, CBT is a type of education in which the student learns by executing special training programmes on the computer (e.g. using a CD-ROM). Figure 1 graphically represents this range of terms.

There are many different definitions of e-learning. According to the EU definition, as mentioned for example in the eLearning Action Plan Designing tomorrow's education, e-learning is 'the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration'[30]. This is how e-learning is defined in the survey.

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[30]   COM(2001) 172 final, op. cit., p. 2.

Figure 1: e-learning
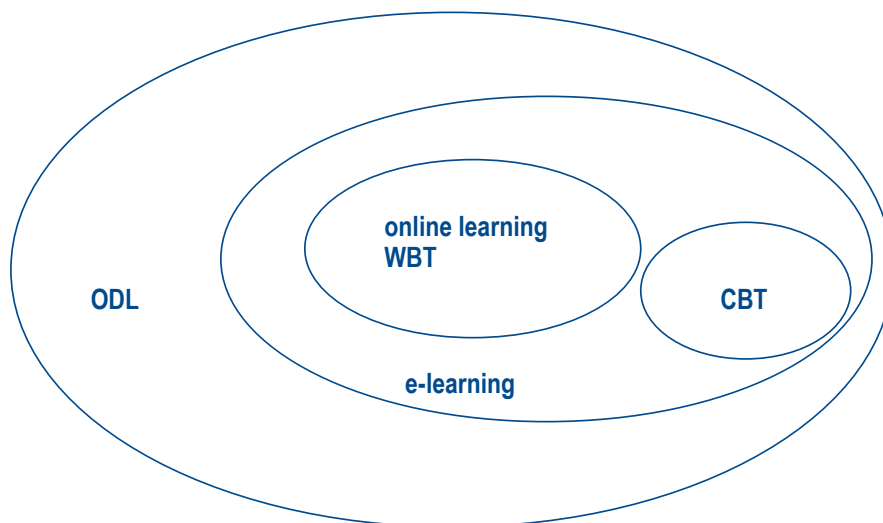
Compared with other forms of learning, e-learning has the following advantages:

- access to training and education courses not limited in terms of time or place;
- dynamic and topical contents;
- contents to be networked; interaction between teacher and student and among students possible at any time;
- extendable platforms and contents;
- easy monitoring of students' performance and learning results;
- adaptation to individual learning styles and learning paces;
- for the user, standardised hardware and software possible (browser and Internet connection normally suffice).

There are of course some limitations or, to some extent, weak points that may have to be taken into account whenever e-learning systems are to be implemented. These include:

- cost for additional adequate hardware and software;
- necessary training of special e-learning staff in several fields such as specific didactics and methodology, course design and others;
- specific skills and staff for course management and administration.

In this connection, it is worth mentioning that e-learning is often reduced to issues relating to hardware and software. However, efficient e-learning takes a user-centred, integrated approach that recognises the inseparability of the following four elements:

- pedagogy (well-balanced system of contents and didactics/methods);
- organisation (course management and administration, planning, timing, etc.);
- applications (software);
- technology (hardware).

This approach was used for the present survey, i.e. these four key elements were incorporated into the questionnaires and referred to during field visits, while using the EU definition of e-learning above.

3 METHODOLOGY

The survey was carried out by an ETF team together with an external expert from July to December 2004. It is one element of the reform processes in the education and training sector where the ETF is involved in the countries covered by this survey. The following methodological tools were used to draw conclusions about the state of e-learning in the region:

- questionnaires,
- field visits,
- desk-based analysis and research.

The survey looked at some tangible indicators of country policies on information technologies and their implementation in education and training, the employment of advanced communication methods in human resources development, financial issues, methodological aspects of teaching and using information technologies, as well as some infrastructural aspects.

3.1 QUESTIONNAIRES

The questionnaire from a previous ETF survey (Sustainability survey on Phare MCP in distance education) was used as a basis for designing the questionnaire for the present survey, at least in terms of the basic structure and main sections. The previous questionnaire was further developed and adapted to the requirements of the present survey, including the collection of information under the following headings.

Policy framework

This part of the survey aimed at understanding whether the countries have adopted or are in the process of adopting specific policy and legislative frameworks to facilitate and expand the use of e-learning and its recognition as a

methodology. As the countries are in the process of reforming their education systems, this part also looked at whether ICT strategic documents are prepared at national level, indicating the budget for development of e-learning and exploring the existing legislation relating to the subject.

Infrastructure

This part of the survey aimed at understanding the status of the infrastructure of the countries involved. A particular topic of concern was the penetration of computers and ICT in schools, universities and other training institutions.

Methodology

This part of the survey aimed at better understanding how ICT is used in education and training. The extent to which teaching methodologies have changed with the penetration of new technologies into education and training is an important topic, as it highlights how consistently ICT was introduced along with ongoing education and training reforms.

Public awareness

This part of the survey aimed at identifying public awareness of e-learning in education and training, and its contribution to quality and competitiveness.

Teaching and learning resources

This part of the survey aimed at identifying the skills, needs and capacities of teachers as well as the contents and services provided.

National and international cooperation and networking

This part of the survey investigated the relevance of cooperation, in particular with EU partners, in the development of e-learning in SEE countries.

In order to draw up comprehensive conclusions about the state of e-learning in the SEE countries, two separate questionnaires were developed:

Questionnaire I addressed to policy and decision-makers and Questionnaire II addressed to education and training managers and experts. The basic structure of the final version of the questionnaire as agreed upon with the ETF is as follows.

Questionnaire I targeted policy and decision-makers in education and training, labour, economy, regional development, social partners, etc., and comprises the following sections:

I   Legal and policy arrangements
II   Public awareness.

Questionnaire II targeted education and training managers and experts, teachers, trainers, etc. and comprises the following sections:

I   Infrastructure at education and training institutions
II   Methodology
III   Teaching and learning resources
IV   National and international cooperation and networking.

These last four elements were incorporated into both questionnaires in the following way:

Pedagogy	⇨	Teaching and learning resources
Organisation	⇨	Methodology
Applications	⇨	Infrastructure at education and training institutions
Technology	⇨	Infrastructure at education and training institutions

The first two sections – legal and policy arrangements; and public awareness – are intended to be the framework on which the four key elements are developed. It will be the task of local governments and associated decision-makers to provide this framework as well as guidelines and standards for developing and implementing the four key elements by training and education professionals at relevant ETIs.

3.2 FIELD VISITS

The external expert carried out field visits to three selected countries as agreed with

the ETF: Croatia, Bosnia and Herzegovina and the former Yugoslav Republic of Macedonia. The general objective of these visits was to complement the findings of the questionnaires. Specific and additional objectives were:

- to take the opportunity of personal meetings with representatives of ministries, relevant institutions, training providers, industrial enterprises, etc., to contribute to awareness-raising on e-learning;
- to hold in-depth discussions on all possible implications of the open answers in order to analyse the responses, taking into account respective background knowledge;
- to ask partners in target countries for any adjustments required on the completed questionnaires.

During the visits the expert held interviews, largely based on the questionnaires, with senior officials and staff of ministries and other government bodies, state and private training institutions as well as private industrial enterprises. The visits took into account the general structure of responses to the questionnaires; with the aim of providing a balance between quantitative and qualitative data.

3.3 ANALYSIS OF DOCUMENTS AND REPORTS

The analysis of documents and reports was intended to achieve the following:

- collecting information on the latest policies and developments in the field of e-learning in EU Member States;
- collecting additional information on the use of ICT in education and training in the target countries;

- preparing the design of the questionnaires;
- contributing to the results and subsequent conclusions and recommendations provided by the survey;
- emphasising the documents and reports prepared and published within the framework of EU structures, projects and programmes.

A web search was carried out mainly to find statistical data on the current situation and trends in the target countries with regard to e-learning and the use of ICT in education and training relevant to the present assignment. The data and information sought included:

- investment in ICT over the last five years (hardware, software, eduware, training) and investment development;
- percentage of households with Internet access;
- number of computers per capita in education (per pupil at primary and secondary schools, per student at VET schools and universities);
- percentage of primary and secondary schools, VET schools and universities with Internet access;
- percentage of companies using ICT for staff training.

In the course of this activity it emerged that the data and information available on the Internet were rather limited. While there is a large amount of data on Bulgaria; Romania and Turkey; data for Albania, Bosnia and Herzegovina, Croatia, Kosovo, the former Yugoslav Republic of Macedonia, Serbia and Montenegro provide only a partial insight into the situation in those countries.

4 RESULTS OF THE SURVEY

4.1 DELIVERY OF QUESTIONNAIRES, COLLECTION OF RESPONSES AND PROBLEMS ENCOUNTERED

The ETF delivered the questionnaire online. The survey was launched with an open letter dated 23 September 2004 containing a link to the ETF website through which the questionnaire was accessible. The letter was e-mailed to some 250 contacts throughout the target countries. The questionnaires were first sent out in English on 23 September 2004 with a reply deadline of 8 October 2004. They were subsequently translated into some of the local languages and sent to the respective countries on 15 October 2004. This was useful as the majority of questionnaires were returned in English but some contacts appreciated the possibility of using their own language. For 30 contacts without an Internet connection, the questionnaire was faxed. The recipients were mainly ETF partners in the region with

which cooperation had taken place in the context of education and labour market reform. They included the following types of institution and organisation:

- ministries (education, labour/ employment, economy, finance, etc.) and associated agencies;
- universities;
- training centres and institutes (including distance education centres);
- chambers of industry and commerce;
- employers' associations;
- national observatories;
- statistics institutes;
- national and international foundations;
- international donor organisations;
- industrial enterprises (private sector);
- secondary and VET schools.

The completed questionnaires were returned by Internet, email or fax (Table 9).

In the case of Croatia, questionnaires were sent to 12 contacts. Some of the contacts obviously did not feel in a position to complete them and therefore forwarded

Table 9: Return rate per country

Country	Questionnaire I Return (%)*	Questionnaire II Return (%)*
Bosnia and Herzegovina	3.1	18.8
Croatia	–	166.6
FYR of Macedonia	10.0	6.6
Serbia	5.3	7.9
Kosovo	–	42.9
Montenegro	–	8.3
Bulgaria	2.6	10.5
Romania	–	5.3
Turkey	13.6	4.8
Albania	3.0	–
Total (average)	6.3	30.2

* Percentage of returned questionnaires in relation to number sent to respective country.

them to other potential respondents. In addition, it is assumed that the Ministry of Education, Science and Sports forwarded the questionnaires to other organisations and institutions. As a result, a total of 21 completed questionnaires were returned from Croatia, mainly from VET and general secondary schools.

Note also that four of the institutions contacted, although they did not send a completed questionnaire, nevertheless provided an indication of the situation of e-learning in their countries, according to data and information in their possession. They also explained why they did not feel in a position to complete the questionnaire (either they felt that they could not answer a relevant number of questions, or that they were not the appropriate institution to answer, or they had only partial or indirect information). These responses have not been counted in the statistical analysis of the questionnaires, but have been integrated with the overall results and conclusions.

The following problems were encountered in carrying out the survey.

- During both the telephone inquiry and the field visits it became obvious that some respondents had misunderstood or misinterpreted some of the questions due to the specific technical terms or wording used.
- In the case of one of the two questionnaires, the percentage of

responses was rather low in some countries. Nevertheless, it is strongly assumed that the results obtained do mirror certain e-learning trends, because even individual statements, given the level and positions of respondents (e.g. ministries, universities), are of course important. Moreover, the assessment was primarily made from a regional rather than a country-based perspective, which implies the analysis of various organisations spread over several countries. Last but not least, additional information was obtained through the interviews, by email or through direct contacts.

4.2 GENERAL FINDINGS

Reliable data to allow an in-depth assessment are lacking in the region. However, based on the results obtained through the questionnaire-based review, the field visits and the desk-based analysis and research, the general situation of e-learning may be characterised by the following statements, while being aware of differences among countries.

- In general, e-learning is still at the initial stage in the countries considered in the survey. In almost all countries there are individual examples of best practice in the form of pilot 'lighthouse' projects. However, as a rule these projects are not efficiently disseminated, so that e-

learning technologies and methodologies are not implemented on a nationwide scale.

- The governments and policy-makers of the countries considered in the survey have indicated their basic commitment to e-learning. However, efficient legal and policy arrangements adjusted to EU strategies to provide a sound and supportive environment for e-learning are yet to be established in most countries. Government funding relating to further development of ICT in education and training needs to be improved and streamlined.
- Public awareness of e-learning in general is still low and represents a major obstacle on the way to introduction of e-learning at all levels of education and training. National stakeholders are aware of the problem and consider it necessary to develop and implement effective awareness-raising strategies.
- As regards the relevant education subsectors, e-learning activities and projects in most of the countries are mainly placed in higher education. Concerning content, most topics offered from the few active e-learning providers relate to the development of ICT skills at various levels and, to a limited extent, foreign language training. Accreditation, recognition of e-learning and quality assurance are lacking and need to be developed.
- In most of the countries reviewed, the infrastructure is inadequate to implement e-learning technologies on a nationwide scale, although it varies significantly from country to country. Despite a few good examples, the infrastructure is still not in place. The only exception is Croatia where there is infrastructure and courseware support at national level. Nevertheless; ICT as a growing sector in these countries can open up numerous possibilities for accessing knowledge and thus make education and training provision more complete and accessible.
- Teachers and trainers as well as management staff working in the field of e-learning are committed to the subject and well equipped with relevant basic technical skills. However, their content development, methodological and

management skills need to be developed to allow them to meet the challenges of e-learning. The fact that most e-learning courses are in English increases its non-acceptance by teachers and trainers, and further enlarges the digital gap. The use of new ICT technologies must be seen in the context of teaching and training practices.

- With regard to the needs and expectations of learners taking part in e-learning programmes, most of them consider e-learning to be a good opportunity to upgrade their education. A fundamental need is permanent and cheap access/connection to the Internet together with support and tutoring services.
- Despite a few examples of good practice and pilot projects, the potential of national and, in particular, international cooperation and networking is still not used to its capacity in the introduction of e-learning in education and training.

A comparison of the overall results of the present survey with the progress of e-learning in EU Member States following the relevant Action Plans would require an in-depth analysis beyond the scope of this survey. However the findings suggest that there is a digital gap to be addressed in South Eastern Europe, in particular the issues listed above.

4.3 SPECIFIC FINDINGS: COUNTRY LEVEL

Based on an in-depth analysis of data obtained through the questionnaires, the outcome of field visits and the desk-based analysis and research, the following sections summarise and interpret the results at both country and institutional levels, in order to draw up a regional picture. The results of the survey were examined under the six headings listed above: Legal and policy arrangements; Public awareness; Infrastructure at education and training institutions; Methodology; Teaching and learning resources; National and international cooperation and networking.

I Legal and policy arrangements

There are several laws relating to ICT in the majority of the countries reviewed that may have some impact on e-learning. However, there is no specific legislation in any of the SEE countries laying down the current status of e-learning (Table 10). The government of the former Yugoslav Republic of Macedonia adopted a Law on Higher Education in July 2002, which covers distance learning and also mentions ICT as one possible tool to be used in this context. This cannot be considered to be a 'law on e-learning'. The answers to the questionnaires and the responses of interviewees during field visits made it clear that this is a key issue. According to the respondents and interviewees, a legal framework for e-learning would provide the necessary basis for e-learning in general and a sound working environment for the teachers, trainers and managers acting in this field. For example, such issues are raised as the accreditation of e-learning programmes, certificates for completed courses and the status of staff. Legislation is seen as an essential prerequisite (some local experts said it was the most crucial) for the development of e-learning in the long term. One policy that could favour the development of e-learning and improve the use of ICT in schools is laid down in the former Yugoslav Republic of Macedonia's 'e-Declaration 2002', which stresses the need to develop an information society in order to achieve intensive and sustainable growth in line with global trends.

Some 82% of the countries considered in the survey lack a body responsible for coordinating e-learning policy and activities. Only the respondents from Bulgaria and Turkey indicated that the Ministry of Education in Bulgaria, and the Council of Higher Education and the Ministry of Labour in Turkey, assume this responsibility. As disclosed during the field visits, the respondent from the former Yugoslav Republic of Macedonia (who had answered yes to this question) had pointed out that the Ministry of Education is supposed to coordinate e-learning in the future but cannot be regarded as a coordinating body at present.

In some countries there are special organisations or groups that, although not coordinating e-learning policy, play a certain key role at national level in terms of developing, initiating and promoting e-learning. In Croatia there is CarNet, a government agency that provides the Internet infrastructure to universities, trains trainers dealing with e-learning and has established its own 'e-learning academy'. In Bosnia and Herzegovina, an e-learning task force has been established recently which, although not formally recognised and operational, comprises experts from the country's universities, various ministries and telecommunications providers.

As a consequence of the lack of fully operational national bodies to coordinate e-learning policy, the following phenomena are to be seen in the target countries:

- only a few e-learning activities and projects existing as more or less isolated and individual actions;
- no efficient dissemination and subsequently no sustainability of the results of successful e-learning pilot projects;
- no active national network promoting e-learning;
- no 'first contact point' for potential foreign partners or donor organisations that are keen to launch e-learning programmes in these countries.

Table 10: Legislation relating to ICT

	Albania	Bosnia and Herzegovina	Croatia	FYR of Macedonia	Kosovo	Montenegro	Serbia
Telecommunications	•	•	•	•	•	•	•
Protection of personal data	•	•	•	•			•
Access to information	•	•	•	•	•		
e-business			•	•			

According to the results of both the questionnaire-based review and the field visits, in 82% of the target countries in the region no strategy (programme, action) has been adopted to facilitate e-learning in line with the EU eLearning Action Plan. On the other hand, the Turkish government has adopted an Urgent Action Plan, with e-learning as one of its main components, which aims to reach EU standards on all points. While the wider policy framework for the development of an information society in Romania was set up in 2002 through adaptation of the 'National Strategy for the new economy and the implementation of the information society', the Romanian Ministry of Education and Research had already initiated a programme in 2001 to offer ICT support for the education system in conformity with the European e-learning initiative, the IT-Based Educational System (SEI). The government of Bulgaria has identified the development of communications and high technologies as one of the pillars of sustainable economic growth. To facilitate the penetration of the technology into Bulgarian society, in 2001 the ICT Development Agency was established to support investment in communications and information technology projects as well as scientific research studies, university research and development programmes and marketing the country's ICT sector.

The government of Bosnia and Herzegovina has also recently adopted an action plan on the use of ICT in education and training, which is also in line with current EU strategies. The few national e-learning action plans or strategies in the countries reviewed, however, means that they lack an important prerequisite for the efficient development of e-learning as well as a framework document as a starting point for international cooperation and networking.

Concerning developments in certain e-learning policy areas in the region, action is urgently needed on the initial training and upgrading of teachers/trainers to allow them to provide and manage e-learning as an integral part of education and training. The same priority was given to investment in and promotion of ICT infrastructure and equipment in public and private education and training institutions. The only exception in this respect seems to be Croatia, where universities and schools (both VET and secondary schools) are, mainly due to an initiative by the Ministry of Education, Science and Sports, relatively well equipped with e-learning-related infrastructure and equipment. This basic trend was confirmed in the answers given to several questions both in the questionnaire and during the field interviews. In terms of infrastructural and human resources, universities appear to be somewhat better equipped than other organisations and institutions (see Graph 1). The development of e-learning policy areas and major changes to ensure more effective e-learning are some of the crucial points to be included in any national e-learning action plan.

As regards the education and training subsectors in which e-learning is currently used in SEE countries, most projects and activities are found in higher education (see Graph 1). The main reason for this may be that, compared with other sectors of education and training, the infrastructural and human resources available at universities – although in most cases below EU standards – are relatively satisfying. In all other areas of education and training e-learning is still underdeveloped or inexistent, although there are a few very good but exceptional individual projects, initiatives and activities in selected areas. These are, for example, the excellent e-learning-based in-service staff and management training provided by the Croatian company ALGEBRA, the ambitious e-learning programme in electrical engineering developed and provided at a VET school near Zagreb, or the activities of the e-learning Task Force in Bosnia and Herzegovina and the cooperating Distance Learning Centres in Tuzla and Banja Luka. The people who initiated these and some other 'lighthouse' projects may be considered as pioneers working enthusiastically but still representing an isolated minority receiving very little support from official bodies.

The fact that in none of the countries reviewed are any public funds allocated annually to the development of e-learning is a problem that should be addressed as

Graph 1: Extent of use of e-learning in various education and training subsectors (average for each category)

1 = very slight; 2 = slight; 3 = sufficient; 4 = large; 5 = very large
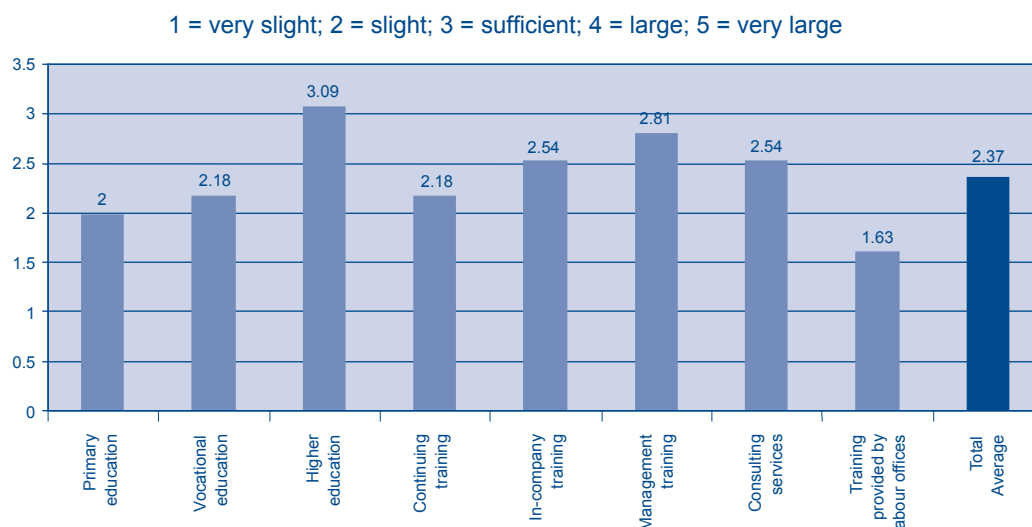
soon as possible. This in a way contradicts the basic commitment to e-learning that has been indicated by governments and decision-makers and in some countries even laid down in specific action plans (see above). In order to ensure the sustainable implementation of e-learning, which cannot be achieved within a few months, regular and continuing long-term funding is highly important. Nearly 100% of respondents indicated the need for investment in ICT infrastructure. However, to date there have only been some short-term sporadic funding initiatives in several of the target countries to this end, which although deserving appreciation will definitely not be sufficient in the long term.

The statement that e-learning, with a few exceptions, is generally still rather underdeveloped in nearly all education and training areas, was confirmed by the detailed examination of some specific areas relating to e-learning, including:

■ research in e-learning;
■ accreditation of e-learning programmes and ETIs;
■ recognition of e-learning certificates by authorities, labour market, employers, etc.;
■ promotion of innovative teaching/ learning approaches through e-learning;
■ introduction and use of e-learning quality standards;
■ market and technology developments facilitating e-learning;

■ development of public-private partnerships in introducing and applying e-learning.

All these areas received very low marks from both respondents and interviewees. This situation can be blamed on the lack of legislation (e.g. accreditation, certification, quality standards) and national e-learning action plans and strategies (e.g. public-private partnerships in e-learning, market and technology developments). In this context, more attention should be paid to the development of public-private partnerships aimed at introducing and applying e-learning in various education subsectors, given its enormous potential.

Asked to indicate some changes that may be necessary to ensure effective cooperation of the target countries with EU countries on e-learning, respondents and interviewees mentioned the following main points:

■ knowledge transfer and capacity building;
■ EU funding of equipment;
■ participation in EU projects;
■ development of a national action plan/ strategy for e-learning;
■ introduction of EU quality standards.

These points were very much in line with the answers to other questions. Corresponding to the need indicated above for comprehensive development of e-learning staff, knowledge transfer and

capacity building were mentioned as the major means to effective cooperation between target countries and EU countries. In fact, this change is not only an essential prerequisite for effective cooperation but should be a crucial element of it. As regards the required investment in e-learning infrastructure and equipment, co-funding by the EU is being sought, as national funding possibilities are seen as insufficient. In the medium and long term, the target countries wish to have a chance to actively participate (i.e. as applicants or contractors) in EU projects. The development of a national action plan/strategy for e-learning and the introduction of EU quality standards were considered by some respondents and interviewees to be essential prerequisites to effective cooperation with their respective countries.

II Public awareness

It emerged during the survey that public awareness plays a pivotal role in the development of e-learning in the SEE countries. It should be noted that there are two interlinked dimensions of public awareness in this connection – awareness per se, and basic acceptance. Considering only the questionnaires, these two dimensions were obviously not fully perceived by all respondents. Being aware of e-learning, including its opportunities and risks, is an essential prerequisite for eventual acceptance. The overall picture from the questionnaires suggests that the general level of acceptance of e-learning is not very high. However, the interviews during the field visits confirmed that this does not imply an objection or resistance to e-learning but rather indicates a lack of awareness of e-learning in general and its potential benefits and advantages in particular. Consequently, the acceptance of e-learning is higher among members of those target groups that are actively involved in current e-learning activities, such as university teachers and trainers.

In contrast to the relatively low rating given in the questionnaires to the group of 'learners', quite a number of interviewees said that the acceptance of e-learning among this very group was relatively high.

In particular, this was due to university students who already use e-learning to some extent at least. Other potential target groups and learners in subsectors in which e-learning is currently hardly practised, such as secondary education and VET (most Croatia questionnaires came from the general secondary education sector), indicated a lower level of acceptance as they obviously had little or no experience in this field. Furthermore, a different picture emerged with younger and older learners, in that young people – who often show some resistance to traditional ways of learning – are sometimes really enthusiastic about the use of e-learning and their own active involvement in it.

Nevertheless, almost 100% of respondents and interviewees were very much in favour of urgent activities being undertaken to raise public awareness of e-learning (Graph 2). These were the most important activities mentioned:

- development and implementation of pilot projects as 'demonstration projects' and dissemination of these good practices on a nationwide scale;
- well-targeted promotional campaigns using the media (TV and other media);
- international events such as conferences, workshops, etc.;
- improvement of cooperation and networking at national level involving all relevant potential and current stakeholders (ministries, ETIs at various levels, employers' associations, chambers of commerce and industry).

Whenever possible these activities should be interlinked, e.g. the dissemination of good practices might be accompanied and partly implemented through promotional campaigns.

Graph 2: Possible measures to raise public awareness of e-learning (occurrences per category)
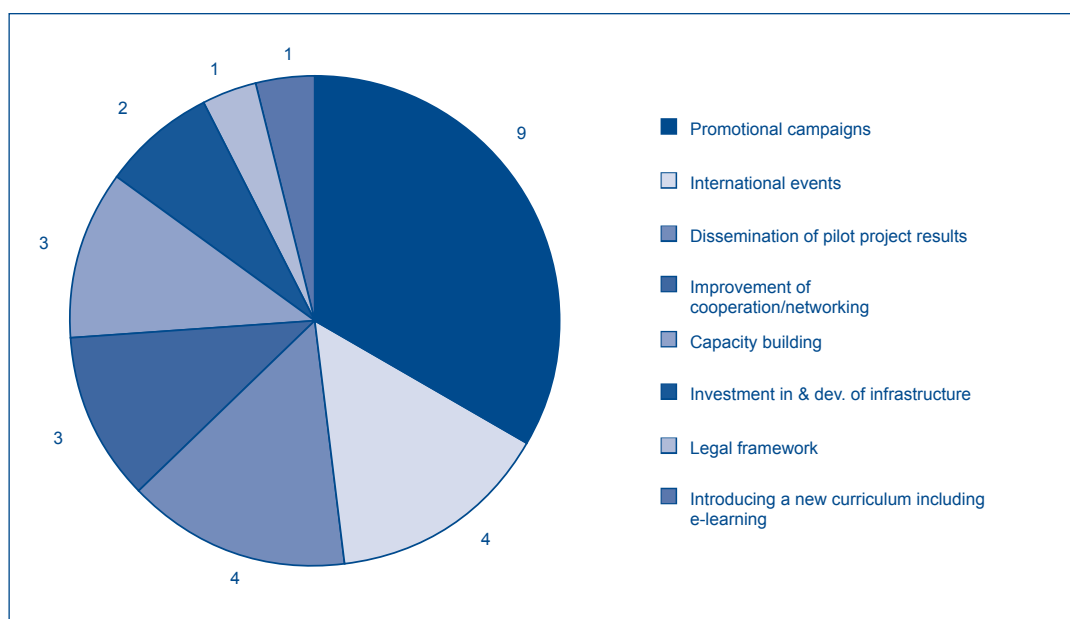
4.4 SPECIFIC FINDINGS: INSTITUTIONAL LEVEL

I Infrastructure at education and training institutions

In general, the majority of education and training institutions (57.5%) in the region indicated that they are not adequately equipped for setting up and delivering e-learning programmes. The relatively high percentage (42.5%) of ETIs that said they were adequately equipped obviously relates to the fact that institutions and organisations in Croatia, particularly universities but also secondary and VET schools, are much better equipped with ICT compared with the other SEE countries. This was clearly confirmed during the field visit interviews. Consequently, the majority of ETIs in the target countries assessed their investment needs in terms of equipment required to implement e-learning programmes to be very high. Even ETIs from Croatia followed this basic trend, indicating however other fields of planned investment which suggested a need for more sophisticated equipment tailored to more demanding e-learning technologies and activities.

However, most ETIs – apart from some private providers such as ALGEBRA in Croatia – made clear that, although they

had indicated a variety of investment needs and do indeed plan to invest in the development of e-learning, they will have problems covering these needs given their serious lack of funds. Some organisations (e.g. Open University of Skopje) indicated that they would use part of their revenue (if sufficient) to invest in the development of e-learning, indicating their willingness to take action in this field. Given this situation, very few respondents (Croatia, former Yugoslav Republic of Macedonia) seemed to be in a position to give detailed figures on their planned investment. The figures that were given, however – and this was confirmed during the field visits – indicated increasing planned investment in e-learning equipment over the next few years, expressing an intention to develop and deliver e-learning programmes. Concerning specific fields for planned investment, most ETIs emphasised the following:

- development of e-learning programmes and courses;
- staff development and training in e-learning;
- equipment and premises relating to e-learning.

Universities and training providers from Croatia highlighted planned investment in such specific fields as the development of content and of the skills of staff involved in

e-learning, teleconferencing and of web-based training technologies.

In the framework of the SEI education programme, the Romanian Ministry of Education and Research is experimenting with the Advanced eLearning (AEL) platform based on modern educational principles. AEL is the backbone of the SEI programme, offering support for teaching and learning, evaluation and grading, content management and monitoring of student and teacher activities. A free web hosting service for Romanian elementary and high schools is also offered by the SEI portal[31].

According to the Bulgarian Ministry of Transport and Communications, in the second half of 2003 schools reported to have four PCs per 100 students, and two-thirds of schools connected to the Internet, 60% of which provided access to the students. The number of websites for schools is growing fast[32].

II Methodology

The current situation and long-term development plans in ETIs in the SEE countries shows a clear trend towards increasing use of ICT and tools facilitating the development of e-learning, including the Internet, email, CD-ROM/DVD, LCD projector and video conferencing.

This trend is confirmed by the types of courses planned by ETIs for the next few years. As indicated by respondents to the questionnaires and interviewees during field visits, the number of courses and training programmes with high ICT support (WBT, CBT and blended learning) will increase, whereas the number of courses with low ICT support will decrease.

Most ETIs intend to introduce and develop e-learning within their current organisational structures. Organisational changes are considered necessary once a

certain level of e-learning has been achieved. Organisations and training providers that are more advanced in the field of e-learning, such as the University of Zagreb or ALGEBRA, stated that they had already changed and adapted their organisational structures to the development and implementation of e-learning programmes and related activities.

Quality management and quality assurance are crucial components of e-learning systems. The current level of application of these components in target country ETIs is generally still very low, mirroring the picture outlined above. The few training ETIs that already apply quality assessment and management methods ranked the control of inputs first and the control of outputs second.

III Teaching and learning resources

In general, the availability of e-learning resources in the ETIs of the region, as indicated by both respondents and interviewees, tends to be low. This is particularly true of human resources (managers, course designers, methodologists, etc.), programme resources (courses, technologies, methodologies, etc.), as well as adequate ICT and material resources (hardware, software, other equipment) and financial resources. However, at least in some resource areas, such as ICT, more advanced organisations and institutions (e.g. University of Zagreb and ALGEBRA) that are already well-equipped with ICT resources must be differentiated from other ETIs that may be considered 'would-be' e-learning providers (e.g. Open University of Skopje), in which the availability of almost all the resources mentioned is currently very low. In the case of Bulgaria, the University of Sofia uses the ARCADE integrated software platform, developed by researchers and students at the Department of Information Technologies, Faculty of Mathematics and Informatics, for authoring and delivering Internet-based distance learning courses. The system

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[31]   http://portal.edu.ro

[32]   e-Bulgaria, ARC Fund, December 2004. The Applied Research and Communications (ARC) Fund operates the e-Bulgaria Information Society Promotion Office, run in partnership with the Ministry of Transport and Communications. http://www.infosociety.bg/

includes modules on User Management, Course Delivery, Curriculum Management, Student Assessment and Communication. ARCADE serves five categories of users: student, course author, instructor, course administrator and system administrator[33].

The results of the questionnaire-based review show that the average availability of ICT is relatively high compared with other resource areas. This may again be due to the large number of respondents from Croatia, illustrating the comparatively high availability of equipment suitable for e-learning. These findings confirm the results of questions relating to public awareness. Nevertheless, mirroring the generally low level of availability of e-learning resources, most ETIs plan to develop within the next three years the following resource areas:

- programme resources,
- human resources,
- ICT and material resources.

Although the average level of availability of financial resources was assessed as low (Graph 3), it was not among those resource areas given the highest priority for development. This may be because (as partially confirmed during the interviews) most ETIs delivering or planning to provide

e-learning are public institutions that are to some extent dependent on public funding and have therefore only limited influence on planning investment and financial resources. Private and self-financing e-learning providers indicated that they would also focus on the development of financial resources.

A closer look at the current situation of the human resources involved or to be involved in e-learning reveals that, to begin with, ICT skills training is not or only partially included in the curricula for teacher/trainer initial training and there is hardly any regular upgrading or retraining in this field. The only exception here is again Croatia, where CarNet provides high-quality train-the-trainer programmes relating to e-learning. Consequently, some 90% of respondents and interviewees – except for some ETIs in Croatia – indicated that the level of ICT skills of teachers in their organisations is insufficient to meet the future challenges of e-learning. Specifying staff capacities in certain areas, it was clear that their level of skills and experience in application of e-learning in education and training, including tutoring, course development, resource sharing within established networks, course management, quality assurance and software

Graph 3: Level of availability of e-learning resources in ETIs

1 = very low; 2 = low; 3 = sufficient; 4 = high; 5 = very high

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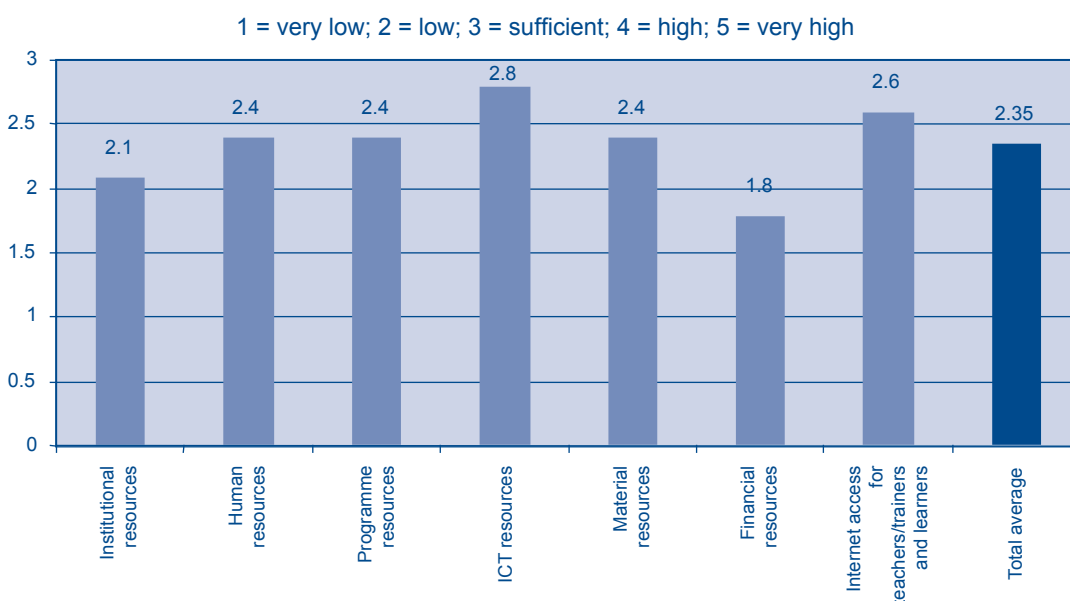
[33]   Ibid.

Graph 4: Level of e-learning capacities of ETI staff

1 = very low; 2 = low; 3 = sufficient; 4 = high; 5 = very high
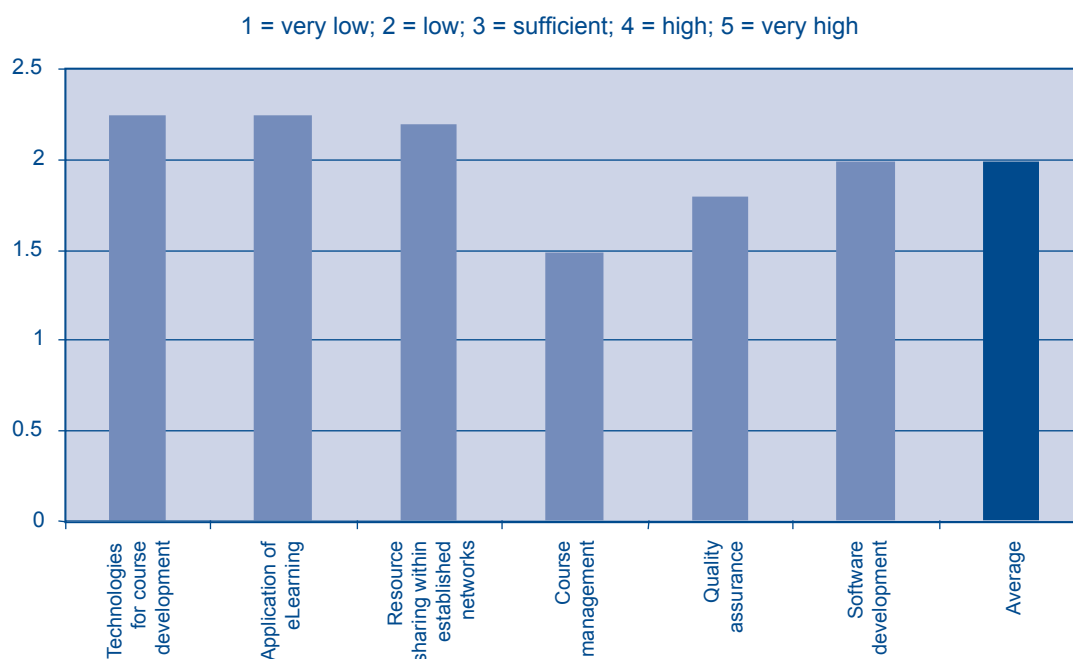
development, were low. In addition, the interviews showed that most ETIs have a number of excellent ICT specialists at their disposal. However, they lack adequate methodologists, i.e. teachers and trainers who are capable of adapting contents to an e-learning environment ensuring a didactically balanced user-centred approach (Graph 4).

Concerning the needs and expectations of learners taking part in e-learning programmes in the region, ETIs indicated the following situation. Most learners regard e-learning as a good opportunity for upgrading and continuing education. In terms of topics, the majority wish to acquire ICT knowledge and skills through e-learning. An absolutely basic need of learners, indicated by a large number of respondents and interviewees, is permanent and affordable access/connection to the Internet. This illustrates a general problem in the target countries (again with the exception of Croatia) where access to the Internet is still far from EU levels. One reason for this may be that Internet providers are monopolies in a number of countries, for example in the former Yugoslav Republic of Macedonia where average Internet access is only 6% (see Table 5).

Further learner needs in connection with e-learning, mainly indicated by more

advanced providers (e.g. ALGEBRA, University of Zagreb) are didactically sound materials and a lot of interaction and interactivity, user-friendly course organisation and management, including counselling and tutoring. This again mirrors the necessity of developing the respective skills of teachers and trainers as outlined above. According to the outcome of the questionnaire-based review, in only some 50% of ETIs are learners provided with special support to allow them to make effective use of e-learning programmes. This support includes skills development to use ICT within the learning process, and skills development to plan and implement the learning process applying e-learning methodology and tutoring services. However, this picture was only partially confirmed during the interviews as even advanced organisations such as the University of Zagreb indicated an almost total lack of this kind of support for learners.

As regards specific e-learning programmes provided by target country ETIs, 35% of the respondents indicated that they had developed and delivered (or started to deliver) new e-learning programmes in the last three years. According to the outcome of the questionnaire-based review, this percentage is likely to increase to 42% over

Graph 5: Needs of learners taking part in e-learning programmes (occurrences for each category)
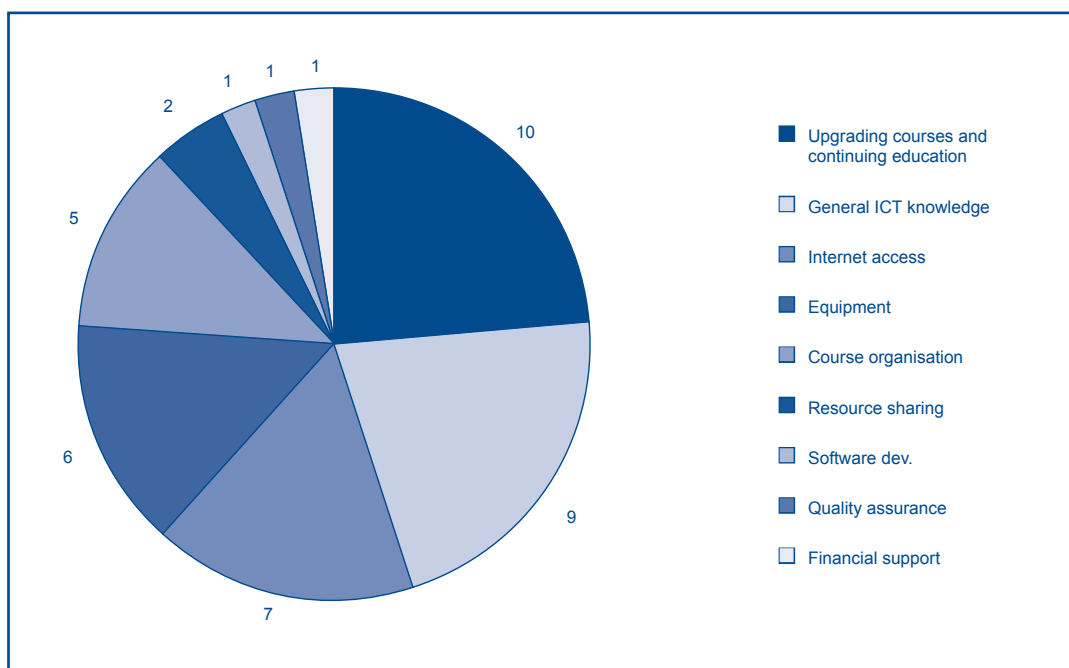
the next three years, indicating the intention and willingness of a number of ETIs to further develop e-learning. One reason for this relatively low percentage may be the fact that most respondents from Croatia were secondary and VET schools, which at present are obviously not willing or are not in a position to provide complete e-learning programmes with their current level of resources and capacities. This tendency was confirmed during the interviews, although many of the interviewees pointed out that funding would be a major problem in this connection (Graph 5). The main subjects of the programmes provided include:

- ICT skills and computer science,
- foreign languages,
- e-library (science, arts),
- technology (engineering),
- economics and business.

This order reflects a certain ranking, with ICT skills and computing being the key topic, whereas the rest of the topics have only minor shares in the current e-learning programme portfolios of the respective providers.

Examining the whole range of potential e-learning services, it became obvious that the

various services are currently delivered by only a minority of target country ETIs, a situation that was confirmed by both respondents and interviewees. The majority of ETIs do not seem to be in a position or prepared to deliver these services, which goes back to the overall lack of resources for e-learning described above. There is only one type of service accounting for over 50% of ETI provision – the Internet. Table 11 gives the detailed breakdown.

Table 11: Provision of e-learning services by ETIs

	Provision (%)
e-learning for different target groups	35.5
Development and production of e-learning programmes	16.6
Delivery of e-learning programmes	22.6
Tutoring services and hotlines	9.4
e-library	20.7
Internet services	56.2
Databases	45.4
e-consulting for paying clients	6.4
In-service training for company staff	31.2
e-learning for unemployed people	9.4

IV National and international cooperation and networking

The survey indicated that in 80% of SEE countries there are successful e-learning providers that deliver programmes and services of various kinds. According to the questionnaire-based review, some 90% of these successful providers are universities or other higher education institutions, which operate more or less separately and independently of each other.

Although there are some single initiatives and early steps towards more efficient cooperation, such as CarNet in Croatia, the e-learning Task Force in Bosnia and Herzegovina and a national consortium in Bulgaria, there is still too little coordination, interrelationship and networking at national level.

Through the free web hosting service for elementary and high schools offered by the SEI portal in Romania, schools are encouraged to have an active presence on the Web with the wider aim of fostering online cooperation.

In terms of international cooperation, the situation does not look much better. Both respondents and interviewees indicated that less than 6% of ETIs are involved in any national and/or international e-learning consortia and only 12% of them have been involved in national and/or international networks and/or programmes in e-learning related areas, such as EDEN, Phare, Socrates and the Fifth RTD Framework Programme. The few ETIs that had been involved in these programmes clearly indicated that they did benefit from their involvement in terms of awareness of EU-learning policy and programmes, access to know-how, development of skills and, last but not least, funding.

Nearly 100% of respondents and interviewees indicated that they would greatly appreciate future assistance by the EU or other countries for the development of e-learning in their respective countries (Graph 6). The following specific areas of assistance received the highest ratings:

■ financial support;
■ support for business planning, management and marketing relating to e-learning;
■ regular information on e-learning policy in the EU, EU and international e-learning activities (programmes, donors, partners, experts, etc.) as well as the Stability Pact;
■ delivery of equipment;
■ assistance with course development.

Graph 6: Field of potential future assistance with e-learning indicated by ETIs (average ranking for each category)
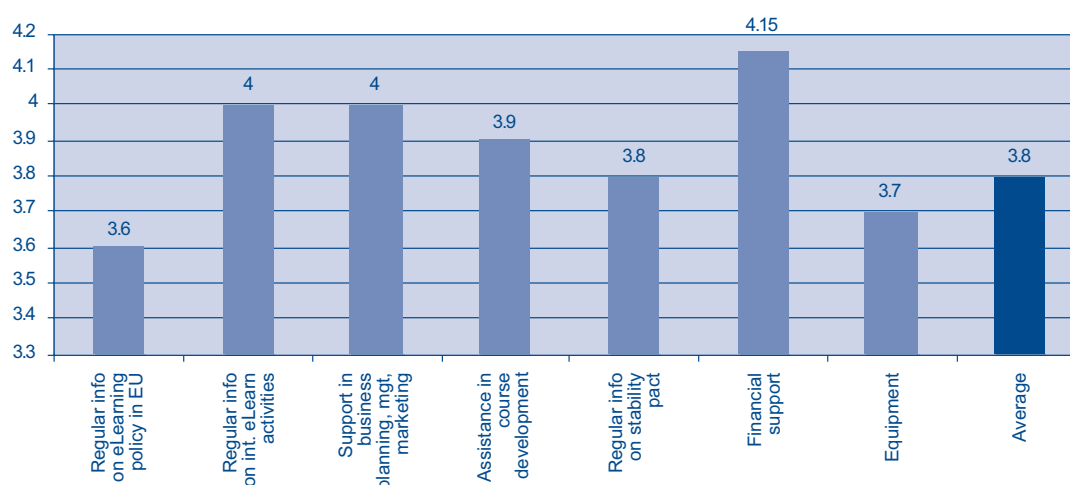
5 CONCLUSIONS AND RECOMMENDATIONS

5

Based on the results of the survey, the following conclusions were drawn and, wherever possible, transformed into specific recommendations in the overall context of the education and training reform process.

5.1 COUNTRY LEVEL

1. E-learning needs to be an integral part of education legislation. To this end, one option may be the adoption of specific laws on e-learning by the respective governments of the target countries, which would certainly be useful but not necessary in all cases. However, even where there is no established law, there should be adequate legal stipulations on e-learning, specific amendments or supplements to existing laws in order to achieve the necessary equality and justification of e-learning in relation to other forms of education and training (e.g. classroom tuition or project-based training). This would provide the necessary legal framework for both input-oriented accreditation of e-learning programmes and output-oriented certification. It would also lead to a sound working environment for the teachers, trainers and managers in this field in particular.

2. The establishment of a body in each country to coordinate e-learning policy at national level would be most helpful for the development of e-learning in target countries, to ensure the coordination of activities at national level, interlinking of projects, and dissemination of good practices. This body might be similar to or even part of the 'Information Society Committees' to be established in Stability Pact countries as laid down in the eSEEurope Agenda for the Development of the Information Society. Such a body should have an 'inter-institutional' character comprising all relevant national stakeholders in the field of e-learning, with overall responsibility possibly attached to the

institution at national level that can best bear the responsibility for development of e-learning in the country context.

3. The adoption of a national strategy or action plan on e-learning, in line with the EU e-learning policy framework reflected in key documents that encompass the developments in the field at EU level, is strongly recommended to take place in all target countries. Systematic data and information collection would thus be assured, with the aim of following up the developments in the field. It is also important to take into account that in achieving and developing e-learning the wider education and training objectives of the country should be mapped. This strategy or action plan should include components that are structured around the key measures of the EU eLearning Action Plan, including:

   ■ key measures relating to infrastructure and equipment;
   ■ key measures relating to training;
   ■ key measures on services and content: favourable conditions and priority areas for innovation and development;
   ■ key measures to strengthen cooperation and dialogue.

4. Reflecting the findings of the survey; while taking into consideration the four key measures above, the strategy or action plan should in include:

   ■ a detailed plan for public awareness-raising of e-learning;
   ■ the development of specific tools adapted to each country's national situation and conditions;
   ■ short-term, medium-term and long-term planning of e-learning activities;
   ■ investment plan including, wherever possible, regular public funding aimed at improving the e-learning infrastructure at national level;
   ■ plan for skills development of staff involved in e-learning;
   ■ diversification of the structural basis of e-learning, i.e. extension of programmes to other education and training subsectors such as VET and secondary education;

   ■ national basic e-learning standards;
   ■ plan for development of public-private partnerships to facilitate e-learning;
   ■ creation of an appropriate framework for international cooperation and networking.

5.2 INSTITUTIONAL LEVEL

Generally, the institutional level should largely mirror the e-learning-related developments at country level.

5. Wherever possible, and if within their capacity, ETIs should try to raise funds to invest in their infrastructure and equipment as the basic prerequisite for the successful development of e-learning.

6. In terms of ETI general methodology, it is recommended that all four key elements of e-learning, i.e. hardware, software, pedagogy and organisation, should be developed and that none of these aspects should be neglected. ETIs should also be prepared for organisational changes to respond adequately to the introduction of e-learning. In this connection, each ETI keen to introduce efficient e-learning should have an 'e-learning manager' as well as an institution-based strategy or action plan corresponding to their respective national action plans (see above). Nevertheless, e-learning should not be developed at a given ETI for its own sake, but rather as an effective tool for accomplishing current and future education and training tasks. This means that at institutional level – at least at most ETIs – e-learning should not be developed as an exclusive tool, i.e. it should complement other forms of education and training rather than totally replacing them. Hence the prognosis is 'both … and' rather than 'either … or'.

7. The availability of adequately qualified human resources is one of the most essential prerequisites for the introduction of an efficient e-learning system. In this connection, ETIs should take into account the skills development of all their staff as required to meet the

challenges of e-learning, including technological, content development, methodological and organisational skills. This will require certain regulations under industrial law to lay down the new 'roles' to be played by e-learning staff (course developers, tutors, etc.).

8. In order to make an e-learning system successful in the long term, the key task of ETIs is to provide learners with adequate support including permanent counselling and tutoring, a high level of interactivity, didactically sound materials and programmes, and user-friendly learning management systems (LMS).

9. In terms of programmes that ETIs intend to develop and deliver, it is strongly recommended that regular and consistent market research and training needs analyses should be carried out in order to meet the actual needs of the market. This is the basis for any decision-making process on the composition and shares of the individual education and training provided by ETIs.

10. Cooperation, coordination and networking at national level should be developed in all cases. ETIs should try to launch or contribute to networking initiatives and join existing national networks, which in turn should establish contact with international networks.

ANNEXES

ANNEX 1: IN-DEPTH ANALYSIS OF QUESTIONNAIRES

A detailed analysis follows of responses to Questionnaires I and II under the six headings listed above: Legal and policy arrangements; Public awareness; Infrastructure at education and training institutions; Methodology; Teaching and learning resources; and National and international cooperation and networking.

QUESTIONNAIRE I

Questionnaire I was targeted at policy and decision-makers in education and training, labour, economy, regional development, social partners, etc.

I   Legal and policy arrangements

1. *Is the current status of e-learning laid down by law in your country (education law, labour law, etc.)?*

    Although the respondents from Albania and Bosnia and Herzegovina indicated that the current status of e-learning is laid down by law in their respective countries, it is strongly assumed that these respondents had misinterpreted this question, because there is no e-learning legislation in any of the countries in the survey.

2. *Do you consider the current legal stipulations relating to e-learning adequate for the adoption of an efficient e-learning policy?*

    The answers to this question were consequently almost identical to those in the previous question. Respondents indicated that the current legal stipulations relating to e-learning are inadequate.

3. *Which body(ies) is/are responsible for coordinating e-learning policy in your country and what are its/their main tasks in terms of e-learning? How would you rate the work/ progress of this/these body(ies) in implementing e-learning programmes?*

1 = not sufficient; 2 = sufficient; 3 = good; 4 = very good; 5 = excellent

Body/Task	Work/Progress
Ministry of Education	3.1
Ministry of Labour	3.0
Universities, schools; VET centres	3.3
Enterprises	2.0
Average	**2.8**

Respondents from only five countries answered this question, which showed that in the other countries there is no official body responsible for coordinating e-learning policy. In most of the respondents' countries (FYROM, BG, TK) the Ministry of Education coordinates e-learning. However, the ministries, on average (2.2), got relatively low marks for their work/progress in implementing e-learning programmes. In TK, two bodies are responsible for coordinating e-learning policy – a special Council of Higher Education and the Ministry of Labour. The respondents from ALB and BiH mentioned universities, schools, VET centres and enterprises as coordinating bodies in the field of e-learning. However, the present author considers them to be executing organisations rather than bodies coordinating e-learning policies on a national scale. All in all, the bodies mentioned were rated mid-range on average (2.8). Different answers from the same country suggested that some of the respondents were unaware of any official body. It was striking that none of the respondents described the tasks of the bodies responsible for coordinating e-learning.

4. *Has a strategy (programme, action plan) been adopted in your country to facilitate e-learning at all levels of education and training?*

Corresponding to the legal situation described above, the situation in the 10 target countries is similar with regard to the relevant policy arrangements. According to the information given in the questionnaires, almost all countries do not have any e-learning action plan which might be in line with the EU eLearning Action Plan. In the region reviewed there is clearly only one country (TK) in which some form of strategy programme has been adopted to promote and develop e-learning (see next question).

5. *If yes, is it in line with the EU eLearning Action Plan and in which aspects (structure, benchmarks, reporting, etc.)?*

According to the comment made by the respondent from TK, the Turkish government has adopted an Urgent Action Plan emphasising e-learning, which aims to reach EU standards on all points.

6. *Please assess, from your point of view, the priority and urgency of action needed in the following e-learning policy areas.*

1 = irrelevant; 2 = relevant but not urgent; 3 = urgent; 4 = very urgent; 5 = most urgent

Investment in and promotion of ICT infrastructure and equipment in public and private education or training institutions	4.27
Initial training and upgrading of teacher/trainers to enable them to provide and manage e-learning as an integral part of education and training	4.45
Development of contents (educational software, programmes, courses, modules, etc.) and quality assurance mechanisms	4.18
Development of efficient e-learning support services (e.g. national e-learning portals, sector-related databases, support hotlines, etc.)	4.09
Average	**4.25**

The answers to this question clearly show that generally there is an urgent need for action in any area relating to e-learning (average 4.25). The respondents were almost unanimous in giving initial training and upgrading of teachers/trainers the highest marks (4.45). Similarly, investment in and promotion of ICT infrastructure and equipment was seen by most respondents as very urgent (4.27). Looking at the individual countries, it was clear that the respondents from BG and BiH (each with an average of 5.0) consider action in all given e-learning policy areas to be very urgent.

7. *Please assess the extent of e-learning use as an integral part of education and training in your country.*

1 = very slight; 2 = slight; 3 = sufficient; 4 = large; 5 = very large

Primary education, general secondary education	2.00
Vocational education and training	2.18
Higher education (Bachelor's and Master's programmes)	3.09
Continuing training	2.18
In-service staff training	2.54
Management training	2.81
Consulting services	2.54
Training provided by labour offices for unemployed	1.63
Average	**2.37**

In the field of higher education (Bachelor's and Master's programmes) e-learning is being sufficiently used as an integral part of the education process (3.09), according to the respondents from most SEE countries. This is basically in line with international trends and the situation in many EU countries. In primary and general secondary education, e-learning is being used only to a slight extent (2.0). Within the framework of training programmes for the unemployed, e-learning seems to be rarely used (1.63). Overall, respondents thought that e-learning in their countries is currently insufficiently used (average 2.37).

8. *Are any public funds allocated annually to the development of e-learning?*

Answers to this question indicated that there is no regular annual public funding for e-learning in any of the countries reviewed. Consequently, the next question was of no relevance.

9. *If yes, please indicate the approximate amount.*

In comparison, the following question was fairly important for the whole survey, as the answers mirrored some crucial aspects and trends in e-learning in the region.

10. *How would you assess the current situation in your country in the areas listed below?*

1 = not sufficient; 2 = sufficient; 3 = good; 4 = very good; 5 = excellent

Public awareness of e-learning	1.73
State of research in e-learning	1.67
Accreditation of e-learning programmes and education and training institutions, including quality standards	1.73
Promotion of innovative teaching/learning approaches through e-learning	1.64
Recognition of e-learning certificates by authorities, labour market, employers, etc.	1.54
Introduction and use of e-learning quality standards	1.45
Market and technology developments facilitating e-learning	2.00
Development of public-private partnerships in introducing and applying e-learning	1.64
Average	**1.50**

The very low total average of 1.5 indicates that respondents thought that the current situation in their countries in the given areas associated with e-learning is unsatisfactory. The introduction and use of e-learning quality standards was considered insufficient (1.45). Although it was not rated lowest on average, the public awareness of e-learning was seen by many respondents from several countries as completely insufficient, which was confirmed by answers to other questions, including those in Questionnaire II (see analysis below).

11.1 Please list three major changes (maximum three from the list above) that, in your opinion, should be introduced in order to ensure more effective use of e-learning in education and training.

Category	Country	Number (rank)
Development/improvement of infrastructure (including equipment) and e-learning technology based on investment	ALB, BiH, BG, FYROM, MON, SER, TK	11
Awareness-raising	ALB, FYROM, MON, SER, TK	9
Staff training (teachers and trainers)	ALB, FYROM, MON, SER	5
Establishment of legal framework	BG, FYROM, SER	4
Development of e-learning strategy/policy	SER	1
Establishment of quality assurance systems designed for e-learning	SER	1

Investment in and development of infrastructure (mainly equipment) and e-learning technologies were mentioned by respondents from all countries as an essential prerequisite for a more effective use of e-learning in education and training (ranked first). Raising awareness of e-learning on a nationwide scale was ranked second. Respondents pointed to the need for training teachers and trainers as one of the major changes that would allow staff to handle e-learning technologies and methodologies in a professional way (ranked third). Establishing a sound legal framework for e-learning was considered important by four respondents (ranked fourth), whereas the development of a national e-learning strategy/policy was mentioned by only one. Likewise, only one respondent saw the establishment of a quality assurance system as an important step towards a more efficient use of e-learning.

11.2 Please list three major changes that, in your opinion, should be introduced in order to ensure effective cooperation of your country with EU countries in the field of e-learning.

Area of change	Country	Number (rank)
Knowledge transfer and capacity building	ALB, BG, FYROM, TK	6
EU funding of equipment	ALB, FYROM, TK	3
Participation in EU projects	BG, MON, SER	3
Development of a national strategy/action plan	SER, TK	3
Introduction of EU quality standards	ALB, FYROM	2

Corresponding to their answers to question 11.1, the majority of respondents feel that capacity building among teachers, trainers and relevant administrative staff, which should mainly be implemented through the efficient transfer of knowledge from the EU to the target countries, would prepare the ground for effective cooperation on e-learning. EU funding of equipment for e-learning, active participation in EU projects and the development of a national e-learning strategy, for example in the form of an action plan, were each seen by three respondents as crucial for effective cooperation.

Only two respondents thought that the introduction of EU quality standards is a necessary step in this direction.

II Public awareness

The second part of Questionnaire I was intended to analyse the level of public awareness of e-learning in the target countries. To this end, the following two questions were asked.

12. Please assess the acceptance of e-learning among the different key players.

General public	2.18
Policy-makers	2.45
Schoolteachers	2.27
University teachers/trainers	3.18
Employers	2.54
Learners	2.00
Unemployed	2.00
Average	**2.50**

The total average of 2.5 indicates that general acceptance of e-learning is not very high. It may be assumed that the reason for this is not a fundamental objection or resistance to e-learning as a whole, but a general lack of awareness of the character, advantages and potential of e-learning. This is, at least to some extent, backed up by the answers to question 13 (see below). Not surprisingly the acceptance of e-learning among university teachers is comparatively good (3.18) as, similar to EU countries, universities are pioneers when it comes to developing, introducing and implementing new learning technologies and methodologies. The majority of the key players mentioned in the questionnaire were given low ratings (2.18 to 2.54) by most respondents. Among learners and unemployed people e-learning seems to be least accepted (2.0) or, which from the author's perspective is more likely, least known.

13. Please list three activities that you think should be undertaken in order to raise public awareness of e-learning in your country.

Activity	Country	Number (rank)
Promotional campaigns (using media such as TV)	BG, BiH, FYROM, MON, SER, TK	9
International events (conferences, workshops, etc.)	ALB, MON, SER, TK	4
Dissemination of pilot project results (good practices)	BG, FYROM, SER	4
Improvement of cooperation/networking at national level	ALB, FYROM, TK	3
Capacity building/staff development	FYROM, TK	3
Investment in and development of infrastructure	BiH, FYROM	2
Establishment of legal framework	SER	1
Introducing a new curriculum including e-learning	FYROM	1

Most respondents thought that well-targeted promotional campaigns at national level through a variety of channels, such as the media, ministries and other stakeholders, should be carried out in order to raise public awareness of e-learning (ranked first). Besides this national level, international events such as conferences, workshops and sessions (ranked second) are considered to be an adequate tool to achieve this goal. Three respondents supported the improvement of cooperation and coordination of national stakeholders and, in this connection, the establishment of national networks. Likewise three respondents felt that public awareness-raising for e-learning may be

brought about through capacity building and staff development (ranked fifth). The rest of the activities listed in the table, which were mentioned by only a few respondents, seem to be of little relevance for public awareness-raising.

QUESTIONNAIRE II

I   Infrastructure at education and training institutions

1.   *Is your organisation adequately equipped for setting up and delivering e-learning programmes?*

	Yes	No
Current status of e-learning equipment	17	23

The overall regional picture indicates that the majority of respondents' organisations (57.5%) are not adequately equipped for setting up and delivering e-learning programmes. The expert basically agreed with this trend, which is supported by published statistics and the answers to other questions in both questionnaires. However, it has to be taken into account that analysing only the answers from CRO provides a different picture, with 59% of respondents answering yes and 41% no. Although the absolute numbers of respondents from the other individual countries are lower than CRO, the regional picture seems to be quite clear. There may be various reasons for this. Assuming the answers to be objective and correct suggests that the state of e-learning equipment in CRO is indeed better than in other SEE countries, a conclusion which is backed up by statistics. In addition, the Croatian Ministry of Education, Science and Sports has provided schools with computers and Internet connections.

2.   *Please assess your organisation's investment needs in terms of equipment required to implement e-learning programmes.*

1 = no needs; 2 = low needs; 3 = limited needs; 4 = high needs; 5 = very high needs

Internet access for teachers/trainers and learners	3.5
Equipment for course development and production (hardware and software)	3.4
Equipment for training delivery and course management (hardware and software)	3.6
Networking equipment	3.7
Average	**3.6**

Overall, the answers to this question suggest a clear tendency for higher investment needs with regard to e-learning equipment (3.6), which basically corresponds to question 1 of this questionnaire. The lowest rating came from RO (1.75), which per se would indicate that investment needs are low. However, as there was only one respondent from RO this value can scarcely be considered typical for the region. The highest needs were reported by respondents from KOS (4.75), BiH (3.7) and FYROM (3.6). These relatively high needs for investment confirm other published statistics and reports, such as the eSEEurope regional ICT sector status and usage report, *Building an information society for all.*

3. *Please indicate approximate investment in e-learning equipment within the last three years and for the next three years.*

Country: Croatia			
	Total (planned) spending (€)	**Investment in e-learning (%)**	**Main areas of investment in equipment**
2002	24 000	31	Computers, printers, scanners, Internet connection, software, networking hardware and software, server, video conferencing
2003	31 000	24	
2004	18 000	30	
2005	39 000	15	
2006	38 000	15	
2007	41 000	15	

Country: former Yugoslav Republic of Macedonia			
	Total (planned) spending (€)	**Investment in e-learning (%)**	**Main areas of investment in equipment**
2002	30 000	50	Computers, including hardware and software
2003	3 500	100	
2004	14 000	60	
2005	180 000	30	
2006	50 000	100	
2007	50 000	100	

Respondents from only two countries (CRO, FYROM) answered this question, hence it was difficult to project any regional picture. As some of these data (in particular the percentages) seemed to be somewhat contradictory, inconsistent and therefore not very reliable, only some rough trends can be derived from them. For the two countries, investment increased and will obviously further increase during the period 2002–07. The main areas of investment included hardware and software, networking equipment and in some single cases video conferencing and an e-learning platform.

4. *In which of the following fields did you invest/do you plan to invest?*

Field	Past (%)*	Future (%)*
Staff development and training in e-learning	11	20
Development of e-learning courses/programmes	8	28
New information technologies	17	18
Marketing of e-learning programmes	0.6	17
Equipment/premises dedicated to e-learning	24	28

* Average of all countries

Respondents from seven countries (BiH, CRO, FYROM, SER, KOS, MON, BG) answered this question. Analysing the percentages given, it was striking that all respondents made clear that they intend to increase future investment in the given fields. The most remarkable 'leaps' in terms of planned investment are expected to take place in the development of e-learning courses/programmes and marketing of programmes. Staff development will also be allocated more investment over the next few years. With regard to the individual countries, BiH, KOS and MON will invest most in the fields mentioned, with emphasis on development and marketing of e-learning programmes (BiH, KOS) and staff development (MON). The level of investment in equipment will remain relatively high in all countries.

II   Methodology

5. *Which of the following ICT/tools does your organisation use (plan to use) for education and training programmes?*

Type of ICT/tool	Extent of use in education and training programmes (%)*		
	3 years ago	Currently	In 3 years
Internet	11	27	51
email	19	30	46
CD-ROM, DVD	18	28	46
LCD projector	18	21	43
TV/radio broadcast	4	n/a	16
Video conferencing	0.3	0.5	13
Video tapes	6	7	13
Audio tapes	8	10	14

* Average of all countries

Except for ALB and RO, respondents from all countries reviewed answered this question. Almost all respondents clearly indicated that use of the Internet, email, CD-ROM and DVD and LCD projectors has been increasing in their organisations over the last three years and that this trend is likely to continue. The respondent from TK gave the highest percentages (Internet 50%, email 100%, CD-ROM 100%) on the extent of use of these tools in education and training programmes. From the expert's point of view, TK seems to be rather an exception here.

The greatest current use of the Internet, email and CD-ROM was to be found with respondents from CRO (16%–27%), FYROM (30%) and KOS (23%–37%). The respondents obviously did not pay much attention to such 'classical' means of communication as video and audio tapes or TV/radio broadcasts in comparison with advanced ICT and e-learning tools.

6. *Please indicate the proportion of the following types of course in your portfolio of education and training programmes (%).*

	3 years ago*	Currently*	In 3 years*
Mainly web-based training (WBT)	1.2	9	30
Mainly computer-based training (CBT)	17	29	29
Blended learning (mix of e-learning and classroom training)	3	9	20
Courses with low ICT support	62	54	26

* Average of all countries

Thirty-seven respondents from a total of nine countries answered this question. A clear trend emerged of increasing use of advanced e-learning programmes, including WBT, CBT and blended learning. This trend was also confirmed by the reciprocal decrease in the proportion of courses with low ICT support. The largest current respective shares of WBT, CBT and blended learning were reported by respondents from BG (2%, 12%, 24%), CRO (5%, 27%, 14%) and FYROM (5%, 60%, 10%).

7. *Please assess the extent to which the introduction of e-learning triggers organisational changes in your institution.*

1 = very slight; 2 = slight; 3 = sufficient; 4 = large; 5 =very large

Extent of organisational changes triggered by introduction of e-learning	2.6

This question was answered by respondents from eight countries. According to the respondents, the introduction of e-learning triggers organisational changes from a slight to moderate extent (average 2.6). The largest extent of organisational changes was indicated by the respondent from TK (5.0) whereas those from KOS and SER reported only slight changes (1.6 and 1.0), probably because e-learning has not yet been fully introduced in those institutions.

8. *Do you apply any special e-learning quality assessment methods?*

	Yes	No
Application of e-learning quality assessment methods	12	22

The 34 respondents who answered this question came from eight countries. The ratio given in the table clearly illustrates that the majority of respondents (64.7%) do not apply any special e-learning quality assessment methods. This result seems to reflect a realistic picture of the situation in the respondents' organisations in the region and was supported by other reports and sources. The result was even confirmed by a 'CRO-only' review, with 13 respondents from CRO answering no (62%) and 8 yes.

9. *Please rank the importance of components of the education and training process in your organisation's e-learning quality assurance system.*

Component	Rank 1	Rank 2	Rank 3
Control of input (accreditation of programmes, curricula, learning materials, teaching and training staff, etc.)	14	7	5
Control of progress (outside and self assessment of training units, learners' progress, motivation, etc.)	7	11	8
Control of output (system for certification of competences, ability to fulfil practical tasks)	10	11	5

This question expands on the answers to the previous question. A total of 26 respondents from seven countries answered. The control of input within the framework of the organisation's quality assurance system was ranked first by a clear majority (14). Ten respondents ranked the control of outputs first and seven respondents ranked the control of progress first. Given that only 12 respondents indicated the actual application of e-learning quality assessment methods (see question 8), it may be suggested that they had answered question 9 from a general perspective rather than that of their respective organisations.

III   Teaching and learning resources

10. *Please assess the level of availability of the following e-learning resources in your organisation.*

1 = very low; 2 = low; 3 = sufficient; 4 = high; 5 = very high

Institutional resources (legal status, staff, facilities, budget, organisational chart, etc.)	2.1
Human resources (managers, administrators, authors, methodologists, course designers, tutors, etc.)	2.4
Programme resources (courses, technologies, methodologies, guidelines, quality standards, etc.)	2.4
ICT resources (hardware, software, databases, networking capacities, interfaces, etc.)	2.8
Material resources (equipment, classrooms, library, etc.)	2.4
Financial resources (income generation, fund-raising, donor grants, etc.)	1.8
Internet access for teachers and learners	2.6
Average	**2.4**

This question was answered by respondents from eight countries. The average availability of the given e-learning resources, as indicated by the respondents, tends to be low (2.35). The availability of ICT resources, although not assessed as sufficient, was given relatively high marks (2.8) whereas the availability of financial resources was rated between 'very low' and 'low' (1.8). According to the respondents, the lowest average availability of the above e-learning resources was in KOS and the highest in BG.

11. *Please list the main resources (maximum three from above list) that you plan to develop within the next three years.*

Resource	Country	Number (rank)
Programme resources (courses, technologies, methodologies, guidelines, quality standards)	CRO, KOS, BG, RO	11
Human resources (managers, administrators, authors, methodologists, course designers, tutors, etc.)	BiH, CRO, KOS, RO	10
Material resources (equipment, classrooms, library, etc.)	BiH, CRO, KOS	9
ICT resources (hardware, software, databases, networking capacities, interfaces, etc.)	BiH, CRO, MON, BG, RO	8
Internet access for teachers/trainers and learners	CRO, BG	8
Institutional resources (legal status, staff, facilities, budget, organisational chart, etc.)	CRO, MON, BG	3
Financial resources (income generation, fund-raising, donor grants, etc.)	BiH, CRO	2

This question was answered by relatively few respondents from only six countries, which suggested that the respective organisations either do not know or have not yet

decided whether and which resources should be developed to introduce and promote e-learning. Programme resources were listed by most respondents as the main resource to be developed within the next three years (ranked first). The development of human and material resources came second and third, respectively. ICT resources in general and Internet access for teacher/trainers and learners in particular were also listed as important (ranked fourth). Only very few respondents listed institutional resources and financial resources as priority developments.

12. *Is training in ICT skills for teachers/trainers* working for your organisation …*

	Yes	No	Partially
… part of the curricula in teacher/trainer initial training	7	13	14
… part of regular upgrading courses for teachers/ trainers	5	14	16
… laid down in the respective job descriptions	4	14	15

* Other than ICT teachers

A total of 35 respondents from eight countries answered this question. The regional situation and the current trend are fairly clear. With few exceptions (21% yes), ICT training is not, or only partially, included in the curricula in teacher/trainer initial training. Some 85% of respondents indicated that ICT training is not, or only to a very limited extent, part of regular upgrading courses (if there are any) for teachers and trainers; and 88% stated that ICT training is not laid down in job descriptions of teachers/trainers working for their respective organisations.

13. *In your opinion, is the level of ICT skills of teachers in your organisation sufficient to meet the future challenges of e-learning?*

	Yes	No
Level of teachers' ICT skills	7	27

Respondents from eight countries answered this question (only FYROM and ALB did not respond). With almost 80% of respondents having answered no, the situation was clear. In the vast majority of the education and training organisations in the region dealing with or interested in e-learning, the level of ICT skills of the teachers is insufficient. This was confirmed by a comparison between CRO and the other SEE countries, although it also revealed that only 70% of respondents from the other countries answered no.

14. *Please assess the capacity of staff in your institution in the following areas relating to e-learning.*

1 = very low; 2 = low; 3 = sufficient; 4 = high; 5 = very high

Technologies for course development	2.3
Application of e-learning in education and training, including tutoring services	2.3
Resource sharing within established networks (making use of courses developed by partner organisations)	2.2
Course management and marketing	1.5
Quality assurance and control	1.8
Software development	2.0
Average	**2.0**

Respondents from nine countries answered this question. Their answers gave a fairly clear picture of the regional situation. Respondents almost unanimously stated that the

capacity of the staff in their respective organisations relating to e-learning is low (average 2.0). In the individual countries, the lowest average ratings came from RO (1.5), SER (1.6) and CRO (1.7), whereas the ratings from FYROM (3.8) and BG (2.3) were relatively high. Given that for this question there was only one respondent from FYROM, it may be assumed that this value does not necessarily paint a realistic picture of the situation in the whole country.

15. *What, from your perspective, are the main needs (maximum three) of learners taking part in e-learning programmes?*

Types of need	Country	Number (rank)
Upgrading courses and continuing education	BiH, CRO, FYROM, KOS, BG, RO	10
General (basic) ICT knowledge and skills	BiH, CRO, FYROM, KOS, BG RO	9
Internet access (permanent)	BiH, CRO, FYROM, KOS, BG	7
Equipment (general infrastructure)	BiH, CRO, KOS, BG	6
Course organisation and management (including counselling)	BG, FYROM, KOS, RO	5
Resource sharing (networks)	BiH, KOS	2
Software development	BiH	1
Quality assurance	BiH	1
Financial support	BiH	1

This question was answered by respondents from six countries. Most respondents indicated upgrading courses and continuing education in general (ranked first) as the main needs of learners taking part in e-learning programmes. General (basic) ICT knowledge and skills were ranked second. Permanent Internet access and needs relating to equipment and general infrastructure were ranked third and fourth, respectively. Five respondents mentioned course organisation and management, including counselling, as main needs. The last three categories were seen as main needs only by respondents from BiH.

16. *Are the learners in your organisation provided with special support to enable them to make effective use of e-learning programmes?*

	Yes	No
Special support to learners participating in e-learning programmes	12	21

The 33 respondents who answered this question came from nine countries. The overall regional situation seems to be clear with 64% of respondents indicating that the learners in their organisations are not provided with special support to enable them to make effective use of e-learning programmes. However, as seen above, the situation in CRO seems to differ from that in the other SEE countries, where the ratio was 60% yes and 40% no. Respondents who answered yes to this question came from BG, BiH, CRO, KOS and RO.

17. If yes, please specify.

	Yes	No	Partially
Skills development to use ICT within the learning process	8	1	6
Skills development to plan and implement the learning process, applying e-learning methodology	4	3	7
Tutoring services to facilitate the learning process	3	4	7

This question was intended to expand the answers to question 16. It was answered by respondents from five countries. (The respondent from SER answered in error as the answer to the previous question was no.) Skills development to use ICT within the learning process seems to be the main field in which special support is available. In second place most respondents mentioned skills development to plan and implement the learning process, applying e-learning methodology. Tutoring services to facilitate the learning processes were ranked third, which corresponds to the results from questions 15 and 16.

18. Please indicate the main subject areas (maximum three) for e-learning in your organisation.

Subject area	Country	Number (rank)
Computer science	BiH, CRO, FYROM, KOS, BG	15
Foreign languages	CRO, KOS, BG	6
e-library (science, arts)	KOS	3
Course development and management technologies (including tutoring services)	CRO, BiH	3
Economics and business administration	CRO, BG	2
Education and general skills development	BiH	2
Career counselling	RO	1
Virtual companies	KOS	1

This question was answered by 26 respondents from six countries (SER and TK did not respond). Following the general European trend, most respondents ranked computer science first. Foreign languages were ranked second. The use of an e-library and course development and management technologies came next. Very few respondents from CRO, BG, BiH, RO and KOS stated that economics and business administration were major subject areas in their organisations. Two respondents mentioned career counselling and virtual companies.

19. Have you developed any new e-learning programmes (courses, modules) in the last three years?

	Yes	No
Development of e-learning programmes in last three years	10	21

Thirty-one respondents from nine countries answered this question. The majority (65%) indicated that they had not developed any new e-learning programmes in the last three years. However, the situation in CRO must again be differentiated from that in the other countries. Whereas 88% of respondents from CRO answered no, this percentage was just 43% in the other countries, i.e. 57% of respondents from BG, BiH, FYROM, KOS and RO answered yes, indicating that they had developed new e-learning programmes in the last three years.

20. *Do you plan to develop any e-learning programmes (courses, modules) within the next three years?*

	Yes	No
Development of e-learning programmes within next three years	14	20

This question was answered by the 34 respondents from the same countries as the previous question. In terms of the yes/no ratio, a similar situation arises, i.e. 59% of all respondents indicated that they do not plan to develop any e-learning programmes within the next three years. However, the pictures in CRO and the other countries are again contrasting. Summing up the answers by respondents from the other countries (except CRO) gives a ratio of 63% yes and 37% no. Compared with question 19, the answers to this question suggest an expected increase of e-learning programmes of 6% within the next three years.

21. If your answer to question 20 is yes, please specify as follows:

21.1 Programmes developed

Country: Bosnia and Herzegovina

Course title	Study hours	Delivery technology	No of students registered	No of students completed	Target groups	Web site	Part of regular studies	Additional qualification
Robotics and automation	45	Combined	10	8	Full time	www.lc.etfbl.net	Yes	No
FEM	30	Hybrid	8	12	Regular students	www.mf.unze.ba.piok	Yes	No
Educational policy and administration	80	Online tutoring, ICT network, learning platform	65	2	Ministers, staff	www.us.edu	n/a	n/a
Analogous and digital filters	45	Combined	25	25	Students	www.etfbl.net	Yes	No

Country: Bulgaria

Course title	Study hours	Delivery technology	No of students registered	No of students completed	Target groups	Web site	Part of regular studies	Additional qualification
Computer science	70	e-learning platform	100	98	Regular students	www.pen.acad.bg	Yes	Yes
Domiciliary care delivery	25	WBT	n/a	n/a	Unemployed	www.sane.bg.org	No	Yes
STAR chemistry (teacher support portal)	n/a	Internet	15	15	Secondary-school	www.chemedu.chem.uni-sofia.bg	No	Yes

Country: Croatia

Course title	Study hours	Delivery technology	No of students registered	No of students completed	Target groups	Web site	Part of regular studies	Additional qualification
Idimasu	20	n/a	n/a	n/a	n/a	www.tssibenik.hr.idimasu	Yes	

Country: former Yugoslav Republic of Macedonia

Course title	Study hours	Delivery technology	No of students registered	No of students completed	Target groups	Web site	Part of regular studies	Additional qualification
Development programmes	n/a	Learning material, tasks	n/a	n/a	Students	www.ii.edu.mk/index.htm	Yes	

Country: Kosovo

Course title	Study hours	Delivery technology	No of students registered	No of students completed	Target groups	Web site	Part of regular studies	Additional qualification
Introduction to ICT	34	PC training	83	64	n/a	n/a	Yes	No
Software application	34	PC, Internet	83	47	n/a	n/a	Yes	No

Country: Romania

Course title	Study hours	Delivery technology	No of students registered	No of students completed	Target groups	Web site	Part of regular studies	Additional qualification
Intercultural education	12	WBT	1 000	n/a	n/a	www.academiaonline.ro	No	Yes

21.2 Programmes planned

Country: Bosnia and Herzegovina

Course title	Study hours	Delivery technology	No of students registered	No of students completed	Target groups	Web site	Part of regular studies	Additional qualification
Visual basic	60	Hybrid	140	n/a	Regular students	www.unze.ba	Yes	No
Half of all school subjects	n/a	n/a	n/a		School students		Yes	

Country: Bulgaria

Course title	Study hours	Delivery technology	No of students registered	No of students completed	Target groups	Web site	Part of regular studies	Additional qualification
Object oriented programming	70	e-learning platform	100		Regular students	www.pen.acad.bg	Yes	No

Country: Croatia

Course title	Study hours	Delivery technology	No of students registered	No of students completed	Target groups	Web site	Part of regular studies	Additional qualification
Mathematics for grades 5–8	n/a	n/a	n/a		School students	n/a		

Country: Kosovo

Course title	Study hours	Delivery technology	No of students registered	No of students completed	Target groups	Web site	Part of regular studies	Additional qualification
Fuzzy logic, algorithms	34	PC data acquisition board (dynamic system)	n/a		Students	n/a	Yes	No
Computer simulation	34	PC data acquisition board (dynamic system)	n/a		Students	n/a	Yes	No
Mechatronics I and II	102	Mechanical labs	n/a		Students	n/a	Yes	No

Respondents from six countries answered this question. Concerning the courses and programmes already developed and implemented, respondents indicated different numbers of a variety of e-learning programmes and courses – BiH 4, BG 3, CRO 1, FYROM 1, KOS 2 and RO 1. Concerning the planned courses, respondents from four countries indicated certain programmes – BiH 2, BG 1, CRO 1 and KOS 3. Most courses and programmes are designed at university level for regular students. Only a few courses are targeted at upgrading and continuing education.

22. *What type of services relating to e-learning does your organisation provide?*

	Yes	No	Actual demand covered (%)
e-learning for different target groups (e.g. teachers, students, other clients)	11	20	BG 35, CRO 55, KOS 20
Development and production of e-learning programmes (courses, modules)	5	25	BG 50
Delivery of e-learning programmes (courses, modules)	7	24	BG 57.5
Tutoring services and hotlines	3	29	BiH 10, BG 50
e-library	6	23	BG 55
Internet services	18	14	BiH 20, CRO 46.6, KOS 50, BG 65
Databases (for information and documentation purposes)	15	18	BiH 30, BG 52.5, CRO 80, KOS 10
e-consulting for paying clients	2	29	BiH 20, BG 5
In-service training for company staff	10	22	BiH 45, BG 5, CRO 40
e-learning for unemployed	3	29	BiH 30, BG 10

Respondents from nine countries answered this question. Although the majority of respondents (74%) indicated that they do not deliver the services in question, there was still a relatively large number (26%) who stated that they do render all or at least some of the services. Even a comparison of the yes/no ratio between CRO and the other SEE countries suggested the same trend, with a majority of CRO respondents (84%) and a majority of other respondents (62%) answering no with regard to the range of e-learning-related services mentioned.

The provision of Internet services was indicated by most respondents (18 yes). Most respondents also provide databases for information and documentation purposes (15 yes). A general e-learning service for different target groups was mentioned by 11 respondents, while 10 respondents indicated in-service training for company staff.

Analysis of percentages of the actual demand covered shows a very heterogeneous picture. However, it was obvious that none of the respondents covered 100% of the actual demand for the respective services.

23. *Please list the three most important current e-learning activities of your organisation.*

Activity	Country	Number (rank)
Training in ICT for teachers and project staff	BiH, CRO, BG, RO	4
Training in foreign languages for students (networks)	CRO, FYROM, BG,	3
Downloading of Internet websites	BiH, FYROM, KOS	3
Conferences and e-learning courses	CRO, BG	2
Training PC skills	BiH	1

Respondents from six countries answered this question. SER, MON and TK did not respond. Some 50% of the given e-learning activities currently undertaken were limited to CRO and BG, the rest of the activities being shared by BiH, FYROM, KOS and RO with each of the respondents from those countries providing just one or two courses. ICT training for teachers and project staff (some 30%), foreign language training on networks (some 25%) and downloading Internet websites (some 25%) were the key e-learning activities mentioned.

IV National and international cooperation and networking

24. *Please list the three most successful e-learning providers (ETIs or consortia) in your country.*

Name	Location	Area	Web address
E-net Center	Sarajevo, BiH	economics	www.enet.edu.ba
UTIC	BiH	n/a	www.utic.net.ba
University of Tuzla	Tuzla, BiH	ICT, electrical engineering	www.untz.ba
University of Mostar	Mostar, BiH	ICT	www.unmo.ba
Faculty of Economics	Sarajevo, BiH	n/a	n/a
Faculty of Electrical Engineering	Banja Luka, BiH	n/a	n/a
University of Zagreb	Zagreb,CRO	electronics	www.fer.hr
University of Rijeka	Rijeka, CRO	humanities	www.pefri.hr
University of Split	Split, CRO	science	www.pmfst.hr
hsin	Zagreb, CRO	n/a	www.hsin.hr
hdpio	Zagreb, CRO	n/a	www.hdpio.hr
PRO-MIL	Varaedin, CRO	n/a	n/a
CarNet	Zagreb, CRO	n/a	www.carnet.hr
HT net	n/a	n/a	www.htnet.hr
University of Skopje, Institute of Informatics	Skopje, FYROM	Collegiate education	www.ii.edu.mk
Link Group	Belgrade, SER	ICT; foreign languages	www.link.co.yu
SMART bits	KOS	n/a	n/a
University of Montenegro	Podgorica, MON	n/a	n/a
Academia Online	Bucharest, RO	n/a	www.academiaonline.ro
Economic Academy	Drishtor, BG	n/a	n/a
University of Russe	Russe, BG	n/a	n/a
Technical University of Sofia	Sofia, BG	n/a	n/a
Microsoft Bulgaria	Sofia, BG	Online courses and exams in ICT	www.msbgexams.com
Consortium of Sofia University, Technical University of Sofia and American University in BG	Sofia, BG	e-Democracy BG – online training and forum	www.it.fmi.uni-sofia.bg
Medical University	Sofia, BG	Web-based interactive courses in biochemistry	www.biochemistry.orbitel.bg

Respondents from eight countries answered this question. The vast majority of e-learning providers named by respondents are universities or other higher education institutions. Very few providers were mentioned which are operating in the business

sector. The training providers deliver a relatively wide range of e-learning programmes including ICT, foreign language training, economics, sciences, humanities and engineering.

25. *Is your organisation involved in any national and/or international e-learning consortia (except those based on international networks and programmes below)?*

Name of consortium	Name of partners	Purpose of agreement	Web address
Virtual department of computing 'John Atanasov' mission – BG	n/a	n/a	n/a
International consortia for STAR Science project (many similar projects) – BG	British, Irish and other partners	n/a	n/a

The fact that just two respondents from BG answered this question suggested that not very many education and training organisations based in the countries reviewed are currently involved in any national or international e-learning consortia. The names of the international partners were not mentioned.

26. *Are you involved in any national and/or international networks and/or programmes in e-learning related areas?*

	Yes	No
Involvement in national/international e-learning networks and/or programmes	4	29

Some 33 respondents from eight countries answered this question. Almost 88% indicated that they are not involved in any national or international network or programme in e-learning related areas. Only two respondents from BG, one from CRO and one from BiH mentioned their involvement in such networks. Even though 50% of respondents were from CRO, a comparison of the yes/no ratio between CRO and the other SEE countries confirms this situation.

27. *If yes, please specify.*

Country	Network/Programme	National	EU/further international programmes
BiH	Network		EDEN
BiH	Programme	ODL Programme 1999–2000	Phare
FYROM	Programme		SETT-Net UNESCO ITE subregional project
BG	Network	NCD network (20 universities)	EDEN
BG	Programme	Programme of World Bank and Bulgarian Ministry of Education and Science	Socrates; Fifth RTD Framework Programme
BG	Programme	Minerva	
CRO	Network	CarNet	
CRO	Network	CarNet	

Respondents from only four countries (BiH, FYROM, BG and CRO) answered this question. BG seems to have most respondents involved in both national and international programmes and networks. The respondent from FYROM, although involved in a UNESCO project, failed to indicate that in question 26.

28. *Please assess the level of benefit from your involvement in the above networks and programmes.*

1 = very low; 2 = low; 3 = considerable; 4 = high; 5 = very high

Awareness of EU e-learning policy and programmes	3.8
Access to know-how (course development, management and delivery)	3.8
Development of skills	3.3
Financial benefit	4.3
Average	**3.8**

Respondents from only three countries (BG, BiH, FYROM) answered this question. They indicated that the level of benefit from their involvement in national and international networks and programmes was close to 'high', the average rating being 3.

29. *What future assistance, if any, would you appreciate?*

1 = very low; 2 = low; 3 = considerable; 4 = high; 5 = very high

Regular information on e-learning policy in EU	3.6
Regular information on EU and international e-learning activities (including projects, donors, partners and experts)	4.0
Support for business planning, management and marketing relating to e-learning	4.0
Assistance with course development	3.9
Regular information on the Stability Pact	3.8
Financial support	4.1
Equipment	3.7
Average	**3.8**

This question was answered by respondents from nine countries. The average rating of 3.8 indicated that most respondents would clearly appreciate future assistance. Respondents from RO (5.0), MON (4.7), KOS (4.4), CRO (4.3) and BiH (4.1) gave the highest ratings for potential future assistance. The lowest rating (1.4) came from TK. Among the areas of assistance given, financial support, regular information on the EU and international e-learning activities, and support for business planning, management and marketing relating to e-learning were seen as priorities.

ANNEX 2: DELIVERY OF QUESTIONNAIRES
AND ANALYSIS OF RESULTS

The following table lists the number of contacts per country to whom the questionnaire was sent:

Country	Number of contacts
Albania	33
Bulgaria	38
Bosnia and Herzegovina	32
Croatia	12
FYR of Macedonia	30
Kosovo	7
Montenegro	12
Serbia	38
Romania	19
Turkey	22
Total	**243**

In order to ensure the widest possible coverage and to obtain the maximum number of completed and returned questionnaires, a systematic follow-up was carried out.

The first measure was a written reminder on 20 October 2004 to all contacts emailed by the ETF. The second measure was an intensive telephone inquiry. This inquiry, which started as early as one week after sending out the questionnaires, was carried out for a period of two weeks by both ETF staff and the external expert, according to an agreed plan. Some contacts had been resent the questionnaires on request. The outcome of the telephone inquiry was registered in a matrix. The following problems were encountered during the inquiry:

- communication problems (some respondents did not speak other languages than their own);
- telephone numbers (some numbers and city codes) were wrong or no longer valid;
- contact unreachable (some people listed were unavailable despite several calls);
- contact irrelevant (some organisations or institutions were reached but did not feel in a position to answer the questionnaire). The ETF received nine messages to this effect.

Nevertheless, the follow-up measures, and in particular the telephone inquiry which was carried out in local languages, can be considered successful given the fact that the number of completed and returned questionnaires had increased by some 60% one week after the telephone calls.

Concerning the type of questions used in the questionnaire, emphasis was placed on those that would meet the following two basic requirements:

- an efficient computer-based evaluation of the questionnaire should be possible, at least to a large extent, while taking into account the variety of local languages (Albanian, Serbian, Macedonian, etc.);
- the time it would take respondents to fill in the questionnaire should be limited to a maximum of half an hour.

To this end, the following types of question were chosen:

- yes/no questions;
- questions requiring scaled answers;

- questions requiring quantifying answers;
- open questions.

The layout and wording of the questions were also designed to meet these requirements. Hence the questions were prepared in the form of tables, some containing a choice of possible answers, so that respondents would just have to tick the appropriate box (yes/no questions; questions requiring scaled answers) or enter a number or percentage (questions requiring quantifying answers). Open questions were reduced to a minimum and designed so that the respondent would just have to enter one word or a limited number of items.

For detailed structure and components of the questionnaires see Annexes 3 and 4.

Analysis and evaluation

The analysis and evaluation of the filled-in questionnaires was done in six steps:

(a) retrieving data from repository (electronic database where questionnaires had been received and stored);
(b) exporting relevant data and conversion into MS Excel-based evaluation sheets;
(c) analysing individual questionnaires;
(d) designing specific evaluation grid for every question;
(e) entering all relevant data and information into evaluation grids;
(f) carrying out in-depth analysis of all questions.

For the first step, the ETF provided the external expert with an Excel evaluation matrix in order to obtain more detailed and structured information, in particular for the open questions. Every questionnaire received was analysed and the verified data were entered in a grid specifically designed to facilitate subsequent evaluation and interpretation.

The different types of question were analysed and evaluated as follows:

Yes/no questions

The answers to the yes/no questions were counted and expressed as percentages. Where no answer was given, the question was not considered.

Questions requiring scaled answers/quantitative answers

The average of the answers to these questions was calculated and what the result indicated for the respective region/country and target group was evaluated.

Open questions

The answers to open questions were categorised, counted and ranked. Based on the ranks, conclusions were drawn on the specific situation in the region/country and the target groups. Clustering was done wherever it seemed reasonable. In a number of qualitative questions, extreme values were ignored in order to make the average more realistic.

ANNEX 3: QUESTIONNAIRE I – TEMPLATE

How to fill in the questionnaire

It will take about half an hour to fill in the questionnaire, which is targeted at policy and decision-makers in education and training, labour, economy, regional development, social partners, etc. It comprises two main sections:

I   Legal and policy arrangements

II   Public awareness.

Some personal details are requested below. All other sections contain tick-box questions, where you can rate your agreement with the statement made. They also include some open questions where we kindly ask you to limit your answers to the space available in the questionnaire.

Personal data

Name:	Surname:
Country:	Organisation:
Address:	Phone number: Email:
Current position:	Involvement in e-learning (tasks, experience, etc.):

What is meant by e-learning?

E-learning in this survey should be understood as the use of new multimedia technologies and the Internet to improve quality of learning and teaching by facilitating access to high-quality resources and services, as well as remote exchanges and collaborations.

What are education and training institutions?

Education and training institutions (schools, institutes, universities, training centres, etc.) support the individual (pupil, student, adult learner, unemployed) with resources (teachers, trainers, tutors, courses, modules, etc.) to achieve learning objectives.

QUESTIONNAIRE I

Target group: Policy and decision-makers (education and training, labour, economy, regional development, social partners, etc.)

I   Legal and policy arrangements

1.   *Is the current status of e-learning laid down by law in your country (education law, labour law, etc.)?*

	Yes	No

2.   *Do you consider the current legal stipulations relating to e-learning adequate for the adoption of an efficient e-learning policy?*

	Yes	No

3.   *Which body(ies) is/are responsible for coordinating e-learning policy in your country and what are its/their main tasks in terms of e-learning? How would you rate the work/ progress of this/these body(ies) in implementing e-learning programmes?*

1 = irrelevant; 2 = relevant but not urgent; 3 = urgent; 4 = very urgent; 5 = most urgent

No	Body/Task	Work/Progress				
1		1	2	3	4	5
2		1	2	3	4	5
3		1	2	3	4	5

4.   *Has a strategy (programme, action plan) been adopted in your country to facilitate e-learning at all levels of education and training?*

	Yes	No

5.   *If yes, is it in line with the EU eLearning Action Plan and in which aspects (structure, benchmarks, reporting, etc.)?*

	Yes	No

Please comment briefly

6.   *Please assess, from your point of view, the priority and urgency of action needed in the following e-learning policy areas.*

1 = not relevant; 2 = relevant but not urgent; 3 = urgent; 4 = very urgent; 5 = most urgent

Policy area					
Investment in and promotion of ICT infrastructure and equipment in public and private education or training institution	1	2	3	4	5
Initial training and up-grading of teachers/trainers to enable them to provide and manage e-learning as an integral part of education and training	1	2	3	4	5
Development of contents (educational software, programmes, courses, modules, etc.) and quality assurance mechanisms	1	2	3	4	5
Development of efficient e-learning support services (e.g. national e-learning portals, sector-related databases, support hotlines, etc.)	1	2	3	4	5

7. *Please assess the extent of e-learning use as an integral part of education and training in your country.*

1 = very slight; 2 = slight; 3 = sufficient; 4 = large; 5 = very large

Primary education; general secondary education	1	2	3	4	5
Vocational education and training	1	2	3	4	5
Higher education (Bachelor's and Master's programmes)	1	2	3	4	5
Continuing training	1	2	3	4	5
In-service staff training	1	2	3	4	5
Management training	1	2	3	4	5
Consulting services	1	2	3	4	5
Training provided by labour offices for unemployed	1	2	3	4	5
Other, please specify:	1	2	3	4	5

8. *Are any public funds allocated annually to the development of e-learning?*

	Yes	No

9. *If yes, please indicate the approximate amount.*

	Total (in euro)	Percentage of the budget spent on education and training
Last year		
This year		
Next year		

10. *How would you assess the current situation in your country in the areas listed below?*

1 = not sufficient; 2 = sufficient; 3 = good; 4 = very good; 5 = excellent

Public awareness of e-learning	1	2	3	4	5
State of research in e-learning	1	2	3	4	5
Accreditation of e-learning programmes and education and training institutions, including quality standards	1	2	3	4	5
Promotion of innovative teaching/learning approaches through e-learning	1	2	3	4	5
Recognition of e-learning certificates by authorities, labour market, employers, etc.	1	2	3	4	5
Introduction and use of e-learning quality standards	1	2	3	4	5
Market and technology developments facilitating e-learning	1	2	3	4	5
Development of public-private partnership in introducing and applying e-learning	1	2	3	4	5

11. *Please list three major changes that, in your opinion, should be introduced in order*

   – *to ensure more effective use of e-learning in education and training.*

– *to ensure effective cooperation of your country with EU countries in the field of e-learning.*

II Public awareness

12. *Please assess the acceptance of e-learning among the different key players.*

1 = not sufficient; 2 = sufficient; 3 = good; 4 = very good; 5 = excellent

General public	**1**	**2**	**3**	**4**	**5**
Policy-makers	**1**	**2**	**3**	**4**	**5**
Schoolteachers	**1**	**2**	**3**	**4**	**5**
University teachers/trainers	**1**	**2**	**3**	**4**	**5**
Employers	**1**	**2**	**3**	**4**	**5**
Learners	**1**	**2**	**3**	**4**	**5**
Unemployed	**1**	**2**	**3**	**4**	**5**

13. *Please list three activities that you think should be undertaken in order to raise public awareness of e-learning in your country.*

ANNEX 4: QUESTIONNAIRE II – TEMPLATE

How to fill in the questionnaire

It will take about half an hour to fill in the questionnaire, which is targeted at education and training managers and experts, teachers, trainers, etc. It comprises four main sections:

I   Infrastructure at education and training institutions

II   Methodology

III   Teaching and learning resources

IV   National and international cooperation and networking.

Some personal details are requested below. All other sections contain tick-box questions, where you can rate your agreement with the statement made. They also include some open questions where we ask you to kindly limit your answers to the space available in the questionnaire.

Personal data

Name:	Surname:
Country:	Organisation:
Address:	Phone number: Email:
Current position:	Involvement in e-learning(tasks, experience, etc.):

What is meant by e-learning?

E-learning in this survey should be understood as the use of new multimedia technologies and the Internet to improve quality of learning and teaching by facilitating access to high-quality resources and services, as well as remote exchanges and collaborations.

What are education and training institutions?

Education and training institutions (schools, institutes, universities, training centres, etc.) support the individual (pupil, student, adult learner, unemployed) with resources (teachers, trainers, tutors, courses, modules, etc.) to achieve learning objectives.

QUESTIONNAIRE II

Target group: Education and training managers and experts, teachers, trainers

I   Infrastructure at education and training institutions

1.   *Is your organisation adequately equipped for setting up and delivering e-learning programmes?*

	Yes	No

2. *Please assess your organisation's investment needs in terms of equipment required to implement e-learning programmes.*

1 = no needs; 2 = low needs; 3 = limited needs; 4 = high needs; 5 = very high needs

Issue	Needs				
Internet access for teachers/trainers and learners	1	2	3	4	5
Equipment for course development and production (hardware and software)	1	2	3	4	5
Equipment for training delivery and course management (hardware and software)	1	2	3	4	5
Networking equipment	1	2	3	4	5
Other, please specify:	1	2	3	4	5

3. *Please indicate approximate investment in e-learning equipment within the last three years and for the next three years.*

Year	Total (planned) spending (€)	Investment in e-learning (%)	Main areas of investment in equipment
2002			
2003			
2004			
2005			
2006			
2007			

4. *In which of the following fields did you invest/do you plan to invest?*

Field	Past (%)	Future (%)
Staff development and training in e-learning		
Development of e-learning courses/programmes		
New information technologies		
Marketing of e-learning programmes		
Equipment/premises dedicated to e-learning		
Other		
Total	**100**	**100**

II Methodology

5. *Which of the following ICT/tools does your organisation use (plan to use) for education and training programmes?*

Type of ICT/tool	Extent of use in education and training programmes (%)		
	3 years ago	Currently	In 3 years
Internet			
email			
CD-ROM, DVD			
LCD projector			
TV/radio broadcast			
Video conferencing			
Video tapes			
Audio tapes			
Other, please specify:			

6. *Please indicate the proportion of the following types of course in your portfolio of education and training programmes (indicate in %).*

Type of course	3 years ago	Currently	In 3 years
Mainly web-based training (WBT)			
Mainly computer-based training (CBT)			
Blended learning (mix of e-learning and classroom training)			
Courses with low ICT support			
Total	**100**	**100**	**100**

7. *Please assess the extent to which the introduction of e-learning triggers organisational changes in your institution.*

1 = very slight; 2 = slight; 3 = sufficient; 4 = large; 5 = very large

1	2	3	4	5

8. *Do you apply any special e-learning quality assessment methods?*

	Yes	No

9. *Please rank the importance of components of the education and training process in your organisation's e-learning quality assurance system.*

Component	Rank
Control of input (accreditation of programmes, curricula, learning materials, teaching and training staff, etc.)	
Control of process (outside and self-assessment of training units, learners' progress, motivation, etc.)	
Control of output (system for certification of competences, ability to fulfil practical tasks, etc.)	

III   Teaching and learning resources

General

10. *Please assess the level of availability of the following e-learning resources in your organisation.*

1 = very low; 2 = low; 3 = sufficient; 4 = high; 5 = very high

Institutional resources (legal status, staff, facilities, budget, organisational chart, etc.)	1	2	3	4	5
Human resources (managers, administrators, authors, methodologists, course designers, tutors, etc.)	1	2	3	4	5
Programme resources (courses, technologies, methodologies, guidelines, quality standards, etc.)	1	2	3	4	5
ICT resources (hardware, software, databases, networking capacities, interfaces, etc.)	1	2	3	4	5
Material resources (equipment, classrooms, library, etc.)	1	2	3	4	5
Financial resources (income generation, fund-raising, donor grants, etc.)	1	2	3	4	5
Internet access for teachers/learners	1	2	3	4	5

11. *Please list the main resources (out of the above list and a maximum three) that you plan to develop within the next three years with regard to the development of e-learning.*

Human resources

12. *Is training in ICT skills for teachers/trainers* working for your organisation …*

	Yes	**No**	**Partially**
… part of the curricula in teacher/trainer initial training			
… part of regular upgrading courses for teachers/trainers			
… laid down in the respective job descriptions			

* Other than ICT teachers

13. *In your opinion, is the level of ICT skills of teachers in your organisation sufficient to meet the future challenges of e-learning?*

	Yes	No

14. *Please assess the capacity of staff in your institution in the following areas related to e-learning.*

1 = very low; 2 = low; 3 = considerable; 4 = high; 5 = very high

Technologies for course development	1	2	3	4	5
To apply e-learning in education and training, including tutoring services	1	2	3	4	5
Resource sharing within established networks (making use of courses developed by partner organisations)	1	2	3	4	5
Course management and marketing	1	2	3	4	5
Quality assurance and control	1	2	3	4	5
Software development	1	2	3	4	5
Other, please specify:	1	2	3	4	5

15. *What are, from your perspective, the main needs (maximum three) of learners taking part in e-learning programmes?*

16. *Are the learners in your organisation provided with special support to enable them to make effective use of e-learning programmes provided?*

	Yes	No

17. *If yes, please specify.*

	Yes	No	Partially
Skills development to use ICT within the learning process			
Skills development to plan and implement the learning process applying e-learning methodology			
Tutoring services to facilitate the learning process			
Other, please specify:			

<u>Contents and services</u>

18. *Please indicate the main subject areas (maximum three) for e-learning in your organisation.*

19. *Have you developed any new e-learning programmes (courses, modules) in the last three years?*

	Yes	No

20. *Do you plan to develop any e-learning programmes (courses, modules) within the next three years?*

	Yes	No

21. *If your answer to question 20 is yes, please specify as follows:*

Course title	Study hours	Delivery technology	Number of students		Target group	Website reference	Part of regular studies		Additional qualification	
			Registered	Course completed			Yes	No	Yes	No
Programmes developed										
Programmes planned										

22. *What type of services related to e-learning does your organisation provide?*

Service	Yes	No	Actual demand covered (%)
e-learning for different target groups (e.g. teachers, students, other clients)			
Development and production of e-learning programmes (courses, modules)			
Delivery of e-learning programmes (courses, modules)			
Tutoring services and hotlines			
e-library			
Internet services			
Databases (for information and documentation purposes)			
e-consulting for paying clients			
In-service training for company staff			
e-learning for unemployed			
Other, please specify:			

23. *Please list the three most successful important current e-learning activities of your organisation (maximum three).*

Name	Location	Area	Web address

IV **National and international cooperation and networking**

24. *Please list the three most successful e-learning providers (ETIs or consortia) in your country.*

Name	Location	Area	Web address

25. *Is your organisation involved in any national and/or international e-learning consortia (except those based on international networks and programmes below)?*

Name of consortium	Name of partners	Purpose of agreement	Web address

26. *Are you involved in any national and/or international networks and/or programmes in e-learning related areas?*

	Yes	No

27. *If yes, please specify.*

	National		EU/further international programmes
Networks			EDEN
			EADTU
			Other:
Programmes			Leonardo
			Socrates
			Fifth RTD Framework Programme
			CARDS
			Phare
			World Bank
			Soros Foundation
			Other:

28. *Please assess the level of benefit from your involvement in the above networks and programmes.*

1 = very low; 2 = low; 3 = sufficient; 4 = high; 5 = very high

Awareness of EU e-learning policy and programmes	**1**	**2**	**3**	**4**	**5**
Access to know-how (course development, management and delivery)	**1**	**2**	**3**	**4**	**5**
Development of skills	**1**	**2**	**3**	**4**	**5**
Financial benefit	**1**	**2**	**3**	**4**	**5**
Other, please specify:	**1**	**2**	**3**	**4**	**5**

29. *What future assistance, if any, would you appreciate?*

1 = very low; 2 = low; 3 = sufficient; 4 = high; 5 = very high

Regular information on e-learning policy in EU	**1**	**2**	**3**	**4**	**5**
Regular information on EU and international e-learning activities (including projects, donors, partners, experts)	**1**	**2**	**3**	**4**	**5**
Support for business planning, management and marketing relating to e-learning	**1**	**2**	**3**	**4**	**5**
Assistance with course development	**1**	**2**	**3**	**4**	**5**
Regular information on Stability Pact	**1**	**2**	**3**	**4**	**5**
Financial support	**1**	**2**	**3**	**4**	**5**
Equipment	**1**	**2**	**3**	**4**	**5**
Other, please specify:	**1**	**2**	**3**	**4**	**5**

ACRONYMS

CBT	computer-based training
ETF	European Training Foundation
ETI	education and training institution
EU	European Union
GDP	gross domestic product
GNP	gross national product
ICT	information and communication technologies
ODL	open and distance learning
SEE	South Eastern Europe
SME	small and medium-sized enterprise
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VET	vocational education and training
WBT	web-based training

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