**Network promoting
e-learning for rural development
e-ruralnet**

**LLP Transversal Programme
Key Activity 3 ICT - Networks**

E-LEARNING IN THE RURAL CONTEXT: INNOVATION, INCLUSION AND THE ROLE OF THE MARKET

REPORT OF PROJECT RESULTS

NOVEMBER 2011

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Acknowledgements

This report has been based on studies, research and workshops/conferences conducted by the e-ruralnet partnership and presented in detail in the e-ruralnet site: www.e-ruralnet.eu

The main products of the e-ruralnet project, which have provided the basic material for this publication, are:

► The national survey reports of the e-learning national markets in 11 countries and the synthesis report of a) the e-learning providers surveys across the 11 surveyed countries; and b) the e-learners and control group surveys across the 11 surveyed countries **http://www.prismanet.gr/eruralnet/en/ onlinesurveys_results.php**

► The Report on e-learning innovation in rural areas **http://www.prismanet.gr/eruralnet/en/ innovative_e-learning.php**

► The Report on the use of alternative media and contemporary applications of e-learning in a rural context **http://www.prismanet.gr/eruralnet/en/alternative_media.php**

► The e-learning familiarisation tool **http://www.e-ruralnetgame.net**

► The results of the international conference "ICT for Inclusive Learning: the way forward" that concluded the e-ruralnet project **http://eruralnetconference.com**

This report has been prepared by Fouli Papageorgiou on behalf of the e-ruralnet partnership.

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Contents

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1. Introduction: the e-ruralnet project

This report presents in brief the main results of **e-ruralnet – A Network Promoting e-Learning for Rural Development**, a project funded by the Lifelong Learning Programme, under the Transversal strand, ICT-KA3. The project aims to network the demand and supply sides of e-learning with policy makers, with a focus on rural areas and their development through greater access to learning. The project addresses e-learning as a means for enhancing lifelong learning opportunities in rural areas, and is a follow up to the European Observatory of the use of ICT-supported Lifelong Learning by SMEs, Micro-enterprises and the Self-employed in Rural Areas (the "Euracademy Observatory").

Previous research of the European e-learning market[1] identified constraints that do not allow the inhabitants and enterprises in rural areas to take full advantage of ICT-enabled learning, mostly related to infrastructure and low motivation. Building on this experience, the e-ruralnet team investigated further the demand for and supply of e-learning in rural areas across Europe, conducting online surveys in 11 countries, both old and new member states. Alongside the surveys, case studies were conducted with e-learning providers and an inventory of innovative e-learning products was created in the website of the network[2], aiming to promote innovative practices and increase the visibility of innovative learning products. Two reports have been also produced and published: one concerning innovation in e-learning; and another examining the use of alternative media for the delivery of e-learning in places where Internet cannot be accessed, as well as assessing the potential of such media to bring continuing learning closer to rural inhabitants of remote areas. The results of the research, studies and inventorying carried out by the e-ruralnet team have been discussed and debated in 11 national networking workshops and one major international conference. Furthermore, an "e-learning familiarisation tool" has been developed, for people who have no prior experience of e-learning, to encourage them to quiz themselves about their readiness to try learning through the Internet, help them to define their needs and guide them through the requirements of e-learning, in terms of minimum digital skills, self-commitment, discipline and achievement of very specific goals. All this is presented in the form of a Serious Game, readily available in the website of e-ruralnet, which is articulated in a number of smaller, specifically targeted games that the user is invited to play online.

One salient argument that emerged from the research results and the networking events of e-ruralnet concern the concept of "inclusive learning" and the extent to which information technologies can contribute to it. Disadvantage in relation to learning has been looked up in a new light: access to learning cannot anymore be defined solely on the basis of physical or mental disability, cultural and language handicap or deprivation reflecting unemployment and low quality of life. Large parts of rural areas suffering from the digital divide, digital illiteracy and limited education and training facilities due to remoteness and sparse populations, experience significant obstacles in accessing equitable learning and consequently to personal and occupational development. Inclusive learning aided by ICT has been more extensively debated in the international conference of the e-ruralnet network.

The e-ruralnet project partnership tried to achieve three main goals:

► to network the two sides of demand and supply of learning, i.e. the learning providers and the learning consumers, the latter being represented by organisations such as chambers of commerce and industry, chambers of engineers etc; farmers associations, trade unions, business consortia and

clusters, and NGOs representing learners' interests or welfare interests of rural inhabitants;

▶ to alert policy makers at national and EU level to the need to support inclusive learning aided by ICT, understand the needs of the e-learning market; and encourage innovation as an inclusion policy in rural areas;

▶ to demonstrate the main features of the e-learning market, especially the "match" between demand and supply of e-learning; the potential of innovation in e-learning; and lessons learnt from best practice, so that networking among e-learning stakeholders can be stimulated and policy can be further informed.

The implementation of the above has been further inspired by the Bruge Communiqué[3] which draws attention to the need for "shared responsibility" and active collaboration between stakeholders, including representatives of professional sectors, social partners, civil society organisations, and education and training providers. Furthermore, it is stated that a necessary response to the crisis in Europe is to promote a "responsive" continuing education and training in the context of lifelong learning, meeting people's needs and helping them to adapt to the changing requirements of the labour market. To serve an increased need for LLL means that we should use more flexible modes of delivery, tailored training offers and the potential of ICT to boost adult education and training through distance learning. These objectives have informed the orientation of the e-ruralnet research.

2. The policy context

The European Commission has stated in many instances that Lifelong Learning (LLL) and the continuing updating of skills and competences represent crucial conditions for business competitiveness, economic development and social cohesion. Indeed, education and training have been given a prominent position as a means to achieve the objectives of the Lisbon Strategy. ICT for learning has formed an integral part of the Strategy and the Education and Training 2010 Programme of the EU; and of the "Education and Training 2020" strategic framework. Current debates on new skills for new jobs, creativity and innovation skills, and key competencies, place ICT for learning in a central position.

The Elearning Initiative launched in 2000, in the context of the Lisbon Strategy, raised hopes that ICT-supported learning would accelerate development and would benefit, in particular, those people who are often excluded from continuing education, such as those living in rural areas. E-learning was seen as a political challenge, a core component of the knowledge society and a necessary instrument for adapting the whole process and content of LLL to it.

The Elearning initiative defined e-learning as "a learner-focused approach, based on 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". The expansion of e-learning had thus a double goal: to use ICT for learning and to learn to use ICT. This double focus was supported by CEDEFOP, which noted that in the context of an increasingly globalised economic environment, the promotion of digital competences becomes imperative especially in relation to learning (CEDEFOP, 2004). Moreover, the Action Programme in the field of Lifelong Learning that was launched in 2006

3 *The Bruge Communiqué on Enhanced European Cooperation in Vocational Education and Training for the period 2011-2020, Bruge 7 December 2010*

included a strong ICT component that was directly linked to innovation in learning.

Eight years after the Lisbon Strategy, the European Commission formed a Working Group to conduct an evaluation of the main trends on the use of ICT as a tool to support learning "lifelong and lifewide" and assess the achievements of the EU policies as defined in the Education and Training 2010 Programme The 2008 Report (Commission of the European Communities) revealed some encouraging and discouraging facts.

Firstly, it confirmed previous statements by the EU Council (EU Council, 2004) that ICT-supported learning is a powerful tool for fostering the value of individuals and accelerating learning and innovation within organisations. ICT can operate as the vehicle that would assist companies and individuals alike to cope with the new challenges. E-learning is instrumental in assisting not only the future development of enterprises, but also in promoting active citizenship and personal development. Given that LLL is an active, learner-driven process, ICT can significantly contribute in redressing, through e-learning, the skills gap between different EU Member States as well as between rural and urban areas that reflects to a certain extent the digital divide.

Then, some doubts were expressed as to the actual progress made "on the ground" across the different fields of formal and informal learning. The conclusions state both positive results and shortcomings:

1. ICT has helped schools and higher education improve the quality of teaching and become more equitable, although there is still scope for further improvement, especially regarding student mobility and professional development.

2. E-learning was shown to achieve very good results in adult education, but at a very limited scale; it has not achieved its potential to develop a learning continuum that would support lifelong learning, especially informal and workplace learning.

3. E-learning did not have the expected impact on business development, especially considering the small and medium sized enterprises which have not benefited from it, although it could help them organise training with reduced costs and less time off work.

The second and third of the above conclusions were substantiated by the e-ruralnet research which is reported here.

The future of ICT-supported LLL in rural areas

The next question is what needs to be done to encourage further use of ICT in lifelong learning, and especially in rural areas. A Report produced recently by the Joint Research Centre (JRC) and the Institute for Prospective Technological Studies (IPTS) of the European Commission (Stoyanof et al, 2010), has started the debate. Further work by IPTS (Ala-Mutka, 2010) provides more insights on how technology and digital networking can be used to enhance the learners' access to and benefits from e-learning.

The following issues have emerged from research and evaluation of past experience:

Firstly, the digital divide is a growing concern, placing rural areas at a double disadvantage. Given that education is a key exclusion factor, the digital divide that restricts rural areas to take advantage of e-learning leads to further exclusion of such areas. The majority of the rural labour force is thus placed at a disadvantage, while rural businesses and jobs face increased risk and restricted job mobility.

It should be also noted that the uptake of LLL is very limited across the European Union. Recent statistics by Eurostat show that only 10% of the 25-64 year olds in Europe take part in LLL after their initial education and training. This figure is much lower in rural areas. Limited broadband access and

low levels of computer use in rural areas restrict the opportunities for lifelong learning supported by ICT. Regarding access to fast Internet, it has been a policy across Europe to continue investment in infrastructure as a priority. Regarding limited computer use, we should take into account that we have now a new generation of learners in Europe, who are very familiar with the use of computers and the Internet and therefore much more open to the use of ICT for learning. The main concern is with the "old generation of learners" who need to develop key competencies in ICT as an additional precondition to e-learning.

Secondly, the use of ICT in formal or non-formal learning systems requires many changes in the technological environment and the teaching and learning methods for schools and informal learning. This calls for new approaches both to the use of technology and pedagogy. In relation to the second issue, we can name three challenges for the future (European Commission, 2009):

► Pedagogical innovation: focus on teaching and learning approaches based on learner-centred guidance, group work, inquiry projects, interactive learning etc.

► Technological innovation: the emerging technologies with enhanced networking and personalisation capabilities create opportunities for new mobile learning environments with phones, game consoles and MP3 players. New creative approaches such as simulations, gaming, virtual reality and immersive environments offer learning tools that can be used from early school years to specialised professional training.

► Organisational innovation: changing learning needs call for innovative organisational approaches, involving learners, teachers and other staff; while e-assessment becomes very important for assuring recognition of qualifications and certification.

Thirdly, a new learning culture is necessary to be established. Rosenberg (2006) stated that the demand for learning is growing and this in turn can increase the diversity in what people should or want to learn. It is crucial, therefore, to promote a new learning culture, which places the individual learners at the centre of learning and stimulates their needs for knowledge, innovative thinking and networking. This might lead to a new attitude to LLL which offers more hope to rural residents, integrating learning to everyday life. The new culture would call for "dropping the e in e-learning" – it is about learning in a digital and networking society; giving individual learners greater responsibility for their learning; adopting a more open and flexible learning environment from the providers' side; building interaction among learners and e-communities; and turning learning to a social process, to become **lifelong and lifewide**.

3. The e-learning market

Introduction

The e-ruralnet research concentrated on the e-learning market that addresses the learning needs of people after the end of their initial education and training. Such learning falls within the field of continuing vocational training (CVT) and includes also learning for personal development, delivered through non-formal or informal learning channels.

The e-ruralnet surveys addressed three different groups of respondents who define the supply and demand sides of the e-learning market: the **e-learning providers** (supply-side); and the **e-learners** or **potential e-learners** (demand-side). E-learners were defined as individuals who had participated in e-learning recently, while the "control group" consisted of individuals who have had no experience of e-learning up to the time of the survey, although they may have had experience of conventional face-to-face learning.

Methodology

The surveys were conducted by online questionnaires (providers', e-learners' control group) uploaded in the website of the e-ruralnet network[4] in 11 languages, so that they could be used in the national language of the countries participating in the research (GR, UK, PL, HU, DE, ES, IT, FI, EE, SE, PT). The completed, valid questionnaires received come from 556 providers, 1737 e-learners and 1679 control group respondents. The providers were accessed through national lists of VET and adult education organisations, and through the Internet; the e-learners were contacted by the providers who took part in the survey and agreed to forward the links of the questionnaires to their students; while the control group members were accessed via professional associations, chambers of commerce and industry, business associations, professional chambers, VET schools etc.

The e-ruralnet surveys did not intend to recruit a representative sample of the three targeted populations; rather, the intention was to achieve a sample large and varied enough to reflect the characteristics of the e-learning market and provide insights on the expressed and latent demand for e-learning. The validity of the results has been checked as necessary and appropriate statistical methods have been used to "correct" likely biases inbuilt in the data[5].

3.1 The supply-side of the market: e-learning providers' survey

The samples

The mean number of e-learning providers who validly responded to the survey is 51 per country, and the median is 40, ranging from 19 (SE) to 194 (DE). In the smaller countries (GR, PL, EE) the survey covered the majority of the existing e-learning providers, while in bigger countries (UK, ES, DE) a more modest proportion of providers responded. The surveyed providers include public bodies, commercial companies and NGOs. Overall, the private sector predominates (71,3%), but this differs from country to country : for example, in Finland, UK and Sweden the public sector appears to be stronger, claiming over 1/3 of the national sample.

Figure 1. E-learning providers: survey samples per country

Profile of providers

Most of the e-learning providers (62,5%) are young organisations, with a presence of less than five years in the market, while almost one out of four providers has started their activity recently, not even counting a year of operation.

In terms of size of providers, as indicated by the number of teachers employed, the sample includes micro, small, medium and large organisations, half of which employ less than 20
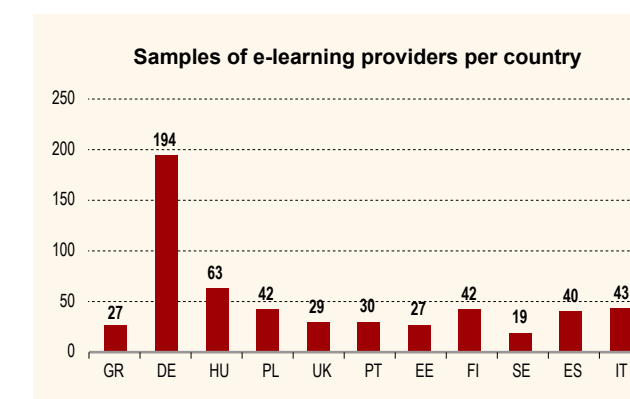

Samples of e-learning providers per country

teachers and only one in five employ over 100 teachers (range up to 1800). Almost three quarters of all providers employ 10 or less e-learning teachers, and 81% employ 20 or less (range up to 750).

The number of e-learning students provides also an indication of the size of e-learning activity of providers: e-students range up to 25000, with a mean value of 1228 and median of 120. 50 % of all providers have 120 or less students.

Figure 2. Student body (range - 25000)

E-learning student body of past year
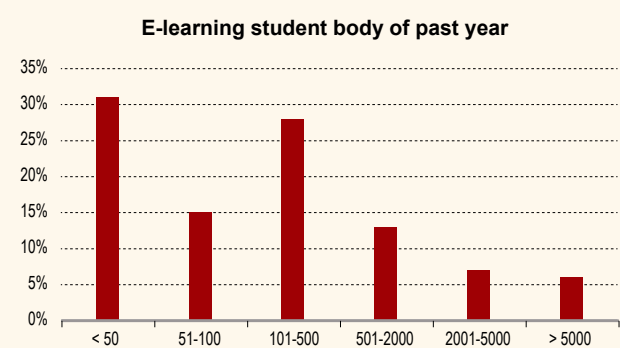
A number of "typical profiles" emerge: public sector providers tend to be larger and older organisations, employing more teachers and including a higher share of e-learning teachers within their staff; private providers tend to be smaller, younger organisations which achieve much higher numbers of e-learning students compared to non-private providers.

The proportion of e-learning teachers within the overall teaching staff provides an indication of the strength of the e-learning activities in the organisation. This, coupled with the proportion of the e-learning packages offered within the overall education output of the organisation underpins the specialisation of the provider in e-learning. The findings suggest that a relatively small proportion of the surveyed organisations are specialised e-learning providers, delivering over 80% of their output wholly or partly through e-learning.

Figure 3. Specialisation of providers

Proportion of e-learning courses within total output
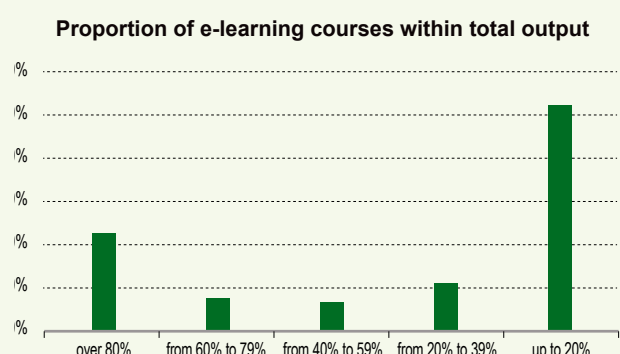
Another "typical profile" emerges in relation to e-learning specialisation: specialised providers tend to be private businesses or NGOs, small (regarding the number of teachers employed) and rather young organisations, teaching large numbers of students with a very high student per teacher ratio.

Funding

Funding e-learning courses is achieved by public subsidies (wholly or partly), paid by employers or by the individual learners themselves. One third of all providers included public subsidies in the funding sources, while more that half included private funding by students and equal numbers reported funding by employers. All surveyed providers reported a combination of funding sources used by their students. From the reported combinations **three patterns** emerge:

► in Germany, Portugal, Estonia, Poland, Finland and Spain private funding sources are dominant;

► in the United Kingdom and Greece fully or partly subsidised training seems to dominate;

► in the remaining countries Italy, Hungary and Sweden, funding sources are more evenly used.

The funding patterns also reflect the motivation of providers to enter the e-learning market: one in four started their activity because of the availability of public subsidies, one in two because of demand from SMEs or large companies, and one in two because of demand from individuals.

Motivation to enter the e-learning market and current funding patterns appear to converge. Providers, overall, had a good feeling of the market opportunities regarding demand from individuals or companies when they decided to start delivering e-learning. However, regarding the opportunities provided by public subsidies, it seems that reality overshot their expectations by far; 67%n of all surveyed providers reported public subsidies among their current sources of e-learning funding.

Figure 4. Providers' motivation and current state of e-learning funding
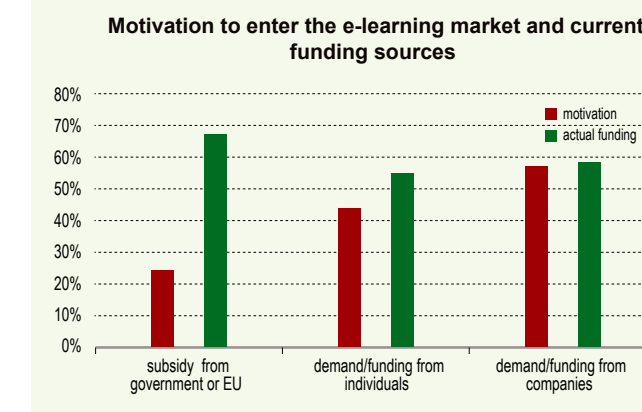
Content and delivery

Regarding content of e-learning, use of ICT and business management are the two most popular subjects, offered by 55% of providers across countries, while the less popular subjects are those of the primary sector (offered by less that 10% of providers, and as expected, these providers are amongst those with a stated orientation towards rural areas). Technical subjects and services are also popular enough amongst providers, offered by 26-39% of the total sample. Overall, all types of subjects are covered in all countries, offering a good measure of choice to prospective students.

Motivation to enter the e-learning market and current funding sources

Figure 5. Subjects offered by e-learning providers
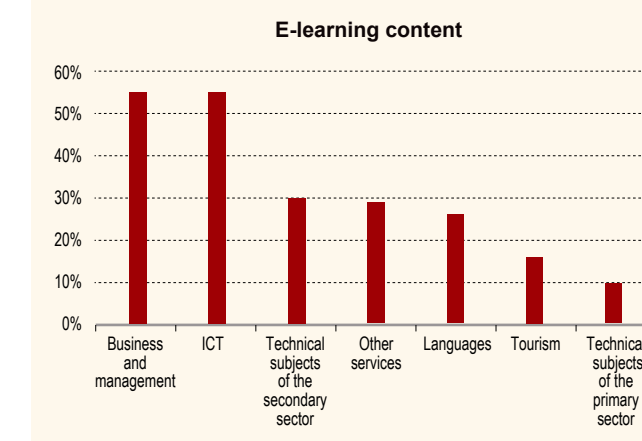
The most popular delivery method is the e-learning platform (85% of providers) followed by websites (where learning materials can be downloaded from) and DVDs, CDs and Video (mostly used for offline study). Mobile phones were used only by a very small minority of providers (8%). The learning tools used also show a preference for more conventional instruments, with very high proportions of providers using text reading and powerpoint presentations, followed by animated content, videos and email attachments. Game based learning and role based learning are used only by around one in five providers or less.

E-learning content

A "typical profile" have also emerged here: the e-learning providers who use more modern (or advanced) e-learning methods and tools tend to be private (commercial) providers who have registered a longer presence in the market (over 5 years), offer more e-learning products and engage a larger number of students than other providers.

"Typical profiles" across countries:

public sector providers tend to be larger and older organisations, serving a small segment of the e-learning market;

private sector providers tend to be smaller and younger organisations serving a large segment of the market

mixed provision is the rule: most e-learning providers offer conventional training classes alongside e-learning
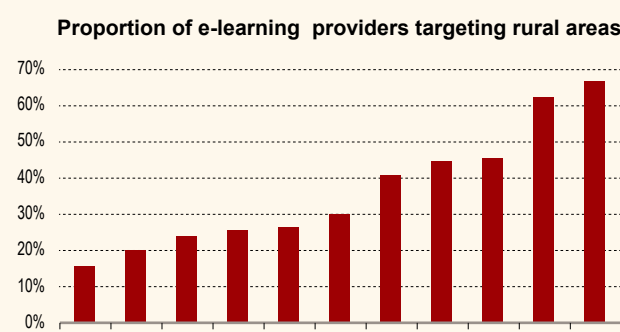
specialised e-learning providers offering only or mostly e-learning courses tend to be private businesses or NGOs, operating with a very high student per teacher ratio

providers using advanced e-learning methods and tools tend to be commercial companies with presence in the market over 5 years, demonstrating a higher degree of specialisation than other providers.
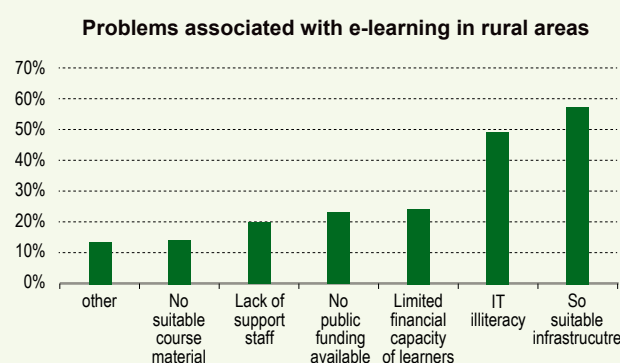
Rural targeting

Another important feature of providers in the context of this research is their targeting of rural areas. Providers of e-learning may target rural areas specifically, offering special packages of e-learning to rural inhabitants or they may design their products for everybody, irrespectively of their place of residence, rural or urban. The proportion of surveyed providers that target rural areas, providing specially prepared e-learning packages for them, is just over 30% of the total sample and varies substantially from country to country. Those providers that offer special packages for rural areas do not differ substantially in their structural characteristics from other e-learning providers except that they tend to recruit their clients amongst micro and small enterprises to a much larger extent than other providers.

Figure 6. Rural targeting of providers

Proportion of e-learning providers targeting rural areas

Problems and success factors

There are problems, however, associated with delivering e-learning in rural areas, which most providers would agree about. The lack of suitable infrastructure for fast Internet was the most frequently mentioned one, gathering in total 57% which however varied widely between countries: in Greece, Spain and Italy this statement was endorsed by over 75% of providers, while in Sweden and UK this proportion was 40% or less. IT illiteracy was also mentioned as a problem by half the providers overall, taking its maximum value in Spain and Portugal (over 70%) while limited financial capacity of rural residents and lack of support staff in rural areas was mentioned by one in four providers.

Figure 7. Problems reported by providers in connection to rural areas

Problems associated with e-learning in rural areas

Providers were asked whether they offer e-learning products that they consider as innovative. Just over half (56%) responded positively. Responses did not differ greatly between countries, ranging from 50 to 70%, with an exceptionally low score of 40% recorded only in UK. Innovativeness was connected more with pedagogical methodology, such as personalised attention by tutors to students, communication amongst students, combination of individual work with teamwork and

discussions, online evaluation, non-discriminatory and non-exclusive recruitment of students (from 27% to 40%); and less with technological innovations, such as GBL or mobile phones (7% or less).

Critical factors for successful provision of e-learning were endorsed by the surveyed providers from a range including fast Internet, development of learning content, marketing, keeping ahead with new technologies and training of staff. The most "critical" factor is the development of suitable learning content that suits the needs of learners. Also, high importance is placed on the training of staff who design and deliver e-learning; and on planning ahead with new technologies, so that the means of e-learning delivery do not become obsolete. Factors for success on the learner's side were pointed out by the providers to be mostly their willingness to learn and self-discipline.

**Figure 8. Factors affecting the success the of-learning offer**
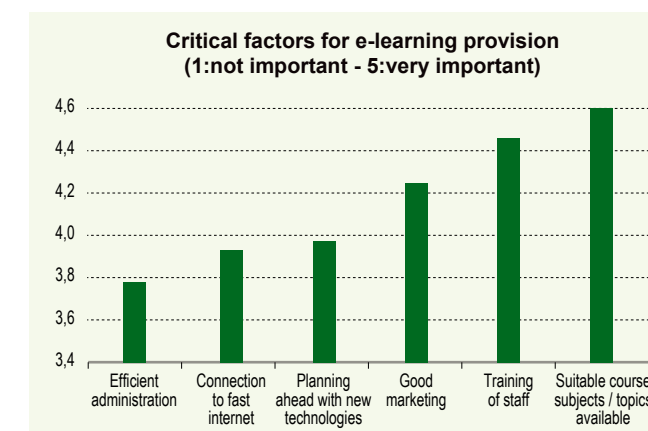
3.2 The demand side of the market: e-learners and control group surveys

The samples

E-learners were recruited by the providers who took part in the survey. Given that it is not allowed in any European country to make public the names of students, the research team had no other way of accessing e-learners but through their learning providers. The national samples range from 41 to 474 (mean 158) in the e-learners survey and from 35 to 368 (mean 153) in the control group survey.

Critical factors for e-learning provision (1:not important - 5:very important)

Figure 9. E-learners and control group samples per country
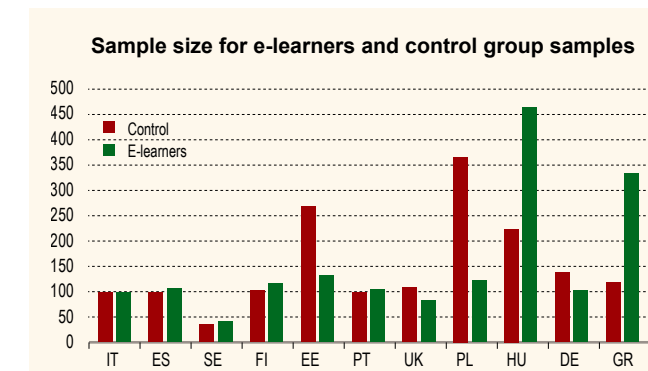
Socio-economic profile

Both groups provided information on their socio-economic characteristics which made it possible to compare them as well as portray the structure of each sample. The results show that the two groups are comparable, presenting a similar structure in terms of gender, age and education (there are no significant differences). Some differences appear in terms of place of residence, with the segment of the control group originating from small villages being much larger

Sample size for e-learners and control group samples

to the similar segment of the e-learners' group, and generally, the control group being much more "rural" compared to the e-learners' group. This has been expected though, because the control group's sample was drawn from databases that included rural areas, while the e-learners' group could not be monitored in the same way, and thus ended up with a more "balanced" structure of residence places, from urban to rural, across the scale. This emphasis on the "rural" dimension of the control group is also reflected in the allocation of respondents to economic sectors and occupational groups, with a larger section of the control group being employed in the primary sector, compared to the e-learners' group.

Figure 10. Socio-economic characteristics of learners and control group

Occupational sector

Education

Age

Place of residence

Gender

Control
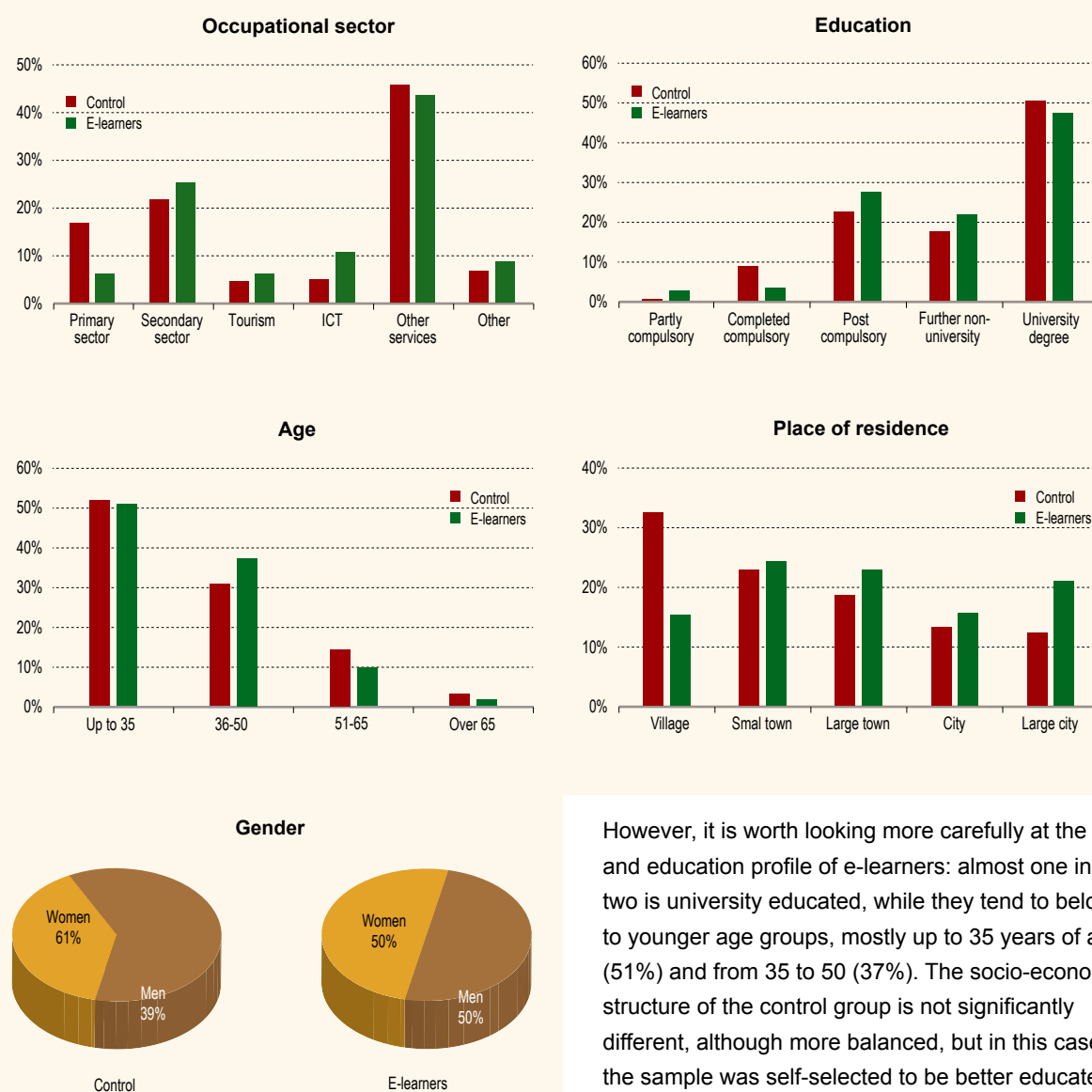
E-learners

However, it is worth looking more carefully at the age and education profile of e-learners: almost one in two is university educated, while they tend to belong to younger age groups, mostly up to 35 years of age (51%) and from 35 to 50 (37%). The socio-economic structure of the control group is not significantly different, although more balanced, but in this case the sample was self-selected to be better educated and younger, because of the survey medium used (Internet – computer).

E-learners' profile:

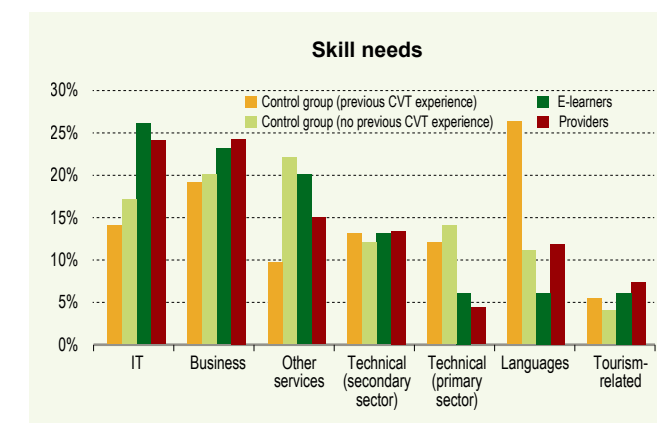mostly under 35, less likely to be over 50

more likely to reside in an urban rather than a rural place

mostly university or post-secondary educated, less likely to be at compulsory or secondary education level

Skill needs

The skill needs of the respondents are presented in the graph below. The e-learners reported the needs their most recent e-learning course covered; while the control group reported similar needs met by the last conventional training course (CVT) they a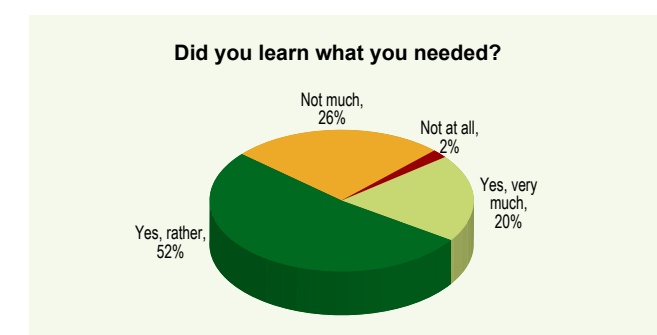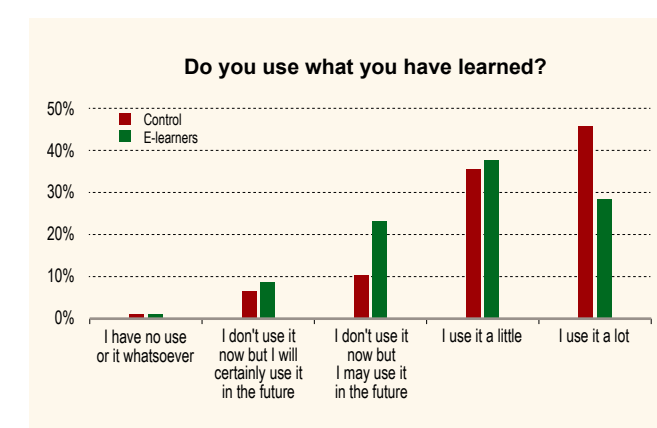ttended. The sub-group of the control sample who had not attended any further training after completing their initial education, reported their current needs for further learning.

While the learners' needs reflect closely the provision of e-learning (partly to be expected, given that the learners' sample originated from the providers' lists), substantial differences are observed between e-learners and control group. The sub-group without previous CVT experience appears to be strongly interested in language learning, while all control group respondents show a more pointed orientation to primary sector subjects, compared to e-learners. The subgroup with prior CVT experience appears to be closer to the e-learners regarding the skill needs reported; while the non-CVT group diverges significantly from the other two groups that have previous learning experience.

Figure 11. Skill needs reported by e-learners and control group

Skill needs

Benefits

Considering the benefits experienced by learners, one in five e-learners stated that they learned all they needed, while one in two reported that they learned enough. Overall, over 70% of the e-learners stated that their needs were satisfied more or less.

This however reflects partly the extent to which they use what they learned: less than 30% use it a lot, and less than 40% use it a little. In the control group's sub-group with previous CVT experience, the results are more promising: 46% use a lot what they learnt and 36% use it a little. However, one in 3 e-learners expects to use in the future what they learnt, while one in 6 conventional CVT learners have a similar expectation.

Figure 12. Satisfaction from learning results

Did you learn what you needed?

Not much, 26%

Not at all, 2%

Yes, very much, 20%

Yes, rather, 52%

Figure 13. Current use of material learnt

Do you use what you have learned?

The benefits reported by the two groups reflect the same trend: the e-learners are rather pessimistic regarding the benefits from the course they attended: 46% do not expect any benefits. In comparison, less that 20% of the control group members reported absence of real benefits. For both groups, taking forward a personal interest accounts for the main benefit, reported by half the control group and nearly half (44%) the e-learners. A relatively important benefit is also to continue (secure) present job, which is reported by one in four e-learners and by one in 3,5 control

group members. Overall, it seems that conventional training has more immediate benefits to trainees in all the examined categories, while e-learning is considered by a large number of e-learners as an investment for the future. Also, the fact that a large proportion of respondents of both groups who report the development of a personal interest as a real benefit is very encouraging for the future of LLL in Europe; but at the same time it seems that employers are not often willing or capable to use the improved knowledge and skills of their employees, and to reward them for this.
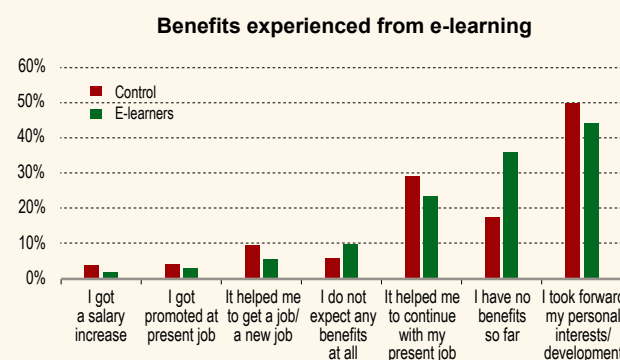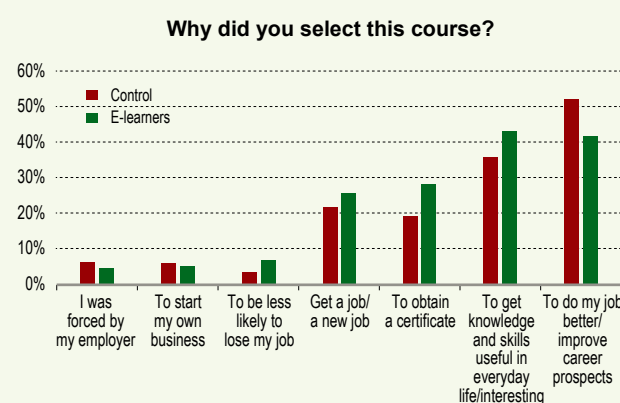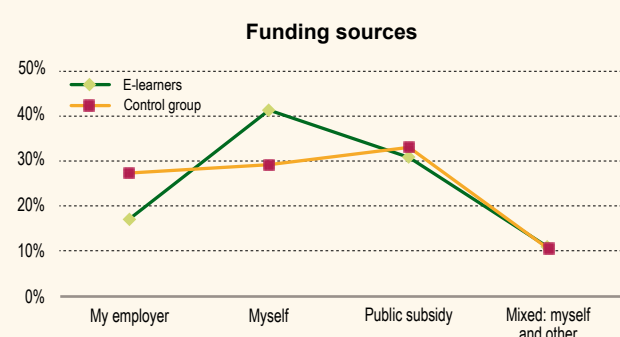
Figure 14. Benefits from learning

Benefits experienced from e-learning

It is also interesting to compare the benefits achieved to the initial expectations of learners, before they started the training course, as reported by them. As shown in the graph below, job-related expectations were much higher than the benefits achieved; while the cultivation of a personal interest featured a little higher in benefits as it did in expectations.

Figure 15. Expectations from learning

Why did you select this course?

However, despite the gap between the expectations and the achieved job-related bene-fits, an amazing 95,6% of e-learners declared that they would be willing to participate again in e-learning in the future, implying that the experi-ence of being e-learners was a very positive one. The variation between the different countries is minimal in this respect.

Funding

The funding of courses presents an inter-esting pattern. Own funding is for e-learners the most common way of meeting the costs of the course, while employers are not as willing to cover e-learning costs as they are to pay for conventional learning; while public subsidies are equally available for e-learners and conventional learners.

Figure 16. Funding of courses

Funding sources

Constraints / attitudes

Constraints for e-learners were relatively limited: one in two reported that they have not encountered any constraints in getting the maximum benefit from their participation in e-learning; not having enough time was reported as a constraint by one in four; and a very small proportion, between 5% and 10% reported other constraints concerning self-discipline, difficult

and complicated course content, lack of IT skills and access to computers or internet. Nevertheless, such constraints did not affect their attitude to e-learning, as already pointed out.

Figure 17. Factors constraining e-learning: e-learners

Perceived constraints for taking up e-learning, as reported by the control group, were also limited: one in three reported IT illiteracy, one in five the lack of fast Internet infrastructure, cost of computers and Internet access; and one in six the negative attitudes of people towards IT. These findings do not quite agree with the providers' opinion, i.e. that IT illiteracy and fast Internet infrastructure remain the major constraints for a wider uptake of e-learning by rural residents. We should keep however in mind that the control group was recruited from individuals who use computers and the Internet (they completed the online questionnaire), and therefore these issues are probably resolved for them.

Constraints experienced by e-learners
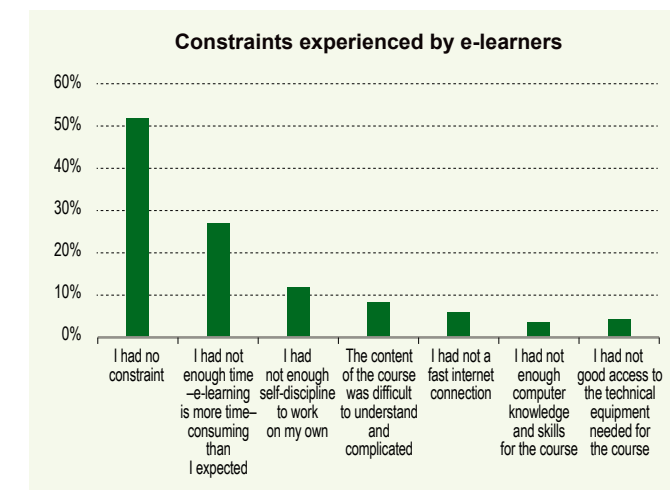
Figure 18. Factors constraining e-learning: control group

Moreover, the reported willingness of three out of four control group members to participate in e-learning signifies that there is a substantial latent demand which has not yet been activated. This is corroborated by the attitudes expressed by both the e-learners' and control groups: respondents were invited to state whether they agreed or disagreed with a number of statements implying attitudes towards various aspects of e-learning. The results are shown in the graph below.

Perceived constraints for taking up e-learning by the control group

Figure 19. Attitudes towards e-learning

Views about e-learning

It is evident that the attitudes towards e-learning are on the whole positive in both groups, with only slight differences in most statements.. There are some points of differentiation however between the e-learners and the control group: these concern difficulty, motivation and fun. More members of the control group, having no experience of e-learning, perceive it as a difficult operation, needing large amounts of motivation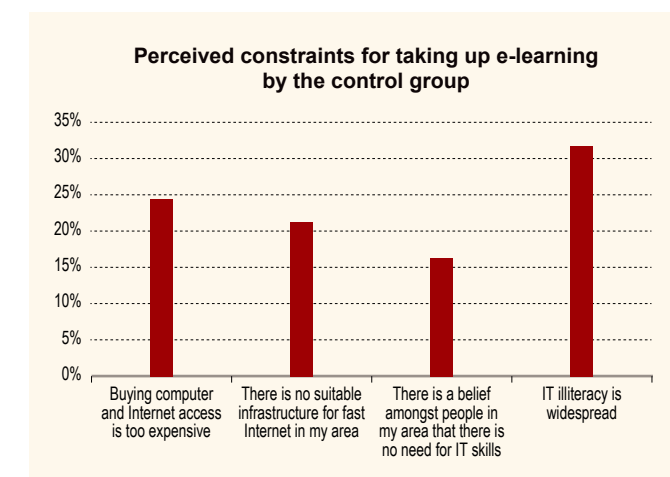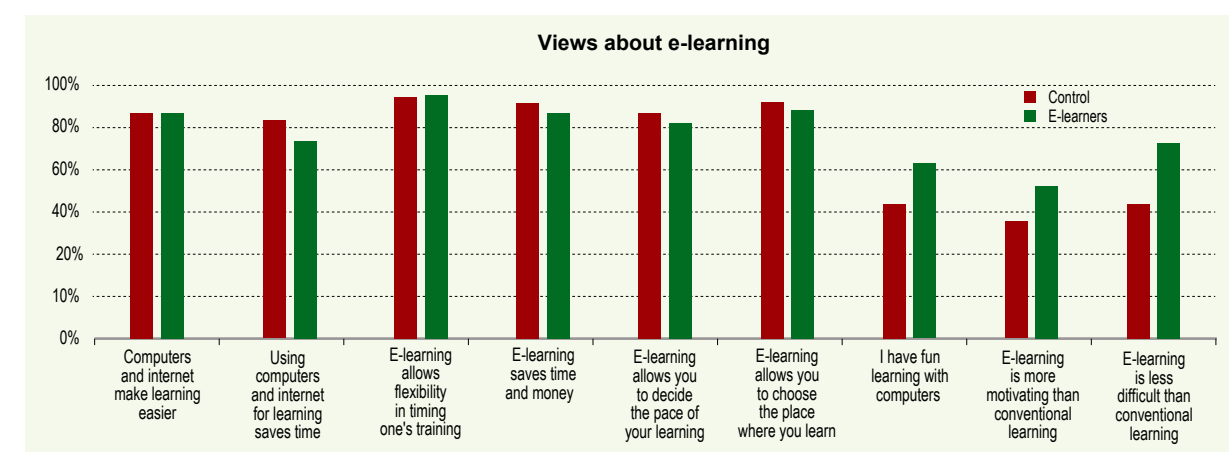 to an extent significantly higher than the e-learners perceive. The members of the control group also overestimate (although moderately) the extent to which e-learning saves time; while they underestimate the fun that is involved in learning with computers. These findings were further subjected to statistical analysis (regression) to control for the effects of socio-economic characteristics and country differences. The results showed that only the differences between countries were significant, confirming the strong cultural character of attitudes.

Evaluation of learning methods and tools

In the e-learners sample, the delivery methods, tools and pedagogical methods used in the course they attended reflects closely the patterns of the provision of e-learning, as described in 4.2 above. The opinion of e-learners regarding the innovativeness of the learning methodologies and tools also reflect a similar finding from the providers' survey: about half the e-learners think that such methods and tools are innovative, while the other half do not.

Furthermore, the improvements suggested by e-learners are worth noticing: better, more relevant content and more innovative tools are the suggestions that are made by more that one third of the respondents, while a stronger connection to certification is also noted by one in four learners

3.3 Conclusions

The results of the surveys imply that the e-learning market is diversified and fast-developing, including public and private, small and large providers, without having achieved however a satisfactory "match" between supply and demand. The number of "young" commercial organisations and new entrants signify a dynamic market, the competitiveness of which appears to be strung on innovativeness and specialisation. Although these providers offer a wide range of learning content, there is a strong concentration on IT and business skills, thus limiting the range of learners that could be attracted. The demand appears to be supply-driven to a large extent, although the latent demand (as revealed by the control group) calls for a wider range of training offers, which in rural areas include various subjects of the primary sector and languages.

It is very encouraging that most e-learning providers place great importance on content development and training of staff. It seems that they would benefit from a policy that would support providers in these respects, especially regarding the e-learning inclusion of rural workers and communities, which at present do not seem to benefit as much as their urban counterparts. A wider range of learning subjects and the additional resources to tailor the content to the needs of the target learners appears to be an important consideration, shared by learning providers and appreciated by learners.

It is also encouraging that 5 out of 10 e-learning providers pay attention to innovation and perceive their products as innovative. Moreover, such innovation appears to stem more from student-centred, interactive and creativity-based pedagogical methods rather than technological innovations, such as game-based learning or use of mobile phones. This attention to learning methods is in line with current European policy, but technological innovation should be also supported by policy, to enable providers not only to deliver learning in a better and more effective way, but also to take learning to those who have no access to it because of infrastructure constraints or unfamiliarity with ICT. Alternative media, and especially social media may have also a positive effect, as shown by the e-ruralnet study[6] and recent work of IPTS[7].

Indeed, major constraints for developing the e-learning market in rural areas, according to the providers, is IT illiteracy and limited infrastructure for fast Internet. Thus, policy measures are necessary to tackle this problem which still remains critical for equitable access to learning opportunities, although the assumption was that it would have been resolved much earlier[8].

Public subsidies have been an important motivation for e-learning providers to enter the market, and this definitely varies between countries. However, for the majority of e-learners private means are resourcing their studies, while the contribution of employers and public subsidies are significant but considerably smaller. Moreover, the gap between job-related expectations of learners and actual benefits achieved by learning also leaves a lot to be wished: career benefits are enjoyed only by minorities of learners whether they attended e-learning or face-to-face (conventional) courses.

Employers appear to be rather sceptical of e-learning, as implied by their tendency to support conventional learning at a higher rate compared to e-learning, although public subsidies are equally available for both types of learners. The apparent reluctance of employers to support staff training through e-learning is reflected in the lack of actual results or in the limited results of e-learning in job promotion and career development of the e-learners. Public subsidies (which are available and used in all countries) could contribute to a better linkage between e-learning and career development, by creating a "bridge" between employers and learners linked to the learner's job prospects.

The profile of students though leaves a lot to be done to widen the scope of e-learning: the recruitment of e-learners from the better educated and younger segments of society implies that ICT-supported learning has not reached equitably all citizens of Europe. The reasons for this, as already hinted above and as several European policy documents have analysed, are complex. A combination of policy measures are necessary to tackle this problem, including infrastructure and keys skills related to ICT, but attitudes play a major role as well. It remains to be seen if a new learning culture created within a digital and networking environment will allow to widen the student body and the benefits of e-learning.

However, the control group survey has indicated that even amongst those better educated and younger groups, there is latent demand that awaits to be tapped: the attitudes towards e-learning are positive, there are expressed skills needs by these individuals and their wish to take up learning from a distance is declared. By looking more carefully at the stated skill needs of the control group, it seems that the content of the available e-learning offer must be further developed, as already mentioned above, and the range of subjects enlarged, to include more technical and focused skills, linked to specific economic sectors and occupations.

The proof of the success of e-learning is that the majority of learners are willing to try e-learning again; and that most e-learners fund their studies from own sources, either wholly or partly; moreover, a huge majority admit that they get the benefit of personal development through such learning, whether it is accompanied by job-related gains or not. These positive experiences, coupled with the positive attitudes stated by both e-learners and control group members, confirm the significant prospects of e-learning to be an important channel of inclusive learning, once the constraints from the supply side are removed and access to ICT services is assured.

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6 www.e-ruralnet.eu, http://www.prismanet.gr/eruralnet/themedia/File/WP5%20report-eRuralnet_Final_REV.pdf

7 Redecker, Ch., Ala-Mutka, K., Punie, Y., Learning 2.0 - The Impact of Social Media on Learning in Europe. Policy Brief, IPTS-JRC 56958, European Commission, Luxemburg (2010)

8 Ala-Mutka , K., Mapping Digital Competence: Towards a Conceptual Understanding, IPTS-JRC 67075, European Commission, Luxemburg (2011)

Conclusions in brief

On the supply side:

► The supply side of the e-learning market is diversified and dynamic; but a satisfactory "match" between supply and demand has not been achieved yet.

► There is strong concentration of e-learning provision's content on IT and business skills.

► The competitiveness of providers is determined by their innovativeness and specialisation in e-learning.

► Innovativeness is more closely connected with new pedagogies rather than advanced technology.

► Content development and staff training are considered important factors for the development of the e-learning market.

► The funding of e-learning depends to a large extent on public subsidies, which reach the providers either directly or through companies and individuals.

► Infrastructure for fast Internet and IT illiteracy still remain important constraints for spreading e-learning more widely in rural areas.

On the demand side:

► The demand is supply-driven to a large extent.

► E-learners are recruited among the better educated and younger age brackets.

► There is demand from e-learners for more innovative learning tools.

► There is latent demand calling for a wider range of content, suiting individual needs, including various subjects of the primary sector and languages, especially in rural areas.

► Employers still tend to trust conventional learning more than e-learning for the training of their employees.

► Job-related benefits lag behind expectations of learners, although this is more pointed among e-learners than conventional (face-to-face) learners.

► Both e-learners and those without e-learning experience show a positive attitude towards e-learning and are willing to take or re-take up e-learning in the future.

Policy implications

► Providers would benefit from a policy that would support them in developing content, innovative learning tools and pedagogies; and training their staff.

► Support for tailoring content to the needs of target learners could activate part of the latent demand and offer opportunities to learners who do not benefit from e-learning at present.

► Policy measures are necessary to tackle the problems of IT infrastructure and illiteracy which still remains critical for equitable access to learning opportunities, especially in rural areas.

► Public subsidies in most countries play an important role in enabling individuals to take up e-learning and could mediate policy for more accessible provision, relevant-to-the-needs of excluded individuals.

► Public subsidies could contribute to a better linkage between e-learning and career development, by creating a "bridge" between employers and learners linked to the learner's job prospects.

4. Innovative e-learning in rural areas

Innovative e-learning is understood as the implementation of solutions to overcome existing barriers. A literature review has been conducted in the context of the e-ruralnet project aiming to relate the innovative capacity of e-learning to Information and Communication Technology (ICT) and rural development policies; and to identify and specify e-learning innovations that are directly relevant to the needs of rural SMEs and micro-businesses within the EU. Further evidence from qualitative research conducted by the e-ruralnet team led to a typology of e-learning innovation criteria, solutions and policy support.

Potential of e-learning

The application of modern technological devices and services such as computers, Internet, mobile phones, media players, game consoles, tablet PCs, satellite broadcast, interactive TV etc offers two major advantages for education and teaching. Firstly, it allows a scope of different media (text, pictures, graphs, audio files, movies) to present learning content to the students. Secondly, in connection with standard or special software the students may actively use such content, modify it and therefore create new content. Internet connection allows easy access to a huge amount of information, both for teachers and learners, and it provides the infrastructure for various forms of communication at a distance via email, online chatting, as well as audio and video conferencing. In recent years so-called Web 2.0 technologies have been widely discussed and used. Web 2.0 refers to web applications that facilitate interactive information sharing, social networking, collaboration and user-centred software. Thus, the advantages of e-learning can be seen in its potential to overcome the following barriers:

Time barriers: Reducing the time it takes to access learning materials; solving time conflicts through a-synchronic communication, using technologies to change the flow of time (time lapse, slow-motion).

Spatial barriers: The connection of learning communities and learning objects independent from their location. Contact of or between experts in distant locations. Study locations without travelling. The application of techniques and experimentation in virtual spaces.

Analog-digital barriers: Combining any text, audio, video and animation. Animating learning content. Exploring and modifying learning objects, understanding, practicing and constructing without changing the device.

Norm barriers: Being a parent, employment or physical handicaps are no barriers to participate in training courses. Shifting role of learners from pure consumers to active co-producers of learning content.

Such potential of e-learning has given rise to great enthusiasm at the beginning of the 21st century. Undeniably, there has been a steady increase in the use of e-learning in various contexts. However, the adaptation of e-learning has been moderate at least in comparison to early expectations, and differs between regions and industries. Thus, early enthusiasm has been replaced by greater, yet still optimistic realism. Realism offers a better understanding of e-learning pedagogies as well as practicalities that are connected with the e-learning designs.

The diffusion of innovations, such as e-learning, is always a complex communicative process. The rate of adoption - that is the relative speed with which an innovation is adopted by members of a social system - is determined by many factors, such as the perceived attributes of an innovation, the type of innovation decision (optional, collective, authority), the communication channels through which the innovation is diffused (e.g. mass media, interpersonal), the nature of the social system (e.g. norms,

degree of interconnectedness) and the extent of change agents' promotion efforts[9]. A comprehensive account of all those aspects is far beyond the scope of this report. Respecting this, only a few selected aspects of this process are discussed with regard to e-learning, especially the ones which are particularly relevant as far as rural areas are concerned.

Principles of innovative e-learning

On the basis of the above, a number of criteria that define innovativeness in e-learning were identified. These include:

► Learner orientation: E-learning has to be open to individual learning styles and capabilities; it should allow individuals to create their own personal learning environments.

► Interactivity / Community development: Since learning is a social process innovative e-learning is about building communities, fostering interaction and contextualising learning content.

► Micro-learning: Micro-learning refers to short forms of learning and consists of short, fine-grained, inter-connected and loosely-coupled learning activities with micro-content. It may be considered as an alternative to (formal) courses and as a form of learning that may be particularly useful in the context of lifelong learning and work-based training.

► Interoperability: Rather than to focus on the "newest" technologies, e-learning has to focus on technical compatibility and must be based on standards. Learners should be able to access content and to work with learning material independent of the platform and software they commonly use.

► Efficiency: Getting costs down is fundamental. Innovative e-learning includes new approaches to recycling content (content sharing) and learning scenarios. Modern computers are generally over-covering the needs of most e- learning applications. Servers do not require high performance machines. Many countries have schemes where older computers are recycled from industry and commerce to education. One possible answer for access to hardware is the use of handheld devices, palmtop computers, PDAs and mobile telephones. Whilst many are sceptical due to the small screen size, other researchers have pointed to the intensive use of mobile telephones by young people for a wide range of applications. Open source software may be a further option.

► Institutionalisation: Institutionalisation of e-learning is crucial. Integration into existing learning arrangements and the development of new institutional structures may both innovate ways to explore the potentials of e-learning.

► Quality management and evaluation: Meeting user demands and offering quality is fundamental. Thus, innovative e-learning is about the development of quality standards, quality management and continuous evaluation.

Issues pertaining in rural areas and policy solutions

One of the main issues limiting the uptake of e-learning in rural areas is the spatially defined digital divide, that is, the unevenly distributed opportunity of **access** to Internet services. The European Union's goal is to ensure full "broadband coverage" in Europe. However, it is a common experience in many countries that the uptake of (broadband) Internet in rural areas remains low even when Internet access is available. The literature review reveals that the urban-rural **Internet access gap** is influenced by the different social composition of rural population more than geographical characteristics such as population density or distance to urban centres.

While the digital divide literature is mainly concerned with the access to (broadband) Internet access and computers as precondition to benefit from services offered through and by modern ICT, additional concern has been voiced regarding differentiated patterns of Internet and computer usage. It has become apparent that users, despite having access to computers and Internet, lack sufficient skills to benefit from its use. The more the digital divide differs in the access to computer and Internet, the more differences in usage skills and usage patterns become relevant. E-learning has to be sensitive to the ICT competences and needs of the targets groups, but also their socio-cultural specifics. Here one should note that there is a gap in researching skill needs, technical requirements and usage of e-learning among SMEs taking into account the specific nature of small businesses. Moreover, the need to derive and implement policies to support actions aimed at making a meaningful and efficient use of new technologies in the rural workplace is rarely emphasised.

There is an often-repeated request in the e-learning literature asking for a cultural shift in micro-businesses towards a learning culture. Yet, probably the most realistic approach is to fit e-learning solutions to the existing learning culture of small and micro-businesses rather than attempting to change it. Learning in the workplace is primarily characterised by social interaction and informal ways of learning. As soon as we overcome the presumption that learning is bound to formal, institutionalised teaching, the potential of e-learning may be exploited more appropriately.

In the context of the e-ruralnet project qualitative interviews with providers, social partners and policy-makers have been undertaken. Following the principles outlined above, the findings of the interviews have been coded and analysed. Also, the e-ruralnet project has compiled a database of innovative examples http://www.prismanet.gr/eruralnet/en/innovative_e-learning.php including technical solutions as well as comprehensive e-learning approaches. These examples show that there is not a single approach, but many, depending on the target groups, the objectives of the learning programmes, and a variety of institutional and structural factors

The main results from the qualitative research are compiled in the table that follows, coded according to the criteria outlined above and the additional factor of access, as the main issue of e-learning in rural areas. The synopsis briefly highlights issues as well as practical solutions for e-learning providers and policy makers:

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9 Schulmeister, R. (2006): eLearning: Ansichten und Aussichten. Oldenbourg, München

Criteria	E-learning providers	ICT and rural policy
Access	Solutions for SMEs without access, non-users Targeting e-exclusion	Internet access and i-literacy as policy objectives of rural development projects Diverse priorities in different rural areas
Learner Orientation	Needs assessment of target communities, tailoring e-learning to specific needs of the professional communities, simplicity of tools, learner support, qualified trainers	In depth needs assessment, personal development strategies for trainers etc. as possible requirement of project funding.
Interactivity/Community	Tools to encourage interactivity and community development of user groups	Integration of e-learning component into rural development network projects (e.g. LEADER)
Micro-learning	Developing of micro-content suitable for work-place learning	Support of exemplary content development
Interoperability	Feasibility of technical solutions with ICT used in SMEs	Defining standards
Efficiency	Full cost modelling for providers **and** users	Development and promotion of full cost calculation frameworks
Institutionalisation	Linking e-learning to existing communities of practice, integration/combination of e-learning Communities are also the entry points for newcomers/learners as change agents Strategies differ according to institutional context	Establishing of demonstration projects to exploit "networks effects" for the diffusion of knowledge about e-learning, Identification of possible change agents
Quality Management and Evaluation	Establishment of Quality Management Systems and Evaluation	Quality Management Systems as standard requirements of project funding

5. Alternative media and contemporary applications of e-learning in a rural context

Over the last few years there has been a huge amount of hype about e-learning from all sorts of organisations, but especially governments, who see this as the way forward for whole economies. So what is all the e-learning hype about? Work, study and life in general have become increasingly mobile, solutions were and are needed to address this, espousing the creation of the ability to learn both informally and formally on-the-go via E-learning. The development of the technology allows learners to study independent of time, place or facility via on-line access to teachers, experts and support services as well as enabling communication with peers.

Many learning businesses already use a vast array of electronic tools related to providing or supporting learning such as Internet or World Wide Web, internal intranet, course management systems, office programs, electronic calendars, e-presentations and e-mail. The embedding of the use of these types of tools in some organisations is now at the level where their use is not considered as advanced, but taken as the norm.

Although the flexibility provided by e-learning represents a significant incentive in the area of lifelong learning, there is much more to e-learning than freedom. E-learning enables learners to network, interacting with their fellow learners and peers and learners from other businesses. Learning from each other in interactive forums as well as developing new forms of learning is another facet of the pro-active approach to learning. In a true knowledge economy, e-learning fosters key skills such as the ability to auto update work related skills, without reference to superiors or formalised updating processes like in-house training and development and the retrieval and processing of information. E-learning can, if properly resourced, enable learners in rural locations to participate in training on an equal basis to those geographically adjacent to a training institution. This is especially true in niche fields of interest where local training may be completely non-existent or numbers of learners are below the level required to make conventional delivery economic. It has also been proved that e-learning can increase the quality and cost-effectiveness of learning while reducing actual costs of delivery.

This freedom of time and place as well as the possibility to globally network from your home presents e-learning as a very attractive tool for learning and development activities in rural areas, since these areas typically are disadvantaged concerning traditional learning and innovation services, due to the long geographical distances and lack of critical mass of experts in the regions. However, there are challenges to fully utilise the potential of e-learning, some of which have not been adequately recognised yet.

The e-ruralnet team addressed these challenges in a report on "alternative media and contemporary applications" http://www.prismanet.gr/eruralnet/en/alternative_media.php which explores further two issues identified by research as being of major importance:

1. Access to e-learning for rural areas that have inadequate and in some cases no access to national ICT infrastructures

2. New and potentially innovative approaches to learning introduced through the use of new interactive ICT tools such as web 2.0., Wikis, podcasts etc.

To support the issues mentioned above, the possibility of using alternative technologies in addition to computers as well as new approaches to learning like simulation and learning through gaming is examined, aiming to bring to the discussion the current state of the problematic mentioned above, evaluate the possibilities to overcome these problems and support the decision making processes both in training organisation and policy levels. Three components of this discussion are outlined here:

► Take heed of the conclusions of some of the leading literature on e-learning, addressing Issues which apply to Institutional users, learners and assessors/instructors/teachers.

► Consider e-learning in the context of the market, utilising the results from the research undertaken by the e-ruralnet partnership and further examining a range of issues as they apply to the particular difficulties experienced by rural e-learners, both at the implementation level of e-learning and from the organisational point of view. Quality issues related to the composition and delivery of e-learning form part of the discussion.

► Evaluate the potential of alternative media and alternative delivery methods i.e. standalone technology that may be of particular use within rural areas where connection to the Internet is either poor or non-existent. Such evaluation includes the use of new technology-based tools and multi-media developments; the effectiveness of learning through gaming and simulations as they apply to the rural e-learner; and the lessons learnt from a selection of best practice examples on innovativeness and alternative media from the e-ruralnet online Library of Best Practice http://www.prismanet.gr/eruralnet/en/library.php .

According to the research undertaken in the e-ruralnet project, e-learning still continues to generate a great deal of interest and input from a wide variety of sources, because it enables learning to take place anywhere and anytime. This is particularly important from the aspect of lifelong learning as adult learners often have multiple responsibilities in addition to studying. Learning that is relevant, has the ability to be customized and re-purposed to meet the restricted schedules and varying locations of these learners sounds ideal. E-learning can also be cost-efficient both for the provider (repeatability) and the student (travelling costs, time from work).

The major e-learning issues affecting e-learning within the rural context are equality of access to broadband, the use of alternative technologies (videos, DVDs, CDs, mp3-players, e-book readers etc.) to compensate for inadequate ICT infrastructure and e-learning, as a way for rural learners to access learning communities and benefit from contemporary learning trends (web 2.0 applications etc). In addition the groups that tend to stay behind in the ICT skills often are those typical to rural areas (e.g. ageing populations).

In order to provide feasible e-learning courses with relevant content, multiple check-lists and frameworks have been developed based on the proven theories and research referred to throughout the report. One major aspect for training providers either interested in e-learning or already involved is, however, to remember to keep the needs of the target group as the central tenet of all developments. This includes aspects of the quality of the learning material and especially the learning style of the target group. In the case of failed incentives this aspect is typically ignored or underestimated. It is also worthwhile to note that, even both the technology and the content need to be of high quality, but e-learning course creation do not automatically need to be expensive to develop in-house or to externally commission. Learners have been found to value interaction, content and flexibility over technological solutions. It can be even said that the technology itself has no value to the learners, unless it can solve their problems.

From especially the rural learner's point of view, e-learning enables studying of niche or mainstream fields in which other training options may be behind long geographical distances. E-learning can also provide feasible access to the best practitioners within the learners chosen field instead of opting for the training institution that is close by. This in turn generates increased competition between training businesses.

However, for e-learning to be a truly viable studying option in rural areas, local, regional, national and transnational initiatives to improve the broadband connectivity are required to deal with the level of

inequality of access which is currently the case. Currently rural learners are typically at a disadvantage when compared with their urban compatriots concerning equality of access to the kind of up-to-date information required in a knowledge economy. Although standalone applications have a valuable role to play as media to be used in peripheral locations and when travelling, the communication and information updating possibilities that the Internet provides cannot be ignored if all members of the EU are to be included equally within the contemporary knowledge community.

6. The e-learning familiarisation tool: a games-based-learning model

The e-ruralnet team developed a familiarization tool, based on the games-based learning approach, to allow persons without experience of e-learning to become aware of the benefits of e-learning and/or overcome their shyness and lack of self-confidence. Users would also become familiar with the requirements of e-learning as far as the student is concerned, in a way that would motivate the user and make e-learning look attractive although not underestimating the commitment needed from the side of the learner.

The game is uploaded in the e-ruralnet website and can be used free of charge by individuals or organizations at http://www.e-ruralnetgame.net

The e-learning game starts with a definition of e-learning:

What is e-learning?

E-learning is learning from a distance what you need for your job, your career development, your hobbies and personal interests while using computers and the Internet"

Then further explanations on what e-learning involves are briefly provided:

There are three ways to use e-learning

1. By learning entirely by yourself, after registering to an e-learning course
2. By adding the assistance of a tutor to your own efforts
3. By adding additional face-to-face seminars: so called 'blended' learning.

Next, the users are informed that there are 3 steps they have to go through in order to become familiar with e-learning; they only have to click on each step and allow Albert to take them to a journey of knowledge.

3 steps to make yourself familiar with e-learning

1st step - Can I do it?
2nd step - What type of e-learning do I need?
3rd Step - How do I look for an e-course?

The **first step** "can I do it" consists of three games: the "computer knowledge quiz" game is helping the users to find out their level of computer, by answering a number of questions in the format of a quiz, challenging the users to define such terms as youtube, broadband, gmail, email constituent parts, various web browsers, wi-fi, etc; the "self-discipline game" puts the user to a test of concentration, accuracy and persistence through a fun task of moving the mouse along a complex corridor from one end to the other without touching the walls; the "benefits game" invites the user to practice typing 'flying' words which in the end reveal all the benefits from taking up e-learning.

1st Step - Can I do it? Let's see if e-learning is for you. We've created three games that will help, explain and assist you with learning about e-learning.

1st Game - A Computer Knowledge Quiz --> Determine your current computer proficiency

2nd Game - A Self- Discipline Game --> Find out if you have the self discipline necessary for e-learning

3rd Game - The Benefits Game --> Make sure you understand all the benefits of e-learning

In the **second step** "what type of e-learning do I need" the user led by Albert in the Land of What, aiming to confront the user with a range of knowledge sectors and skills to choose from, to satisfy his or her needs, but also encouraging the user to consider questions of time, money, tuition language etc. The results of this step are recorded in a Report or "journey sheet" that summarises all the requirements of the user and can be emailed to a provider to ask for suggestions of available courses.

2nd Step - The Land of What?

What do I need to learn?

How much do I know about the area I want to study?

Why do I need to learn?

Do I have enough time to study?

How many months can I devote to the course?

What language of instruction would I prefer?

What about money? Who is going to pay for my study?

The **third step** "how do I look for an e-course" takes the user along a number of questions that help locate and choose a suitable e-learning provider. A tutorial on how to use a search engine is provided for the third option of this step

How do I locate a provider?

There are three main ways you can locate an e-provider though the Internet:

1. Check out an excellent provider directory in the e-ruralnet website www.e-ruralnet.eu

2. Look for providers through various online Internet directories.

3. You can search the Internet through a search engine (tutorial offered)

7. Ict for inclusive learning: the way forward

The issue of inclusive learning supported by ICT was chosen as the theme of the international conference that concluded the e-ruralnet project. The conference brought together a wide range of 100 speakers and participants from 16 countries across the world who approached the conference theme from a variety of perspectives. 37 presentations were made, organised in 3 plenary sessions and 6 workshops over a period of two days. The conference programme, speakers and proceedings can be accessed in http://eruralnetconference.com and http://www.prismanet.gr/eruralnet/en/conference.php.

The conference papers and discussions highlighted the urgency to make lifelong learning more equitable with special reference to the role ICT-supported learning can play. It was recognised that e-learning should be approached as "learning" dropping the "e", because all learning should to be resourced by the contemporary information technologies and especially the Internet; and was stressed that one should not forget the true function of learning, whether ICT-supported or not, which is about shaping personalities.

The current agenda regarding the nature and practice of learning has served as the backdrop

for the **plenary presentations**. Speakers focused on the shift from an industrial to a knowledge base and the emergence of the so-called "21st century competences"; the rapid development and ubiquity of ICT, including "Learning 2.0" technologies as a driver for inclusion; the emergence of online learning communities and peer-to-peer learning; the focus on learning research and learning outcomes measurement; the current European policies for e-inclusion

Although the research base on learning has grown enormously in recent years, a large part of it seems to be disconnected from educational practice and policy making. The phenomenally fast development of ICTs is re-setting the boundaries of educational possibilities and offers a productive ground for reform. The new educational agenda redefines the learning environment as learner-centred, personalised and inclusive. EU policy has sought to realise the objective of equitable access to ICTs for all and thus create a linkage between social inclusion and lifelong learning; but current policy has been criticised for not supporting the use of ICTs to foster the direct empowerment of people who are socially excluded or 'at risk' of social exclusion.

The role of the social media and online communities in increasing access to learning and offering new forms of inclusive learning is emerging as a promising one, although there is still a long way to go to achieve truly inclusive learning. Other promising initiatives, like the peer to peer university and mobile learning highlight opportunities for developing new learning models, based both on student interaction and innovative communication technologies.

Rural exclusion has been brought to focus as rural and remote communities have been amongst the hardest hit by global developments in ICTs. However, it is likely that the latest generation of immersive technologies including video games, virtual worlds and social networks can reverse some of the trends of previous years and act as an engine for innovation and growth in these rural and remote areas; and can thus harness local resources in new and innovative ways through learning.

The specificity of rural areas and constraints relating to the digital divide, attitudes, micro-content development and institutionalisation were highlighted. Approached from the perspective of diffusion of innovation, uptake of ICT-supported learning in rural areas is influenced by the communication channels used, the nature and inter-connectedness of the social environment and the extent of change agents' promotion efforts.

Matching supply with demand remains an important issue especially for rural areas. Research carried out across Europe by the European Observatory/e-ruralnet project points out that the e-learning market is diversified and fast-developing, without having achieved a satisfactory "match" between supply and demand, especially in rural areas. A supply-driven demand calls for a wider diversification of content as well as better infrastructure for fast Internet and improved IT literacy. E-learning appears to provide ample opportunities for personal development but not enough opportunities for professional and career development, as employers hesitate to trust the results of e-learning as much as they do for conventional learning.

The key issues that emerged from the **workshop discussions** are:

Understanding learning disadvantage and exclusion

To work towards inclusive learning, we need to understand the exclusion factors and constraints and define those who are excluded from learning opportunities. Defining "learning disadvantage" with reference to access to lifelong learning is not an easy task. Conference speakers and workshop discussions pointed to a number of factors that define such a disadvantage: gender, age, education, residence in rural or urban areas, digital literacy and information processing skills make a difference in the readiness of the individual to uptake digital learning. Concerning services, the provision of broadband

connection still remains a decisive factor constraining ICT-supported learning in many areas.

Making e-learning more attractive

Making e-learning more attractive to individuals and businesses emerged as a critical issue. Three factors contributing to attractiveness of IT-supported learning were extensively discussed: preserving the social character of learning; offering content that is relevant to the target-learners, meeting their needs; and offering tools that facilitate learning and activate the learners. Innovation can play a significant role in addressing all the above. However, to achieve learning innovation, the traditional learning hierarchy and methods should be challenged.

Approaching learning as a **social event** rather than as an individual activity can re-instate the social character of ICT-supported learning. Promoting interaction among a group of learners by involving learners in virtual classes can offer such social underpinnings. However, there is a question here: how can one effectively use synchronous online video opportunities to improve the social aspects of learning, given that these tools do not replicate true face-to-face environments. Blended learning i.e. a combination of online learning and face-to-face meetings may provide an alternative that can make the learning experience as socially beneficial and inclusive as possible, and has been reported to increase the learners' commitment and make learning more enjoyable.

Content development is exploring new ways to make learning more relevant and useful to the learner as well as more collaborative. Allowing enough ground for the learners to develop their own content, promoting peer-learning and offering space for informal learning through the social media can enhance the content of learning. Learning communities and networking emerge as important factors in the learning process. Context-based learning has also emerged as an important aspect of inclusive learning, building on the individual learner's pace, capability and context of knowledge and skills application. Thus, it is crucial to develop personalised learning pathways and provide alongside content learning challenges too. An example of this refers to micro-learning opportunities for SMEs, the managers and staff of which, especially in rural areas, are shy to go public and share their interests online.

The importance of innovative **learning tools** should not be understated, especially when considering the vast potential of ICT tools to enhance learning and make it more attractive. The contribution of innovative technologies, such as games-based learning has been discussed, and their potential demonstrated, although not yet fully explored, However the issue whether sophisticated technologies are preferable to simple ones arose. It was agreed that ICTs should be "fit for purpose": one doesn't necessarily need sophisticated technologies, just those that do the job and fit the need.

Validation of the learning results and certification also emerged as an issue, as most e-learning courses do not benefit from this, although learners rate highly the possibility of validation and certification.

Re-defining the role of teachers

In the new learning environment, when ICTs are used to support inclusive learning, a radical role shift takes place: teachers become mentors; students become teachers and the role of teachers is re-defined. The teachers become facilitators of learning, sharing ownership of the learning result with the student, and being prepared to experience a change of roles between teachers and learners. These new roles typically involve collaborative co-production, leading to empowerment. The emphasis is on collaborative learning, but also on personalized learning that defines individual learning pathways for students. Teachers should be also seen as users of ICT, exploiting its advantages, such as novelty of material and adding-on to content; but having also to face the challenge of safeguarding the quality and reliability of learning content and methods.

Solutions

► Lobby decisions makers to provide more **policy solutions** making online learning more inclusive. For this it is important to define excluded groups on the basis of disadvantage, whether social or territorial or both.

► Lobby the ICT industry to develop more **IT-based educational products** and promote informal and formal online learning.

► Intensify the **dissemination of information** to make people aware of e-learning opportunities and benefits. Many people do not realise the advantages of ICT-supported learning and the opportunities it offers for personal and professional development; and are too shy to try a training course over the Internet. The e-learning familiarisation tool developed by the e-ruralnet project, in the form of a "serious game", offers a good practice example in that direction.

► Recognise the **role of guidance and counselling** in e-learning. Learning is about the development of one's personality and finding the appropriate course to learn online is not a different process to finding a suitable face-to-face course. Counselling can play a significant role in overcoming the individual learners' shyness, lack of self-confidence and in directing them to a training offer fitting their needs best. Online counselling systems may provide solutions worth considering, although one needs to resolve issues of personalisation and trust building in a virtual environment.

► **Provide support to teachers** in their new role as mentors and facilitators. Teachers need to learn how to use students' skills for content creation and how to practice new ideas of collaborative learning

Wider networking: IT for Inclusive Learning Network

The wide participation of teachers, researchers, social partners and policy makers in the conference and the quality of the presented papers and the discussions held, gave a strong indication that there is a need to work further on the inclusive learning subject and try to influence research and policy. The e-ruralnet network has been thus enlarged to admit all the participants in the conference and remains open to include individuals and organisations who would like to contribute to the debate on inclusive learning and impact on policy making, such as: teachers, providers of ICT-supported learning – formal or non-formal, policy makers, social partners, the civil society and any other stakeholders of inclusive learning who would become interested.

The principal aims of the inclusive learning network are:

► To bring together a community of interest on ICT-assisted inclusive learning, to promote equity of learning opportunities across all communities and geographical territories.

► To keep alive the debate on inclusive learning through regular conferences and workshops, publication of proceedings, the establishment of an online publication facility and online networking linked to existing social and professional networks for exchange of experience and information.

► To try influence policy related to inclusive learning at national, European and international level

► To create peer-learning sub-groups amongst its network members (such as e-learning teachers) to assist them develop and update their teaching skills.

► To encourage network members to set up joint research projects or action projects and seek funding.

The networks has already a presence in the online social media and has started public discussions on the prominent issues that have been included in the conference conclusions.

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