

# A STUDY ON THE STAGE OF E-LEARNING DEVELOPMENT IN ROMANIA

**Preda Ana-Maria**

*Romanian-American University, Bucharest, Romania*

**Stănică Justina Lavinia**

*Romanian-American University, Bucharest, Romania*

**Crișan Daniela Alexandra**

*Romanian-American University, Bucharest, Romania*

*This paper evaluates the stage of development of the e-learning system in Romania compared to other EU Member States, in the perspective of the newly proposed Europe 2020 strategy for a “smart, sustainable and inclusive growth”. Official statistics are essential in order to monitor these comparisons. Although Romania’s analyzed indicators are not at the level of other EU countries, a modest but increasing uptake of e-Learning services over the past few years can be observed. However, Romania still has major shortcomings in the field of e-Learning, our country being placed at the lower end of the EU-27 ranking in almost all statistics. As an EU Member State since 2007, Romania has to reduce its gap in the shortest possible time. The first steps were taken through implementing e-Learning projects and defining the barriers that stand in the way of an information society for everyone.*

*Keywords: e-Learning, indicators, education policies, strategies, initiatives*

*JEL classification: D83*

## **1. Introduction**

In the European Union (EU) e-Learning is considered an important progress in the educational and training systems, in the perspective of reaching the strategic objective assumed for the Union by the European Commission (EC) at Lisbon in March 2000, to become “*the most competitive and dynamic knowledge-based economy in the world by 2010*”. The spread of the Internet and new information and communication technologies (ICT) over the last decade, has allowed European citizens to gain access to incredibly many and varied information and information resources. Successfully using this potential in education is more a strategic and organizational problem than a technological one. The introduction of ICT should be accompanied by substantial restructuring in education. New ICT technologies allow every citizen to be (re)qualified or able to develop new skills at any age and any level of training, which means that the employment opportunities will increase and the competitiveness of European companies will enhance. In addition, this will promote the social inclusion, will increase the civic activity and will ensure the personal development.

## **2. EU political actions for e-Learning: a short history**

The European Commission’s first initiative in the field of e-Learning was in 2000, in order to implement the *eEurope* Action Plan (Lisbon Strategy, 2000) in education. The initiative entitled “*Designing tomorrow education*” [12] set out the principles, objectives and directions for action in e-Learning, to adapt the European educational systems to the knowledge-based economy and digital culture. The *e-Learning Action Plan* (2001-2004) and *e-Learning Programme* (2004-2006) established the priority areas that should channel the efforts in modernizing education and training systems in Europe. In 2001, the EU initiative “*Making the European Area of Life Long Learning become a reality*” stipulated that each Member State should adapt its educational and training system to the requirements of the current modern environment, removing barriers between different educational systems of Europe and giving citizens a chance to develop new ICT skills. Life Long Learning is one of the basic principles governing the European policies in education and training, essential not only for the

competitiveness and the employment degree, but also for social inclusion, personal development and civic activism.

A new strategic framework, the “*i2010: a European Information Society for growth and employment*” [10], proposed by the EC in 2005, promoted an open and competitive digital economy, and stressed the role of ICT to improve social inclusion and quality of life. The i2010 Action line “*Inclusion, public services and a better quality of life*” supported the development of e-Learning in all EU countries in a positive manner by promoting technologies that underpin e-Learning strategies.

The *Lifelong Learning Programme 2007–2013* [8] defined the strategic actions to allow EU to achieve the Lisbon goal of becoming the most advanced knowledge economy. This programme’s main objective is to sustain the economic development through lifelong learning and to turn the European educational systems into a world quality reference.

The Adult Learning Action Plan “*It is always a good time to learn*” [7] was adopted by the Commission in 2007, and reinforced by the Conclusions of the Council in 2008. This Action Plan had defined five actions that Member States should implement in order to increase the quality and participation in adult learning.

In May 2009, the European Council signed a new strategic framework for European cooperation in education and training – “*Education and Training 2020*” (ET 2020) – which provides common strategic objectives for Member States, including a set of principles for achieving these objectives, as well as common working methods with priority areas for each periodic work cycle [3]. The ET 2020 has the following four strategic objectives:

- *Making lifelong learning and mobility a reality*: More actions are necessary for increasing the lifelong learning quality and attractiveness, also through the use of new learning technologies. Mobility of students and teachers is an important way of promoting lifelong learning and of improving people adaptability, and thus must be increased.

- *Improving the quality and efficiency of education and training*: The EU economic success depends on quality education and training systems, which can enhance employability. High quality can only be obtained through an efficient use of both public and private resources, in implementing the best policies and practices in education and training.

- *Promoting equity, social cohesion and active citizenship*: The education and training systems should be made accessible to all learners, including those with special needs, so that all people could complete their education.

- *Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training*: Creativity and innovation play an important role in enterprise development, enhancing the EU ability to compete internationally.

To reach the above objectives, a more intense European cooperation in education and training is necessary, which should produce visible results. In order to evaluate the overall progress in achieving the objectives under this framework, the Member States established five benchmarks: “adult participation in lifelong learning”, “low achievers in basic skills”, “tertiary level attainment”, “early leavers from education and training”, and “early childhood education”. The strategic framework ET 2020, along with the initiative “*New Skills for New Jobs*” adopted in December 2008, play a key role in addressing the priorities of the Europe 2020 strategy [1] launched as a proposal in March 2010, in which education is one of the five measurable EU targets for 2020. The *Europe 2020* strategy is taking into consideration the accomplishments and failures of the Lisbon Strategy, and is intended to prepare the EU economy for the next decade.

### **3. E-Learning Initiatives in Romania**

In order to introduce ICT in the educational system, the technologically advanced countries constantly pursue the socio-economical competitiveness rules, providing impressive funds for the appropriate training of human resources, and taking decisions for the following decades based on rigorous studies. In the last decade, the field of e-Learning has begun to develop also in Romania, now existing more

functional projects. Under the perspective of developing the information society in Romania, it became obvious the need to adopt a national strategy to support the expansion of electronic communications. Under these circumstances, the Romanian Ministry of Communications and Information Society (MCSI) adopted in 2009 a *Strategic Plan for 2010-2013* [4] that set out the actions and programs for developing an efficient information society and knowledge economy. Through this strategic plan, MCSI has established the following directions of activity:

- *Electronic Communications* – financed through the budgetary program *The Development of Electronic Communications and Related Areas*, including two sub-programmes: *The National Communications Infrastructure* and *The Sectoral Plan for Research and Development (R&D) in Communications*. These sub-programs attempt to encourage investments in infrastructure, promote innovation and ensure effective management of limited resources, as well as, improve the capacity of R&D systems to support future policy documents, strategies and regulations developed by MCSI.

- *Information Society* – financed by two programs: *The Development of the Information Society* and *The Knowledge-Based Economy*. The first program is structured into three sub-programmes – *Romania's transition to electronic government – e-Government Program*, *e-Europe* and *The Sectoral Plan for R&D in Information Technology* – and aims to ensure an integrated approach according to the European policies, to modernize public administration by managing and promoting information and public services using electronic means, to develop the IT research-innovation sector, and to implement the specific technologies in central and local administration and business environment. The *Knowledge-Based Economy* program contributes to computer skills improvement and facilitates access to modern ICT for citizens in disadvantaged communities.

- *Structural Funds Management* – financed by the program *Access to Technical Assistance by OIPSI for the Efficient Management of the Structural Funds Allocated to Axis III SOP IEC*. The program is trying to achieve a high degree of absorption of structural funds allocated to SOP IEC and an efficient use of interventions.

- *MCSI Administrative Capacity* – financed through the budgetary program *Advanced Institutional Management*, which aims to mobilize the available resources for developing a competitive, knowledge-based information society, promoting ICT services and increasing citizens' comfort.

One of the MCSI most recent projects is "*The implementation of an e-learning system for public administration training to support the development of information society*", developed by the National Agency of Civil Servants (NACS) and MCSI (the financial agreement was signed in March 2010) for an implementation period of 24 months[5]. The total value of this project is 13 million lei: 8.9 million lei allocated by the European Regional Development Fund (Sectoral Operational Programme "Increase of Economic Competitiveness", Priority Axis III – ICT for Private and Public Sectors), 2 million lei representing the national co-financing, and 2.1 million lei VAT. The overall goal of the project is to increase the NACS training offer through the use of ICT. The technical objectives refer to the development of software applications that will allow the implementation of a complete e-learning system (online training and testing, homeworks, automated reports on learner participation and results) and the development of an online software for registration for the various training programs of the NACS portfolio. In the 2 years period, the project aims to obtain an increase of 20% in the number of civil servants trained by NACS using electronic means, and an increase of 20% in the NACS training capacity by developing a greater number of online courses.

#### **4. Measuring the development of e-Learning in Romania**

There are rather few studies on the evolution of e-Learning at country level. The most known are the Australian researchers studies – the Flexible Learning Advisory Group (FLAG) – that have developed a benchmarking system of 12 indicators assessing the degree of use, the effect and the impact of using e-Learning in professional and technical education.

However, there are many sources where e-Learning indicators can be found: the Canadian Internet Project: Canada Online, the Canadian Internet Use Survey, the studies prepared by Empirica (Empirica

2007), the eUSER survey (eUSER 2005), EUROSTAT statistics; International Telecommunication Union (ITU) statistics etc.

#### 4.1. ICT development indicators

Even though there are few studies concerning the e-Learning development in Romania, we can start by referring to some international statistics, observing, for example, the country's degree of informatization. One indicator describing this is "the number of Internet users per 100 inhabitants".

**Table 1. Internet usage statistics for Romania**

Year	Internet Users	Population	Penetration (% pop.)	Statistics Source
2000	800,000	22,217,700	3.6	International Telecommunication Union
2001	1,012,000	22,000,000	4.6	Ministry of Communications and Information Technology
2002	3,520,000	22,000,000	16.0	Ministry of Communications and Information Technology
2004	4,000,000	21,377,426	18.7	International Telecommunication Union
2006	4,940,000	21,154,226	23.4	Computer Industry Almanac
2007	7,000,000	22,276,056	31.4	Internet World Stats
2009	7,430,000	22,215,421	33.4	Internet World Stats

**Table 2. Internet usage statistics for Romania and EU-27 (2009)**

Internet Usage	Population (2009)	Internet Users	Penetration (% Pop)	Usage Growth (2009/2000)
Romania	22,246,862	7,430,000	33.4%	828.8%
EU-27	489,601,562	319,895,346	65.3%	238.9%

Source: Internet World Stats [6]

Despite the substantial increase in the number of Internet users during 2000-2009 (828% growth rate), Romania is situated behind most EU Member States, ranking 26 out of the 27 EU states, according to the Internet World Stats.

In order to evaluate the information society development, the International Telecommunication Union introduced in March 2009 another indicator: the ICT Development Index (IDI). This is a compound indicator made up of three sub-indices (including 11 indicators): ICT access sub-index (measuring the ICT infrastructure and access), ICT use sub-index (evaluating the ICT use and intensity of use) and ICT skills sub-index (assessing the capacity to use ICTs effectively). The 2010 ITU report [2] presents the results of the IDI indicator for 159 countries and a comparison of the 2002, 2007 and 2008 IDI values for 39 European Countries.

**Table 3. IDI changes 2002-2008**

Country	IDI 2002	IDI 2007	IDI 2008	IDI change 2002-2008
Romania	2.46	4.11	4.73	2.27
EU-27	4.18	5.78	6.22	2.04
Europe	4.06	5.50	5.92	1.86
World	2.42	3.32	3.58	1.16

Source: International Telecommunication Union [2]

In the 2008 IDI scale Romania has moved up 16 places since 2002, to rank 44, but it is still the last among the EU-27 Member States. Romania improved its IDI index mainly due to the ICT access sub-index (growing from 2.40 in 2002 to 5.30 in 2008). Also it had gained over one point on the ICT skills sub-index (from 7.16 in 2002 to 8.37 in 2008), being among the top ten countries worldwide that most increased this sub-index.

#### 4.2. e-Learning development indicators

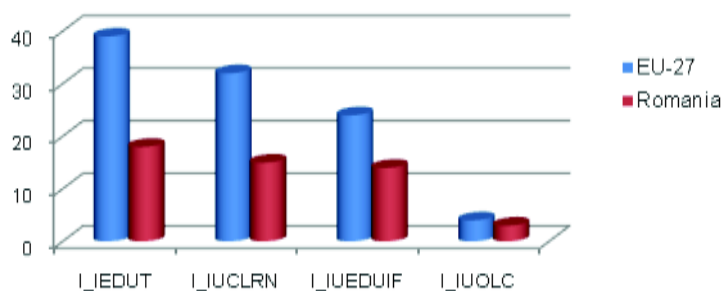
More accurate indicators for assessing the e-Learning development in Romania can be obtained from Eurostat statistics, the website having a section dedicated to Information Society. There are a number of indicators that can give an insight about the population interest towards online education and training, such as: percentage of individuals using the Internet for consultation with the purpose of learning; percentage of individuals who have used Internet for training and education; percentage of individuals using the Internet for seeking information about education, training or course offers; percentage of individuals who have used Internet for doing an online course (of any subject).

**Table 4. e-Learning indicators**

e-Learning indicators (% of individuals)		2007	2008	2009
Individuals who have used Internet, in the last 3 months, for training and education (I_IEDUT)	Romania	12	16	18
	EU-27	30	33	39
Individuals using the Internet for seeking information with the purpose of learning, within the last three months before the survey (I_IUCLRN)	Romania	8	11	15
	EU-27	23	26	32
Individuals who have used Internet, in the last 3 months, for looking for information about education, training or course offers (I_IUEDUIF)	Romania	8	11	14
	EU-27	19	21	24
Individuals using the Internet for doing an online course, within the last three months before the survey (I_IUOLC)	Romania	1	1	3
	EU-27	3	3	4

Source: Eurostat

The values of these indicators show a modest but increasing uptake of e-Learning services over the past few years, but Romania is still at the lower end of the European ranking, having indices that are about half that of the EU-27 averages.

**Figure 1. e-Learning indicators for Romania 2009**

The situation is even worse for the lifelong learning indicator, taking into consideration that the value of this index for Romania is more than 6 times lower than the EU-27 mean and about 20 times lower than

the top EU-27 countries (Sweden – 32.4 and Denmark – 30.2). In the analyzed 2003-2008 period, Romania recorded little or no progress in improving this extremely low level of participation. The lifelong learning indicator refers to persons (aged 25 to 64) who have received education or training within the last four weeks preceding the survey.

**Table 5. Lifelong learning indicator**

Lifelong Learning indicator	2003	2004	2005	2006	2007	2008
Romania	1.1	1.4	1.6	1.3	1.3	1.5
EU-27	8.5	9.3	9.8	9.7	9.5	9.5

Source: Eurostat

The most interesting results came from the commercial sector. According to another indicator offered by Eurostat – “the percentage of enterprises using e-Learning applications for training and education of employees” – Romania is situated among the leading European countries, obtaining values above the EU-27 average. This outcome has been achieved due to the strong competition in the Romanian market, which forced the companies to acknowledge the benefits and advantages offered by e-Learning in training their employees and to invest more in their professional development.

**Table 6. Enterprise e-Learning indicator**

Enterprises using e-Learning applications for training and education of employees	2004	2005	2006	2007	2008	2009
Romania	30	NA	32	42	41	47
EU-27	20	21	21	23	24	24

Source: Eurostat

Even though for this field Romania obtained a remarkable result, the significant differences between our country and other EU-27 Member States regarding the e-Learning development, cannot be ignored. The reasons are complex, such as the lack of adequate infrastructure and the reduced number of offers in the field of education. Ensuring the availability of educational services and resources on the Internet, and increasing Internet use and computers endowment in educational institutions will certainly lead to a workforce that is better prepared, more flexible and more suited to market requirements, having positive effects on labor productivity and competitiveness. This kind of educational system will probably support the lifelong learning, this field being, for the moment, at a very low level in Romania.

## 5. Conclusions

e-Learning tends to become a regular presence in education and training systems, and Europe is making progresses in this area. Since the adoption of e-Learning Initiative in May 2000 and the Action Plan in March 2001, interest in the use of technology in education continued to grow. The objective of improving the quality of training and access to education is a foundation stone for building the new knowledge-based society in Europe. Indeed, e-Learning is viewed as a catalyst for the fundamental changes necessary for the transition to the new economy, and at the same time as a tool for achieving the European objectives for social inclusion, differences eradication, and intercultural dialogue.

Regarding the e-Learning development in Romania, even if the indicators are not at the level of other EU countries, one can observe that the situation has improved and electronic training begins to be used increasingly often. However, given that one of the objectives of the European Union is to create an information society for all by 2010, Romania, as a Member State, must align to this requirement. The first steps were taken through implementing e-Learning projects and defining the barriers that stand in the way of an information society for everyone. In the Romanian educational system – rather conservative – changes occur gradually and it takes a long time until the innovations (especially quite radical, such as those generated by the introduction of ICT) are assimilated.

## 6. References

- [1] European Commission (2010), *Europe 2020 – A European strategy for smart, sustainable and inclusive growth*. Available at [http://www.i4cense.org/sites/default/files/Europe\\_2020.pdf](http://www.i4cense.org/sites/default/files/Europe_2020.pdf)
- [2] International Telecommunication Union (2010), *Measuring the Information Society 2010*, Available at: [http://www.itu.int/ITU-D/ict/publications/idi/2010/Material/MIS\\_2010\\_without%20annex%204-e.pdf](http://www.itu.int/ITU-D/ict/publications/idi/2010/Material/MIS_2010_without%20annex%204-e.pdf)
- [3] Council of the European Union (2009), *A strategic framework for European cooperation in education and training ("ET 2020")*. Available at: [http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/educ/107622.pdf](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/educ/107622.pdf)
- [4] Ministry of Communications and Information Society (2009), *Strategic Plan for 2010-2013*, Available at: <http://www.mcsi.ro/Minister/Anunturi/Plan-Strategic-MCSI-2010---2013>
- [5] National Agency of Civil Servants (NACS) website, Available at: [http://www.anfp.gov.ro/portal/page?\\_pageid=161,239408&\\_dad=portal&\\_schema=PORTAL](http://www.anfp.gov.ro/portal/page?_pageid=161,239408&_dad=portal&_schema=PORTAL)
- [6] Internet World Stats (2009), *Internet Usage in European Union*, Available at: <http://www.internetworldstats.com/stats9.htm>
- [7] European Commission (2007), *It is always a good time to learn*. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0558:FIN:EN:PDF>
- [8] European Commission (2007), *Lifelong Learning Programme 2007-2013*. Available at: [http://ec.europa.eu/education/lifelong-learning-programme/doc78\\_en.htm](http://ec.europa.eu/education/lifelong-learning-programme/doc78_en.htm)
- [9] Internet World Stats (2007), *Romania Internet Usage Stats and Market Report*. Available at: <http://www.internetworldstats.com/eu/ro.htm>
- [10] European Commission (2005), *i2010 – A European Information Society for growth and employment*. Available at: [http://www.mct.ro/anncs\\_web/img/files\\_up/1182404983com\\_2007\\_0146\\_ro.pdf](http://www.mct.ro/anncs_web/img/files_up/1182404983com_2007_0146_ro.pdf)

### Web references:

- <http://epp.eurostat.ec.europa.eu/> - Eurostat website  
<http://www.elearningeuropa.info/> - e-Learning Europa website