



## INTERNATIONAL VIEW ON THE EVOLUTION OF THE E-LEARNING IN THE ROMANIAN HIGHER EDUCATION INSTITUTIONS

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**Abstract:** In the present society, students are highly technology oriented and become the most active unit of society in the usage of digital technology and tools applications. The aim of the article is to present an evolution of the e-learning field on the Romanian education sector. The present paper is based on an exploratory research which analysis relevant articles in the field of e-learning implemented in the Romanian Higher Education institutions. The research question: How was the e-learning integrated in Romanian Higher Education system? The added value of this article is supported by the implementation of various e-learning tools by universities and researchers. Such tools are important in developing knowledge, skills and in facilitating adjustment to digital education.

**Key words:** higher education system, e-learning tools, evolution of e-learning, distance education

### 1. Introduction

Portfolios of each Higher Education institution are essential to deal with competitors, students' changing options and preferences to opt for the most relevant department from a university. The intense competition in terms of services and tools provided by each university increased the number of competing universities in the market which led the students to consider and study the following factors that are influential for their studies: competencies, services and applications provided by each university. Innovativeness is a key part of the Higher Education institutions that not only ensures the survival of the university in such an advanced and competitive environment but also makes it possible for the university to position itself against its competitors. Nevertheless, whilst the international education market is becoming more competitive, Romania itself faces new challenges in order to maintain its position both as an attractor of overseas students and as a provider of high quality higher education.

The e-learning concept was implemented in Romania two decades ago, by the Romanian university centers. Beginning with 1999, the first in-house Java based e-learning software systems appeared, which spread around major university centers Salomie et al. (2000). Nowadays, most of the Romanian universities use e-learning platforms with a low but increasing frequency. The main advantage of these platforms is to support and sustain distance education for a growing workforce in the service sector, as well as to re-train Romanian workforce. The growth of the Romanian IT sector during the past decade has triggered the need for rapid education in a variety of technological areas. According to Evans and Fan (2002) and Evans (2008), many Higher-Education institutions have integrated the virtual learning environments and merge e-learning with traditional teaching methods as part of a blended-learning approach. The added value provided by e-learning allows the students/learners to select when, where and how they study. Baig et al. (2019) define e-learning as a complex IT system that incorporates pedagogical approaches to teaching and learning, assessment, logistics, feedback, administration, audit, quality assurance and communication. Another point of view, regarding the concept of e-learning is sustained by Stoica and Burlacu (2017). They consider that e-learning contains a variety of learning experiences that can benefit from technological support assisted instruction/ mediated by computer,

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digital/ mobile/ online learning, etc. Larsson and Holmberg (2018) consider that innovative learning methods help students to incorporate interwoven modes of thinking. However, an important role has emphasised the significance of courses which are supporting and sustaining the practical, experiential and teamwork learning and critical thinking skills of students, and assist and contribute to the conceptualization and implementation of analyzed and synthesized knowledge. E-learning provides access to online learning and processes, stores and disseminates educational material and supports administrations and communication associated with teaching and learning. Basically, an educational tool refers to a device or any software that is easy to use and the student or teacher using or operating it will not find it hard to work with it. Laurillard (2014) states that digital technologies adjust the education system and the academy can not control the situation. Due to the variety of devices and communication offered by the digital technologies, students could benefit by free online resources, digital literacy, which can influence the ways in which students approach and study concepts and skills.

The research question addressed in this paper is: How was the e-learning system integrated in the Romanian Higher Education environment?

This paper attempts to analyse the evolution of the e-learning adopted by the universities from Romania and summarize the trend underpinning educational organization performances. The research method of the paper consisted in a literature review on articles published about the e-learning system in Romania in international conference proceedings and journals.

## **2. Analysis on evolution of e-learning in the Romanian Higher Education environment**

### **2.1 Methodology**

Given the gap in academic research dealing with the evolution of e-learning in the Romanian higher education system, the relevance of the present article becomes apparent. The small number of academic papers dealing with e-learning evolution in Romanian Higher Education institutions proves the importance of the research presented in this paper. Considering the practical nature of our research objective and the minor studies that might provide some interesting answers, the literature review method was considered the most appropriate for this study. The added value brought by this method determines the direction of research for the researchers and universities who want to develop and implement the findings of this article to e-learning sector. The keywords used to search articles for this research are: e-learning Romania, e-learning tools applied in Romania, e-learning Romanian Higher Education institutions. In terms of content, conference papers and journal articles were selected, from peer-reviewed conference proceedings and journals. The search for literature was narrowed to English language materials, because the international visibility of the Romanian e-learning education was addressed. Considering that the research goal is to analyse the evolution of e-Learning in the Romanian higher education institutions presented by international publications, a wide variety of articles published between 2002 -2019 was selected. The materials that were considered relevant for the research are based on e-learning, education, research and development.

### **2.2. Findings and analysis**

In this section we present the findings from the analyzed papers.

According to Hutanu and Achim (2004), the first Romanian distance education system appeared in 1996. Entitled The Assistance for Restructuring their Economies, the project was supported by the nations of Poland and Hungary. In 1996, several regional distance education centers were founded in Romania: The Centre at the University of Bucharest; The Centre at the "Lucian Blaga" University in Sibiu; The Centre at the West University in Timisoara; and The Centre of the CODECS Foundation in Bucharest.

The Socrates-Minerva project „Romanian-European eUniversity” (RE2U, 2018), implemented in October 2002, is one of the most important projects of the University Politehnica of Bucharest in the domain of e-learning. RE2U is done to support and advertise critical use of ICT to sustain the innovative developments of the Romanian higher education system. The scope of the project is to develop a Romanian virtual university based on innovative learning methodologies and emerging ICTs. Another

example is provided by the Babes-Bolyai University (BBU) in Cluj-Napoca, Romania which, in 1998 founded the Center for Continuous Training and Distance Learning. Through this Center the students benefit from online distance learning courses in psychology and educational sciences, history and philosophy, and political and administrative Studies (Chis et al., 2009).

Google has a two-year contract with the Romanian Ministry of Education, where teachers and students were trained to use online tools such as: Google Mail, Calendar, Drive etc. According to Istrate and Găbureanu (2015), Google trained 15000 teachers in two years. Also, other companies the (Microsoft, Intel, etc.) have contracts with the Ministry of Education to train students and teachers to be practical in the online environment.

According to Ioan et al. (2017) six Teacher Training Centers from Moldavia Region of Romania, coordinated by the Technical University "Gheorghe Asachi" of Iași, try to implement technical teaching, in an environment marked by the digital revolution, by using modern educational tools and ICT technologies in teaching and learning activities. Quality e-Learning applied to technical education activities: engagement of learners; acknowledgement of learning context; challenge for learners and the involvement of practice. Teachers benefit from using the virtual environment provided by Project platform, and which is based on Moodle software. The added value for teachers is provided by the theoretical knowledge and practical skills needed for the use of ICT technologies, by integrating interactive teaching and learning techniques and computer-mediated communication.

Vasiu and Andone (2008) present Interactivia.ro, a platform for non-formal education which targets young people. The platform is based on gamification components, with a perspective to reach a greater engagement. From a conceptual point of view, it is a dynamic web site, where the users can:

- Learn more, apart from formal education;
- Make interactive exercises for a ongoing study. The exercises could contain videos;
- Listen to or re-watch the teacher's explanations for the subjects and themes of their choice;
- Benefit from horizontal development opportunities in other fields than formal ones by approaching subjects that merge many taught disciplines.

Nowadays, the e-learning system has been implemented in many Romanian universities, including the Bucharest Academy of Economic Studies (AES), the Gh. Asachi Technical University of Iasi, the University of Bucharest, ([www.credis.ro/index1.asp](http://www.credis.ro/index1.asp)), The University Babes Bolyai from Cluj-Napoca, the Technical University of Cluj-Napoca (The Virtual University of Cluj-Napoca, [www.coned.utcluj.ro](http://www.coned.utcluj.ro)), as well as the West University of Timisoara and the Transylvania University of Brasov (Dima et al., 2010).

As the theory and practice of e-learning are continuously improving and new technologies (ICT) are being incorporated in teaching methodologies, the largest efforts in the area of e-learning in Romania are directed towards the educational use of ICT (Posea et al., 2006; Trausan-Matu et al., 2005; Istrate, 2007; Vasiu & Andone, 2010; Popescu, 2010).

According to, Dima et al. (2010), there are several Romanian companies which develop software and offer support in designing and building the following e-learning platforms: AeL - Advanced eLearning, an Educational Assistant for High-Schools (provided by Siveco Romania S.A.), ASK e-learning (offered by by InsideMedia), eLearn (by Timsoft Timisoara), Softwin and Expert Learning System (provided by the Softwin Group). Another Romanian e-learning platform is Academia Online (<http://www.academiaonline.ro>), offering courses that are assessed and validated according to specific criteria set by specialists in educational science and psychology from the Association for Excellence in Carrer, the Institute for Educational Science and programmers from InsideMedia.

The University of Craiova offers a high quality learning environment to its 32000 students, in various fields embracing 120 specialisations. Students have access to advanced technological equipment for education. The education offer consists in three cycles of academic studies (BA, MA, Ph.D) that are provided by a teaching staff of over 1000 academics. Among other domains, the institution organises bachelor, master and PhD. studies in the field of Electrical and Information Engineering. The university has a Department of Quality Management and a Department of Distance Education (distance education as a component of lifelong learning). Also, there is a Center for Continuing Education at the Faculty of

Automation, Computers and Electronics. Other major Romanian Universities which provide online courses include the Polytechnic University of Timisoara. Its online platform called UniCampus offers a Mobile e-Commerce course and is intended to develop the first Romanian Massive Open Online course. Such open and free systems resemble international initiatives like Coursera, EdX or FutureLean (Popescu et al., 2011).

During past years, important steps have been taken towards the implementation of eLearning services at the „Alexandru Ioan Cuza” University of Iasi. These included the establishment of the Cisco Networking Academy Centre, a stronghold of distance learning. Moreover, a group of students at the Faculty of Economics and Business Administration of the ”Al. I. Cuza” University initiated a project in the autumn of 2012. Called E-Vis, it represents an innovative element in higher education research and development, as well as a step forward to virtual education in an information society. E-VIS is aimed at creating a virtual research network for communication and cooperation among students and firms, between theory and practice, The E-VIS project facilitates student development and opens the possibility for students to engage in the creation and promotion of innovative activities in ITC and in business (Asandului& Ceobanu, 2008).

As far as e-learning is concerned, it is important to emphasize that, currently, most Romanian universities have special web interfaces which allow them to publish information related to each taught discipline, and which is downloadable and accessible to students.

The authors VătuIU and Popeangă (2009), summarized the main benefits of e-learning, as follows:

- familiarization with e-learning platforms and skills, which facilitates access to the labour market for many graduates/new employees;
- availability of information and the possibility to start a training or course at any given time;
- accessibility of knowledge or information due to its grouping into units or chunks;
- the provision of training for a great number of employees and diminishing transport costs for training, as well as delivery costs;
- the possibility to elucidate post-training questions at any given time;
- the provision of reports on the learning process;
- the possibility to estimate and/or anticipate the effects of training on the organization’s performance.

### 3. Conclusion

In Romania, innovation has become one of the most important means to differentiate a university services and tools education from that of the national and international competitors. Brand image generally plays an important role, describing the set of beliefs which a student holds regarding a specific university. Hence, brand image actually reflects the overall brand content which includes brand name, reputation and overall value. Thus, innovation in features and designs of educational tools has become a priority in students’ choice of a university profile.

Understanding the real dynamics within the Romanian education sector is far from being the only challenge. This research paper presented various educational projects implemented in Romania whose aim was to develop the knowledge and skills of both students and teachers. From the research conducted in this article, it can be observed that e-learning has an ascending trend in the Romanian higher education sector.

The analysis of the articles has shown the main advantages that users of e-learning platforms can benefit from. First, technology and internet access make real-time data available to students. Additionally, teachers gain flexibility to develop teaching modules and examine students in real time.

The exploratory research was conducted based on the keywords, content type and language of the articles on the topic of e-learning tools implemented within the Romanian higher education sector. This

study offered insight into the Romanian higher education system, with the aim to support the institutions which want to implement and sustain the development of e-learning tools.

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