Rethinking Education – DDLUB Case Study

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Abstract

The acronym DDLUB will be used to identify the Department for Distance Learning of the University of Bucharest, Romania. This paper is aiming to present how evolved our department over the last 14 years and how we are preparing to change the education within our institution.

This paper, was written having in mind the very recent EC's initiative, with the title "Rethinking Education: Investing in skills for better socio-economic outcomes", Strasbourg, 20.11.2012, COM(2012) 669(final).

In Chapter 1, named "Introduction", includes a short overview on the last 14 years of DDLUB activity, focused on distance learning. The Chapter 2 presents, in brief, the actual context for higher education in EU and in Romania. The Chapter 3 is case study: Distance Learning and Digital Technologies within DDLUB. The Chapter 4 includes information concerning DDLUB entrepreneurial education.

1. Introduction

The authors are the main "responsible" for designing, implementing and managing the DDLUB, the Department for Distance Learning and Lifelong Learning (continuing education and professional conversion), [1]. This department was established in 1999, by the decision of the University of Bucharest Senate. There is a history behind 1999: the CTI Pilot Centre(1993) focusing on ICT in teaching modern Physics; CSIDD-Phare(1997)- focusing on distance learning, REDEC Centre - TEMPUS JEP(1999)- focusing on distance education, EDUCO Centre - World Bank and Romanian Government (1997)- focusing on continuing education. There were many Socrates LLP programs: i-Curriculum (2002), PUENTE (2006), Wings2Fly (2007), BIT2010 (2008) etc. There were also bilateral projects: RO-DE(1994) called „Using Computers in Teaching Modern Physics"; RO-ES(1998) called EDISTE-"Distance Education through Telematics". Fortunately, all this projects provided financial resources for investments in infrastructure and in human resources. Meanwhile, our team has had access to the expertise of many valuable EU partners. All together are essential keys for DDLUB successes obtained during the last 20 years!

In parallel with Distance Learning and Lifelong Learning, the DDLUB was continuously focusing on ICT in education. Our ICT strategy can be placed at the forefront of the race for quality in education. We took this important decision as a result of some remarkable events: the first one was the book "Megatrends" written in 1982 by John Naisbitt [2], translated in 57 languages. A list of ten points was published; the number 1 on this list was "**from Industrial Society to Informational Society**". The authors red this book in Romanian, during 1989 winter and decided to take this vision into account!

The second event was the Bargeman Report, "Europe and the Global Information Society", 1994, [3]. One of the most important EU strategy was defined through this document. Also, we have to mention other EU initiative in the domain of Information Society: eEurope, eEurope 2002, eEurope 2005. An important step forward was "i2010 - A European Information Society for growth and employment" [4]. Nowadays, we are working in the frame of "Digital Agenda for Europe 2020", [5].

The final comment in this chapter is aiming to highlight the main DDLUB lines of action: (i) DL-distance learning study programs accredited by the national authority ARACIS, [6]; (ii) ICT in education. These might be considered as "best practices" in the field of "institution building".

2. Rethinking education - the EU and RO context

Nowadays, DDLUB has two sources of inspiration: (i) the well known concept "21st Century Skills" which can be illustrated by Fig.1, taken from [7]; (ii) the European Commission initiative on "Rethinking Education" [8]. We used the TRENDS service from Google [9] to find how much interest exist in those subjects. The Google trends for "21st Century Skills" is presented in Fig.2.
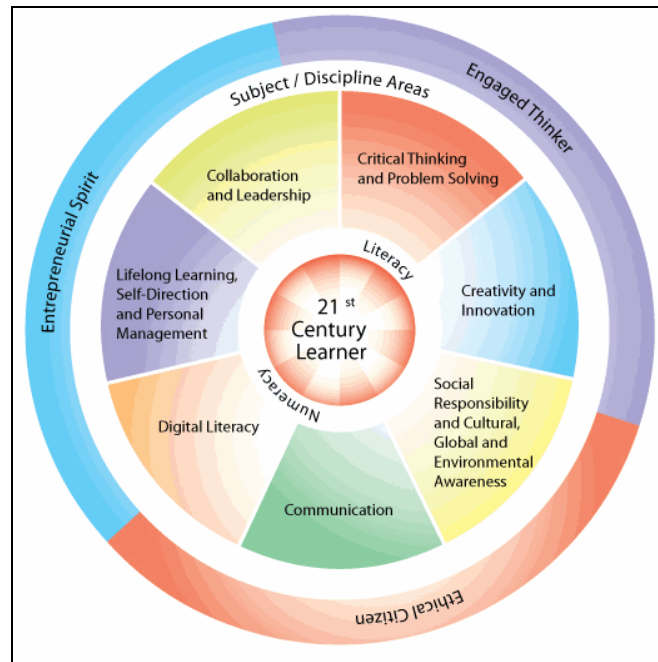
Figure 1. 21st Century Skills [7]

Figure 2. Google Trends – "21st Century Skills/Education"

As it concerns the EC initiative "Rethinking Education" [8], it was launched in 20 November 2012 and the interest seems to be constant during the last months, Fig.3.

Figure 3. Google Trends – "Rethinking Education"

The country analyze for Romania, [8], the sub-chapter "Key findings on benchmarks and skills levels" reveals aspects that are not satisfactory: "...Romania performs below the EU average in both Europe 2020 headline indicators"; "...there is also a significant mismatch between the education offer of universities and the labour market needs and this is also visible in the unemployment rates which are particularly high among young university graduates"; "...ICT skills of adults are low" etc.

3. DDLUB case study: Distance Learning and Digital Technologies
In this chapter, the authors would like to present some of the achievements in the field of DL and the Digital Technologies (DT) implemented within DDLUB (early 2013).

3.1 Distance Learning – rethinking, designing, implementing
The main DDLUB activity is devoted to DL study programs as an alternative to traditional education (face to face, on campus). This type of education is relatively new in our country (2000+). Nowadays, in Romania, there are almost 100 higher education institutions and almost 50% of them (including DDLUB) have included DL study programs in their educational offer. The DDLUB students, have access to modern PC laboratories, with multi-media facilities, LMS/VLE with high speed Internet connection. What is very important: these DL study programs run only if they have official authorization from a national authority ARACIS, The Romanian Agency for Quality Assurance in Higher Education [6]. All the DDLUB study programs are accredited by ARACIS. Consequently, the DL Diplomas are officially recognized by the labour market and they are fully equivalent with diplomas obtained through traditional full-time, on-campus study programs.
Just few words about a very new study program "BA Degree (240 ETCS) in Information Technology". This program was started in 2005, as soon as Romania has officially adopted the Bologna Process. The implementation was helped by the cooperation with professor Michael Auer from Carinthia University of Applied Sciences, School of Systems Engineering and professor Dumitru Dan Burdescu from University of Craiova, Department for Computer Science. The cooperation was possible due to Erasmus CD LLP project named "BIT2010-Joint Bachelor Degree in Information Technology". The curriculum was in accordance with the requirements of the labour market: the IT domain. There, we found a niche where there is a lack of personnel (~40% are free jobs). This project has 7 years in advance of the Commissioner Vassiliou's statement (European Parliament, 20 November 2012): "...youth unemployment is approaching 23% across Europe and at the same time we have over 2 million unfilled job vacancies", [8].
DDLUB has presented some of the its DL best practices during the workshop "Best practices and case studies of Distance Learning (DL) in public and private universities", in Romania [10].
The 2013 educational offer of the DDLUB includes: BA Degree for "Teachers for Pre-Primary and Primary Schools"; MA Degrees in "Educational Management", "Educational Counselling" "ICT in Education". Meanwhile, within the EU/RO context, we understand that we still have a lot of work to do!

3.2 Digital Technologies before 2010

We do not intend to present all the details of our work related to DT, during the last 20 years; a selection will be made. So, the authors have established the first PC laboratory in our university (1993, IBM type 80286 desktop computers, 1 MB RAM, 20 MB HDD!). We will be grateful to Professor Reimer Lincke from University of Kiell, DE, during the period 1993-2003: we were focused on the "virtual instrumentation" and "virtual experiments" in Physics; external interfaces for data acquisition were designed and produced; PC software for driving these interfaces allowed us to connect the PC to the physical interface and to real experiments(in Physics) in order to measure, to collect and analyze the data. After that, the data are processed and included in different academic or research reports, [11-13]. Also, the authors have discovered and implemented, within University of Bucharest, the "Interactive Physics(IP)" software which allow students to run "IP simulation" and to obtain valuable experience (through varying the input parameters) which cannot be obtained in a real laboratory. Valuable IP pieces of software were created and used by the staff and the students.

Other results, based on bilateral collaboration with EU partners include: (i) EDISTE – Project, „Distance Education through Telematics", 1998 – 2000, together with professor Mario Barajas from University of Barcelona, ES; (ii) training seminars on "WEB Technologies", 2003-2007, together the SDU Team from ICTP Trieste etc.

3.2 Digital Technologies after 2010

The authors have implemented the concept of "cloud computing" including SaaS, PaaS, IaaS which are clearly explained in [14]. DDLUB has extensively used a "distributed VLE" having as component some of the most popular electronic platforms: GMail, Google Calendar, Google Groups, Google Docs/Drive, Google Sites, Google Moderator, Google Plus. Those web services are free of charge for education. Example: on 22 March 2013 (just few days before the FOE deadline of 25 March), during the laboratory activities, the students enrolled for the BA Degree in Pedagogy, having minimum experience in IT professional skills (but with a lot of experience in Facebook!), have used the Google Drive Document to perform "CHAT" activity; a picture of this event is presented in the Fig.4.
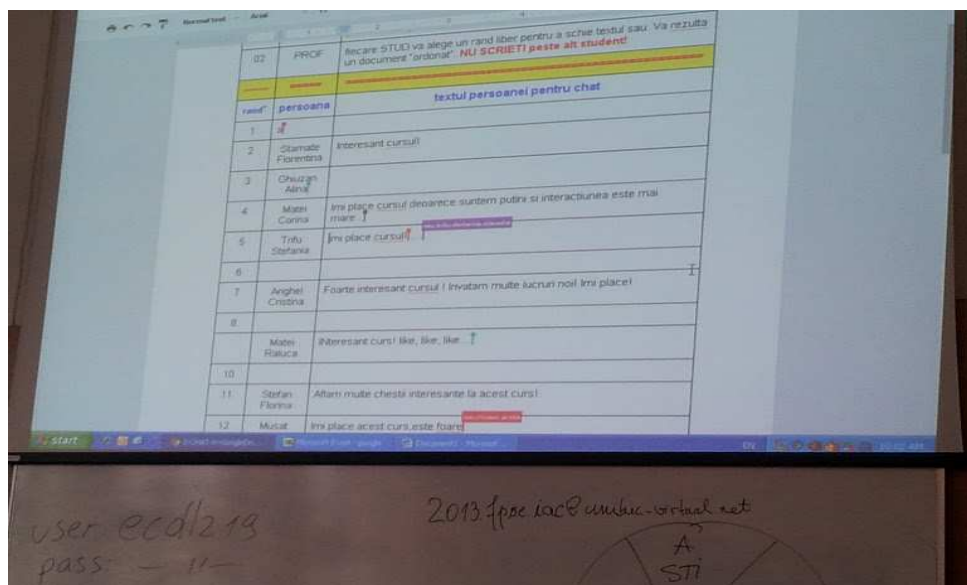

Figure 4. "CHAT" activity based on Google Drive Document

Also, the students (with entry level ICT skills) have experienced CISCO Webex Meeting, the Fig. 5.

Figure 4. CISCO Webex Meetings (two sessions)

4. Entrepreneurial Education promoted by DDLUB

DDLUB has taken into consideration Recommendation 2006/962/EC of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning [15]. The Reference Framework sets out eight key competences: (1) Communication in the mother tongue; (2) Communication in foreign languages; (3) Mathematical competence and basic competences in science and technology; (4) Digital competence; (5) Learning to learn; (6) Social and civic competences; (7) Sense of initiative and entrepreneurship; (8) Cultural awareness and expression.

DDLUB has designed and implemented a project [16] financed by ESF(POSDRU) and RO-Government [17]. The main objectives were: "to implement and to professionalize a network of regional centers dedicated to promoting entrepreneurial culture; (ii) development of entrepreneurial and managerial skills of the target group to improve current performance and training people to develop entrepreneurship and to generate an increasing number of businesses". One EU Partner [18] brought to the project his expertise in "Outdoor Education-OE". We really believe that OE events [19], organized within this project, gave the students the opportunity to realize the role of the risk and adventure in everyday life. We consider this as an example of very good practice. One simple conclusion extracted from OE events: One simple conclusion extracted from OE events: ALL the students enjoy OE events and, any person needs at least two events per year.

Conclusions

This article reveals one of the main strategy of DDLUB: the continuous focus on "rethinking education"; even in the authors were educated in the traditional face-to-face system of education, they designed, implemented and developed the DL as alternative system of education.

Looking backward, to the last 14 years (1999-2013), we can identity very good practices within DDLUB and we are happy to see that many of our actions were in line with these European / international evolutions and with future trends.

The final comment is aiming to highlight the main DDLUB lines of action: (i) **rethinking continuously, designing, implementing DL-distance learning** study programs (according to the needs of the labour market and, accredited by the national authority ARACIS [6]); (ii) **ICT in education**, including all kind of digital technologies incorporated in a modern education targeted to the **21st Century skills**. These achievements can be considered as "very good practices" in the area of "institution building".

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