

The 11th International Scientific Conference
eLearning and Software for Education
Bucharest, April 23-24, 2015
10.12753/2066-026X-15-007

ADAPT2JOBS - A NEW LEARNING ECOSYSTEM

Manuela EPURE, Ruxandra VASILESCU

*The Romanian Academy of Scientists, 54 Splaiul Independentei, sect.5, code 050094, Bucharest,
Central Research Institute, Spiru Haret University, 13 Ion Ghica street, sect.3, code 030045, Bucharest, Romania,
mepure.mk@spiruharet.ro, r.vasilescu.monline@spiruharet.ro*

Lorena MIHAES

*University of Bucharest, 36-46 M. Kogalniceanu Street, sect 5, code 050107, Bucharest, Romania
lorenamihaes@gmail.com*

Abstract: *Adapt2jobs is a project financially supported by the **Romanian Government and the European Social Cohesion Funds**, with a view to investing in human resources. It simultaneously aims at developing a package of labour market-oriented courses, and at transferring them into the virtual space offered by e-learning technologies. To do that, brainstorming sessions with important recruitment representatives were organized, which resulted in a Mind Map describing the employers' requirements. The course package proposed by the experts is especially tailored to meet these requirements. It is structured on three domains: social sciences, economics, and art and architecture. Its digital form is meant to construct a new learning ecosystem, as the students who are part of it will not only improve their knowledge of the particular domain where they are enrolled, but their learning skills, creativity and effectiveness will be enhanced. The proposed courses are approached by the 'flipped classroom' method, thanks to the special e-learning portal developed during the project, a form of learning which focuses more on the students' better understanding and ability of application of the knowledge provided online. The students study the contents of the uploaded course and in class they ask questions and apply the acquired theoretical knowledge guided by the teacher. Thus, the teaching/learning process is a more personalized one, as each student benefits from the specific guidance relevant for him/her. It is a method that draws from and fosters the concept of 'active learning', reversing the traditional lecture-homework method to the best interest of the student. Both individual research and team effort of solving problems is encouraged, with a considerable contribution of student's creativity.*

Keywords: *adapt2jobs; e-learning; labour market-oriented courses; Mind Map; flipped classroom method.*

I. IS ADAPT2JOBS A NEW LEARNING SYSTEM?

Nowadays, the learning environment is continuously changing, and this requires a constant revision of the teaching methodology and even a new approach from the teacher's perspective. Moreover, today's students are connected 24/7 to the Internet and they explore and learn from it, having almost unlimited access to worldwide knowledge, and that means a lot in terms of learning efficiency. The challenge for the teachers is to find attractive and easy to use methods and tools, which can make the learning experience enjoyable and efficient most of the time. Building new skills and competencies using computer-based learning solutions should focus on student-centered learning frameworks, and that means to be capable of delivering content adapted to each student's learning profile. Employers are interested in graduates who have strong practical-oriented skills, able to work in various environments, flexible and adaptive to finding solutions to the company's current problems. In Romania of the past decades, employers' representatives have become vocal in criticizing Higher

Education for delivering unprepared graduates, or rather insufficiently prepared when it comes to practical skills and competencies, and having a low initiative and lack of creativity profile.

1.1 Why a new approach to the HE's curriculum?

Recent studies[1] have shown the fact that Romanian graduates have high standards in terms of employability, looking for international companies, good salary and career development perspectives. Over 7,400 Romanian students, of whom 2,300 Business students, participated in a Trendence Eurobarometer Survey, conducted from November 2013 to March 2014. They indicated three leading banks as most desirable employers, based on the monthly salary and training perspectives offered.

Therefore, a more extensive approach is needed : universities should customize their teaching programs not only by using innovative computer-based teaching/learning methods and tools but also, establishing a structured University-Business cooperation that might enable the universities to better adapt their courses to the job market requirements. The European Commission, DG Education and Culture Study[2] on the cooperation between Higher Education Institutions and Public and Private organizations, revealed the fact that the cooperation between HEIs and business in Europe is still in the early stages of development. Why is that? Mostly because UBC[3] is influenced by a series of factors such as: perception of benefits coming from UBC, and barriers to UBC, despite the fact that UBC is expected to deliver a high impact on economic development and contribution to society, in general. The UBC Ecosystem, created by Davey & Galan-Muros, 2011[4], illustrates the fact that UBC seen as a result, is strongly dependent on the influencing factors' action, the 4 pillars foundation and key stakeholders' willingness to get involved in the long run.

Based on the results of the above-mentioned study, which stated as one of the eight ways in which HEIs and business cooperate, as "curriculum development and delivery", we have written, submitted and were financed to implement the **Adapt2jobs project. The Human Resources Operational Program (POSDRU), EU Social Cohesion Funds**, represents the most appropriate financing opportunity to build, develop and benefit from the UBC in Romania.

The eighteen-month grant project Adapt2jobs started mid-May 2014 with an extensive study on the existing situation; the curricula evaluation against the job market requirements was undertaken and some relevant outcomes emerged as crucial: more focus on practical issues, better communication skills, the need for a wide range of market-oriented courses, the enhancement of the student's creativity and innovation.

1.2 How have we been doing it?

The Adapt2jobs project (**POSDRU/156/1.2/G/141179**) started with a brainstorming session organized at the launching conference (held on 26-27 June 2014). Participants in the conference came from different industry and education areas, being a diverse and well represented group of stakeholders, such as: university and high school teachers, students, media representatives, employers associations (The Association of Romanian Businessmen), researchers on education, HR staff of important employers, headhunting companies, all together being interested to identify what competencies and skills are required on the job market and what profile the successful candidate should have. The debate was vibrant and, most of all, a Mind Map was elaborated - The profile of a successful candidate (see fig. 1).

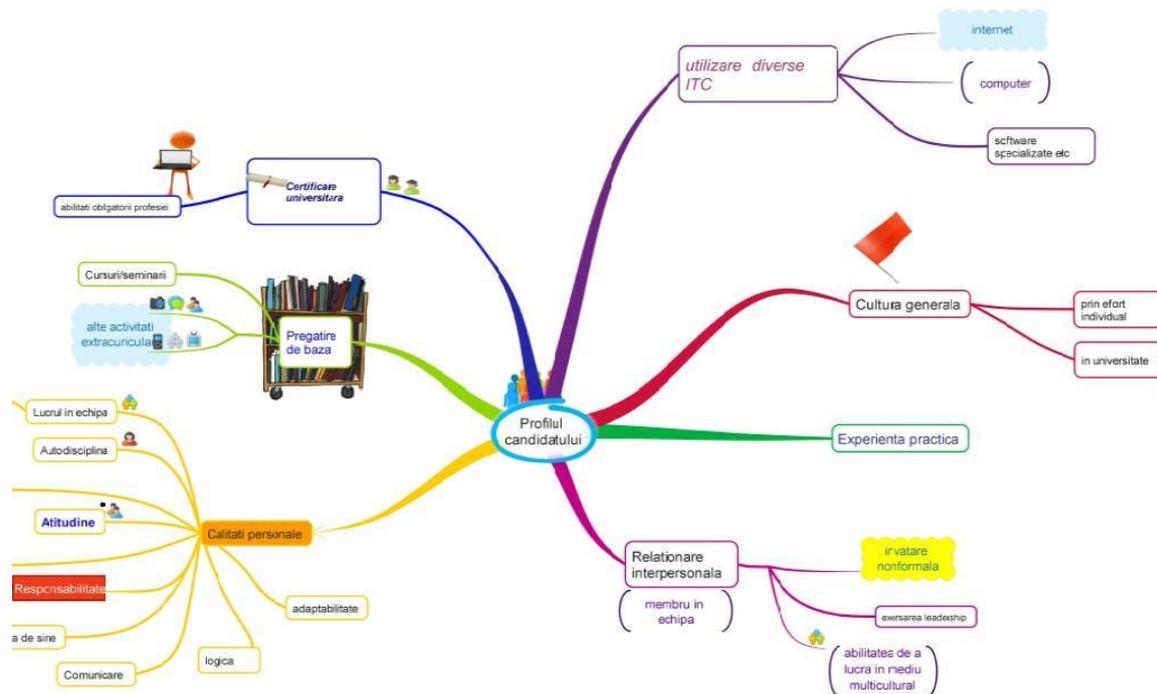


Figure 1. The profile of a successful candidate
(source : M.Epure's representation based on brainstorming conclusions)

According to the majority, the key success features are:

- strong professional education background - undergraduate & postgraduate courses taken and the certification of the competences acquired, practical skills and problem solving orientation;
- ICT literacy based on the usage of modern computer-based tools: multimedia communication, specialized software, open access to information;
- general background - acquired in school or self-acquired;
- a certain personality profile based on: attitude towards work, self-discipline, sense of responsibility, adaptability and logical approach to current issues, self-esteem;
- interpersonal relationships - working efficiently as a team member, the ability to perform in a multicultural environment;
- relevant practical experience and volunteering.

Starting from this qualitative research endeavor, we developed a quantitative research - an online survey was conducted among students and employers in order to identify the perception on the recruitment and selection process on the job market aiming to emphasize the matches between students' expectations towards getting a good job and employers' exigencies versus new university graduates as job market incomings.

Studies of students' perception of the level of knowledge acquired during university indicate a strong orientation towards theoretical acquisitions (see fig.2). Moreover, students realize that teaching is geared towards student needs (fig.3), which is further evidence of the real commitment of professors towards student-centred teaching.

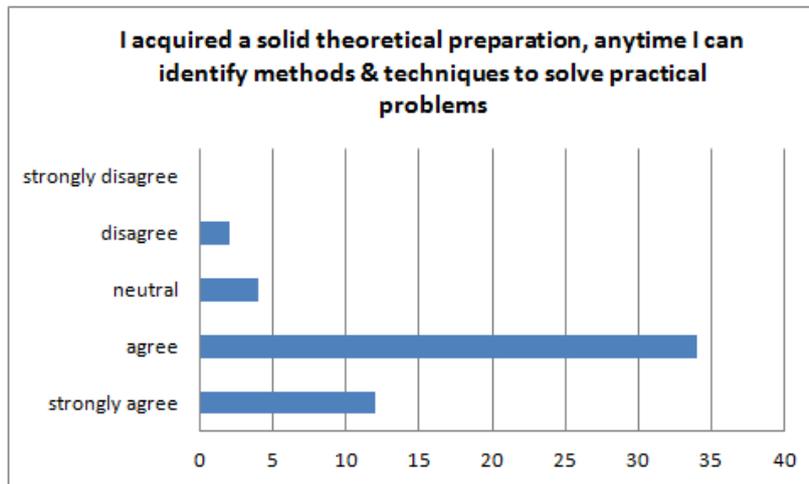


Figure 2. Student perception of theoretical acquisitions during university
(source: Online survey conducted among undergraduates from Spiru Haret University)

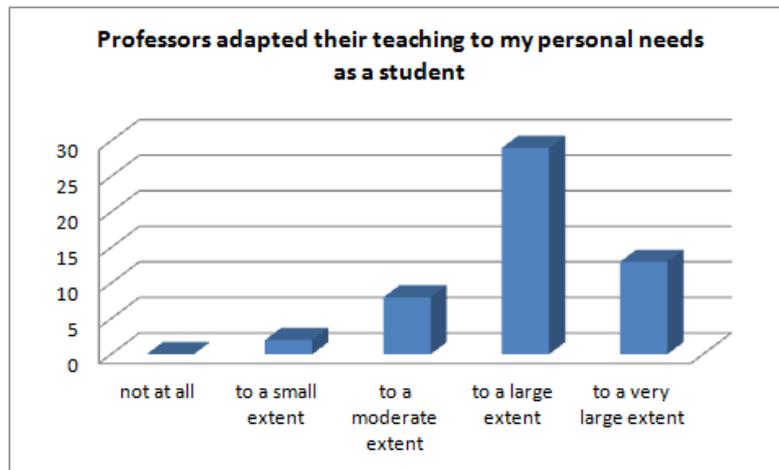


Figure 3. Student opinion of professors' commitment towards student-centred teaching
(source: Online survey conducted among undergraduates from Spiru Haret University)

Students appeared to think of themselves as prepared to tackle practical issues at work (fig.4), however this self-sufficient attitude failed them when faced with tasks given by employers.

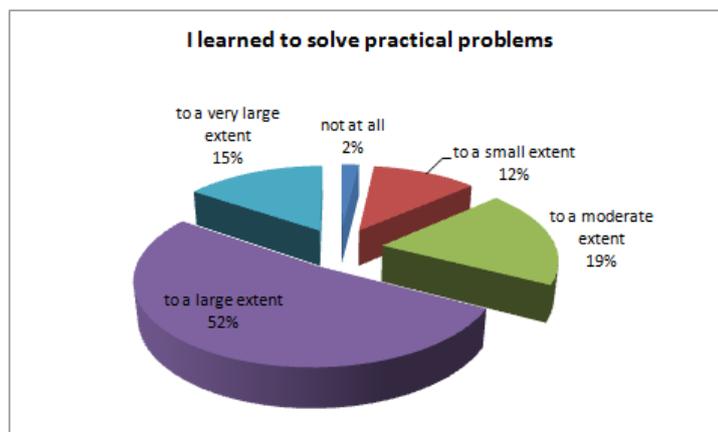


Figure 4. Student self-evaluation of their practical skills
(source: Online survey conducted among undergraduates from Spiru Haret University)

The study results will be soon displayed on the project portal, but, nevertheless, the most important conclusions were the following: students have high expectations in terms of the job-seeking

process duration (less than 6 months after graduation), employers are attracted to experienced graduates, able to integrate and to perform, in less than 6 months after the employment date.

II. WHY IS ADAPT2JOBS A POTENTIAL NEW LEARNING ECOSYSTEM?

2.1. What is the purpose of Adapt2jobs?

Adapt2jobs is a project which simultaneously aims at developing a package of labour market-oriented courses, and at transferring them into the virtual space offered by e-learning technologies. If in nature an ecosystem is defined as a biological community in which living organisms interact with the physical environment, our vision of a learning ecosystem is one in which the input data is analysed and processed and an output is generated under the form of seven digital courses. What is of utmost importance, however, is the interaction inside this learning ecosystem, which leads to forming students' practical competencies.

The starting point of Adapt2jobs, or the input data, has been represented by a detailed analysis of the employers' requirements when hiring a university graduate. A conclusion was drawn by applying three different types of questionnaires, one for each domain targeted by the project (economics, art and architecture and social sciences). It has been concluded that, while employers appreciate the good theoretical background of graduates, they consider that the latter lack the practical competencies required by the labour market. The brainstorming sessions with important recruitment representatives resulted in a Mind Map describing the employers' requirements. In order to hear both sides of the story and form a correct opinion about the current state of affairs, students have also been asked to complete a questionnaire. It has shown that students generally blame school for not providing them with enough practical competencies, which might make them competitive for the labour market. Thus, it has become clear that an improvement should be made in the existing curricula.

2.2. What solutions do we propose?

The first step undertaken by the experts has been to identify the particularities of the curriculum for each of the three domains. Taking into account all the data gathered, they have proposed seven courses in traditional format, but whose subject-matter has been adapted in order to tailor the employers' requirements, as emphasized by the questionnaires. Here is the list of the seven courses:

- ★ *Strategies of communication for personal development*
- ★ *The management of cultural projects*
- ★ *Budget and treasury*
- ★ *International finances*
- ★ *The study of the market conjuncture*
- ★ *Contemporary technologies in architecture*
- ★ *Entrepreneurship and visual communication.*

However, even if the content of the courses has been revised and adapted, a further step was needed: the conversion of these classical courses into the modern format offered by the virtual space, which would turn learning into a more pleasant and efficient activity.

In today's world, where technology reigns supreme, one of the best solutions is the use of computers in the activity of teaching and learning. *Spiru Haret* University has been using the Blackboard platform for many years and this platform has proven its effectiveness: the student-professor interaction is more rapid and efficient, students can assess their knowledge and can have an immediate feedback, courses can be electronically read and students can access educational portals and virtual laboratories, to mention just a few of the advantages.

Our partner, SIVECO, on the other hand, has had much experience in advanced eLearning, namely AeL Academic, eLearning solutions for education. The cooperation between the two partners, the former with expertise in academic teaching and the latter in integrated eLearning solutions, has given birth to the above-mentioned learning ecosystem. The output of this system has been the digitalization of the seven traditional courses. The virtual medium will provide students with the opportunity of learning better because they can spend as much time as they want on certain subjects, while only browsing the less difficult ones, they can repeat more difficult parts and they have more time for practice. To put it in a nutshell, the learning process will be optimized. It is not only the students who benefit from these multi-media courses. Professors are allotted more time for each student, making student-centered teaching more palpable. In order to prove that all these advantages are real, the courses will be piloted by 210 students for a period of several months, at the end of which they will be required to write a small project based on the subject-matter of the course they have enrolled for. This is a practical form of assessment, aimed at checking real understanding rather than simply assessing the accretion of information on certain subjects.

III. WHY THE 'FLIPPED CLASSROOM'?

3.1. Why should new courses claim new methods?

The multi-media courses are intended to come with a new teaching/learning solution, to match the novelty of the whole project. The approach to the education process is aimed to be a different one, rather a *reversed* one. The pedagogical model embraced by Adapt2jobs and the most suitable to the project purposes is the so-called 'flipped classroom', also known as 'inverted classroom', 'reverse teaching' or 'the Thayer method'. It is a constructivist-based model which shifts the responsibility of education from the teacher to the student, challenging the student to use his/her knowledge background, personal motivation, critical thinking, analysis and synthesis skills in the learning process. On the other hand, it is a shift from the passive typical lecture-assignments class to active learning, with a focus on higher order thinking skills of the students. According to Sankey and Hunt (2013): 'the important feature of flipped classroom is not that they are new, or that they represent a move away from traditional lectures, or even that they use technologies. Rather, the issue is that flipped classroom approaches combine pedagogy and learning technologies in ways that extend to large numbers of student's opportunities for deep learning through application and consolidation'. (p. 786).

The last several years it has been successfully applied in universities of the USA and Australia and it is rapidly gaining momentum in Europe. In Romania, it is less known, though it is a form of blended learning, a method already familiar in Romanian education.

So why is 'flipped classroom' actually special? The approach is also multi-media based but the acquisition of knowledge is reversed in the sense that content is gained outside the class at the student's own pace and time, and application, analysis, synthesis, evaluation occur in class, with the support of the teacher-instructor, and immediate consultation with the peers. Thus, the students have the opportunity of organizing the new knowledge, according to personal relevance and for future personal reference, as Bransford, Brown and Cocking asserted in *How People Learn* (2000):

'To develop competence in an area of inquiry, students must: a) have a deep foundation of factual knowledge, b) understand facts and ideas in the context of a conceptual framework, and c) organize knowledge in ways that facilitate retrieval and application' (p. 16).

Then, is lecturing still important? The flipped classroom model is not a 'lecture-less' method! A solid theoretical knowledge background has always been expected and appreciated by the employers, according to their criteria of employee selection, as long as theory is harmoniously correlated with practice.

3.2. How will this work?

Students view at home, at their own pace and time, the lectures, either short recorded videos, videos recommended by the teacher, or a podcast, or other audio format, a content created by the instructor and posted online accompanied by a brief online quizz, for immediate self-assessment. Once

the student has been exposed to the lecture theme, he/she is challenged to inquire about the content, to apply the knowledge, to interact with the peers and seek support of the teacher-coach. These hands-on activities imply first individual inquiry and then collaborative effort, enhancing critical thinking, creativity and sense of responsibility with students. Project-based assessment is a natural completion of such a course, which places the student in control of the teaching material. The cognitive effort, the reflection on the lectures (sometimes, revisited, if need be) - almost impossible during a traditional class, where students takes notes automatically, without stopping to reflect upon the information - develop in the student the skills of mastering the prescribed material and applying it, not simply covering, memorizing and seeking to understand it.

Educational technologies are a pre-requisite of this educational approach. The partner of Spiru Haret University in the Adapt2jobs project, SIVECO S.A., has been for several years the market leader in e-Learning solutions. In this project, a special portal will be developed and maintained for the use of the target group of students who will pilot the above-listed courses, providing for the students access to the materials displayed only for the one course they enlisted. The portal will be used in the flipped classroom by the students to:

- ❖ access the learning material, under the form of an attractive summary of the lecture, readings, multimedia, lecture in extenso, if required etc.
- ❖ opportunity for interaction (discussion tools)
- ❖ providing updates, announcements, earning and assessment schedule
- ❖ provide immediate feedback for teachers and students
- ❖ monitor progress or, on the contrary, the ‘at risk’ students.

While this model is a learner-centred one and appealing to the higher level cognitive skills, some risks may also be considered. It implies careful preparation both of the students, and of the teacher. It may mean additional work and skills for the teacher-instructor-coach and the application of the ‘flipped classroom’ model will be in-depth presented, described, explained in specially-prepared seminar sessions, to be properly understood by the target group. The change of roles of the students and teacher may not be heartily embraced either by the students or by the teachers, because:

- students should take more responsibility for their own learning and study individually and be able to apply the knowledge gained. Some students may not have attained this kind of ‘learning discipline’ and motivation to meet the requirements of the new model.
- some teachers may be reluctant to the role of moderators and facilitators, or learning coaches, no longer main actors of the educational process, and fail to understand that lectures are still important and that facilitating active learning is as important and engaging a role as the traditional one.

IV. CONCLUSIONS

A higher education provider, Spiru Haret University (USH) and an e-Learning solutions provider, SIVECO S.A., have joined forces in order to meet the new requirements of the job market in point of graduates’ competencies. The project was welcome and is actually supported by the Romanian Government authorities in the line of education, in an attempt to bridge the gap between theory and practice and perform a meaningful change in education in the service of society. Educational technology has become a constant presence in nowadays education, as in the current generation of students’ lives. The project Adapt2jobs aims at reconceptualizing higher education process both in course design, and in the pedagogical model (‘flipped classroom’) and e-Learning solutions. Seven new courses are being designed or redesigned so as to match the new teaching/learning model, adaptable due to its flexibility to each of these course in economics, arts and architecture, social sciences. The ‘flipped classroom’ model is a blended learning method which fosters a combination of methods or strategies to improve interactivity, problem-solving, active learning (e.g. gamification).

The project is still young, but it has been developed placing the students’ needs and expectations in the top of the list of our concerns, considering the new profile and role of the student and of the teacher in the student-centered approach to education.

Acknowledgements

This article and the whole project Adapt2jobs (*The adaptation of the curriculum and the educational package to the job market requirements*, POSDRU/156/1.2/G/141179) are co-financed from the European Social Fund through the Human Resources Development Sectorial Operational Program.

Reference Text and Citations

- [1] http://www.trendence.com/fileadmin/trendence/content/Unternehmen/Rankings/Embargo_BUS/tGrad_Romania_2014_Ranking_Business.pdf
- [2] The state of European University-Business Cooperation
- [3] UBC= University Business Cooperation is defined as all types of direct and indirect, personal and non-personal interactions between HEIs and business for reciprocal and mutual benefit including collaboration in R&D, personnel mobility, commercialisation of R&D results, curriculum development and delivery, LLL, entrepreneurship and governance
- [4] Davey, T.; Baaken, T.; Galán-Muros, V.; Meerman, A. (2011): Study on the cooperation between Higher Education Institutions and Public and Private Organisations in Europe. European Commission, DG Education and Culture. Brussels http://ec.europa.eu/education/tools/docs/uni-business-cooperation_en.pdf , accessed at 23.01.2015
- [5] POSDRU/156/1.2/G/141179 - The adaptation of the curriculum and educational package to the job market requirements (Adapt2jobs) www.adapt2jobs.ro
- [6] Sankey, M.D, 2013. Using technology to enable flipped classroom whilst sustaining sound pedagogy. *In Electric Dreams, 630th ascilite Conference*. Macquarie University, Sydney. Page 786
- [7] Bransford, J.D., Brown, A.L, and Cocking, R.R., 2000. How People Learn: Brain, mind, experience and school. , National Academy Press, Washington DC. Page 16.
- [8] Kadry, S. and, El Hami, A, 2014, Flipped Classroom Model in Calculus II , in *Education 2014*, 4(4): 103-107.