

ADAPTING TEACHING AND LEARNING TO THE LABOUR MARKET REQUIREMENTS - A ROMANIAN CASE STUDY

Manuela Epure¹, Lorena Clara Mihaes²

¹ *Spiru Haret University and The Academy of Romanian Scientists (ROMANIA)*

² *The University of Bucharest (ROMANIA)*

Abstract

Nowadays, the labour market has become a highly competitive environment, especially for young graduates. More than 20% of the EU (European Union) young graduates are unemployed and, despite their educational background and performances, it is ever more difficult for them to prove that the competences and skills acquired during higher education years are those needed by the employers. This disturbing percentage comes as no surprise since the last years' financial crisis has brought about an increase in the overall unemployment rate.

Recent OECD (Organization for Economic Cooperation and Development) studies shed light on a crucial question which arises now: will a skill upgrade in the European labour force help to increase the employment rate, especially among the young? In the digital age we have been living for some time already, possessing digital skills is, undoubtedly, highly regarded by potential employers. Nevertheless, according to a newly developed Digital Skills Indicator, based on the Digital Competence Framework, 23% of the EU population has no digital skills (2012), and 47% of the EU population has insufficient digital skills.

In this context, the idea of adapting teaching and learning to the labour market requirements was materialized in an 18-month European-funded project (www.adapt2jobs.ro), which is aimed at developing new teaching tools (computer-based instruction) in order to upgrade not only basic competencies and skills corresponding to the higher education study field, but also to develop ICT (Information and Communication Technology) skills, by innovatively delivering knowledge content. The partnership between a university and an ICT company has been materialized in seven digitized courses, available on an online platform especially designed for a group of 210 students. These students have been selected in order to test and assess the teaching tools developed during the implementation months of the project. Blended learning gives our students the opportunity to acquire knowledge and to experience computer-assisted learning. During the testing period, students will complete an online survey which focuses on their learning performances. Learning effectiveness indicators will be equally designed, tested and measured.

Once the results of the project available, they will be analyzed and charted and will lay the foundation of the next generation of higher education programmes offered by the university, in line with the labour market changes and requirements. This will mean teaching what our graduates will need in their future professional career, and, at the same time, it will mean boosting innovation and creativity in teaching methods.

Keywords: labour market, competencies, skills, computer-based instruction, digitized courses.

1 THE EUROPEAN UNION LABOUR MARKET - A GENERAL OUTLINE

The past years' economic downturn has brought changes to the EU (European Union) labour market so that what we can see nowadays is a highly competitive environment where many people no longer fit. If one were to consider the unemployment rate in EU in the last 15 years, a disturbing picture would reveal itself. According to Eurostat statistics, at the beginning of 2000, more than 20 million people were unemployed, which meant around 9.1% of the total labour force in the EU-28 [1]. The early 2005 saw a period of steadily decline in unemployment rate. However, it only lasted up to 2008, when the situation changed for the worse. In the mid-2010, the unemployment level went up again, to 9.6%, the highest rate registered since the year 2000. Unfortunately, this upward tendency did not stop at this level, as in the first part of 2011, the unemployment rate began to increase again, reaching an alarming 10.9 in 2013. The end of 2014 was marked by a drop in the unemployment rate to 10.7. The following figure shows the two peaks of unemployment since 2000 up to the present-day: the first high

point was registered in 2009-2010, but the climax was reached in mid-2013. By comparison, the US unemployment rates have been constantly declining since early 2011.

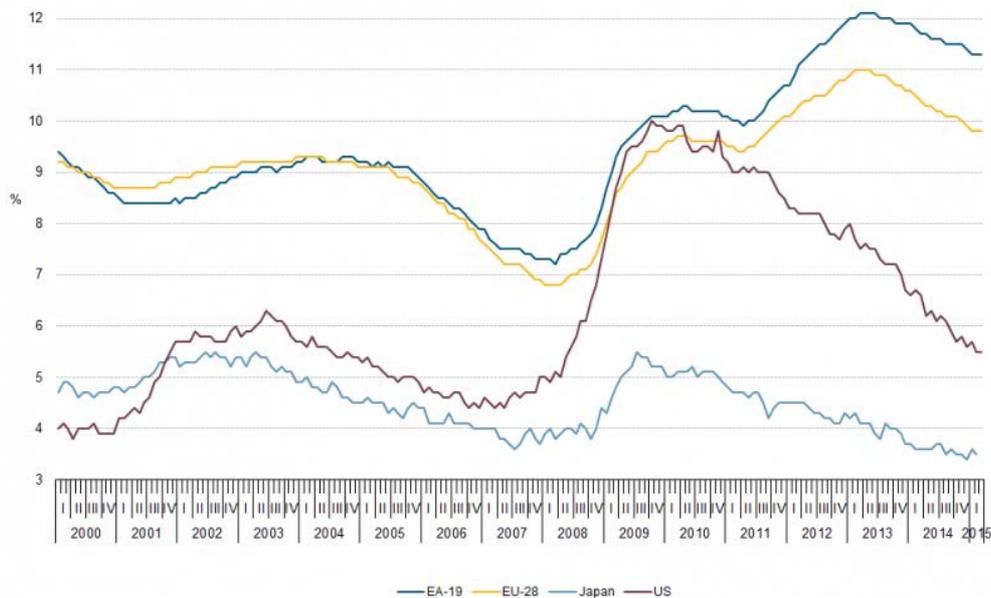


Fig. 1 Unemployment rates EU-28, EA-18US and Japan, seasonally adjusted January 2000-March 2015 [1]

Against this bleak background, youth unemployment looms large. A jobless generation, the young strive to make a living and sometimes they fail to do so. The Japanese have already coined a word for the 700,000 young people who literally refuse to leave their parents' houses, more often than not for lack of job opportunities, thus withdrawing from society: they are the *hikikomori*. Their European counterparts are no better-off. If between 2005-2007, the unemployment among the young was 15.1, the economic recession of the following years sharply increased it to 23.6 (between 2008-2013). Last year's statistics, however, showed an upward trend in employment, reaching a more relaxed, yet still uncomfortable 23.1 percentage by the end of 2014 [2].

The lack of economic growth greatly accounts for the declining trends in youth employment during the crisis [3]. According to this study, the high levels of youth unemployment can be explained by both the output gap and labour market factors. Among the latter reasons, the labour costs hold pride of place. This is measured by the tax wedge and minimum wages relative to the median wage. Other reasons include the opportunity cost of working (measured by unemployment benefits) and the spendings on active labour market policies, including programmes that intervene in the market to address unemployment. Insufficient vocational training and pervasive labour market duality also affect youth unemployment rates. It has become obvious that policymakers have to intervene. Not only should they ignite economic growth, but they also need to help the education providers to build bridges between education and work.

1.1 The young and the jobless - the case of higher education graduates in Romania

Generally speaking, higher education (HE) graduates seem to be less affected by unemployment than their less educated peers. Yet, this does not mean that they are not a vulnerable category. According to a report released in 2014 by EU Skills Panorama [2], a database administrated by the European Commission, which measures the connection between skills and employability in the EU, around 20% of the HE graduates are unemployed. This happens against the above-sketched background of scarcity in job opportunities for young people in general. However, the situation varies from country to country and, if certain countries seem to be better-off, others, like Romania, score very low in many aspects regarding employability. Statistics show that, if in countries such as Malta, Estonia or United Kingdom, a tertiary education graduate spends between 2.6 to 3 months in finding a job after graduation, it takes 7.3 months for a Romanian graduate to find employment. While some countries

have already implemented certain active policies to get the young “idle hands” into work, usually by encouraging and supporting partnerships between schools and local companies, the poorer countries are still lagging behind.

Romania seems to go in the opposite direction to the general flow in what concerns the prospects of a HE graduate to find a job compared to the low-skilled or the medium-skilled. If the unemployment rate of the latter categories has remained constant in the last years, the percentage for the the former has risen. This unusual trend unfolds against an economical background which demands an ever-increasing highly-qualified number of employees. Yet, there is more to it than meets the eyes. An important aspect to be taken into account is the increase by 282% in the number of HE graduates between 2000-2011 [4]. Again, Romania seems to be a special case. In EU-27, the rate of those who completed university education in the same period increased only by 69%. The figures show that the Romanian labour market, faced with an unprecedented number of HE graduates, has consequently become more competitive and unable to provide jobs for many of them. Though the rate of those who graduate tertiary education remains the second lowest after Italy, Romania seems still unprepared to offer job opportunities to a large part of its HE graduates. As a direct consequence, there was a sharp rise in unemployment from 15.2% in 2008, to 33.2% in 2013. This currently makes it the sixth lowest in the EU-28. The employment rate of male graduates remains around five percentage points higher than that of female graduates. The following table shows the employment rate of Romanian HE graduates by gender, between 2008-2013.

Table 1 - Employment rate of recent graduates in Romania, 2008-2013 [4]

Sex	2008	2009	2010	2011	2012	2013
Total	84.8%	77.6%	71.2%	70.4%	69.4%	66.8%
Male	87.2%	79.0%	71.9%	72.4%	72.0%	69.0%
Female	82.3%	76.3%	70.5%	68.6%	66.9%	64.9%

1.2 Solutions to the problem

McKinsey, a well-established multinational consultancy, which conducts qualitative and quantitative analyses, released a salient report titled *Education to employment: Getting Europe's youth into work*, after conducting a survey on 5,300 young people, 2,600 employers, and 700 post-secondary education providers across 8 countries [5]. Among other things, the report analyses the causes of youth joblessness, the obstacles the young have to surmount on their way from education to employment, and the solutions the policymakers can find to address the problem. Surprisingly, the conclusions show that the main cause of youth unemployment is not the scarcity of jobs, nor is it the youth's lack of coordination. Despite the high rate of unemployment, around 2 million vacancies were reported as available in 2013 throughout the EU [6]. What the potential employees actually lack is the skills required by the employers. According to McKinsey, employers, education providers and young people seem to be living in parallel universes [5]. McKinsey's findings are not surprising. A wealth of various studies, surveys and reports have reached a similar conclusion. A report commissioned by the EU speaks about skill shortages in Europe and mentions the strategies used by employers to address this qualification mismatch, such as in-training or hiring people with potential rather than certified skills [6].

However, the real long-term solution to the problem is in the hands of the education providers, not in the hands of the recruiters. Were the HE graduates offered the required skills, they would for sure find a job that would match their skills. What types of courses higher education study programmes offer to the undergraduates is essential for their future career, especially because most of them have no work history or work experience to rely on and make up for the lack of skills. Still, the question lingers: what prevents education providers from adjusting the curricula so that it may match the labour-market requirements? This leads us back to McKinsey's metaphor of parallel universes. As long as no cooperation exists between university and business, no one could say for sure what a young graduate should know in order to find a job. How can one otherwise account for the astounding discrepancy between what the education providers think on the one hand, and what graduates and employers discover that it is the case? According to McKinsey's report, 74% of higher education providers were

confident that the curricula prepared students for the labour market, while only 38% of youth and 35% of employers agreed to that [5].

It obviously follows that the first step to be taken in order to address the problem is to detect those skills and competencies needed by the labour market and only then try and adapt the curricula accordingly. This means that the process should begin from the top to the bottom, not the other way round. Firstly, surveys should be conducted among employers and only then should the results be used as the basis for future course design and delivery. The findings of the surveys conducted so far show that the essential skills cherished by the employers are interpersonal skills (team-working and communication skills), computer skills, adaptability to new situations, foreign language skills, commercial entrepreneurial skills [2]. Therefore, what is needed, first and foremost, is a real cooperation, between recruiters and universities, in the curriculum and study programme design.

The involvement of the EU is also essential. It already plays and, hopefully, it will continue playing, an important role along at least three axes: information (a common labour-market platform could be built for all the member states); mobility (via the already existing students exchange programmes); sharing relevant practices on matching labour-market demand and supply [5]. To these, we would add the importance of the EU Social Cohesion Funds, especially The Human Resources Operational Programme (POSDRU) run in Romania, which has given us the opportunity to address the problem of the HE graduates' insertion on the labour market, by taking into account all the above-mentioned factors, by starting from the recruiters' perception of the expected skill-level of young graduates.

2 TEACHING TODAY FOR THE JOBS OF TOMORROW

Education plays a vital role in both economic and social contexts. Looking at the EU education figures, one can easily see major gaps, such as: less than 1/3 of the Europeans aged 25-34 have a university degree (compared to 40% in USA and over 50% in Japan). The fact is Europe has around 4,000 higher education institutions, with over 17 million students and 1.5 million staff, of whom 435,000 are researchers - and still the European universities rank poorly in global terms – only two entered the world top 20, which is quite unsatisfactory [7]. To cut a long story short, USA seems to be still leading the way in higher education.

The digital society we have been inhabiting for quite a while, requires that universities should adapt to the technological innovations that have been unleashed. First of all, they should **promote knowledge** by achieving greater involvement of all actors in society. In a knowledge-based society, it is vital for universities to open up communication channels with those affected by their activities and with the whole society at large. Moreover, the EU strategic orientation described by the 2020 horizon clearly states one of its priorities: delivering growth in a smart manner, through more effective investments in education, research and innovation [8]. Smart growth means improving the EU' s performance in education, mainly by encouraging young people to learn, update their competencies and skills.

There is no doubt about it: future starts today and we, the education providers, need to be part of it. That means to understand the challenges, to assume an active role in designing the teaching and learning processes in order to equip the young generation with new skills and competencies, which will help them better integrate in the knowledge-based digitized society. In fact, the key question that we need to ask ourselves is: ***what do our students need to learn today to be prepared for tomorrow?*** [9].

We are experiencing today a rapid transformation of the learning process and the stakeholders involved in it need to define exactly their role. Teachers, students, parents, future employers are facing the knowledge “wave” coming via the all-mighty Internet, and they start to realize that the traditional learning methods are not enough or no longer appropriate in the new “digital world”. Europe and the entire world have been living for quite a while in a society where our actions (learning included) are frequently mediated by digital tools and objects that interfere with us are being more and more shaped by digital interventions. More and more, the learning process becomes a learner-centered process, where learners take action, assume responsibility for how much time they spent on each activity, and for the resources they use. In other words, they become aware of their learning performances.

Many publications on education in the twenty-first century emphasize the need of students to acquire knowledge-based skills, and the most suitable is a “student-centered” didactic or pedagogical approach [10].

Basically, the education system encourages the personal growth of a person in the following areas: *skills*, *adaptability* and *mobility* [11]. Skills may vary from technical skills to social or personal ones, but it is essential to ensure the individuals' capacity to work in groups, to use information accessed through new technologies [12]. The second area - *adaptability* - is related to the ability to learn about and to adjust to new and unexpected situations. When it comes to *mobility*, the authors refer to the capacity of working in today's multicultural society and to communicate across boundaries, which is essential when addressing different trends of the EU labour market and when meeting employers' specific requirements.

The role of universities is important in shaping today the jobs the HE graduates will have tomorrow, at least from two perspectives: improving teaching pedagogy and bringing the research results to the market. Both perspectives need a constant contact with labour-market representatives, for many practical reasons such as: customizing curricula to address practical issues, creating and developing specific skills that employers look for, and boosting creativity and innovation to shape prototypes with good chances on the market.

Recently, the cooperation between universities and business representatives was subject of investigation. The European Commission, DG (Directorate General) Education and Culture Study on the cooperation between HE institutions and public and private organizations, revealed the fact that the cooperation between HE institutions and business in Europe is still in the early stages of development [13]. This happens partially because a series of factors negatively influence or even block the cooperation, among which lack of funding and bureaucracy, which are the most commonly perceived drawbacks.

The need of adapting teaching and learning to the labour-market requirements has become very stringent in today's Romania as well, for many and various reasons such as the recruiters' demand of certain skills, of more practical and problem-solving oriented graduates, who have a strong critical-thinking sense. The companies' involvement in designing and adapting the HE curricula is sporadic, to say the least. Although the interest in cooperation is apparently high from the education providers' part, it usually fails to be put into practice. Moreover, the business representatives involved in different cooperation activities with universities realize that major changes cannot be done in the short run and, therefore, the beneficial effects cannot be seen immediately. Obviously, this can be frustrating sometimes. But what finally matters for the young people is to have access to good education and to envisage attractive prospects for themselves on the labour market. This is an area where we realized that further progress is needed and we decided to design and implemented a well-targeted project, by focusing on adapting teaching to the job market requirements

The idea of the Adapt2jobs project was built on the concept of University-Business Cooperation (UBC) [13], according to which universities should customize their study programmes not only by using innovative computer-based teaching/learning methods and tools, but also by establishing a structured UBC that might enable the universities to better adapt their course design to the job market requirements [14].

3 ADAPT2JOBS - TOWARDS INNOVATION IN TEACHING AND COMPUTER-BASED LEARNING

The novelty of the Adapt2jobs project consists in providing students with new and innovative teaching materials, starting with the scientific content which is developed in a interactive manner, that enables students to acquire knowledge, to explore different complementary fields, and learn to setup connections and to use them in a practical way.

Experimented professors, along with young and enthusiastic ICT (Information and Communication Technology) experts, assisted by experts in pedagogy, have joined efforts to elaborate traditional courses, which have undergone digitization, presented in an attractive, friendly and easy-to-use manner. Apart from the novelty of their scientific content, Adapt2jobs courses have been designed to meet all quality-assurance criteria and to support blended learning: traditional classroom lectures are illustrated with computer-based learning materials, which enable students to better focus on the essentials in the classroom and to go deeper during their own study time, at their own study pace.

Figure 2 describes the components of what we have called the Adapt2jobs ecosystem.

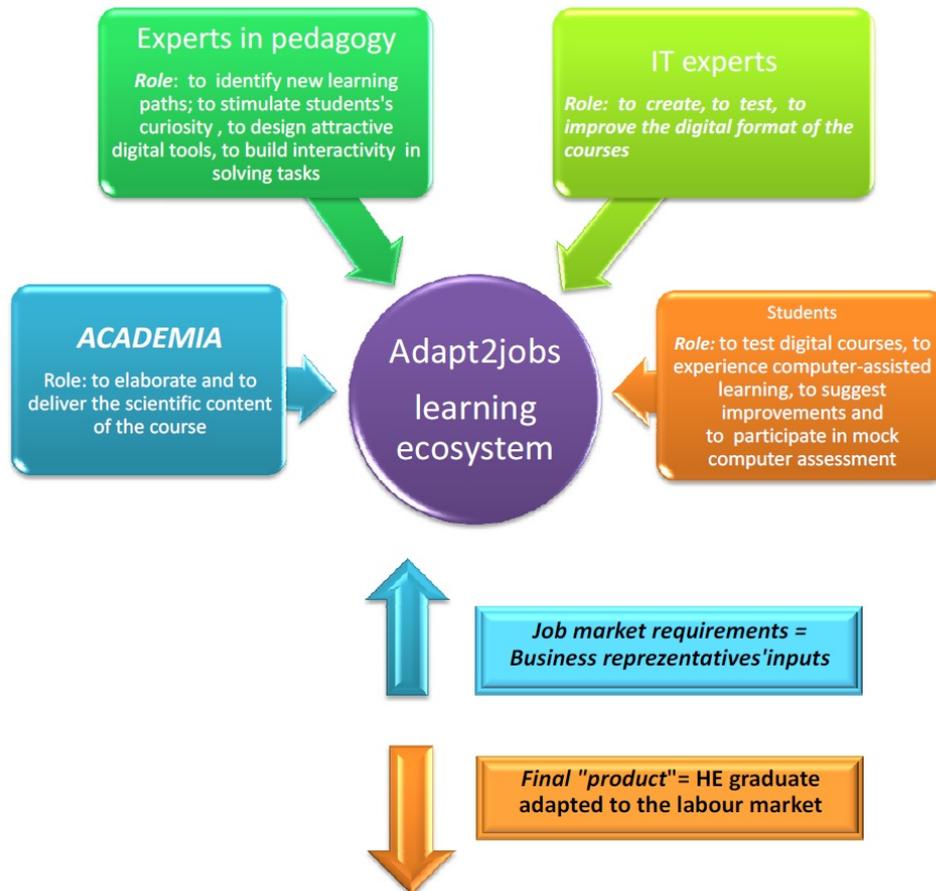


Fig. 2 Adapt2jobs -a new learning ecosystem

We have envisaged and designed Adapt2jobs as a learning environment, whose foundations have been laid by a detailed survey of the recruiters' requirements for the successful job candidates. Once the required skills identified, the university has stepped in the process, by designing seven traditional courses adapted to the findings of the survey among recruiters. In order to create a complete though not self-sufficient system, the ICT experts have entered the stage and transferred the traditional scientific contents of the seven courses into the digital medium. At the interface between the university and the ICT experts, there have been the experts in pedagogy, who offered advice and practical solutions to the ICT content developers, in order to make sure that the scientific content has not been distorted and, moreover, to propose new learning paths which might turn the learning process into a more effective and rewarding experience. The beneficiaries of this ecosystem are the students, who will be testing the new courses in the months to follow, and will suggest improvements at the end of the piloting stage. By analysing the results of the mock computer-assessment, professors will be able to evaluate the impact of the Adapt2jobs ecosystem on the students' skill acquisition. Furthermore, these students will be tracked in their future career in order to see whether the skills they have learnt while piloting the project are relevant in their finding a job.

4 ADAPT2JOBS PROJECT- BRIDGING THE GAP BETWEEN ACADEMIC EDUCATION AND WORK

The EU2020 Strategy addresses education as a smart growth pillar, which demonstrates the fact that HE modernization is on the EU agenda. Europe embraces the need to create a more connected and functional relation between universities and employers in order to improve students' prospects of being hired on a position they have been trained for.

A successful cooperation is needed and the HE institutions should strive for a synergistic relation with governments and businesses (the so-called 'triple helix'). In a wide consensus, this triple relationship is considered as the ideal vector for knowledge-based economies and societies. The contribution of

the HE institutions to economic development and to society in general is important, along with the contribution to teaching, research and knowledge transfer.

The implementation of the Adapt2jobs project started with a brainstorming session, which gathered under the same umbrella businessmen, business associations representatives, students, graduates and academia. Together, we tried to identify the main skills and competencies required by employers. Apart from a solid theoretical background, employers look for problem-solving oriented graduates, with basic practical skills that enable them to better adapt to jobs. Ideally, they should also demonstrate mobility in a multicultural work environment, in a world that has become ever more globalised. The findings of the survey actually confirm that Romanian recruiters want the same things from their potential employees as do their peers abroad. We identified three main areas, which further led us to propose a package of seven courses to be either revised and adapted, or written from scratch, in order to meet labour-market requirements: digital skills, interpersonal communication skills, commercial entrepreneurial skills. From this point of view as well, Romania seems to follow the European skills trend, as already mentioned in this paper. By choosing to digitize all the seven courses and, thus, offering a sample of computer-based instruction, we have brought to the foreground digital skills as an essential component in the array of a well-trained future graduate, which will increase his employability. More than mere acquisition of technical skills one needs in order to access computer-mediated knowledge, digital literacy is, as a matter of fact, the ability to critically evaluate the information available on the web.

Another important step we took was to conduct a *study* on the current state of the curricula, especially in what concerns the course packages in the three domains targeted by the project: economics, social sciences, and art and architecture. The conclusions in what regards the downsides for all the three domains pointed in the same direction: although the curricula strictly abides by the regulations and standards of ARACIS (The Romanian Agency for Quality Assurance in Higher Education), the study programmes lack multidisciplinary approaches, are deficient in practical management and entrepreneurial courses, are little focused on the development of “soft skills”, which are greatly appreciated by employers (such as problem-solving capacity, analytical competencies, team-working ability, digital and linguistic competencies, etc.), and the bias is largely theoretical rather than practical.

Subsequently, an inventory of skills and competencies was elaborated, along with a detailed analysis of the relevance of these skills and competencies to the labour market. The results of the study confirmed two of our initial hypotheses: curricula needs constant improvement in order to meet job-market requirements, and a practical approach should be added to the solid theoretical background offered by the study programmes.

In order to get a complete picture of the situation, we also needed the students’ point of view on the matter. Therefore, a survey was conducted amongst students as well, with a view to describing the students’ perception of the recruiting process and their employability as connected to the knowledge acquired during their study years. The results of the survey showed that over 75% of the students find teaching adapted to their needs (student-centered teaching), while 66% appreciated that the acquired knowledge in complementary fields during their study years would increase their employment readiness. The survey also explored the students’ perception of various competencies and skills, such as: ICT proficiency, communication in a foreign language, team work and time management. In contrast to the students’ standpoint, the data collected from employers showed that, in reality, students tend to overestimate themselves and the graduates’ level of competences are far from satisfactory. What is noteworthy, however, was the recruiters’ willingness to get involved in redesigning the curricula and supporting the practical training of students. On www.adapt2jobs.ro - the project’s website, a set of questionnaires will be posted in order to continuously keep in touch with students, graduates and employers and to be able to identify evolutions and trends in the labour-market requirements. On a regular basis, employers will be asked about their willingness to contribute to the educational system and what improvements they consider necessary.

After a detailed analysis of all the data gathered, seven courses were developed, heeding all the aspects underlined by employers and students alike: *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*. Working with experts in pedagogy, our ICT partner digitized all these courses, which are now made available on www.adapt2jobs.ro.

After the first 12 months of implementation, it is now high time we analysed what we have accomplished so far, made an inventory of the results and outputs, and focused on the piloting stage

of these new courses, developed according to a double input (the students' and the employers'). The piloting phase means also collecting feedback, evaluating learning effectiveness and estimating to what extent the targeted competencies have been developed. A group of 210 students have already been enrolled for the courses. We expect them to "attend" the virtual lectures, complete the mid-assessments and the final assessments and, at the end of the course, write an individual project on a theme suggested by the professors - the experts who have actually written the courses. The projects will be graded according to a system made available on the portal, so that a complete transparency of the assessment process will be ensured. During the testing period, students will permanently be able to get in touch with the professors, via Skype sessions, should they need further explanations or guidance.

The project's sustainability will be achieved through the three categories of stakeholders involved in it: the professors, the students, and, last but not least, the employers. The professors, who have gained experience as implementation experts in the project, will become the promoters of blended learning and will "spread the word", informing other professors about the facilities offered by the computer in the process of learning and teaching. The students' feedback at the end of the project will contribute to the improvement of the courses available on the adapt2jobs portal. As a matter of fact, as they are the main beneficiaries of the project, they can best evaluate to what degree computer-mediated learning is effective, judging by their acquisition of various skills and competencies. We intend to create a facility in the portal, where the students who have been involved in the project will have an educational profile, available to the recruiters we have worked with, which we hope it will increase the future graduates' employability. We will permanently keep in touch with the recruiters, who will be invited to contribute to the improvement of the existing curricula. This way, we intend to be among the promoters of UBC and of the advantages this collaboration has for the HE graduates.

5 CONCLUSION

Romania has gone through a lot of changes in the labour-market structure in the years prior and following the great recession. This trend is expected to continue, with an increasing demand for high-skilled jobs, which is estimated to grow by 44%, the highest increase in the EU-28 [4]. In order to meet this demand, it is high time that the HE providers stepped in and made a difference by offering students courses that really prepare them for the labour market. This is what Adapt2jobs project is intended to be: a learning ecosystem, which tries to complement the existing curricula by a course package that fits the business needs. Once the results of the project available, they will be analyzed and charted and will lay the foundation of the next generation of higher education programmes offered by the university, in line with the labour market changes and requirements. This will mean teaching what our graduates will need in their future professional career, and, at the same time, it will mean boosting innovation and creativity in teaching methods, in keeping with our present-day knowledge-based digitized society.

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