LEARNING CENTRED ON SKILLS, A SUCCESSFUL TRAJECTORY FOR A SOCIETY BASED ON KNOWLEDGE – WITH REFERENCE TO THE DOMAIN OF INFORMATICS -

Mioara UDRICĂ, Professor PhD, *„TITU MAIORESCU" University, Bucharest*

Teodora VĂTUIU, Reader, PhD, *„TITU MAIORESCU" University, Bucharest*

ABSTRACT:
Romania's post-adherence strategy for 2007-2013 stipulates the necessity for education and training to be centred on the obtaining of a set of key skills able to assure a harmonious personal development and a better social and professional insertion. By implementing the strategy "Education and research for the knowledge society" of the Titu Maiorescu University, education is seen as a prerequisite for development. University's mission consists in forming competitive human resources, able to function effectively in society.

1. SKILLS – AN ESSENTIAL CONDITION FOR THE DEVELOPMENT OF HUMAN CAPITAL

1.1 Skills – a key identified by the European Commission

The European Commission, through the general directorship for culture and education, has accomplished during 2002 and 2006 a project offering a final report on the basic elements which derive from the implementation of the programme "Education and training 2010" in the context of putting in range the educational systems of the European Union's countries.

This programme was based on several documents concerning the definition and materialization of some skills – considered as central finalities of the educational process. The domains of competence and their components (knowledge, dexterity and attitudes) are the result of discussions and negotiations between the experts of the directorship of education and culture of the European Commission, officials of the international scientific community and representatives of the ministries and institutes of research from different countries.

According to the European Commission, the definition of skills is the following: ***"Skills represent a transferable and multifunctional package of knowledge, abilities and attitudes which all people need for their personal development, for social inclusion and professional insertion. These must be developed until the ending of the compulsory education and must act as a basis for the continuing learning, as a part of learning throughout the entire life".***

From this definition and from the analysis of the specific features we can draw the following conclusions:

- Skills are defined through a system of knowledge – abilities – attitudes;
- Skills represent somehow the educational finalities of the compulsory education;
- They have an implicit interdisciplinary character;
- These must represent the basis of permanent education.

Key skills, adopted at European level, present and post-accession strategy of Romania 2007-2013, are: *communication in one's mother tongue, communication in foreign languages, mathematical abilities and competences in science and technology, abilities in informatics, the capacity of learning to learn, civic and interpersonal competences, entrepreneurship, cultural conscience*.

The eight domains have a theoretic character and a high degree of generality.

Of course, there are other skills that lead to the formation of graduates able to adapt to changes in working environment: areas of investigative skills, ability to acquire knowledge and experimental skills, to select elements of abstraction, using research methods, the opportunity of observation and analysis in understanding objective reality, human-computer interaction, etc. Together they represent the basic composition of the educational curriculum and syllabuses that relate directly to skills training balanced by the students' acquiring the necessary knowledge and skills and appropriate attitudes.

In the case of computing disciplines included in the curricula of economic faculties, general skills and specific skills (reported in areas of key competencies suggested by the European Commission) are organized into well defined structures for the Bologna cycle. The syllabus developed by achieving different skills and methodological work for teachers of computer science provides a coherent and generous enough environment in order to facilitate the transition to organizing the process of training and education in terms of centering on skills and their training, which points to the so-called "teaching skills training". Including domains in the educational plan and developing analytical syllabuses explicitly take into account that, in essence these skills are interdisciplinary, forming in several disciplines and not just by studying a particular one.

1.2 Introducing a competency based curriculum - an essential condition for the development of human capital

Education is, for any society, the vector of sustainable development. The development of human capital and the increase of competitiveness through initial and continuing training for a labor market which is in a continuous dynamic and globalization are major goals of the government program.

Competitive economy, strengthening democracy and the society of knowledge requires, among others, the acquisition of new competences: digital and informational literacy, technological culture and civilization, adaptability to new situations, entrepreneurship, teamwork, personal development and interest in lifelong learning.

School must form and strengthen a stable set of values and a behavior conducive to a healthy lifestyle, must change its curriculum area and how knowledge is transmitted, so as to keep pace with the developments in society.

The approach to education as a priority area of educational policy is consistent with the objectives of the European Commission, established as a result of the Lisbon Strategy. Equally, this approach will help promote the EU accession process and generates benefits for integration in the single market and European institutional and administrative structures.

In this context, the objectives in the current government program include:

1) Developing human capital
2) Increased competitiveness through continuous training
3) Allocation of 6% of GDP to fund education
4) the application of the strategy “Education and Research for the Society of Knowledge” developed under the National Pact and assumed by the presidency of Romania and the education unions

The Strategy "Education and research for the society of knowledge”, developed under the National Pact on Education and assumed by the presidency of Romania and the unions in this domain, comprises as its main lines of action:

- Centering the curriculum on the eight key competences approved and used in the European Union, which determines the student's training profile from the perspective of lifelong learning;
- Flexibility of the curriculum, which should include core, specialized, mandatory, optional and voluntary disciplines; specializations must consider specific goals and objectives mentioned in the files of specialization. Each activity in the curriculum is provided with transferable credits (ETCS). Passing one semester presupposes 30 credits, which means a total of 180 credits for the entire program of study, at undergraduate level.

Adopting the strategy "Education and Research for the Society of Knowledge" at the level of Titu Maiorescu University, education is seen as a prerequisite for development. The mission of the University is to form competitive human resources, able to function effectively in society. In particular, the Faculty of Economics aims at providing specific competencies of each of the three specializations. And thus it corresponds to a modern academic institution, integrated in the European area of higher education and research, as a center of scientific research and innovation, providing the best framework for the academic profession, based on recent information and in accordance with the principles of modern and interactive education.

Within the faculty, the curriculum is constructed from the following assumptions:

- students live in a global society and learn to communicate in an online community;
- teachers have the knowledge, skills and positive benefits to apply ICT in practice, they know how to use multimedia products, basic software, make use of communications technology in key areas of learning.

The curriculum aims to develop individual skills that lead the student to accomplishments, institutional competences which lead the society to success and individual skills that contribute to the fulfillment of collective purpose.

In particular, teachers of informatics in a faculty with economical profile should consider skills and competences that will help graduates to adapt to the business environment in which they work.

To develop ICT skills, teachers should:

- guide students to achieve basic level in informatics by using virtual libraries to provide documentation;
- create situations in which students become familiar with data security issues and understand how important cooperation is;
- guide students in understanding knowledge networks and in developing basis of knowledge;
- seek to stimulate self-assessment and interactive evaluation.

For the development of the second category of skills, teachers should:

- develop during class and seminar hours a business environment in which students can apply gained knowledge and can improve their skills in the process of decision making;
- direct students to acquire skills that help them operate in an environment in constant motion, to prepare them for the gradual acquisition of professional tasks required in a real system; help them understand how

economic units use information to create knowledge as a basis for decisions, to help them analyze the effect of computer use in their activity.

We present below, specifically on each discipline, the consequences of the curriculum centering on skills:

1) Information and Communication Technology (ICT) is a course that:

- develops basic concepts in ICT and familiarizes students with ICT standards and protocols;
- helps students share knowledge and experience, while developing skills to access information in the field;
- acquaints students with text editors, with software products of presentation of the obtained results and with stationary elements present at all organizational levels within an economic unit.

2) Systems of Managing Relational Databases are a course which:

- acquaints students with the definition of models and their use in the simulation process, with the methodology used in a computer system;
- assists students in developing relational databases and in defining the interface with their users;
- teaches students to obtain and use information in a real system resulting from the handling of data from a database.

3) Analysis of multidimensional data in data warehouses is a course that:

- helps students work in a client-server architecture, transferring them basic knowledge in language (SQL Standard Query Language)
- acquaints students with the definition of complex data collections with multidimensional analysis of data stored for extended periods of time;
- acquaints students with the functions used in economic and financial analysis and forecasting.

4) Object-oriented modeling in economic systems is a course that:

- acquaints students with the analytical steps, taken in designing and implementing object oriented methodology;
- prepares students to apply conclusions resulting from the analysis process in the development of an existing model by adding new components;
- helps adopt an efficient mode of action in the decision making process, changing focus from symptoms to causes, from assertion to justification, from specific to general;
- helps students develop networks between the defined objects, to reuse components in different programming environments.

In our view, adopting a curriculum that seeks training skills as Bologna is only a first step for developing a knowledge-based information society, to enhance national and international technological heritage. What follows is the establishment of strategies to enable implementation of the proposed desiderata which should take into account several factors: conditions for learning, organizational issues, interest groups of students. Moreover, we must not forget that students should have access to the latest technology in order to process information and solve problems and that they must learn a new environment, new methods. Teachers need to define, adapt, manage and evaluate the learning environment so that students can put together, analyze and communicate information for personal and institutional success.

Referring to the disciplines of computer science within the Faculty (faculties) of Economics from Titu Maiorescu University, I would point out that teachers have an ongoing concern for the daily program of students, the activities in the informal environment and the developed joint projects with other universities, trying to bring more knowledge to contribute to the quality level required by the exigencies of economic and social environment in which we live. They constantly analyze the causes of slow performance and try to achieve positive results obtained in the field.

They must find solutions because:

- the technological support is limited;
- the curriculum does not integrate in a satisfactory measure the use of computer technology;
- there aren't sufficient credits for instruction with computers;
- outdated methods are still being used, inadequate to the new requirements;
- evaluation systems still rely on verifying the amount of acquired information;
- students want immediate benefits, there is a lack of motivation to acquire skills useful in the long term.

They must implement:

- new methods that allow students to learn at their own pace, to compare, combine, integrate, synthesize and reconstruct ideas consistent with their own views;
- computer-assisted learning, as a learning solution for anytime, anywhere;
- teamwork, in which the teacher encourages students to interact, present, evaluate and resolve conflict situations;
- new methods of interactive and self-evaluation, which increases the student's motivation and interest.

The Faculty aims to give further attention to curricular content digitization and creation of a virtual library, where all students have access to learning resources in digital format. Thus, the content of subjects to be learned, the tools and examples indicative of evaluation tests will be digitally converted and permanently accessible to

any student or teacher, on a type LMS learning platform (Learning Management System), on-line. Teachers' courses will be digitally processed and stored on an e-learning platform. Through the Internet, every student will get access to courses for each subject in hand.

It also envisages the creation of "virtual laboratories" to compensate the laboratory equipment of the universities. For each subject, there will be a digital resource base so that every teacher or student can access fast and free information and tools for a more effective learning.

2. CONCLUSIONS

The crucial problem for higher education is the competitiveness, on which the others depend. The analysis made at system level, led to the conclusion that you need to teach students to acquire those skills that also the other young people in the European Union learn and acquire.

This is because what is now happening in this domain involves predominantly the evaluation on the basis of reproduced information and less on skills and abilities to use various acquired information. Theoretical principles will not be ruled out of the university courses, but this information must be linked together and give students the ability to develop skills in certain areas. The assessments that we have today pursue two things: to check as much information accumulated by the student as possible and to make hierarchies among students.

This concept must be changed fundamentally. First, you need to put emphasis on skills, using information in an integrated manner and at the same time, the assessment should not only keep in mind a hierarchy in educational achievement, but also through regular methods of student assessment and through the adaptation of courses to changes in labor market, one should form and prepare students for life.

The educational policy of the university / college is based on the existing facts and assessments made by people - teachers, students, parents, beneficiaries of education, unions, organizations - and consists of promoting a systematic approach, synchronized with the experience and needs of our country and with the practices of the countries of reference. This policy has as its axis the value and dignity of the teacher. They - the value and dignity of the teacher - can become and will become in Romania, the centre of a competent and comprehensive reform of education.

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