

EDUCATIONAL FACTS AND PERSPECTIVES IN ARCHITECTURE, URBANISM AND ENVIRONMENT PROTECTION

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REZUMAT

Lucrarea prezintă analiza sistemului de învățământ în domeniul arhitecturii, urbanismului și protecției mediului din Republica Moldova. Vamiliarizează cu proiectul RETHINK ”Reforma sistemului educațional prin schimbul internațional de cunoștințe” care are drept scop elaborarea curriculei comune pentru universitățile partenere intru asigurarea mobilității studenților și profesorilor și obținerea diplomelor duble. În vederea asigurării implementării mai eficiente a proiectului specialiștii din universitățile partenere au recurs la o analiză a domeniului, aplicând instrumentul Analizei SWOT. Analiza SWOT cum și sondajul efectuat a permis de constatarea faptului că antrenarea învățământului superior din Republica Moldova în sistemul educațional european este un proces ireversibil dar care necesită efort continuă.

I. Introduction

Education represents a national priority and a primary factor in development of a long-lasting society based on cognition. It has as main purpose the cultivation of an upright character and the development of a competent system including knowledge, abilities, attitudes and values allowing active participation of the individual in social and economic life [1].

Among the priorities of development is connecting the educational system to labor market requirements in order to increase labor productivity and employment rate in economy, stipulated by National Development Strategy” Moldova 2020” [7].

In this context, High education from Republic of Moldova represents the component part of educational system which has set several targets:

- To form multilaterally developed and creative personalities, training improvement, specialists and scientific staff qualification at a high level in different domains;
- To ensure personality aspirations to deepen and extend knowledge;
- To promote scientific research and implement results.

Higher Technical Education is carried out in three cycles:

- Cycle I – Undergraduate higher education (the course lasts 3-4 years which corresponds to a number of 60 study credits) [3];
- Cycle II – Master’s Degree (Master course lasts 1-2 years and corresponds to a number of 60-90-120 study credits) [5];
- Cycle III – Doctor’s Degree (Doctor’s Degree studies last 3-4 years and correspond to 180- 240 study credits).

In May 2005 Republic of Moldova adhered to the Bologna Process [2]. Signing Bologna Declaration has meant a free assumption of responsibilities and active involvement in reforming and modernizing process of higher education, regarding convergence on European level. A series of reforms has been achieved since 2005, including [6]:

- The systematization of high education courses and elaborating new scholar projects;
- Implementing the framework plan for cycle I;
- Elaborating new training nomenclature fields and specialist for cycle I;
- Supplementing the framework standard regarding Master’s Degree for cycle II;
- Elaborating the Implementation Guide of National System of Study Credits;
- Institutionalizing study credits, ECTS type, in high education system.
- In order to ensure title and study papers transparency the graduates of higher education are being evolved a compulsory supplement to Diploma Paper, on the same lines as European pattern;
- A series of activities on institutional level has been achieved in order to guarantee the quality of high education, including quality management structures developed alongside with different foreign educational centers.

The Bologna Process assumes a gradual shift from educational content of national system to European by keeping at the same time the national element, placing it on a superior level.

II. Prospects

A new project **RETHINK “Reform of Education THru INternational Knowledge exchange** “has been launched within the TEMPUS program at Urbanism and Architecture Faculty.

The project objective lies in modernizing educational process of disciplines, with the support of European Credit Transfer System, which consists of three cycles and secondly the acknowledgement of diplomas and scientific degree. The project aims to devising new curriculum to provide educational institutions connection to business, establishing and consolidating as well as relations between educational institutions and business representatives.

To this end, the project will develop two integrated fields: Architecture and Urbanism, as well as Climate Engineering/ Environmental Science (Master’s and Doctor’s) [4].

To guarantee a more efficient implementation of the project, specialists from partner universities have resorted to a field analyses, applying SWOT tool.

The analyses has allowed he identification of the strong components, as it follows:

- The curricula is developed in accordance with the framework plan and meets modern requirements and corresponds to the level of modern European education;
- Teachers involved in the preparation of cycle II (master degree) have advanced experience and scientific technical skills. They are able to provide thorough training master in the most important spheres: civil engineering and urban environmental management. Building integration and related facilities on bases of environmental development;
- We organize teacher training courses to exchange experience in various fields;
- We have partnerships agreements with relevant local institutions. As well, we cooperate with affiliated companies of the territory, providing concrete cooperation activities in various fields including advanced training, applied research, training, capacity building etc.;
- We provide opportunities in applied research necessary for master degree;
- We offer possibilities of professional training and getting master’s degree too those specialists who have already got higher education in different spheres;
- We have international cooperation with foreign organizations and multiple universities which stimulates the activity of professional multidisciplinary training of masters and their integration in international mobility;
- Our master`s degree training is adapted to the European and international standards;

- An important and relevant aim in integrated training, from the perspective of civil construction and urban environmental management, in particular the reduction of emissions of greenhouse gases CO₂, has presence in the curricula of disciplines ecological orientation.

However, there are some points that may serve to an extent as challenges to project achievement:

- Lack of national legal framework that would regulate more suitable opportunities for relevant master studies, definite mechanisms, ways and methods of motivation to graduates with master`s degree, their place on the market in conditions of competition and the crisis;
- Inadequate funding towards the expansion and development of master programs and activities to master, in order to integrate them with similar programs developed on European and global level;
- Inadequate salary of high qualification teachers, extracurricular works limiting their opportunities to increase their professional level in the field of training and research;
- Motivation inadequate activity of the continuous professional training of staff;
- Inadequate supply of library with books, international scientific-technical magazines, limits the possibility of masters in integration in the problems of integrated environmental protection;
- Insufficient development of a computerized database for evidence and organizing the teaching and scientific research;
- Insufficient promotion of institutional programs and international studies to young scientists.

Education reform at FUA is subject to certain opportunities, such as:

- Development of advanced steps of business circles, interested in the development of technical and modern technologies that can assure the energy efficiency and environmental protection, in the context of sustainable development;
- Promoting international programs and projects related to resource efficiency and cleaner production, environmental degradation, as well as financing of projects in the energy efficiency and ecological sectors in national economy;
- Extension in order to promote widely valuable ideas for improving the energy and environmental efficiency of buildings and installations for creating environmental comfort, environmental protection, business education and youth in terms of energy saving and protection environment, business association.

- Participation of enterprises from R. Moldova in research and development projects;
- Develop the legal and the institutional framework of the country in energy efficiency, energy and environmental equipment and facilities, widespread implementation for various sectors of the national economy of renewable energy;
- Development of the business environment concerned with energy and environmental equipment and certification of materials and equipment imported into the country's market;
- The development of energy and environmental certification of buildings and installation of their equipment at the country level, municipalities, businesses etc;
- Possibility of integration into the European Community;

Therefore, among eventual challenges which fit into achieving educational reforms in architecture, urbanism and environment protection follows:

- Migration of qualified employees to countries with higher potential for economic and technical - scientific progress;
- Lack of motivation for further study at master's and PhD;
- The decrease of inadequate funding of master studies from the state budget;
- Teachers salary below the minimum consumption;
- Ageing of qualified teachers;
- Environmental degradation due to the political situation and business crises (economic, energy, environmental, political, industrial, etc) that threaten communities.

The results of the analyses performed are brought to confirm the urgent need of education reform. This fact is also confirmed by the results of the survey done within the partner universities project which shared 31 scholar programs of 17 universities from Europe and CIS. The survey has proved that teachers training in partner universities seem to be identical.

Therefore, 97% of respondents believe that Master's and Doctors studies need reforming, the other 19, 4%-the educational process doesn't meet the Bologna Process requirements. 65% of universities have had experience in getting double diplomas, the most of which-22, 4% Environment protection programs. (Fig. 1).

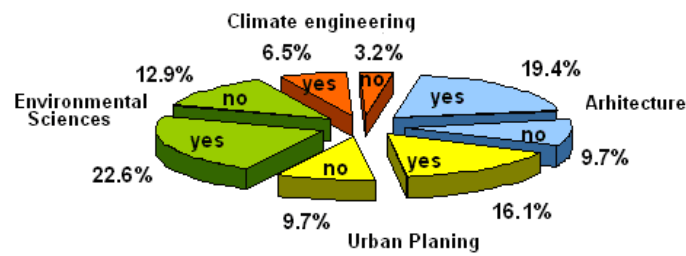


Fig. 1. Experience in double degrees

100 % of students questioned gave proof of willingness to continue their studies in English, whereas 87 % claim to get a Double Master's Degree (Fig. 2,a) and 77,4 % - Doctor's (Fig. 2,b).

Both students as well as teachers have shown a big interest in study mobility, double diplomas etc. 48.4% of teachers have admitted lack of such experience.

At the moment 96,8 % don't take part in such projects and only 41,9 % are ready to guarantee integral studies in English.

Only 38,7 % of universities have adequate funding as far as it concerns research funding within the framework of Master's and Doctor's studies.

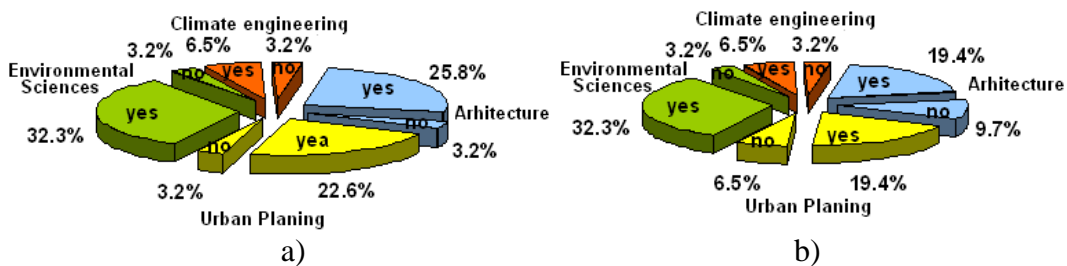


Fig. 2. Interest from students to obtain a Double Degree:
 a) Master's Degree; b) Doctor's Degree

It can be asserted that having achieved RETHIK project will enable to create common curricula in order to ensure the connection of higher institutions to business and consolidate the relationship between higher education system and business representatives.

It is provided teacher, student, masters and doctor's graduates' mobility in partner universities, knowledge share, and elaboration of common teaching materials.

Both students and master participants will have the possibility to study at partner universities and will be able to get a double diploma on the basis of necessary credit number accumulated (ECTS).

The project offers first-rate opportunities to align to European values and standards.

Conclusion:

1. Higher Education Training in Moldova is an irreversible process in European educational system.
2. It is necessary to elaborate and implement common curriculum to guarantee student exchange and obtain double diplomas.
3. It is assigned to form teacher groups to train teaching disciplines in English.

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