Integration in the Labor Market of the Graduates of Mechanical Engineering, Industrial Engineering and Economical Engineering Study Programs

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Abstract: The paper presents the activity of the Career Counseling and Guidance Centers or Offices in pursuing the process of absorption of graduates into labor market. The data regarding enrolment into higher education must be supplemented with data regarding the success of graduates on the labor market. It also contains a case study on monitoring the integration of graduates of the North Center University of Baia Mare in the workplace. We processed data collected by the Career Counseling and Guidance Office for the years 2013-2014-2015. The study was done for the graduates only from study program Mechanical Engineering, Economical Engineering and Industrial Engineering of North Center University of Baia Mare - as target group. We focused on monitoring these study programs because they were affected by long-term evolution of demand in the industrial field. We obtained results regarding the situation of graduates in the last 3 years and the theoretical results have been plotted. This allowed the observation of the dynamics of labor market integration of the target group.

Keywords: Career Counseling and Guidance Offices, monitoring of graduate, labor market, employment of graduates

1 INTRODUCTION

We initiated this study with the intention of discovering the conditioning and perspectives that the graduates of 3 study programs (Mechanical Engineering, Economical Engineering and Industrial Engineering) within the North Center University of Baia Mare have on the national and European labor market. Taking as model [2] we analyzed 2013-2015 periods, after the economic crisis. We focused on monitoring these study programs because they were affected by long-term evolution of demand in the industrial field.

The international mobility projects and the development of the Lifelong Learning Project 2007-2013 for universities were designed aiming towards the increase of the young people’s chances of inclusion into careers corresponding to their training, both in their home country and in other countries belonging to the European Union which offer them employment opportunities.

In Romania only part of the state universities and private universities include within their organizational structure Career Counseling and Guidance Centers, which in cooperation with the international relations offices provide information about the Community Framework for Transparency of Qualifications and Competences, provide assessments of the students’ skills, prepare students and graduates for getting the future job providing support for writing a cover letter, a curriculum vitae, and familiarize them with the techniques at job interviews. Most of these counseling centers or offices within universities have a database with the students and graduates who benefited from their services. These centers also provide information about the grants and scholarships (for example Roberto ROCCA scholarships, offered by SILCOTUB Zalău), jobs part time and full time at national or foreign companies by means of job fairs for students and graduates. The sites of the Career Counseling and Guidance Centers or Offices contain links both towards the most relevant recruiting agencies in terms of the student’s major, and towards agencies of employing the labor force from the country and sometimes from abroad.

The implementation of the Bologna process in Romania is based on the directions set within the reunions of the ministers of education in Bologna 1999 till now [4].

Data regarding the participation at higher education (input and output data concerning the report of number of students-graduates) and data regarding the success of graduates on the labor market must be collected. With regard to this, the professional counseling and guidance centers from within universities must have a fundamental contribution in providing updated data. Also these centers must provide information obtained from the institutes studying the labor market and the agencies of employing the labor force [1].

2. ASPECTS REGARDING MAIN ROLE OF COUNSELING CENTERS/OFFICES AND CAREER GUIDANCE IN UNIVERSITIES

Even though universities could train students and graduates to write European projects which would improve the absorption of European funds, these training activities are competed by NGOs. Thus it is obvious that the Career Counseling and Guidance Centers within universities should get involved in projects dedicated to means of increasing the university graduates’ chances on the Romanian and European market.

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Beside economists, specialist in education and sociologists, the counselors from the counseling and guidance centers should be also involved in order to ensure realistic expectations for the labor market.

Ever since 1998 the Ministry of National Education ordered every higher education institution to set up a Department of consultancy for choosing a career, and finding a job on the labor market, whose mission was to provide students with information and counseling in choosingchanging their individual career in the context of the university curriculum and the transferable credits system.

So the role of the Career Counseling and Guidance CentersOffices within universities is very important at the career planning stage, which is the first step in career development, as well as its assessment in the coming years [5]. In this regard, our office offers counseling to all interested students or graduates.

Career planning is tightly related to labor market planning. According to the changes on the labor market, changes in career planning also occur. For this purpose our office has contact with County Agency for Employment Maramures and others local operators or agencies, based on partnership protocols.

Also the Career Counseling and Guidance Office of North Center University of Baia Mare has contact with the most important industrial companies of our town and region who expressed willingness hiring of our graduates. Due to the increased need for engineers in the labor market (from Mechanical Engineering, Economical Engineering and Industrial Engineering study program) recruitment process takes place even during the years of study.

3. CASE STUDY ON MONITORING THE INTEGRATION PROCESS IN THE LABOUR MARKET OF GRADUATES OF MECHANICAL ENGINEERING, ECONOMICAL ENGINEERING AND INDUSTRIAL ENGINEERING

Using usual methods [6], the Career Counseling and Guidance Office of North Center University of Baia Mare has made an investigation regarding the degree of labor market integration of graduates of Mechanical Engineering, Economical Engineering and Industrial Engineering.

This research was done for the last 3 years (2013, 2014 and 2015). The survey results revealed the dynamics of hiring graduates of these study programs.

For the Industrial Engineering study program, Figure 1 show the comparative situation (for 2013, 2014, 2015) of the enrolled students, graduates and graduates who work in the same field they graduated from.

For the Mechanical Engineering study program, Figure 2 show the comparative situation (for 2013, 2014, 2015) of the enrolled students, graduates and graduates who work in the same field they graduated from.

For the Economical Engineering study program, Figure 3 show the comparative situation (for 2013, 2014, 2015) of the enrolled students, graduates and graduates who work in the same field they graduated from.

Comparing to the years after the economic crisis we observed an encouraging situation regarding the report between the number of graduates and the number of enrolled students for 2013 and 2014 years but a little decrease for 2015.

The causes that lead to this situation are the following:

a) the vulnerability of the labor market after the economic crisis;
b) the training of students in technical departments requires intensity, continuous learning and a longer cycle of training;
c) the education of students from these study programs must be creative and avant-garde;
d) the lack of technological lines of study and training at the basic level undergraduate:
   - the decrease in the number of hours allotted to Physics, Mathematics, Informatics at undergraduate levels;
   - a little number of equipments within the laboratories meant for these subjects;
   - guidance from the family towards jobs that are easier to study/practice, better paid (lawyers, economists, financial advisors, journalists) with shorter training cycles;
e) the salaries are not motivating, as compared to the salaries of salesmen, tradesmen, insurance agents, employees in the field of services, and generally easier jobs which do not require much responsibility;
f) the recovery of an engineer’s job takes longer than that of a salesman, or whom the cash flow is faster and more profitable, which is an inequity as compared to the work invested; and this was noticed by the population;
g) delays in equipping or updating the materials in universities;
h) early school leaving because:
   - reduced financial support from poor families in coming;
   - small amount of scholarship;
   - lack of involvement of banks for student loans
   - difficulty and complexity of technical studies;

The Career Counseling and Guidance Office of North Center University of Baia Mare is working now to make surveys for 2016. The preliminary information obtained shows an improvement in the absorption of graduates of Mechanical Engineering, Economical Engineering and Industrial Engineering into the labor market.
Fig. 1 Comparative situation for Industrial Engineering study program

Fig. 2 Comparative situation for Mechanical Engineering study program

Fig. 3 Comparative situation for Economical Engineering study program
4. CONCLUSIONS AND RECOMMENDATIONS

- This paper consists in a study and a study case for academics, administrators of university and policy makers through the analysis regarding the situation on the labor market, regarding the perception on professional competence created in our university.

- Career Counseling and Guidance Centers should be more involved in reducing the number of students who give up their studies, who want to go abroad to work in the field of specialization or other fields.

- The results obtained by contacting graduates were fully interpreted by the authors of this paper. Also, the results were presented to leadership of Technical University of Cluj Napoca to establish new objectives, strategies contained in the operational and strategic plan for the next years.

- The study shows that the best situation to all three study programs was observed in 2014. Year 2015 shows a slight decrease for the graduate employees and graduates who work in the same field they graduated from. Survey for 2016 graduates, which is ongoing, shows an improvement in the situation.

- These results highlight the continued growth in demand for engineers in the labor market from study program Mechanical Engineering, Economical Engineering and Industrial Engineering of North Center University of Baia Mare compared to previous years [2], which justifies the maintenance of these study programs in our faculty.

- Technological Information Center of North Center University of Baia Mare, through the projects they initiate, must give greater importance laboratories equipment, corresponding to the subjects in the curricula of these study programs, with specific performance counters.

- The Guidance and Counseling Office within the North Centre University of Baia Mare, through its activities, has to intensify its influence upon undergraduate education aiming at raising awareness in the young generation towards the importance of quality technological culture and the necessity of technological development in Romania.

REFERENCES


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