

Promotion of knowledge society through service learning

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Abstract. *The goal of this paper is to discuss the relationship between higher education and private&public sector in Croatia, the issues Croatian students face when they get their university degrees and to explore the possibilities of transforming our university into a place that meets the needs of the new economic reality of changing markets and rapidly developing technology.*

We introduced new educational methodology into our curriculum that transforms the old teaching style and gives student more place to apply theory they learned, while in the same time they think how to solve world problems. Service learning is a methodology where learning occurs when students apply what they learn to community problems and reflect upon their experience as they seek to achieve real objectives for the community. We integrated that methodology with ICT in order to achieve better learning outcomes and we present the first service learning projects in Croatian university in this paper. Service learning should be a well balanced approach to the knowledge society, not only between theoretical knowledge and social needs, but also between education system and social values.

Keywords. Experiential education, Service learning, Croatian higher education, Educational change, Public service

1. Introduction

The two most important educational issues facing higher education in Croatia today are: theoretical knowledge without skills and weak connection between the university and the labor market. The best insight into the educational issues we face in higher education today gives the survey conducted by the website MyFirstJob [1]. Regarding the opportunities to find a job after getting a degree, most of the students in Croatia do not have confidence in the current educational system. The website MyFirstJob has conducted a survey and found out that 61% of the students who did the survey believe that they would get a job more easily if they got their degrees studying abroad. The survey has taken 268 students from the University of Zagreb and the results for educators are alarming. The main reason for such an answer is that studying abroad brings more organized curriculum, more practical and instantly applicable knowledge, while in Croatia they mostly get only theoretical knowledge. Most of them even do practicum in local government organizations, private enterprise or scientific research centers, but they say they do not benefit from it because their supervisors do not let them to employ their skills effectively, they are only given simple and boring tasks that are beneath their capabilities.

The lack of self-confidence and trust in their knowledge and skills is one of the crucial problems for many students that start to look for their first job.

In this paper we propose the new educational methodology to improve learning productivity which emphasizes the integration of theory and practice, more precisely, integration of theory and social needs. One of the main goals is to link these learning domains as a basic strategy to improve the quality and productivity of education.

The biggest and justified concern our students have is connected to the issue we will explain in the following paragraph; the weak connection between the labor market and HE. The fact is that at the moment there are 292,269 unemployed people in Croatia, which makes one of the largest obstacles for the development of the country. Statistics show that the smallest unemployment rate in EU have Ireland, Austria, Great Britain, Luxembourg and Denmark, while the highest unemployment rates have Poland and Slovakia (15.5%). Croatia, with its 16.9% unemployment rate and 292,269 unemployed people (comparing to 19 million unemployed in all 25 countries of EU) has 1.6 % of all unemployed people in EU. In the relation between government, private&public sector and the university, the weakest link in the chain is the relation between labor market and the higher education.

Croatian government (Ministry of Science, Education and Sports) is financing higher education. Higher education is producing young scholars that stay in the universities, but also skilled people who get jobs in private&public sector. Industry is, on the other hand, paying tax money to government and, finally, government decides on investing into higher education. Problem is that government dictates what young people should study and what shall be taught and, unfortunately, private&public sector does not have enough influence in that process. Therefore, the university enrolment is not affected by market forces. The government sets the fixed enrolment rates for several years in advance, although these should vary from year to year, influenced by continuous fluctuations typical for market economies. Since the quality of the educational system is the main precondition for the competitive strength development of the employees, Croatian educational system should reshape the curriculum and customize it with the needs of the country labor market. The bond between the university and the private sector should make the framework for the future growth and development of the Croatian educational system.

2. Experiential learning versus traditional learning

Experiential education is the process of actively engaging students in an experience that will have benefits and consequences. Students reflect on their experiences, developing new skills, attitudes, and new ways of thinking [4]. Experiential education can be contrasted with traditional education, the latter being defined as learning through reading books and listening to lectures. Many have argued that book learning is enhanced when students have an opportunity to practice or experience the content of lectures and books. In traditional education, teachers set the knowledge to be learnt (including analysis and synthesis) before students. They hope students will subsequently find ways to apply the knowledge. Experiential education differs from traditional education in that teachers first immerse students in action and then ask them to reflect on the experience. The theory of experiential education today informs a number of educational methodologies (adventure education, service learning, community service, practicum, etc.) The goal of today's experiential education is the connection of higher education to the needs of society by providing programs of public service that encourage students to utilize classroom knowledge to improve local communities.

3. Service learning (SL) versus volunteerism and practicum

Service learning (SL) is the most common example of experiential education on college. The reason for this is that it is distinguished from other approaches by its intention to equally benefit the provider and the recipient of the service as well as to ensure equal focus on both the service being provided and the learning that is occurring. Internships/practicum, on the other hand, engage students in service activities primarily for the purpose of providing students with hands-on experiences that enhance their learning or understanding of issues related to a particular area of study. Volunteerism is the engagement of the students in activities where the primary emphasis is on the service being provided and the primary intended beneficiary is clearly the service recipient.

Although practicum are quite common in our university (and quite disliked by our students), SL was never integrated as a part of the study curriculum. In fact, SL, although well developed in North America, is for the most part still absent in Europe. The Community Learning Program that has been developing since 2001 in the Dublin Institute of Technology was, until recently, the only European example of SL. First European SL Conference was held in Cologne, Germany, in 2004 [3].

SL benefits the student because the service is designed so that it connects directly to the course objectives, becoming a hands-on learning experience. SL benefits the lecturers because it provides information, resources and technical assistance necessary to carry out a service that meets a real community need [4]. SL benefits the community by providing service which addresses a genuine need. Finally, the entire society benefits because the balance between the social values, needs and knowledge is being established. Students apply academic skills to solving real-world problems, linking established learning objectives with genuine needs. The lecturer must be involved in creating and supervising the service activities associated with the course. SL synthesizes students' experiences with academic theories and concepts. It must include class meetings apart from the service where the lecturer engages the students in the examination of their performance and the impact on participants and the community organization. The lecturer has the responsibility for assessing the students' ability to synthesize theoretical concepts and service activities and providing students with on-going feedback. Students are partners in a SL project, they identify community needs and plan service activities. They also play active roles in the evaluation of the project and its impact on the community. This nurtures student ownership of the project, which in turn empowers them to take control of their learning and develop leadership skills. Rather than separating the learning and the assessment (such as when students acquire information through reading or a lecture and then need to demonstrate their learning on a separate assessment such as a test or

paper), service-learning can be the way students both learn and demonstrate their learning. As students perform their service, they produce evidence of learning [5].

For all the reasons stated above and because practicum did not prove to be a powerful experience, we decided to engage our students in service learning projects that are not only enhancing their learning in particular area of study, but also providing service which addresses a community need.

4. Integration of service learning in information science curriculum in our Department

In the field of Information Science (IS), we integrated service learning with ICT in 12 student projects. In the beginning of the academic year 2006/07 in the Department of Information Sciences, at the Faculty of Humanities, University of Zagreb [2], as part of the *Theory of information science* course requirements (course is led by prof. Tudman), we included student participation in a non-profit community organization or in public primary school. We have 64 students involved in the SL activity this year. They started work on their projects in November and they will finish it by the end of the April.

4.1. Research on first results of service learning in Croatia

In order to perform the student satisfaction analysis, we conducted a survey in January 2007, when they reached the first half of their service. All students evaluated their learning in the first half of the service and the survey measured the following 3 factors:

Engagement/Commitment: a measure of a student's commitment to engage in service learning activity and work with unknown people

- 1) I feel great because I know I am doing something for the institution that can never financially afford this kind of service. I already improved my skills and gained some new skills
- 2) I think everyone should find time to contribute to his community
- 3) I plan to perform community service work after the course is over
- 4) I feel that contributing to the solutions of community problems is my responsibility

- 5) I feel that I can have a positive impact on the community in which I live

Career Plans: a measure of the degree of certainty that a student feels about his/her career and self-understanding of personal strengths and weaknesses

- 1) This kind of project requires compromise in every moment, adaptability within constrained time and space. I consider the project as a training for job in a field
- 2) I am getting a better understanding of my personal strengths and weaknesses
- 3) The lack of knowledge and skills I needed to conduct the project and other obligations in my study make SL a great challenge for me, but I enjoy it
- 4) I feel better prepared for my future career
- 5) Study curriculum does not follow the technology development, I was left to study it alone most of the time, but I find SL to be a great encouragement to apply my self-acquired knowledge
- 6) It is important for me to have a career that directly serves others in need
- 7) SL is useful to fortify theoretical knowledge I gained in university, to gain some experience in establishing the future business arrangements
- 8) SL is useful primarily because I work directly with our users. I am developing the skills that business people use in the development of their own projects
- 9) I gained greater responsibility for my skills and knowledge. I am also learning new skills and getting greater insight into field of human rights

Teamwork: a measure of ability to work with other individuals to achieve the common goal

- 1) I finally learned what teamwork is, this is the most useful course in my entire study
- 2) I broadened my perspectives and deepened my knowledge. SL is helping me to learn how to manage the time and space I am placed into, to develop better communication with other colleagues in my team and with our customers. I learned what trade-off is and how to show off individual knowledge and skills in a way that we as a group achieve the best outcome in the end

As our survey shows, these research findings already show the evidence about the practical effectiveness of the method, even though our students have not finished yet with their service learning activity.

In the first part of SL activity, our students and community members have worked together to identify community needs and to plan service activities. They will also work together to evaluate the impact of the project at the end of the academic year. There is also a control group of 6 students who currently perform interviews with the community partners and with each group of students and who control the project activities. This provides opportunities for students to voice concerns, share feelings and evaluate the project.

The following is the description of the service learning projects our research teams are involved in, together with the description of the association goals:

1. Alliance of blind and visually impaired students "BAT" is the first university institution that gathered blind and visually impaired students. The goal of the alliance is to provide easy integration for blind and visually impaired students into student and academic community, to provide them with the course material, to enhance the quality of their education and to provide the information technology support.

Our first group of students is developing the small textbook "Accessing the Internet if You Are Blind or Visually Impaired", that will serve as a guide through installation process and use of the Mozilla Firefox web browser. Mozilla web browser has screen readers that read aloud all available information in applications and documents or show the information on a Braille display, enabling blind and visually impaired users to use equivalent software functionality as their sighted peers. Also, they teach the blind and visually impaired students how to use the keyboard shortcuts, they are recording the audio version of the textbook "Accessing the Internet if You Are Blind or Visually Impaired" and, finally, they will produce a CD with the installation files and the textbook in the written and audio format.

Our second group of students develops a new version of the current alliance website. Since the current website does not satisfy the needs of the alliance, our students develop a new, more sophisticated website.

2. The Human Rights Center was established in 2003 as a Technical Cooperation Project between the United Nations Office of the High Commissioner for Human Rights (UNOHCHR) and the Government of the Republic of Croatia. Today it is a national

human rights institution that offers the experience of close cooperation between government officials, the academia, national human rights institutions, NGOs and others in activities related to the protection and promotion of human rights in Croatia. Our third group of students develops the bibliography database that will cover publications related to human rights and integrate it into web site of the Human Rights Center.

3. Center for rehabilitation "Zagreb" does rehabilitation of children, young and adult persons with moderate, severe and profound mental retardation. Our fourth group of students provides all kinds of informatic support for this Center, they train the staff to use the computer technology in advanced way, they digitize and organize all data needed for the development of the website and, finally, they develop the Center's website and do the regular update.
4. Association "Play" is a non-profit organization that provides rehabilitation-educational and psycho-social-pedagogical help through programs and activities of informal education. The purpose of this association is to improve the quality of life for children, teens and their parents and to improve the quality of life of the social community in general. Our fifth group of students creates the monthly calendar for the staff of the association and develops the database of all the volunteers in the association.
5. Croatian Society for Medical Oncology (HDIO) focuses on a multidisciplinary approach to cancer treatment. HDIO aims to unite physicians, caregivers, and patients in a global alliance committed to combating cancer and ensuring equal access to quality multidisciplinary treatment. HDIO gathers and disseminates oncology research results, supports oncologists and cancer patients with guidelines, policies and publications and offers education and training programs. Our sixth group of students develops a sophisticated website of the Croatian Society for Medical Oncology.
6. Zagreb scout association is an influential, value-based educational movement focused on achieving its mission, involving young people working together to develop their full potential, supported by adults who are willing and able to carry out their educational role. Our seventh group of students develops a database of all association members and teach the association staff how to maintain that database.
7. The European Youth Parliament (EYP) in Croatia represents an independent educational project which is tailored entirely to the needs of the young European citizen. Our eighth group of students develops a database of all association members and a website of the association.

8. Croatian War Veterans Association HVIDRA Zagreb is a non-profit association of Croat war invalids from the Homeland War who live in Zagreb. The association is founded to protect and promote common national, social, humanitarian, sport, cultural and health goals and interests. Our ninth group of students installed the operating system and all necessary applications in the association office, they are developing the website for them and the database of its members.
9. The Wireless Users Association „Extreme Wireless“ is a non-profit association for wireless users. Its main goal is to recognize the needs and development of the information and communication technology in Croatia and to plan the application of that technology in accordance with the development strategies of the Croatian information society. Our tenth group of students develops the database of all their users.
10. In the Public primary school "Medvedgrad“, our eleventh group of students are lending their expertise in constructing truly educational website, getting the school kids involved in the design process.
11. The same service learning activity as previous is performed by our twelfth group of students in the Public primary school "Petar Zrinski“.
12. "In different way" is a non-profit association that provides psychosocial and pedagogical help to children, youth and their families. The main goal of the association is to raise the children's quality of life, decrease the violence in the family and to raise the public awareness of the children abuse problem. Our last group of students develops a sophisticated website of the association.

To identify the need, students need to recognize relevant issues, assess resources, and seek out the thoughts and concerns of those being served. When students make the connections between their service activities and studies, it deepens their understanding of the curricular material, how it's used, and why it's important. In order to truly understand the impact of the service, students need to observe the impact of the project on different participants. This process will involve exchanging ideas with and control group members. In the process of observing the impact of the project, they recognize the significance of their experience and assess their own learning and the impact of the project on the community being served.

Finally, all our students will prepare a group project report, and develop a presentation for showcasing the report and the web-site or database to the client organization. The quality of the service learning activity is that after everything is finished, participants continue to use

their new knowledge and skills to make decisions, solve problems, and grow as caring, contributing members of their communities.

5. Conclusions and future work

Considering the fact that we live in a world dominated by values of market competition, economic integration and rapidly developing technology, a world that in the same time has growing requests for promotion of national interests and culture identity, we can see that the new reality imposes an entirely new role on the education sector. Our students definitely needs some skills, apart from knowledge. Therefore, we believe that the lecturer should spend at most 60% of the undergraduate class lecturing, while the other 40% of the class should be completely interactive. This methodology would help students to develop critical thinking, individual research ability, and perhaps the most important - capacity of adaptability. Economy should have its input directly into higher education and the relation between university students and labor market would be desirable. Students should do service learning during their study, and the moment they finish their study they would be able to find the job in the field more prepared, with less stress and fear. Service learning enables students to move from theory to practice, preparing them for a lifetime of learning, service, and civic engagement. It assists faculty in the transformation of student learning outcomes by strengthening course curriculum and pedagogy through experiential learning. Therefore, we believe it can become invaluable academic tool for Croatian students, faculty members and community in general.

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