

Innovation at the Faculty-level Education through Service Learning

Nives Mikelic Preradovic, Damir Boras, and Tomislava Lauc

Abstract—The paper presents the service learning project titled DicDucFac (idea-leadership-product), that was planned and conducted by the team of information sciences students. It was planned as a workshop dealing with the application of modern social media (Facebook, YouTube, Gmail) for the purposes of self-promotion, free advertising via social networks and marketing own ideas and/or products in the virtual world. The workshop was organized for highly-skilled computer literate unemployed youth. These youth, as final beneficiaries, will be able to apply what they learned in this workshop to “the real world”, increasing their chances for employment and self-employment. The results of the project reveal that the basic, active-learning principles embodied in our teaching approach allow students to learn more effectively and gain essential life skills (from computer applications to teamwork) that can only be learned by doing. It also shows that our students received the essentials of professional ethics and citizenship through direct, personal engagement in professional activities and the life of the community.

Keywords—Service Learning, Innovation, Engaged Citizenship, Leadership, Social Networks, Marketing.

I. PROJECT BACKGROUND

THE London Communiqué, with the working title *Towards the European Higher Education Area: Responding to Challenges in a Globalized World* is a document made by ministers of higher education in the countries participating in the Bologna Process which points out the major problems faced by higher education institutions today: preparing students to become active citizens in a democratic society, as well as preparing them for their constantly changing future careers, enabling their personal development while stimulating research and innovation.

All the above mentioned issues are far more complex in Southeast Europe (and Croatia as its part) than they appear to be in other European countries.

Croatia joined the Bologna process in 2001 and among other changes that it initiated was interactive teaching and focusing more on student's skills, competencies and practical implications of course material.

Unfortunately, the issue that we still face in Croatian higher education system is the lack of innovation, creativity and

critical thinking. The goal of higher education is not only to monitor and control students' success in the acquisition of knowledge, skills and competencies, but also to stimulate student curiosity and develop critical thinking.

Also, the function of higher education is to verify that a true knowledge transfer has occurred, but, unfortunately, knowledge is too often treated as a commodity that can be transferred from one person to another.

Research has, however, revealed that the current model of knowledge transfer prevents effective and innovative education since we, humans, create knowledge both individually and in a group arrangement, with a real challenge for teachers being to help students make their knowledge productive.

If the educational system is based on a detailed, fixed-controlled curriculum - creativity and innovation support does not exist. If such trend continues, students will lose curiosity, and, consequently, the ability for innovation, because the innovation will be reduced to known measurable limits and thus will become useless to both students and the society.

So, building educational systems with well-known structure and established curriculum in which teachers know exactly what knowledge students need to acquire and what skills they need to adopt actually creates a model that makes quality learning difficult to students, since they constantly adopt the "old knowledge" and are not able to develop new and critical insights.

Service learning (SL) is an innovative teaching method that connects the goals of higher education with the needs of society through student active participation in structured cooperative activities that address community needs [1]. It encourages students to utilize classroom knowledge to improve local communities but also to learn and develop professional skills as well as critical thinking [2]. Benefits to students also include interacting with real clients and learning interpersonal skills critical to their future career [6].

The information science curriculum in the United States applies service learning to facilitate students helping local NGO's on projects related to course topics, such as database design [7] or to connect students of information science courses with local schools to provide tutoring in the software applications they are using in class.

Benefits of these service learning projects are reciprocal to both the non-profit organizations that lack monetary resources [9] and to the students learning the problems of the organizations and the potential solutions through technology [13].

The research on service learning already showed that it has begun to transform education and the lives of many students involved [4, 5].

N. Mikelic Preradovic is an assistant professor at the Department of Information and Communication Sciences, Faculty of Humanities and Social Sciences, University of Zagreb, Croatia (nmikelic@ffzg.hr).

D. Boras is a dean of the Faculty of Humanities and Social Sciences and full professor at the Department of Information and Communication Sciences, Faculty of Humanities and Social Sciences, University of Zagreb, Croatia (dboras@ffzg.hr).

T. Lauc is an associate professor at the Department of Information and Communication Sciences, Faculty of Humanities and Social Sciences, University of Zagreb, Croatia (tlauc@ffzg.hr).

In Croatia, service learning was introduced in the largest faculty of the University of Zagreb (Faculty of Humanities and Social Sciences) in the academic year 2006-07 through the series of faculty workshops and through academic courses, with the goal to transform the traditional ex-cathedra teaching style [11]. Since then more than 50 SL projects in the field of information technology (IT) in Croatia have been completed and evaluated [11]. Due to the fact that information literacy becomes an important social issue nowadays, while the social need for a visual identity (especially in the electronic environment) constantly grows, information science students have truly a great field for activity where they can meet different interests and apply specific knowledge and skills [3].

Our students found the service learning effective, because (according to their online evaluations) it increases their awareness of the world and their personal values and facilitates their engagement in the local community [8, 10].

Finally, since 2006, all elementary and lower secondary schools in Croatia started to apply the Croatian National Education Standard (CNES). The Croatian National Educational Standard has been created as a basis for the changes in the teaching program in the elementary school system aiming to develop the "school tailored to pupils". The purpose of the CNES is the unburdening of the workload by introducing modern teaching methods based on research-based classes, individual and group work as well as applicable knowledge and skills [12].

II. LOGIC AND THE RATIONAL OF SL PROJECT DESIGN

In Croatia, currently there is a number of projects both at the national and local levels that have been implemented with the aim to research and promote citizenship education and innovation, but their main focus so far was citizenship education at secondary schools or life-long learning as well as adult education.

Also, the current primary concern of the Croatian government is the economic growth and competition in the global market, but without active citizenship and a strong motivation for innovation our country cannot achieve economic progress.

Unfortunately, in most institutions of higher education in Croatia, learning by doing tends to be relegated to second-class status in education reform which means that not all students may encounter citizenship education in their curriculum experience.

Furthermore, our students usually emphasize individual effort to the exclusion of collaborative efforts when it comes to group work, even though each job placement today involves group effort. They often lack basic interpersonal skills, do not know how to dress appropriately for different occasions, how to speak and carry themselves, etc.

Also, one of the most disturbing things about students today is that many of them have never belonged to community or civic organizations and they do not possess feeling of ownership of their community.

Unfortunately, education is nowadays threatened by systems and technologies which determine principles of monitoring and measuring student learning through testing of

prescribed pieces of reproductive knowledge. Teachers teach students those skills that are easy measured through these tests, while students adapt and learn in relation to the predefined knowledge base.

We believe that faculty in Croatia must teach the basic social skills (such as teamwork or interpersonal skills) if we are going to make a credible claim that we fulfill the social function, since at the moment we highly succeed in teaching technical skills, but almost failing entirely to teach students what they need to know to survive at the job.

Civic engagement would help students make the connections between subject materials they are studying and issues in the larger world, engaging them in action and reflection on important community issues. Civic engagement means thinking of students as active members of their community, providing citizenship education marked by continuity, depth, and meaningfulness that are embedded in the curriculum.

Service Learning (SL), as a theoretically grounded and empirically tested teaching and learning method that is focusing on both learning outcomes and serving the needs of civil society, local communities and community in general, might become the vehicle that enhances the development of the active citizenship and inspire innovation in our students.

The basic aim of SL is to make all beneficiaries aware of their rights and responsibilities and to develop their capability for participation in society, inspiring engaged citizenship, promoting a civil society and building of the public good. It is not a method of education about citizenship (e.g. learning about citizenship from the lectures at classrooms), but rather method of education through citizenship (focusing on student's engagement, learning by doing and participation in activities of the local community).

Through academic instruction, meaningful service, and critical reflective thinking, service learning enhances knowledge acquisition and social responsibility of all beneficiaries. It differs from volunteerism, community service, internships, and field education through its use of structured, critical inquiry and the importance placed on reciprocal partnerships between the beneficiaries and their community partners.

The results of the SL project described in this paper reveal that the basic, active-learning principles embodied in our teaching approach allow students to learn more effectively and gain essential life skills (from computer applications to teamwork) that can only be learned by doing. It also shows that our students received the essentials of professional ethics and citizenship through direct, personal engagement in professional activities and the life of the community.

III. DESCRIPTION OF THE DICDUCFAC PROJECT

DicDucFac (idea-leadership-product) project was planned and conducted by the team of information science students, taking into consideration the need for a multidisciplinary approach able to cover both educational aspect of human resource development (development of transferable

knowledge and different skills) and socio-economic issues in fighting unemployment. In this regards, the project had the following stakeholders: students, highly-skilled unemployed youth, faculty and the local NGO – Croatian Slavic Society.

The main project objective was to demonstrate the advanced use of the social networks (such as Facebook), free systems for video exchange (such as YouTube) and free electronic mail services (such as Gmail) to the highly-skilled unemployed youth for the purpose of self-promotion, job search, job enrichment, and successful career transitioning.

This service learning project aimed to indicate advanced features of popular online services that can be used for business communication, and not just for leisure and entertainment.

The project consisted of three phases. In the first (preparation) phase, students learned how to identify and analyze the community need as well as how to select and plan the project with the community partner. Since they expressed interest in developing free workshop for highly-skilled unemployed youth that will teach them to market their own ideas, they were partnered with the community-based organization of their own choice which helped them implement this idea.

Regarding the action phase, students worked over the course of the semester on their SL project in consultation with the academic supervisor and the chosen community partner, applying the theoretical knowledge and acquiring new skills required for activities that they selected due to their interests.

They prepared the detailed project proposal, created fictitious company / small business and developed the business plan for it. They used YouTube to make the promotional video spot which describes the project: its cycles, development and the final results.

Apart from developing workshop materials and modes of workshop implementation, our students carefully planned their marketing activities, developed the visual identity for their fictitious company and used social media to promote their workshop. They opened a group on Facebook and invited their followers to visit the workshop they were hosting explaining to them why they would benefit from attending it.

They also developed video tutorials dealing with opportunities and potential of using Facebook and Gmail that each participant could access after the workshop to affirm their newly acquired skills and knowledge.

During the workshop, which was well-attended and well received by participants, they used the following methods of instruction: interactive lectures, in-class discussions, group work and reflection activities.

Regarding the topics of the workshop, they explained the use of e-portfolios, viral marketing and social networks for self-promotion and branding.

Finally, they conducted their workshop through the constant interaction with the participants, meeting the individual needs of each beneficiary. Their workshop enabled participants with different backgrounds to interact with each other and build networks.

Regarding students' responsibilities, they ensured that their placement involves real, not make work and that they were fully prepared for placement, meeting all on-site requirements, respecting clients and the needs of the community partner.

They had the ability to apply ICT knowledge (but also knowledge from the other fields) to develop the workshop structure and materials. They also had the opportunity to work in diverse group settings and to develop the ability of higher order thinking that enhances problem solving and analysis. Finally, they were able to utilize and organize increasing sources of information in effective way.

The whole SL project focused on critical thinking in groups, cooperation, collective problem solving and learning of shared experience.

Finally, in the reflection phase, we used the reflective journal as a method of inquiry to facilitate ongoing consideration of the experience, encourage broader appreciation of the SL projects and enhance students' sense of civic responsibility. Also, this phase aimed to create a change in students' attitudes and inspire their critical thinking.

Students were introduced with different reflection e-activities (e-journals, e-portfolios, e-discussions, etc.). These activities were assessed through 3 levels of reflection (see *Criteria for Assessing Reflection in the Project*).

Regarding the assessment part, students wrote the application of their planned project (objectives, target group, type of project, etc.), final report and the evaluation of different case studies discussed in the class. All these components were assessed at the end of the semester as the part of the final grade.

Finally, the DicDucFac project recognized the emerging role of technology in shaping our participation in the community and presented ways in which online technologies can be used to decrease challenges of developing and facilitating service learning experiences and enhance learning.

The above described SL project embraced three elements: reflection, reciprocity and engagement.

Faculty professor took the role of project coordinator and mentor, while students became teachers and entrepreneurs.

In collaboration with the non-profit sector, students provided end-users with real life experiences and 'hands on' answers.

Engagement in the SL project helped students to try on their knowledge in practice, fulfil their increasing desire to be 'educated' for employability and be better prepared for the labour market. The reciprocal nature of SL ensured that all stakeholders (students, highly-skilled unemployed youth, teaching faculty and community members) benefit from it.

IV. THE ROLE AND BENEFITS OF EACH PARTNER IN THE PROJECT

Upon completion of the DicDucFac project, our students proved to possess skills essential to work effectively in and for their community. They acquired experience of effective communication in a team, the ability to share responsibility, to motivate, analyze and solve problems. They also attained

basic organizational skills, working creatively individually and in a group and making a professional project presentation.

Furthermore, they have developed civil, professional and interpersonal skills, as well as critical thinking through active participation in structured activities that addressed the community need. They established contacts and experience with the world outside the classroom, people engaged in the activity, spending their time outside the faculty premises, in the NGO, and “learning by doing”. They also developed their abilities to perform assignments with a community added value and to conduct social research (surveys, interviews, analysis of mass media, etc.).

Their DicDucFac project represented a challenge that tested their learning, but it also constituted a unique opportunity of recognizing the complexity of academic courses’ concepts and research issues through service learning.

Students had the opportunity for direct community involvement and career development, applying theoretical learning in a real-world setting, addressing real-life issues and gaining a sense of confidence about the quality of their contributions. This service learning project will serve them as an excellent job reference and indication of their creativity and ability to engage intellectually, emotionally and socially.

They learned not only how to connect theory and practice, but also how to help others, give of themselves, and enter into caring relationships with others in their community.

Their project brought benefit for both unemployed youth and local community at large, preparing them for their constantly changing future careers, enabling their personal development and, more importantly, stimulating research and innovation. It also prepared them to become active citizens in a democratic society.

Our community partner, NGO Croatian Slavic Society, provided our students with the real-world problem and assisted faculty in its teaching mission. In return, they received needed volunteer teaching staff and gained expertise from our students. They also had a chance to perceive faculty members as pragmatic experts who are willing to help a community with its issues. Finally, our satisfied community partner was able to recognize the high quality education being delivered at our Faculty, the relevance of academic knowledge production and dissemination and how students directly assisted in their businesses development.

Through this project, Faculty as a partner offered itself as a source of resources, sharing academic expertise, cultural energy and assets. We, teaching faculty members, had the opportunity to improve student learning outcomes and to have community impact, but we also became actor in strengthening the role of the local community in Croatian society in general.

We also had the opportunity to enhance our capacity to educate knowledgeable, skilled, world- and workplace-ready individuals with the academic, technical and social preparation to function as fully participatory citizens.

V. THE PROJECT LEARNING OUTCOMES

Both students and we (teaching faculty members) needed to acquire a sense of what students have gained and learned through this project in order to discover what to learn next and how to get there. Therefore, we thoroughly planned the quality evaluation in order to provide feedback to students and the community in which we all live in.

At the beginning of the semester, we expected the following measurable learning outcomes: the effects of the learning process in terms of changes in students' attitudes, knowledge and skills.

Students, as our final beneficiaries, should have achieved improvement of their abilities and skills to be able to connect theoretical and empirical material, to understand civil society in its structures, activities and its potential, to enhance professional writing skills, to practice interest in civic life, and to employ critical thinking.

The main goal of the project was to assist our students to discover the relevance of their new knowledge in the real world.

Service Learning as a background of learning process enhanced student's potential to understand civic participation and empowerment, community organizing and leadership. It also helped them to recognize important characteristics under which non-profit sector is functioning, understand the inner structure of NGO and grasp the essential strategies of community development. Rather than being presented with theories and facts, students were asked to search out the facts and create data.

Our students had a chance to perceive civil society as a world of relations between the individual and community. At the same time, they were expected to have essential belief that creativity, trust and “can do” attitude are important components of the civil society. Their SL project concentrated on two attitudes in particular: an attitude toward oneself and an attitude toward others.

During the project work, our students learned how to distinguish fact from opinion, to understand how values shape analysis, to frame an argument, to assess their positions and that of the other group members, to identify the grounds on which to compare and contrast the two, to weight the value of different kinds of claims, to assess the relative quality of their arguments and to construct a compelling case for their preferred position.

They also became able to identify the main objectives and issues of their project, to structure and outline their workshop, to write the project draft and handle the documentation, to use graphs, charts, tables and other quantitative representations in their project as well as e-portfolio. They were asked to write mini-essays and weekly journal submissions, as well as multiple drafts of their final project.

Furthermore, students had the opportunity to speak formally in class, to participate in a class debate, to learn to speak better and learn about different styles of spoken interaction they used in their final workshop. They also learned how to present their ideas well, to use cloud-based presentation software and

zooming presentation editors to present data and design a compelling interactive lectures.

Our students were taught these four types of social skills: teamwork, taking responsibility, interpersonal and diversity skills.

They learned invaluable lessons about teamwork while participating in arbitrarily assigned groups. They had issues in getting along with all group members, dealing with free riders, scheduling group meetings and handling all difficulties of group work that were resolved through the group discussion and reflective activities.

Being at age in which they begin to accept responsibility for their own lives and responsibility as part of a larger workplace organization, our students needed this chance to take part in the project that helped them to assume responsibility as an adult.

Participating in this project, they also had to develop some of the basic interpersonal skills.

Furthermore, the globalization of the economy has significantly transformed the today's workplace and our students need to be able to work comfortably with people different from themselves, people of both genders, all races and ethnicities. We gave our students an opportunity to step out of the homogeneous group and get experiences outside this safe clique.

Also, the basic element of the civil society is a healthy respect for others and a tolerance for their ideas and interests.

We tried to teach our students about skills basic to the functioning of civil society and how to be a good citizen, possessing essential knowledge about community and skills related to working effectively in and for the community. DicDucFac project was a way to engage them in their community and to foster a sense on their part that their community is really theirs.

During the semester, they were also taught a wide range of materials relevant to their ability to think as informed citizens, and of skills relevant to their ability to act as active and effective citizens.

To conclude, curiosity is the center and the source of the development of student competencies and, ultimately, social development. Being educators, we can further deepen students' curiosity by assisting the process of knowledge acquisition, highlighting new targets on which students can concentrate and learn about them, providing food for thoughts and research. Students need to be able to experiment, to test new knowledge and perspective and be motivated for new and creative research on the things that interest them, taking into account all the causes and consequences. They must be able to find their place in all these processes, explore all opportunities, and to discover themselves.

VI. CRITERIA FOR ASSESSING REFLECTION IN THE PROJECT

Analyzing student reflection activities, we were able to assess the student reflection in this project through three levels (basic, intermediate and advanced level) described in the following paragraphs.

Regarding the basic level, students going through such reflection mainly focused on just one aspect of the project situation and used unsupported personal beliefs as frequently as hard evidence. Although they did acknowledge differences of perspective, they still did not possess enough knowledge on how to discriminate them. Their observations were conventional unassimilated repetitions of what has been heard in class or from peers. Although they provided examples of characteristics of the client and project setting, they were not able to provide insight into reasons for their observation.

On the other hand, students achieving intermediate level of reflection were able to make thorough observations, although rarely placed in a broader context. They perceived legitimate differences of viewpoint, but failed to recognize the broader picture in which the aspect was embedded. They were also able to demonstrate some ability to interpret evidence and personal beliefs.

Finally, students that achieved the advanced reflection level managed to observe multiple aspects of the project situation, placing them in context and assessing the importance of their decisions. They also recognized conflicting goals within and among all stakeholders involved in the SL project and perceived that these differences can be evaluated. Finally, they understood which factors affected their choice and made consistent judgments based on reasoning and project evidence.

One of our students, who achieved advanced reflection level, wrote the following in his journal:

The very idea of a freestyle reflective journal is one of the most qualitative that I've ever met in my great student adventure since it shows mentor's confidence in the student's ability to analytically observe the project, its concept, form and content. Such activities are usually avoided in academic circles due to the common perception that students can not be coherent if they do not hold to the prescribed form.

VII. CONCLUSION

When planning our curriculum, we might get into situation where one forgets the fundamentals of teaching and learning, especially when it comes to encourage students' curiosity and their urge to get to know the outside world, deepen their relationships with other people and discover their place in these relationships and in the world outside the classroom.

Education that satisfies curiosity is one that highlights the most important thing - the desire to learn. Such learning serves to satisfy student curiosity and to help them to put their knowledge into perspective.

Furthermore, innovation is one of the key factors for raising standards of higher education. Therefore, a quality educational system must provide the conditions for the introduction and support of innovative student ideas.

DicDucFac (idea-leadership-project) was the innovative project planned and conducted by the team of information sciences students at the Faculty of Humanities and Social Sciences as their service learning project. It was planned as a workshop that dealt with the application of modern social media (Facebook, YouTube, Gmail) for the purposes of self-

promotion, free advertising via social networks and marketing own ideas and/or products in the virtual world. The workshop was organized for highly-skilled computer literate unemployed youth. These youth, as final beneficiaries, will be able to apply what they learned in this workshop to “the real world“, increasing their chances for employment and self-employment.

Knowledge gained from experience is the most valuable and trustful. Therefore, the emphasis in the above described and all our SL projects is always placed on learning by doing, but having others (peers, professors, community members) in mind.

Also, all our SL projects ensure that the attitudes and values communicated by the classroom practice are fully consistent with the values and attitudes essential to the civil society we seek to build and defend.

We believe that (in order to develop the active citizenship and inspire innovation in our students) teaching faculty must adapt their current pedagogy (curriculum, courses and classroom practices) to incorporate innovation and active citizenship and to ensure that new generations of university students possess the knowledge, skills and attitudes of democratic citizens and of competent professionals.

Teaching faculty have the ability to unlock the creative, innovative and critical potential in students, but also to monitor what happens when the educational focus gets shifted from the development of curiosity, experimentation and creativity to the pursuit of economic advantage. Both creativity and innovation are essential to the economy and society in which we live, but the development of these skills can not be reached without support of dynamic, innovative and open-minded educational system.

Finally, after positive and encouraging results of our SL projects, we consider that the service learning teaching and learning method will be used in other institutions of higher education in Croatia and in collaboration with other community partners as well. If implemented systematically, such service learning projects can enable universities to connect knowledge to practice, to bring academics and practitioners into closer relationships and to contribute towards improvement of conditions in local communities.

We also hope that our students will further engage in civic activities where they can put into practice the acquired knowledge and skills. Last but not least we hope for an even more positive attitude of the local authorities (local government, industry and education leaders) towards continuation of such projects and collaboration with the Faculty, contributing to practical innovation for economic growth, industrial development and the quality of people's lives.

REFERENCES

- [1] Bringle, R., Hatcher, J. Implementing Service Learning in Higher Education, *Journal of Higher Education*, Vol.67, No.2, March/April, (1996).
- [2] Eyler J, Dwight E. G. Where's the Learning in Service Learning? Jossey-Bass Publishers. (1999).
- [3] Eyler, J. S., et al. At a Glance: What We Know About the Effects of Service-Learning on College Students, Faculty, Institutions, and Communities. *Campus Compact Introduction to Service-Learning Toolkit: Readings and Resources for Faculty*. Second Edition. Providence, RI: Brown University. pp. 15-19. (2003).
- [4] Eyler, J., Giles, D., Stenson, C., Gray, C.: What we know about the effects of service-learning on college students, Faculty, Institutions and Communities. (2001).
- [5] Furco, A. & Billig, S. H. (eds.). *Service-Learning: The Essence of the Pedagogy*. Greenwich, CT: Information Age Publishing. (2002)
- [6] Guthrie, R.A. & Navarrete, C.J. Service-Learning Impact on Information Systems Students in a Web Development Course // *Proceedings of the Information Systems Education Conference (ISECON)*. San Diego, CA. (2003).
- [7] Hoxmeier, J. & Lenk, M.M. Service Learning in Information Systems Courses: Community Projects That Make a Difference // *Journal of Information Systems Education* (14), pp. 92. (2003).
- [8] Jacoby, B. et al. (eds). *Service Learning in Higher Education: Concepts and Practices*, San Francisco: Jossey-Bass. (1996).
- [9] Lazar, J. & Norcio, A. Service-Research: Community Partnerships for Research and Training // *Journal of Informatics Education and Research* (2)3, pp. 21-25. (2000).
- [10] Mikelic Preradovic, N., Kisicek, S., & Boras, D. Evaluation of Service learning in ICT curriculum. *Proceedings of the 2nd Paris International Conference on Education, Economy and Society*, Vol. 3. pp. 55-66. (2010).
- [11] Mikelić, Nives; Boras, Damir. Service learning: can our students learn how to become a successful student? *Proceedings of the 28th International Conference on Information Technology Interfaces / Budin, Leo; Lužar-Stiffler, Vesna ; Bekić, Zoran ; Hljuz Dobrić, Vesna (eds). Zagreb: SRCE*, pp. 651-657. (2006).
- [12] Rukavina, S. & Jurdana-Šepić, R. Changes in the Croatian educational system - the first steps, 2008, *International Journal of Research in Education*, Vol. 1, No. 1, pp. 1-12. (2009).
- [13] Saulnier, B.M. Service Learning in Information Systems: Significant Learning for Tomorrow's Computer Professionals // *Proceedings of the Information Systems Education Conference (ISECON)*. Newport, RI, pp. 9. (2004).