Implementation of Student Mobility Program within the Frame of TEMPUS Project CD-JEP 16160/2001

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Abstract: In order to organize student mobility program we propose a procedure that enabled us to realize student mobility in a systematic manner. Since our program was not a part of some big international program like Erasmus or Lingua we were forced to establish the procedure based on rules that are in accordance with the Tempus rules for students' travel. For organization and implementation of student mobility program we propose a four-stage procedure. In this paper we describe student mobility program implementation according to the proposed procedure covering preparatory activities, selection procedure, realization of travels and follow-up activities.

Keywords: Computer science, education, student mobility

1 Introduction

Student mobility and accompanied academic recognition are assumed to be necessary prerequisites for an open and dynamic European educational area that will help European integration and labor market mobility. Students are potentially our most authoritative ambassadors and persuasive marketers. The concept of student mobility can be classified into the following categories [1]:

- Spontaneous mobility – referring to students registered at higher institutions under standard procedures, not through any of the organized program like Erasmus and Lingua

- Organized mobility – referring to mobility encouraged by organized educational program

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Student mobility can also be classified as a short and a long-term, where short terms refer to a maximum of a one-year study and the long term to a complete course of study leading to a diploma [2].

The Faculty of Electronic Engineering, as a Coordinating Institution for the TEMPUS Project CD JEP-16160-2001 "Innovation of Computer Science Curriculum in Higher Education" organized a student mobility program. Within the frame of TEMPUS CD JEP-16160-2001 Project students had a chance to improve their knowledge in one of the European educational institutions [3]. We organized a short-term student mobility program of East-West and East-East type where students were sent to a four-week professional placement. Seven students visited University of Dortmund (CSUD), Germany, four were at Technological Education Institute of Athens (TEIA), Greece, while three had a professional placement at Institute for Informatics of The Faculty of Science and Mathematics Skopje (FNSMS), FYR Macedonia. The program was successfully realized and it can serve as an example of a good practice. The aim of this paper is to describe the organizing procedure that we used for organization and implementation of student mobility program. Since the program was not a part of any big international programs for student mobility, where Serbia and Montenegro are not yet eligible, we found an alternative path to involve our students in student mobility. Moreover, we would like to encourage other colleagues to organize and realize similar programs for their students. At the same time we want to draw attention of our students to the importance of student mobility program and opportunities that are at their disposal.

2   Organizing procedure

In order to organize student mobility program we propose a procedure that enables us to realize student mobility in a systematic manner. Since our program was not a part of some big international program like Erasmus [4] or Lingua [5], [6] we were forced to establish the procedure based on rules that are in accordance with the Tempus rules for students' travel. For organization and implementation of student mobility program we propose the following four-stage procedure (1).

- Stage 1: Preparatory activities

- Stage 2: Selection procedure

- Stage 3: Realization of travels
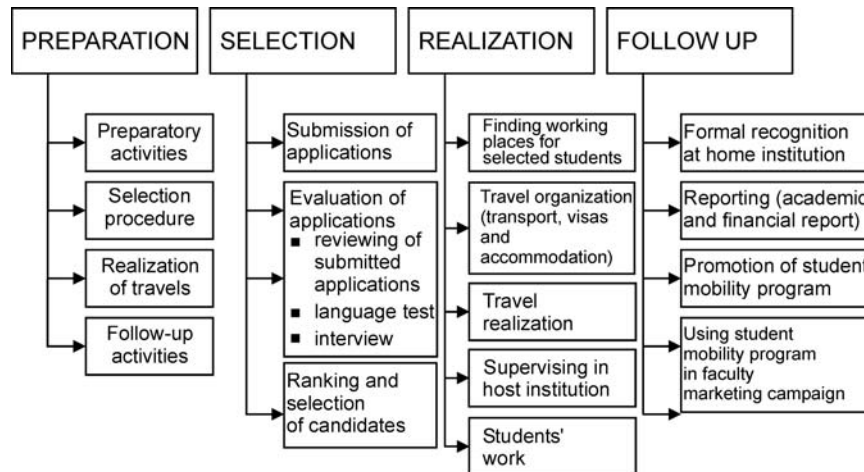
- Stage 4: Follow-up activities

Fig. 1. The procedure for organization of student mobility

2.1 Preparatory activities

Preparatory activities are the basis for good organization of student mobility program. They encompass the following:

- Preparation of project proposal
- Negotiation and contracting
- Criteria development
- Realization of public competition
    - Announcement (project web site, lectures, flyers)

The first problem that has to be solved is financing the student mobility program. While we were writing the proposal for the Joint European Project within the frame of Tempus program we were focused on our students. Reconstruction of Computer Science Curriculum was the primary goal of our project, but in order to check whether our students are ready to study at different Universities or not, we offered them a chance to have an idea of studying at different places we embedded student mobility program into project proposal. Since the project was approved by European Commission we solved the first problem relating to financing the mobility. Contracting legalized our program and after that we developed the criteria for students' application evaluation. It is very good to have developed criteria in the early phase before announcing the program. Our goal was to give advantage to students with higher marks, shorter study duration, and higher proficiency in English.

Along with that we favored the students who passed more exams. Our attitude was that students who are closer to the end of studies would have more professional benefit from student mobility program than those who are at the beginning.

While choosing a candidate the Commission was evaluating the following criteria:

- Average mark from the group of courses
- Average mark during the studies
- Laboratory work and activities at TEMPUS club
- Language proficiency in English
- Results international competitions
- Duration of studying

The recommendation, of at least one professor, was obligatory. The crucial information from the recommendation was the description of students' abilities for laboratory work because we sent students on a four-week professional placement at laboratories of other Universities.

After criteria development, the public competition for professional placements was announced at a project web-site, via flyers and via short live presentations during the lectures. The header of the official announcement is given in Fig. 2.

2.2   Selection procedure

The next stage is selection procedure. This stage has to be based on the criteria given in the announced public competition.

The selection procedure includes:

- Submission of applications
- Evaluation of applications
    - reviewing of submitted applications
    - language test
    - interview
- Ranking and selection of candidates

The commission formed for the purpose of a student mobility program organization was dealing with all documents making an interview with each candidate,

PUBLIC COMPETITION
for participation in student mobility program
Within the frame of TEMPUS CD JEP-16160-2001 Project
"Innovation of Computer Science Curriculum in Higher Education",
the realization of student mobility program, where students could improve their
knowledge in one of the European educational institutions, was foreseen.
The Faculty of Electronic Engineering, as a Coordinating Institution for the
TEMPUS Project CD JEP-16160-2001, announced an open competition or
participation in student mobility program.
University of Dortmund (CSUD), Germany
(6 scholarships)
Technological Education Institute of Athens (TEIA), Greece
(4 scholarships)
Institute for Informatics, Faculty of Science and Mathematics Skopje (FNSMS),
FYR Macedonia
- (2 scholarships)

Fig. 2. The header of the official announcement for the student mobility program

together with language checking. The commission was comprised of three professors from Faculty of Electronic Engineering and an English language expert. After application reviewing, language test and interviews, the commission made rang list of candidates. Having in mind, on one hand a lot of high quality candidates and on the other hand limited budget we decided to provide one additional place for a professional placement at Dortmund and one more at Institute for Informatics, Faculty of Science and Mathematics Skopje. The final list was published at the project web site.

2.3   Realization

The stage of realization comes after preparatory activities and selection procedure requiring the engagement of: commission members, professors from host institution and selected students. This stage assumes:

- Finding working places for selected students
- Travel organization (transport, visas and acommodation)
- Travel realization
- Supervising in host institution
- Students' work

Joint work of professors both from home and host institution is required for finding working places for selected students. It assumes sending all relevant data for each student to a host institution. Professors from the host institution after reviewing all CVs suggest working places for candidates and confirm the exact dates for visits. Thus, we had all the necessary preconditions for travel organization. As the next step we provided assistance to our students in travel organization. All students were informed about travel rules according to Tempus guide for the grant spending. The invitation letters, necessary for visa obtaining procedure, were provided as well as travel tickets and accommodation. After all previously mentioned preparations the students were ready for travel realization. Their work in host institutions was supervised by EU professors. Here is a brief review of their activities.

   Students' work

- University of Dortmund, Computer Science Department
    - Group I: (5 students)(supervisor: Prof. Dr Claudio Moraga) [7]
        * Dortmund University Campus web site project "Being the student in Dortmund"
        * http://lrb.cs.uni-dortmund.de/nis/
    - Group II (2 students)(supervisor: Prof. Dr Peter Marwedel)
        * Involved in embedded systems research group with specific tasks that relate to source code optimization techniques for embedded system software development
- Technological Educational Institute of Athens, Informatics Department (supervisor: Prof. Dr Katerina Georgouli)
    - Group I (2 students)
        * Development of "CV Archive" web portal, aimed to allow web-based management of staffs' CVs
    - Group II (2 students)
        * Visualization of artificial intelligence algorithms
- University of St. Cyril and Methodius, Facultuty of Natural Sciences and Mathematics, Institute of Informatics (supervisor: Prof. Dr Marjan Gusev)
    - Group III: (3 students)
        * The work of students who visited Institute of Informatics in Skopje was of a different kind than work that their colleagues had in Dortmund and Athens. They attended two courses in the field of Computer Networks that were offered by Regional CISCO Academy within the frame of Institute of Informatics. They could not attend

these courses in their home institutions. They passed both CCNA1 and CCNA2 successfully and their specific benefit was obtaining internationally recognized certificates.

2.4   Follow-up activiteis

The last organizational stage is devoted to the following activities:

- Formal recognition at home institution
- Reporting (academic and financial report)
- Promotion of student mobility program
- Using student mobility program in faculty marketing campaign

According to the current Computer Science Curricula at Faculty of Electronic Engineering students are obliged to spend four weeks at professional placement at industry or at Faculty's Laboratories. During that period they work on the assigned task and at the end they defend their reports. We used that fact and recognized students' stay at host institutions as obligatory professional placement within the frame of Faculty of Electronic Engineering curricula. For the first time our students wrote their reports in English and at the same time they were responsible for both academic and financial issues.

In general, we did a promotion of a student mobility program. Promoting a student mobility program we promote Computer Science studies at Faculty of Electronic Engineering University of Nis. Future students, as well as students of first two years, were motivated by the fact that their older colleagues had a chance to participate in a student mobility program.

3   Conclusions

The proposed procedure is a very good formal framework for implementation of a student mobility program within the frame of Tempus Curriculum Development projects. Organizing a student mobility program according to the proposed procedure we achieved benefits at two levels. At the first level, all our student have personal benefits from the student mobility program such as personal professional development, improved language skills and better cultural awareness. At the second, institutional, level we set the basis for a future network of Higher Education Institutions where our students will have a chance to acquire new cognitions. Successful organization and implementation of student mobility program was of great

importance for the Faculty of Electronic Engineering to show that it is able to be a part of European Higher Education Area.

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