

# Key Factors Affecting Efficiency of Virtual Mobility – Case Study

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*Abstract:* - The article acquaints readers with over four-year experience with virtual mobility gained during development of the network of interuniversity study in the Czech Republic. Virtual mobility represents utilization of information and communication technologies to obtain the same benefits as one would have with physical mobility but without the need to travel. The contribution describes two projects based on the issue of virtual mobility. The system of interuniversity study is depicted; special attention is devoted to the efficiency of virtual mobility. The efficiency is in this paper understood as a difference in numbers of students who got enrolled in courses at the beginning of the academic year and those who completed courses successfully at the end of the year. Reasons of the unsuccessful study are explored in detail.

*Key-Words:* case study, education, eLearning, interuniversity study, study failure, study efficiency, virtual mobility.

## 1 Introduction

Technologies, especially information and communication technologies (ICT), play a significant role in today's knowledge society. These technologies enable removing geographical obstacles, speed up communication and make some processes more effective.

ICT affect not only an industrial sector, but also plenty of other sectors and act as integrating device or a kind of mediator. ICT change society, all that has a considerable impact on development in economic, social and environmental areas. (Casal, et al., 2005)

On the other hand, ICT influence is not only positive one, it may build new, still unknown barriers. A new expression "digital gap" is closely connected with the use of ICT. Similarly it is not true that speeding the communication guarantees higher effectiveness of the communication.

The changes afflict a lot of human businesses as well as education. Remarkable progress can be observed during last fifteen years. Technology allows students to be more flexible as to the time and place of learning in ways that were unimaginable then fifteen year ago.

## 2 Mobility and Higher Education

Importance of internationalization and mobility is growing at present and the same trend is experienced in the university education.

The first action programme remained the framework of reference for all European Union educational programmes until the Treaty of Maastricht was signed in 1992 (articles 149 and 150). The programme set out three priority areas regarding higher education:

- to increase cooperation between higher education institution;
- to improve possibilities for academic recognition of diplomas and periods of study;
- to encourage the freedom of movements and mobility of teachers, researchers and students. (Wit, 2003)

In 1998 the ministers of education of several European countries (Germany, France, United Kingdom and Italy) discussed a call for a European Area of Higher Education. They signed the Sorbonne declaration, in which the European higher educational systems would be harmonized following a bachelor-master model. Another document of key importance was signed one year later by all ministers of the European Union and the associated countries. This document called Bologna declaration defines clear goals to be reached in 2010:

- enhancing the comparability of Europe's higher education systems on the basis of a two-cycle system, supported by the ECTS-compatible credit system;
- enhancing the employability and mobility of European's citizens;
- improving the competitiveness of Europe's higher education as a whole. (Wit, 2003)

The idea of mobility at the university environment has been connected and supported by the program of European Union ERASMUS for more than twenty years. Erasmus is the EU's flagship education and training programme, enabling two hundred thousand students to study and work abroad each year, as well as supporting co-operation actions between higher education institutions across Europe. Studies show that a period spent abroad not only enriches students' lives in the academic field but also in the acquisition of intercultural skills and self-reliance. Around 90% of European universities take part in Erasmus and 1.9 million students have participated since it started in 1987. (ERASMUS, 2009)

Czech universities have been participating in the ERASMUS programme for 12 years and more than 30 thousands of students have studied abroad.

## 2.1 Virtual Mobility

An innovative idea in the field of university mobility is utilization of ICT potential.

The use of ICT in the field of university mobility is quite new and interesting way. Staying at home students and teachers can get international and in other respects unattainable expertise via the use of ICT.

*Virtual mobility means the use of information and communication technologies to obtain the same benefits as one would have with physical mobility but without the need to travel.* (Glossary)

In the frame of the Being Mobile project the expert team defined virtual mobility in higher education institution as a form of learning which consists of virtual components; this kind of learning is run through information and communication technologies supported by learning environment. Virtual mobility includes cross-border collaboration with people from different backgrounds and cultures working and studying together, having the enhancement of intercultural understanding and exchanging knowledge as its main purpose. (Bijnens, et al., 2006)

Virtual mobility may be defined from another point of view – it is the way of collaboration among people from different backgrounds and cultures, working and studying together where crossing borders in not a necessity any more. This approach has special name in the Czech educational environment, it is called interuniversity study.

Virtual mobility and interuniversity study fit well in the context of the Bologna process and e-learning Action Plan. The aim of the Bologna process is to create a European Higher Education Area. And one of its

objectives is to facilitate interuniversity mobility and co-operation among universities.

According to the type of virtual mobility student is free to choose his professor regardless of the geographic distance that might exist between them. Studying at the virtual university enables the student to get familiarized with different educational and learning systems. He/she can improve their adjustability to different levels of culture and philosophy in the area of the university.

Virtual mobility appears beneficial especially in case when studies are not run in the form of traditional full-time studies. Effectiveness and quality of study programs which are implemented through distance or combined study form is, according to the experience across Europe, much higher if several Universities set up a common university network. (Slabý, et al., 2006)

## 2.2 Types of Virtual Mobility

Due to the fact that the given definition of virtual mobility is rather wide covering a wide range of various activities it is advisable to divide virtual mobility into several categories.

This categorization can be done in different ways, using different views and there is no generally accepted set of categories.

Literary sources base categorization in accordance with various aspects:

- according to the use of virtualization: totally virtual, partially virtual, dual or mixed;
- based on the used technology;
- based on the educational aspects - the teaching and/or learning scenario that has been used.

The expert team of the Being Mobile project based their typology of virtual mobility activities mainly on the terms in which the virtual mobility activity takes place. (Bijnens, et al., 2006) They identified four main types:

- a virtual course (as part of a programme) or seminar (series) at a Higher Education Institution;
- the whole programme at a Higher Education Institution;
- virtual student placements;
- virtual support activities to physical exchange.

The finally mentioned categorization means to be the most suitable one. Single types are described according to (Bijnens, et al., 2006):

### A virtual course or seminars at a Higher Education Institution

This category contains activities which focus on the virtual course and are part of the whole study programme at a Higher Education Institution.

Students participate in Virtual Mobility only for a single course or seminar (series) and the rest of their learning activities take place in a traditional way. There are two subtypes:

- collaborative arrangements;
- non-collaborative arrangements.

Collaborative arrangements hold those parts of a course, seminar (series) or other educational services of the awarding institution and are provided by a partner in another country, while non-collaborative arrangements include branch campuses, offshore institutions, corporate and international institutions whereby study programmes, parts of a course of study, seminar (series) or other educational services are provided directly by an awarding institution in one country to another country or countries.

### **The whole programme at a Higher Education Institution**

This is a complete virtual study programme at a Higher Education Institution giving students from different countries or institutions the chance to take this study programme without having to go abroad or to another place for a whole academic year.

### **Virtual student placements**

Using information and communication technologies supports some forms of Virtual Internship with a foreign company. Student placements are organized between an institution and a company in another country.

### **Virtual activities supporting the physical exchange**

Virtual mobility opens up possibilities to both better prepare and follow-up students who take part in a physical Erasmus exchange. A preparatory language and "cultural integration" course could be provided by the host institution supported via information and communication technologies.

At the end of the physical exchange, students can also keep in touch with their new friends and finish their common research project.

## **2.3 Virtual Mobility Projects**

The European Commission and some national agencies actively promote virtual mobility by providing financial support to educational projects in this field. There are several examples of virtual mobility projects in the European area:

### **EVENE - Erasmus Virtual Economics & Management Studies Exchange**

The core aim of this project was creation of a network of traditional European higher education institutions for the purpose of mutual exchange and sharing of courses and

pedagogues and a possibility of providing these to students in a distance form of education supported by the eLearning format. The EVENE project creates a core network of universities operating in the field of Economics and Management study. (Zimola, et al., 2006)

### **EVICAB – European Virtual Campus for Biomedical Engineering**

This project sets up an online platform on which various partner universities and universities outside the consortium can offer their courses. The responsibility for each course, its maintenance and its delivery remains within the universities. Each university offers its courses to the online programme, it can also take out courses from the online programme into its own study programme. (EVICAB)

### **REVE – Real Virtual Erasmus**

The REVE project aims to enhance the impact and efficiency of traditional Erasmus programmes through the development and support of Virtual Erasmus actions. (REVE)

### **VENUS – Virtual and E-mobility for Networking Universities in Society**

This project implements two different models of virtual seminars: a virtual seminar series of monthly seminars during the academic year and a one-week virtual summer school. The seminars consist of three main parts: interactive preparatory activities, seminar delivery (presentation, localization and discussions) and interactive follow-up activity. Seminars aim at promoting European citizenship, collaboration and personal development. (VENUS)

## **3 Virtual Mobility in the Czech Republic**

Faculty of Informatics and Management, University of Hradec Králové (FIM UHK) has devoted its attention to the problems and issues associated with eLearning since the beginning of 1997. FIM UHK belongs to pioneers in utilization of ICT in the process of education in the Czech Republic.

Quite soon voices calling for cooperative and collaborative ventures among universities in the area of creation of distance eLearning courses could be heard. Challenging option for collaboration was identified at the eLearning in Higher Education 2003 Conference organized by Tomas Bata University in Zlín, which involved sharing of courses - including the relevant teaching staff and providing these courses to students of partner institutions, leading to the exchange of students through the intermediary of eLearning-supported distance courses. (Zimola, 2003)















