CHANGES IN STUDY PROCESS: ISSUES OF INFORMATION TECHNOLOGIES

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Abstract

There is evidence that information technologies (IT) are closely related with contemporary studies especially with distance learning. Information communication technologies have introduced a new set of educational opportunities for educators and students. Although there have been established computerized and distance learning networks as well as the process of creating special distance learning courses has gained its rate in Lithuania, students still lack information about the possibilities and distinctions of distance learning.

The paper draws on applying of information technologies and distance learning in university studies. Authors provide results of the research, which shows the wide usage of the means of information technologies in studies. Quite big part of respondents has some experience in using virtual learning environments WebCT and Moodle. Questionnaire results reveal that the most of students would like to study in a mixed way, and thus have an opportunity to use distance learning platforms and also to be able to meet and consult with the teacher in a traditional way.

Keywords: information society, information technologies, distances learning, students.

JEL Classification: I23, M15, O30.

Introduction

The first priority in education is to prepare people to integrate into information society. The most important elements of information society are communication systems connected with the most advanced information – communication technologies, the latter eliminating time and distance limitations and providing citizens with the possibilities of open and distance learning.

Open and distance education and learning system provides wide possibilities for a learner to study at a convenient time and place as well as to choose programs confirming to his/her demands and possibilities. Distance education has eliminated geographical, personal, work barriers, which have prevented people from further development. Distance education is learning through distance, an independent form of learning when a learner is given as much support, as he/she needs (Leonavičienė & Simonaitienė, 2001; Martišienė, 2002; Rimkvičienė & Stabingis, 2002). Distance studies are inevitably linked with modern technologies and learning surroundings. Information technologies and virtual learning environment play the most important role in distance learning (Willis, 1993; Vivet, 1996; Sumner & Teilor, 1998; Jonassen, 2000). Technologies should be adapted to contemporary learning environments in order to be properly used in learning processes. Adaptation is useful in two aspects: consumer’s abilities, needs and means (Brusilovsky, 2001; Raskin, 2000).

Although there have been established computerized and distance learning networks as well as the process of creating special distance learning courses has gained its rate, students still lack information about the possibilities and distinctions of distance learning.

The article analyses the advantages and problems related with usage of information technologies in study process.

Research subject – information technologies in study process.

The purpose of this paper is to find out students attitude to information technologies and distance learning applying in university studies.

Research methods are the analysis of scientific literature, empirical research (structured questionnaire survey), logical analysis and conclusion formulating.

The paper is divided into two main parts. The first part analyses the importance of information technologies in contemporary studies, and modern learning methods, under a prior to distance learning. The second parts reports the findings of survey based on students’ view on research object.
Information technologies in study process

New media have begun to develop by adoption of improvements in computer and information processing to communication technologies since the 1970s. Use of the computer increased markedly in the last decade of the twentieth century. Information technology (IT) is a field that emerged as a result of improvements in the computer sector. Today IT is not a field that is limited to configuration of software and installation of systems. With a more contemporary look, IT has a number of components such as computer hardware, software, networks, and communication technologies, workforce trained in the field, procedures, the Internet, Intranets, and communication tools.

IT enables us to obtain information, which is the raw material of information society, at any time and any place. In addition to this, it acts as an intermediary in producing new information. The actions, which take place in virtual extent, such as corresponding via e-mail, chatting on MSN, searching information on websites, e-shopping, playing digital games online or offline, using mobile messenger, and the iPod, have been taking hold of the time and the place traditional media occupies in our daily life and have become a natural part of our lives. IT, which are also called the new media, are used and exist in all part of life such as communication between people, commerce, politics, health, career, and studies (Demiray, 2010).

The usage of IT in different components of study process is presented on Figure 1.

Distance learning: advantages and disadvantages. Distance learning has a history of more than 100 years of innovation and problem solving, beginning with correspondence courses for rural students and continuing to the accelerated courses of the 1990s (Clark, 2002). Many virtual schools began with the mission of increasing students’ access to courses that were not available in their traditional schools, resulting in a “bimodal” distribution of students taking advanced or remedial courses online (Dickson, 2005). Today’s virtual schools have closed the achievement gap for a diverse range of students who succeed in courses that provide them the individual attention and time they need.

Distance learning is a way to learn at a suitable time, place, without a direct contact with the teacher (Rutkauskiene, & Butkeviciene, 2007). As a form of open learning, distance learning is oriented to disseminate knowledge and present freedom to what and how to study.

Distance studies present a very good possibility to acquire education for those who have no opportunity or wish to take traditional studies. The main reasons why distance education /learning is necessary are the following ones (Čiarnienė & Kumpikaitė, 2005):

- **Lifelong learning and economic development.** Distance education and e-learning make it possible to learn for those who work and are family people. This is a way to promote computability, economic productivity, and employability, social and cultural competence.

- **Social equality and availability.** Many adults do not have possibilities to study or graduate because of academic, personal or social reasons. Open and distance learning is their “second chance” to overcome the barrier of higher education.

- **Expenses reduction.** There are usually less possibilities than applicants to study at universities. Distance education and e-learning is the system that can satisfy the needs of those who could not and cannot enjoy traditional studies. However, this education is rendered at lower costs.

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**Figure 1. Studying with online and mobile technologies (by Macdonald & Creanor, 2010)**
- **Geography.** Remote, less urbanized regions have no economic opportunities to suggest traditional education; therefore distance learning is a good way out to effectively realize the principles of lifelong learning.

Having analysed distance-learning distinction, its advantages and disadvantages are presented on figure 2 (Čiarnienė & Kumpikaitė, 2005, Krivickienė, 1999).

### Advantages
- Possibility to get engaged into lifelong learning.
- Allows to work and study at the same time.
- Permits to choose learning time, pace and scale.
- No need to move from a living place and work.
- Promotes the choice of the field of studies.
- Does not make a learner dependable on the teacher.
- Presents an immediate feedback to the learner.
- Learning expenses are reduced.
- Teaching material is easier understood using multiple terrains.
- More rapid innovations and achievements dissemination.
- Cooperation among different institutions in managing studies, common projects, research.

### Disadvantages
- Studies based on contemporary technologies require considerable investments.
- Creation of modern means is expenditure-consuming.
- Not all students afford to use a computer and the Internet.
- There can arise technological incompatibility.
- Teachers’ positive approach to distance education, adequate knowledge and qualification is a must.
- New technologies require computer literacy, foreign languages.
- Lack of social contacts.

**Figure 2.** Advantages and disadvantages of distance learning

Distance studies can be organized as different courses:
1. Courses of the most recent information. Distance studies technologies enable not only to deliver the newest information but also to satisfy learner’s qualitative and quantitative demands.
2. Knowledge consolidation courses are designed so that it would be easy to memorize and acquire them.
3. Training courses are aimed at specific means of managing information. These are skills development courses.
4. Courses oriented to understanding laws, principles, and ideas.
5. Seminars of interpretation are based on moderated discussion.
6. Courses aimed at creating self-realization programs and satisfying personality development needs. Distance learning takes place in some other place than the learner is located. It uses special, individualized content-based, communicative methods entirely substantiated by modern technologies.

There exist several ways of organizing these studies (Čiarnienė & Kumpikaitė, 2008a, b):
1. Autonomous distance studies model (only distance studies).
2. Mixed distance studies model: a) independent (the same institution provides traditional and distance studies); b) selective or alternative (the same program could be taught to the students who have chosen traditional studies and to those who have selected distance learning.

3. Integrated distance learning model: a) supplemented (traditional studies include distance learning programs); b) parallel (program includes traditional and distance studies modules).

**Empirical research**

The aim of this research was to detect the position of University students in information technologies possessing, usage rates of these technologies, personal gains, and attitude to distance learning. The methodology of questionnaire was based on theoretical background of this paper.

344 respondents participated in the survey. 342 were at the age of 20-25 years. 52% of all participants were males. 64% of students were studying Economics and Management, 18% - Information Technologies, 5% - Transportation Engineering and 10% - other fields.

Figure 3 presents what kind of information technologies students use. The most part of them use different types of computers, than printers, scanners and mobile phones.

![Figure 3. Usage of different kind of information technologies, in percent](image)

Trying to find out the reasons of computer using it emerged that 95% of respondents use computer for studies, 94% for information sourcing and 91% - for communication (see Figure 4).

![Figure 4. Reasons of using computer, in percent](image)
As the most popular studying with online and mobile technologies students select searching, evaluating and using online resources (36%) and preparing oral and written assignments (36%) and the least popular communicating and community (30%) (see Table 1).

Table 1. Studying with online and mobile technologies

<table>
<thead>
<tr>
<th>Components</th>
<th>Mostly usable</th>
<th>Regularly usable</th>
<th>Little usable</th>
<th>The least usable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening, reading and sense-making (Coping with course content)</td>
<td>(102) 29%</td>
<td>(114) 33%</td>
<td>(88) 25%</td>
<td>(40) 11%</td>
</tr>
<tr>
<td>Searching and researching (Searching, evaluating and using online resources)</td>
<td>(127) 36%</td>
<td>(85) 24%</td>
<td>(69) 20%</td>
<td>(63) 18%</td>
</tr>
<tr>
<td>Writing and presenting (Preparing oral and written assignments)</td>
<td>(124) 36%</td>
<td>(98) 28%</td>
<td>(78) 22%</td>
<td>(44) 12%</td>
</tr>
<tr>
<td>Communicating and community (Communicating with a group)</td>
<td>(57) 16%</td>
<td>(100) 29%</td>
<td>(81) 23%</td>
<td>(106) 30%</td>
</tr>
</tbody>
</table>

Analyzing usage of a computer per week result showed that 29.7% of respondents used computer 22-35 hours per week. Generally females use computer less than men. It was found statistical difference (r=0.246, significant at the level 0.01).

Statistical significant difference was found between faculty and time hours using computer per week. Students from faculty of Economics and Management use computer per week less than students from other faculties. Even 45.2% of students from Faculty of Information technologies use computer more than 50 hours per week. At the same time 26.3% of respondents from International study centre and 5.6% respondents from faculty of Economics and management use a computer per week so much. Students who spend more time using a computer per week use it more for studies too (r=0.380, p=0.01).

Students from Faculty of Informatics use computer more for entertainment (watching movies, playing games, listening music) as students from other faculties (r=0.127, p=0.05). Girls use a computer for studies (r=0.129, p=0.05), information searching (r=0.147, p=0.01), and social media (Facebook, Netlog, Myspace, etc.) (r=0.151, p=0.01) more than boys however for work (r=0.211, p=0.01) and entertainment (r=0.204, p=0.01) less than boys.

Speaking about distance learning studies it was found that 53% of all respondents used Moodle, 24% - WebCT and 6% other platforms of distance learning. 28% of respondents never used any distance learning in their studies.

Asking about problems students faced when studying in traditional way it was depicted that study rate (42%), adjustment of work and studies schedule (32%) were the most important for students (see Figure 5).

Figure 5. Problems faced by studying in traditional way, in percent
Students selected following advantages of distance studies (see Figure 6). As the most advantages they selected that distance studies allow to choose learning time, place and scale (49%) and that there is no need to move from a living place and work (48%). As the least important advantage the choice of the field of studies was selected and immediate feedback to the learner.

Figure 6. Advantages of distance learning, in percent

Finally students were asked about study ways they preferred. Most of all respondents (64.2%) would like to use blended way of studies (see Table 2). It is because of advantages of Traditional way (63.0%) and advantages of Distance way (36.0%).

Table 2. Students’ preferences for studies in different ways

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Information technologies</th>
<th>Economics and Management</th>
<th>International study centre</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional way</td>
<td>12,9%</td>
<td>30,3%</td>
<td>26,3%</td>
<td>47,6%</td>
<td>29,1%</td>
</tr>
<tr>
<td>Distance way</td>
<td>6,5%</td>
<td>7,7%</td>
<td>5,3%</td>
<td>2,4%</td>
<td>6,7%</td>
</tr>
<tr>
<td>Blended way</td>
<td>80,6%</td>
<td>62,0%</td>
<td>68,4%</td>
<td>50,0%</td>
<td>64,2%</td>
</tr>
</tbody>
</table>

The students studying in faculty of Information technologies selected blended way as the most acceptable for them in comparison with other faculties’ students.

Conclusion

Summarizing we can say that information communication technologies have introduced a new set of educational opportunities for educators and students. Contemporary studies can be organized in different forms by coordinating traditional and distance learning. Distance studies have their advantages and disadvantages. However, it is necessary not only to evaluate the ratio of advantages and disadvantages, but to co-ordinate traditional and distance studies striving for the best variant in the sense of both studies quality and social and economic effectiveness.

As empirical research showed, the most of respondents use IT for their studies. They apply information technologies mostly for searching, evaluating and using online resources and preparing oral and written assignments. Just 24% of the respondents pointed out that they did not face any problems at traditional studies. The most part of students prefer blended way of studies.
Finally, we can state that information technologies play an important role in the study process. However, even the biggest part of students already have enough experience in distance studies, they would prefer to choose a blended way of studies.

References