DT and Student's Application to Tertiary Studies and Implementation for LLL*

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Abstract. The global economy with its ever shifting employment patterns has led to an increasing emphasis on tertiary education in terms of the process of "life long learning" in order to create a flexible market of educational services. This factor combined with the ever-increasing expansion of DT (digital technologies) is likely to create a rich learning environment. However, because of the lack of both knowledge and skills, and culture in the field of using DT effectively, technologies are not used to their fullest potential. Ample opportunities, combined with skills of independent studies create possibilities for learning environment, where every individual both contributes, and benefits in a process of life long learning. The aim of this presentation is both to analyse features of learning in a contemporary society, and learning environments that can be used in order to facilitate learning in tertiary education. Results of the research that included literature analysis, quantitative (questionnaires) research and the qualitative (interviews) research: reflections on experiences of the authors are presented together with conclusions, which emphasize the role of people and their commitments in developing learning environments.

Introduction

Successful learning can be organized and promoted in contemporary tertiary education, if a number of factors are considered systematically. In this paper DT for language studies in the light of lifelong learning in tertiary education is analyzed in greater detail, as higher education becomes one of the most influential institutions of our society. With tertiary education being a reality to a large proportion of our society (according to Trowler (Trowler, 2003) and if participation exceeds 40% of the whole age group, tertiary education is to be considered universal; in Lithuania in recent years participation of young people in their age group approaches this yardstick), the quality of learning experiences here cannot be underestimated. Moreover, with the increasing influence of digital technologies, its impact has to be discussed.

Therefore, the **aim** of this paper is to analyze learning features in a contemporary society, and learning environments that can be used in order to facilitate learning in tertiary education with an emphasis on lifelong learning opportunities. **Methods** employed in this presentations include, literature references / analysis, quantitative research and the qualitative (interviews) research: reflections on experiences of the authors.

Education, learning and digital technologies

Globalization has become one of the most noticeable features of the contemporary world: market at global level is as often discussed as the market at national levels, with competition as Jarvis (Jarvis, 2003) emphasizes, being fierce. Contemporary society is often called the knowledge society, because innovations and competencies make a major impact on the development. However, it is people who introduce innovations in various spheres of life, and it is only possible if they have necessary competencies. With a longer life span of contemporary people and their ability to participate in the labor market more actively, and in the context of rapid changes both in the economy and social / political life, more adults are participating in learning activities that are provided by tertiary education institutions. One of the basic skills needed in Lithuania today is fluency in at least two foreign languages; another basic skill is DT proficiency. However, if the relationship between languages (or any other subject) and DT is analyzed, it should be noted that it is of a hierarchical nature, Fig. 1, that is, DT most often (with the exception of pure DT orientated professions) is treated in tertiary education as a tool for acquiring knowledge and skills (Dutton & Loader, 2002), i.e. any required competence. However, improvement of these competencies is most effective, if competencies are interrelated.

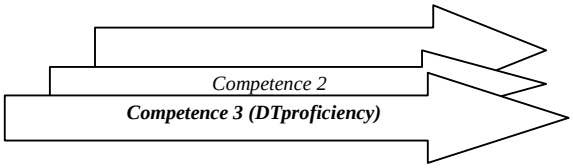

Fig. 1 Hierarchical order of competencies

Higher education faces the need to provide both students in traditional age groups, and mature students with adequate opportunities to study. Moreover, it is important to consider the dimensions of life long learning, that is to, consider the opportunities that are most favorable for learning throughout life. As Teresevičienė has notes (Teresevičienė, 2001), people now benefit from learning opportunities that are provided by many agents and institutions and therefore the system of formal education is viable only if it flexible. The authors of this paper suggest viewing the changing attitudes to teaching and learning in tertiary education as the phenomenon that incorporates pressures from both improving technologies, and the needs of a contemporary student who in one's own turn is influenced by changes in the socio-economic context, Fig. 2.

* LLL – life long learning

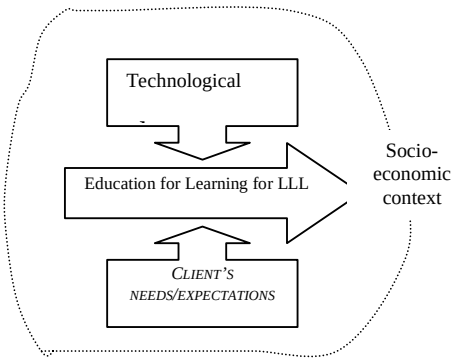

Fig. 2 Pressures towards lifelong learning

Technologies provide people with opportunities that enable flexible learning, learning at a chosen pace and they also enable an individual to complement work, studies and his / her personal life. Client's (i.e. student's) needs on the other hand influence attitudes to learning in higher education in favor of more adaptable forms, because institutions face the need to meet clients' expectations. A contemporary client is often an individual who either works, or will work in the world; where digital technology comprises of a better part of almost any job. Most often a client / student is aware of one's need to improve individual professional development and to employ tools to that development as effectively, as possible (Candy, 1991).

Under pressures of the expectations that education faces, the system of education is today implementing those teaching / studying forms that are most favorable for learning both in the settings of an educational institution, and within an individual's informal education. Today, various distance education / learning forms are employed in order to provide clients with the possibilities of flexible learning and which have become more and more relevant to a students' needs (Tight, 2002).

Non-Internet based computer-assisted language learning programs provide a lot of interactive activities for reading, listening, and writing practice as well as dictionaries, definitions, explanations, examples and all other attractive learning material. These programs emphasize the importance of virtual space and the visualization of information by giving students the ability to "handle" and work with information, navigate through it and manipulate it. The Internet has shifted computer-assisted language learning from the traditional definition of the computer as tutor or equal partner and its emphasis on human-computer interactivity to computer-mediated communication that sees the role of the computer as providing an environment for human-human interaction (Schwienhorst, 1998a).Much of the success of E-learning can be attributed to the availability of Learning Management Systems (LMS), also known as Virtual Learning environments (VLE) or learning platforms. A learning environment in this paper agrees with its definition as software that is designed as an on-line solution that can facilitate online learning for an organization (Paulsen, 2003a). An LMS enables an institution to develop electronic learning materials for students, to offer these courses electronically, and to generate electronic student databases in which the student's results and progress can be charted. (Paulsen, 2003b). VLE provides an environment where the learning material together with communication and collaboration tools can be presented to language-learners. Firstly, most of the VLE allow for asynchronous communication modes via a build-in system of email and mailing lists and secondly they allow for synchronous communication via the keyboard (chat facility). Students and tutors can communicate via a live text chat, to have questions addressed quickly or to work as a group to discuss a project they may be working on. Language students can use online chat to participate in live chats with foreign students. As these "live" conversations between two or more participants can be recorded to a text file they can also forms a powerful future learning resource. The impression that people do not exist on the screen unless they act or speak, leads to a much higher participation in larger groups (Schwienhorst, 1998b). Besides writing and reading language skills some of the VLE (e.g. Learning Space, Cu-SeeMe, LearnLinc) also provides other important features like audio conferencing and video conferencing, which may provide more natural ways of communicating live.

There is a large number of commercial systems and systems that educational institutions have developed themselves. There is no strong leader in VLE. In LMS we can talk about; the most popular products but not the strong leaders. For example, in Lithuanian one Distance Education Network that is used is WebCT VLE, but a lot of institutions use other commercial or self-developed LMS systems. For example, at Vytautas Magnus University, FirstClass VLE is used, at Kaunas Technological University LUVIT and Course Development Kid (self-developed system) are used and at Vilnius Gediminas Technical University Lotus Learning Space – Virtual Classroom is used.

We can see a very similar situation by looking at European educational institutions. Morten Flate Paulsen (2003b) presents an analysis of their experiences with the LMS of 113 institutions in 17 European countries. Altogether, the 113 institutions have had experiences with 52 different LMS. Therefore, only several institutions use a few systems. Analyses of these environments indicate that these eight systems are among the most used commercial LMS systems in Europe (Paulsen):

- WebCT (20 institutions)
- ClassFronter (16 institutions)
- BlackBoard (14 institutions)
- FirstClass (7 institutions)
- TopClass (7 institutions)
- Lotus Learning Space (6 institutions)
- LUVIT (5 institutions)
- Tutor 2000 (5 institutions)

It is important to understand that LMS systems may be built on very different pedagogical methods and theories and that these underlying constraints may influence and limit the system's pedagogical use (Paulsen, 2003a). There

is no such thing as an ideal all-purpose system. Certain tools are more suited to the implementation of certain teaching and learning strategies, while others lend themselves to different approaches. Besides the features and tools, user-friendliness, cost-effectiveness, and integration with other systems are also important aspects to concider when choosing the LMS.

However, all the opportunities and tools that comprise of a favorable learning environment should also meet requirements for rewarding learning (Mačianskienė, 2001). Moreover, learning environments should provide balanced access to technology (cognition), social interactions, emotional domain, because, as Edwards (Edwards, 1997) notes, learning is something that happens in the interface of several domains, see Fig. 3.

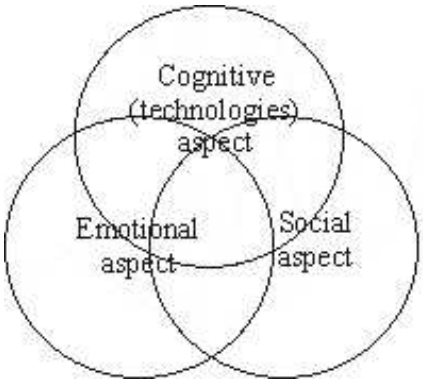

Fig. 3 Aspects of rewarding learning

Students' perception of their reality in tertiary education gives an insight into which aspects of implementing DT in tertiary education should be emphasized. 77 students (undergraduates and those who take advantage of other educational services delivered by tertiary education: in-service training) were asked to share their opinions about the role of digital technologies in their studies, particularly – language studies. 100 percent replied they have been using computers in one way or another in their studies. These 77 students identified subjects for which they employed DT most often. The most often mentioned three subjects in all faculties were, English and subject related areas e.g. Lithuanian Law, Tourism in Lithuania and globally and Lithuanian Finance. The VGTU students named assignment work as that which required the latest information and this covered most of their subjects.

Most respondents were given research to complete that required the Internet and related to their subjects but the students did not always use the information found or simply downloaded the information and added it to their finished assignment, often without reading it. Examples were: finding more about different cultures in Tourism, Translating Lithuanian laws to English / German, self-study English websites and specific websites that provided a database as in Real Estate statistics and global environmental issues. Only three lecturers provided / named specific websites to be viewed, i.e. the English, Law and Tourism at KBC The VTU students used Word for diagrams etc but were rarely given websites to view as part of their studies. The teachers were given several pages, mostly related to their teaching (English) but were given copies (16 pages) as Home-reading from a website, namely an article on computer communities as a concept for sharing experiences and information as well as "chatting".

Students shared their experiences about the time they allocated to information search in the Internet. From Monday to Friday the average was 3 to 5 hours, if not in class all day and at weekends 6 to 8 hours, depending on access to the Internet at home. However, weekend users reported playing computer games most often and study related use was mainly "when an assignment was due and / or running late". It is interesting to note that students are quite conscious about their relationship to DT. They (54.5% of respondents) explained that once on the Internet they "float" away from their original task into cyberspace and "didn't really save time". Only a few students shared (4%) they had never input any information. These contributions show that students are critical about their own time management.

Students who had seen their lecturers at a computer were confident that their teachers are competent computer users, others just assumed their lecturers were computer literate because "everything's on computers today".

However, it seems that even today students rely on facilities provided by educational institutions, because for the majority of students access is limited to institutional settings, see Fig. 4.

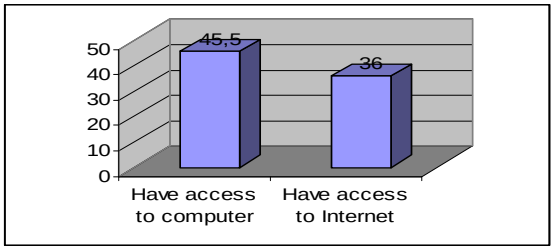

Fig. 4 Students about access to computer outside institutional settings (in percent)

When asked about whether students do extra learning on the computer (Do you find out more about something that was mentioned during your lectures? How often do you do this?), students revealed relative indifference in this field. The first response to this question was that not one student searched for more information. After explaining informal or non-formal learning this changed to 43 out of 77 as searching for information that was not directly related to studies and included areas such as, horoscope, daily news, sport's results, fashion journals and jokes but not one-mentioned areas other than interests at this level.

Those students, who had some special instruction in learning via DT, used these technologies for independent learning (65% of respondents).

Question: "*Would you like to do most of your learning at the computer or do you still prefer* a *lecturer / person to teach you? Why"?* This resulted in a 100% negative answer and was explained in terms of students needing learning

direction, material organization, and guidance as they studied and the presence of a lecturer who would answer questions as they occur during the learning process. *Problems* were many and listed in terms of those most often mentioned to the least they included: speed of the computer service, students lack of English / German and the lack of sound or hearing pronunciations as they studied languages from the Internet, no translation services into Lithuanian, anxiety of dealing with too much information and the students inability to find specific information on the Internet quickly, overload of information and the frustration of having to decipher content for assignments and not sufficient training in search skills and essay / report etc writing once the information has been found. In general, computers work on speed but when searching for information students expect the same speed and success at the click of a button. Therefore, there needs to be guidance, new study skills and a change of attitude / understanding of applying the Internet's information.

Surveys' Conclusions:

- Lithuania as a culture is just beginning to use the Internet as part of finding and applying knowledge at the tertiary level,
- Lithuanian tertiary students use the Internet minimally as a tool for studies,
- This is due mainly to the lack of good information and data bases / networks in Lithuanian
- As more lecturers become computer literate, the use of computers as a study tool will also increase.

Both literature analyses, analyses of situation in the sphere of DT learning environments and survey suggest that even if opportunities are ample, Lithuanian students are still quite passive users of the opportunities that DT market offers. This situation poses at least two challenges for educators and organizers of tertiary education. First, students should be encouraged to use DT in their studies more often and in a variety of ways. Another challenge is to facilitate students in acquiring skills of independent learning / studying via DT, in order to participate adequately in lifelong learning.

Conclusions

The authors of this paper conclude that DT tools comprise of just one part of the learning environment, favorable for lifelong learning. People, who have both access to a variety of DT tools, and the necessary skills for independent learning, and who are devoted to lifelong learning activities, create learning environments. A learning environment is all about people, who use various ways of learning; it is not just about technologies.

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Studentų įsijungimas į aukštąjį mokslą per skaitmenines technologijas bei visą gyvenimą trunkančio mokymosi įgyvendinimas

Santrauka

Pasaulinė ekonomika su nuolat besikeičiančiais darbo ar užimtumo modeliais sąlygoja vis didėjančią aukštojo mokslo svarbą. Norint sukurti lanksčia ugdymo paslaugų rinką, ypatingai svarbus „visą gyvenimą trunkančio" mokymosi aspektas. Šis faktorius kartu su vis plačiau naudojamomis skaitmeninėmis technologijomis greičiausiai sukurs tinkamą mokymosi aplinką. Tačiau dėl žinių ir gebėjimų bei išprusimo nuotolinio mokymo naudojimo srityje stokos, šios technologijos nėra pakankamai išnaudojamos. Galimybių gausa kartu su gebėjimu savarankiškai mokytis padeda sukurti mokymosi aplinką, kur kiekvienas individas prisideda prie visą gyvenimą trunkančio mokymosi bei iš to gauna naudos.

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