E-LEARNING – A CASE STUDY

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Abstract: Development in information and communication technology (ICT) has influenced many segments (e.g. especially business). ICT has importantly influenced process of distance education in which learners are physically separated from their teacher. A great proportion of distance education is e-learning. For our research we define e-learning as any education where the learners and teacher are not collocated and is supported with modern ICT. Recently there has been a dramatic growth in the number of e-learning participants. Much of traditional (classroom) education has been converged to the e-learning. In our paper we are focusing on participants’ readiness and/or willingness for incorporation in e-learning process. This view in problematic of e-learning is often neglected in the literature. In our discussion we provides suggestions what should be taken into the consideration when determine participants’ suitability for incorporation in e-learning process. Paper also provides results from the research in which we examine what can influence (or determine) participants’ readiness for incorporation in e-learning process.

Keywords: E-learning, ICT, readiness for e-learning.

I. INTRODUCTION

Recent developments in modern ICT have enabled transmission of knowledge from lecturer to learners (also) via internet [18]. Distance education has become an important way of education in modern world [24]. At the early beginning very first form of distance education was delivered with the usage of traditional mail (e.g. printed materials) [13, 17, 18, 24]. But nowadays is distance education mainly supported with modern ICT [13, 17]. This type of distance education is in literature known under term e-learning [11, 12, 21]. E-learning represents a great proportion in distance education.

In comparison to traditional education, where lecturer and learners are at same place and same time, e-learning represents a radical change in education process [12]. In general we can distinguish between technical point of view of the problematic of e-learning (e.g. technology, internet, and computers) and participants’ readiness/willingness for incorporation in e-learning process [19]. Most of the literature about problematic of e-learning is usually focused on technical point of view. Participants’ readiness for incorporation in e-learning process is often put aside and not often discussed in literature [7, 23].

According to presented cognitions we are focusing on the problematic of participants’ readiness (suitability) for incorporation in e-learning process. Therefore several important issues must be addressed [19, 20, 25]: (1) participants’ level of skills and knowledge for working with modern ICT and computers; (2) materials and literature used in e-learning process; (3) participants’ personal values; and (4) participants’ attitudes towards education at distance.

Purpose of our discussion is to highlight the importance of participants’ readiness for incorporation in e-learning process. Having access to modern ICT (e.g. “hard factors”) is not enough for participants’ success in e-learning process. Also “soft factors” (i.e. participants’ readiness for incorporation in e-learning process) must be adequately taken into consideration. Therefore paper provides suggestions which are (selected) important factors, which influence on participants’ readiness for participation in e-learning process.
According to selected factors which influence on participants’ readiness for e-learning, we conduct a survey in which we examined and determined students’ readiness for participation in e-learning process.

II. INTRODUCTION TO E-LEARNING

Prefix “e” has become very commonly used in last two/three decades (i.e. e-business, e-learning) [21]. Due to the advancement in ICT, remarkable progress has been made in e-learning in couple of last decades. E-learning is defined differently in literature. According to several proposed definitions most general and/or common definition of e-learning refers to any learning which is supported and/or made possible by the use of modern ICT and computers [8, 11, 12]. Another definition defines e-learning as usage modern ICT to deliver learning and training programs [14].

Different authors propose different typologies/classifications of e-learning [1, 11, 18]. A common characteristic of all forms is use of ICT and internet to support and deliver instruction [11]. Several different formats of e-learning are [1, 11, 20, 21, 23]:

- Web supported – an e-learning format which is complementary to traditional (face-to-face) learning process, where all participants are collocated (class sessions are held in the same place and at the same time). There is a Web site (i.e. portal for distance education) for the class that contains course materials, assignments, goals, exercises and short tests;
- Blended or mixed-mode e-learning – course is structured so that part of the class sessions are held in a traditional (face-to-face) setting and part of them are held with usage of modern ICT over internet. Thus mixture of face-to-face mode (traditional learning) and distance mode (e-learning) has become very popular in nowadays education processes. In face-to-face learning participant (i.e. student) establish a rapport with educator and get clear instructions how to study in distance mode (i.e. submitting of assignments). Many universities have converged to mixed-mode of education (few class sessions, assignments are done and submitted via e-learning);
- Fully online e-learning format – every class session is held in distance mode in comparison to previously mentioned formats, when face-to-face mode is complementary with distance mode.

Several possible key benefits of e-learning are following [2, 4, 20]:

- Time flexibility - participants (i.e. students) can set their own pace of study. Participants are not bind to fixed schedule and can therefore study at any time. This is especially important for participants who need to adjust the time and pace of study according to the job and/or family obligations.
- Place flexibility - participants can live anywhere and study from anywhere. E-learning could be reached at any location and thus is accessible to a very broad range of (possible) participants. Especially important is for participants who live far from universities (e.g. rural areas) and participants with limited mobility.
- Participation in e-learning process does not require commuting (e.g. fewer expenses).
- Easy updating of content (for lecturer) as well as archival capabilities (e.g. e-literature).

On the other hand most common possible disadvantages of e-learning are following [3, 4, 6, 25]:

- Costly and complex technology. Each participant must own a computer and adequate internet connection. Problems arise in rural areas (e.g. slow internet connection).
- Additional support in e-learning is limited (e.g. library resources, counseling)
- Participant’s success depends on technology and participants’ abilities (e.g. skills for working with computer and modern ICT).
- Participant’s success in e-learning process is importantly dependent upon participants’ personal characteristics and readiness for such a way of education.
Use of ICT itself is not a guarantee for participants’ success in e-learning process. Therefore it is important to address the issue about participants’ readiness for incorporation in e-learning process. This issue is often neglected in literature which deals with the problematic of e-learning and education at distance in general. For the purpose of our discussion we are focusing on the problematic of participants’ readiness for incorporation in e-learning process.

III. PARTICIPANTS’ READINESS FOR E-LEARNING

Participants must be willing to participate in e-learning process, because it is importantly different from traditional education process (e.g. physical distance among participants in e-learning, materials) [20].

When assessing participants’ readiness (suitability) for incorporation in e-learning process [18, 19], several important issues must be addressed [20, 25]: (1) participants’ level of skills and knowledge for working with modern ICT and computers; (2) materials and literature used in e-learning process; (3) participants’ personal values; and (4) participants’ attitudes towards education at distance.

3.1. Participants’ level of skills and knowledge for working with modern ICT and computers

In comparison to traditional learning process is e-learning importantly dependent upon modern ICT and computers. Therefore participants in e-learning process must and/or should have basic skills and knowledge for working with modern ICT and computers. Basic skills and knowledge for working with modern ICT and computers are almost a pre-requisite for incorporation in e-learning process.

From the viewpoint of participants’ suitability for incorporation in e-learning process is important that participant has higher and/or sufficient levels of skills and knowledge for working with modern ICT and computers. Therefore participants with higher levels of skills and knowledge for working with modern ICT and computers have more prospects for success in e-learning process. On the other hand participants with poor skills and knowledge for working with modern ICT and computers have fewer prospects to succeed in e-learning.

3.2. Materials and literature used in e-learning process

Due to the characteristics of e-learning (e.g. especially learning at distance) also the issue about materials and literature used in e-learning process must be addressed, when assessing participants’ readiness for incorporation in e-learning process [20]. Materials and literature which are required and/or support e-learning are mainly in electronic version (e-literature).

There is no general accepted definition what e-literature is [5]. A very simple definition of e-literature defines it as digital object created on a computer and (usually) meant to be read on computer. The aim of e-literature was to exclude print literature that has been digitalized.

According to above presented definition of e-literature from the viewpoint of e-learning is important that e-literature could be easily and without high expenses distributed via internet and electronic mail to all participants in e-learning process. Therefore the primary aim of e-literature in e-learning is not to exclude print literature but to facilitate distribution of e-literature among e-learning participants. Afterwards participants can print e-literature according to their preferences.

Printed e-literature and traditional literature used in education process (e.g. hard copy materials) could not be considered as same. Therefore some participants in e-learning process may find difficulties when using e-literature, which is importantly different from tradition literature (e.g. different structure of text, different styles of literature, etc.).
From the viewpoint of participants suitability for incorporation in e-learning process is it important that participants are willing to use e-literature besides and/or instead of traditional literature. Therefore participants who have very positive attitudes towards usage of e-literature are more suitable for participation in e-learning process.

3.3. Participants’ personal values

Participants’ personal values have a great influence on participants’ readiness for participation in e-learning process [9, 20]. Especially due to the changed nature of e-learning in comparison to traditional learning (e.g. physical separation), it is important that participants possess and/or have appropriate (e.g. personal/specific) values which are basis for their incorporation in e-learning process. Otherwise participants must change and/or adopt new/missing personal values for successful incorporation in e-learning process. Appropriate set of personal values could result in more positive participants’ attitudes for incorporation in e-learning process.

A simple definition define value as something which is regarded as desirable, worthy, right or as a belief [9, 10, 15, 22]. Each person has its own value system. Selected personal values (from person’s value system) are important for participants’ successful incorporation in DE process. Therefore participants should have very positive attitudes towards following values [16, 20]:

- Usage of modern technologies – participants must be prepared and willing to use modern ICT, because e-learning is supported with ICT.
- Working at distance – participants should have positive attitudes towards working at distance, because e-learning requires working outside educational areas (e.g. university).
- Self-discipline – due to the nature of e-learning process, participants must be very self-disciplined.
- Responsibility and reliability – participants in e-learning set their own pace of education, therefore must be very responsible and reliable.

From the viewpoint of participants’ suitability for incorporation in e-learning process is important the fit between values needed for incorporation in e-learning process (“values of e-learning”) and personal values of participants.

3.4. Participants’ attitudes towards education at distance

From the above presented cognitions is seen that significant differences exists between traditional education and e-learning process. For purpose of our discussion most important characteristic of e-learning process is physical separation among lecturer and learners. Therefore participants are not at same place at same time.

From the viewpoint of suitability for incorporation in e-learning process is important if participants are willing to learn at distance. Therefore participants’ attitudes towards education at distance (i.e. e-learning) importantly influence participants’ readiness and therefore suitability for incorporation to e-learning process.

We emphasized selected factor which influence participants’ readiness for e-learning. We made a survey among undergraduate students, to find out and determine students’ readiness for participation in e-learning process.

IV. CASE STUDY AND DISCUSSION

Selected factor which influence participants’ readiness for e-learning determine its readiness for incorporation in e-learning process. In our survey we examined selected factors which influence participants’ readiness for e-learning among students. Research was conducted among undergraduate students of 2nd and 3rd year of study at University of Maribor, Faculty of Economics and Business. 155 questionnaires were completed and usable. Some results are:
Participants’ level of skills and knowledge for working with modern ICT and computers – first we want to present some general findings from research which will be starting point for assessing participants’ level of skills and knowledge for working with modern ICT and computers: (1) All 155 participants in research have a computer at home, use internet for studying purpose and have at least one active e-mail address; (2) most of students use computers everywhere (e.g. at home, at public places, in library); (3) 98.1% of students use portal for distance education; (4) 87.7% of students are using student’s forum. Students were asked to evaluate their knowledge and skills for working with computer and modern ICT, on Lickert’s scale, from 0 (very poor) to 5 (excellent). 50.3% of students asked, evaluate their knowledge and skills for working with computer and modern ICT as very good (with grade 4), 35% as good (with grade 3) and 10.3% as excellent (with grade 5). Therefore we can assume that students’ knowledge and skills for working with computer and modern ICT are relatively good, because more than 95% of student evaluate their knowledge and skills for working with computer and modern ICT as good or even better (as very good and excellent).

Materials and literature used in e-learning process – another important issue is literature. Due to the nature of e-learning process the literature is mainly in electronic form (e.g. PDF format). Participants were asked if they would like to use e-literature instead of traditional literature (e.g. hard copy books, notes, etc.). 76% of asked participants are interested to use e-literature rest are more interested in traditional literature. Participants choose among 10 options what a good e-literature is. According to finding from research good and/or appropriate e-literature must be especially easy to use (36%) and understandable to students (37%). Less important characteristics are: clearness of text (11%), good appearance (2%), interactive test for reiteration (3%), entertaining content (2%), quotation of references for additional study literature (2%), etc. Students were asked if they like to use multimedia (e.g. power point slides) instead of traditional materials (e.g. hard copy books). 84.5% of students like to use multimedia instead of traditional materials. 15.5% of students prefer traditional materials and literature. Students were asked if e-literature can replace traditional literature. 76.1% of students think that appropriate designed e-literature can replace traditional literature. Students are also very in favor of usage e-literature because 98.7% of students believe that use of e-literature (also) in traditional education process will enrich it. Therefore we can assume, that majority of participants in survey are willing to use e-literature and are therefore suitable for participation in e-learning process.

Participants’ personal values – we also find out (earlier in this chapter) that participants have relatively high level of skills and knowledge for working with modern ICT and computers. Therefore we examined the importance of usage of modern ICT. For 80% of participants in research, usage of modern ICT (as a value) is important (grade 4) and very important (grade 5). None of the participants considered usage of modern ICT (as a value) as not important. Value – working at distance – which is discussed in next paragraph, is for majority of participants in survey important. Another among selected set of participants’ personal values is self-discipline - participants were asked to evaluate importance of self-discipline for them. Almost half of participants (49%) evaluated self-discipline as important (grade 4) and almost 20% evaluated it as very important. Only a few (4%) participants evaluated self-discipline as not important in their lives. Therefore we conclude that self-discipline is very important to majority of students. Students were also asked to evaluate their attitudes towards responsibility and reliability. 47.7% of participants considered responsibility and reliability as very important (grade 5) and 40.6% considered it as important (grade 4). None of the participants considered responsibility and reliability as not important. Therefore is seen that participants considered responsibility and reliability (as a value) as very important.

Participants’ attitudes towards education at distance - participants were asked if they are willing to participate in e-learning process (online class). More than 90% of asked students are interested in e-learning. But just asking question if some is ready and/or interested to participate in e-learning process is too simplistic approach (view). Therefore participants were asked about their attitudes from studying at distance from home. Only 7% of participants are very enthusiastic for studying at distance from home (grade 5). On the other hand 5% of participants have very negative attitudes towards studying at distance. Majority of participants
consider working at distance (as a value) as important. 41 % participants evaluated working at distance with grade 3 and 24.5 % participants with grade 4. We see that after asking more precise question fewer students are very interested in participation in e-learning process. We assume that participants are quite interested for working at distance (in general) and for studying at distance.

It is important to emphasize that participants’ personal values have an influence on other three factors which influence participants’ readiness for e-learning. According to conducted research we can conclude that an average participant in survey is suitable for incorporation in e-learning process.

V. CONCLUSIONS

ICT has influenced also education process. A learning which is supported with ICT and computers is known under common name – e-learning. E-learning has become an important way of education. A great proportion of the literature about problematic of e-learning and distance education/work is focused primarily on technical issues. But on the other hand the issue about participants’ readiness for participation in e-learning process is often neglected.

In our paper we open the discussion about suitability of participants’ incorporation in e-learning process. When assessing participants’ readiness for participation in e-learning process following factors which influence participants’ readiness for incorporation in e-learning process must be taken into consideration: (1) participants’ level of skills and knowledge for working with modern ICT and computers; (2) materials and literature used in e-learning process; (3) participants’ personal values; and (4) participants’ attitudes towards education at distance. According to conducted research and early presented factors which influence participants’ readiness for incorporation in e-learning process we can conclude that an average student in survey is suitable for incorporation in e-learning process.

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