SMART LEARNING: ARE WE READY FOR IT?

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ABSTRACT

Nowadays learning, particularly the university learning, is supported with modern information and communication technologies. These technologies also enable electronic learning, known as eLearning, which is now firmly established at almost all institutions of higher learning in developed and developing countries. Moreover, at present eLearning is being taken over by the so-called mobile learning (m-learning), which is possible thanks to the rapid growth of mobile devices such as notebooks, smartphones or tablets. In comparison with eLearning, m-learning provides further opportunities for more effective learning in the sense of its wireless connections, mobility and portability, full ubiquity or instant information sharing. The aim of this article is to explore whether university students at the Faculty of Informatics and Management in Hradec Kralove are well-equipped for this new smart learning and whether they use mobile technologies for their studies or not.

KEYWORDS

eLearning; m-learning; smart; survey.

1. INTRODUCTION

eLearning started to be used in the mid-1990s (Garrison, 2003). Originally, its technological component was preferred since it was mainly managed by IT and technical experts. However, later, emphasis was put on its educational value (Simonova, 2010). In this sense eLearning is usually defined although there is not one single definition. For the purpose of this article, the authors follow the definition provided by Wagner who says that eLearning is the educational process which uses information and communication technologies for designing courses, distributing the learning content, for teacher-learner and learner-learner communication and managing the whole process (Wagner, 2005).

Obviously, eLearning brings about a lot of benefits but also drawbacks which were summarized in the study by Klimova and Poulova (2015). The benefits in comparison with traditional, face-to-face teaching include easy access to study materials; easier updating of study materials; further access to additional materials; individual pace, time and place of studying; almost immediate feedback; modern way of teaching; teacher could be absent, therefore if s/he is ill, classes are possible; chance to practice more and verify one's knowledge; more opportunities for communication such as a use of discussion tools and consequently, more electronic consultations; support of teamwork; chance to submit assignments and their almost immediate evaluation; attractively and dynamism of the on-line study material; support of distance learning; higher motivation and stimulation for students; higher prestige of the institution; standardized tuition and teaching environment; cost-effectiveness for institutions; and smaller demand of computers in the traditional classes. On the contrary, there are certain risks which might contradict with the above mentioned statements. These are: a lack of personal contact; problems with technology; time-consuming and demanding for creation and preparation; study materials available only in an on-line form; sometimes inconclusiveness of feedback; absence of emotions which need to be vented; students' reluctance to study on their own; a necessity to determine a ratio between the face-to-face and distance classes; problems with the guarantee of education of good quality; and a need to evaluate an impact on students.

Nevertheless, at present thanks to the rapid development of wireless technologies eLearning moves to mobile learning (Keegan, 2002). In fact, Park, Nam & Cha (2012) see mobile learning (m-learning) as a new and independent part of eLearning where the education contents are handled solely by mobile technological devices. Table 1 below then presents paradigm shifts between eLearning and m-learning.

Table 1. Paradigm shifts between eLearning and m-learning

eLearning	m-learning
Wired	Wireless
Static	Mobile
Semi-ubiquitous	Fully ubiquitous
Personalized	Situation-based (solving real-life tasks)
Providing fast feedback	Providing instant feedback
Delayed information sharing	Instant information sharing

(Authors' own source)

The authors of this article see m-learning as a natural expansion of eLearning, which is gaining a new added value by this. In this sense Chen et al. propose Black-board's mobile learn application which is a personalized e-learning system that can cultivate learning abilities using a self-regulated learning assessment mechanism that provides immediate feedback response to students and a heteronomy mechanism that comes from the teacher's reminders (Chen et al, 2013).

The aim of this article is to discover whether university students at the Faculty of Informatics and Management in Hradec Kralove are well-equipped for this new smart learning and whether they use mobile technologies for their studies.

2. SURVEY

2.1 Research Questions

Within a larger survey on the use of mobile technologies and social networks, the authors attempt to find answers to the following two research questions:

1. Are students at the Faculty of Informatics and Management (FIM) of the University of Hradec Kralove well equipped for new m-learning?
2. Do they use mobile technologies for their studies?

2.2 Material and Methods

In the winter semester of 2014-15, 317 FIM students were given online questionnaires in order to discover whether they are well-equipped for this new smart learning and whether they use mobile technologies for their studies. The research tools used were as follows:

- online questionnaires;
- descriptive statistical methods of processing the results of the survey; and
- a comparison method of descriptive measures in analyzing the results of the survey.

All students submitted the questionnaires. 159 of them were males and 158 were females, out of which 184 (58%) respondents studied full-time while 133 (42%) of them were part-time students. The biggest group of the students were between 20-29 years old (194 respondents/ 61%), followed by 81 respondents (26%) who were under 19 years old. Then there were 28 respondents (9%) between 30-39 years old and only 13 respondents (4%) were between 40-54 years old.

The main fields of study of the respondents at FIM included: Applied Informatics (AI3); Information Management (IM3); Financial Management (FM); and Management of Tourism (MCR).

2.3 Findings

Within a larger survey focused on mobile devices and social networks, the respondents were asked five questions which were connected with those two research questions mentioned above.

Question 1: What technological devices do you own?

As Fig. 1 below shows, most of the respondents (197 students/62%) own a notebook, followed by a smartphone (145 students/46%) and television (133 students/42%). Then 116 students (37%) have a mobile phone and 108 of them (34%) also have a personal computer.

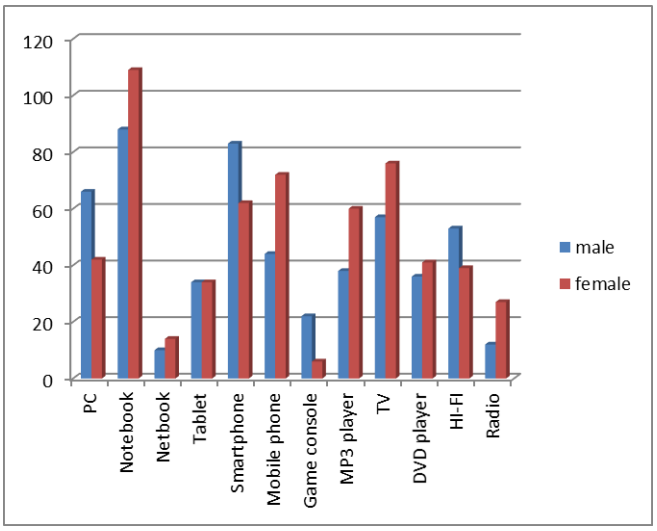

Figure 1. Respondents' ownership of technological devices

Question 2: What technological devices do you use for communication at school/work?

Only in this question students have a limited number of options and could choose only four technological devices. Almost all respondents (297 students/94%) prefer the face-to-face communication. A considerable majority of the respondents (260 students/82%) also use a notebook for their communication; and more than half of them (206 students/65%) a smartphone. Then less than half of the respondents use a mobile phone (154 students/49%). See Fig. 2 below for more information. Fig. 2 also shows that there are no differences between men and women in their preferences for face-to-face contact and using a notebook for communication. However, there are noticeable differences in using smartphones and mobile phones.

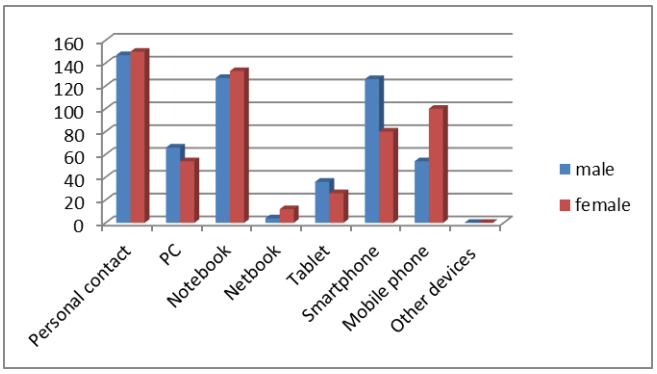

Figure 2. Respondents' communication tools at school/work

Question 3: What technological devices do you use for your university studies?

283 respondents (89%) exploit for their university studies their notebook. 159 respondents (50%) then use their smartphone and 118 respondents (37%) use their personal computer. Far fewer respondents (62 students/20%) also use a tablet for their studies and 55 respondents (17%) a mobile phone. As it has been already stated in Question 2, men in comparison with women prefer smartphones while women rather use mobile phones.

Question 4: What technological devices do you use for your other studies?

As in Question 3, students use mostly a notebook (271 respondents/86%). This is then followed by using a smartphone (169 respondents/53%) and a personal computer (126 respondents/40%). A number of respondents also watch television (96 students/30%). Then 69 respondents (22%) also study with the help of their tablet and 54 respondents (17%) also use a mobile phone. See Fig. 3 below for further illustration.

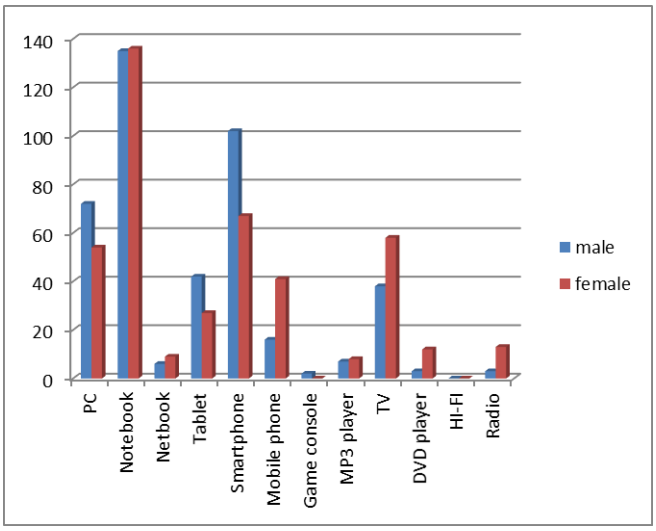

Figure 3. Respondents' technological devices for other studies

Question 5: What sources of information do you use for your university studies?

As far as this question is concerned, 291 respondents (92%) use electronic materials from their Blackboard online course and almost the same number of the respondents (288 students/91%) attend lectures. In addition, 222 respondents (70%) study materials available on the Internet and 199 respondents (63%) use materials on university web pages. 162 respondents (51%) still go to the library to borrow the study materials. But as Fig. 4 indicates, the majority of them are females (106 students/65%). Then other sources of information used by the students are below 50% as Fig. 4 shows.

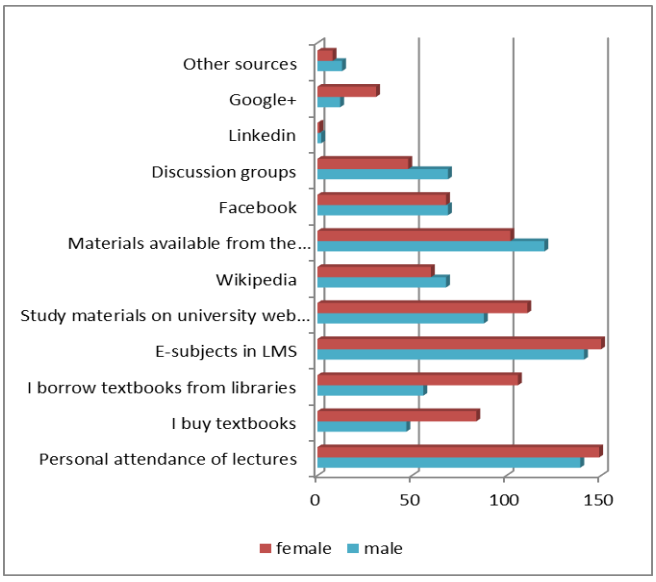

Figure 4. Respondents' sources of information for their university studies

3. DISCUSSION

The findings of the survey show that students are well equipped with mobile devices for their possible m-learning studies. This is also confirmed by other research studies ((Ozdamli and Cavus, 2011) or (Cheung, 2015)) who claim that nearly all students nowadays own mobile devices and about half of them own more than one.

Although 94% of students still refer face-to-face communication, they also use a notebook and a smartphone. Furthermore, they use in particular these mobile technologies for their university and other studies. Not surprisingly, women due to their nature, tend to use mobile phones more because they are usually more communicative than their male counterparts. On the contrary, men who want to catch up with the latest technological gadgets prefer smartphones.

In addition, the sources of information for their university studies indicate that al-most all students use both electronic materials and face-to-face lectures to complete their studies successfully. This is in fact a trend nowadays because the most common form of learning at tertiary institutions is blended learning. Blended learning seems to be on its rise and well established delivered methodology since more and more universities are becoming aware of its benefits such as greater access to students, economical use of faculty space, time and costs (cf. (Porter et al., 2013)).

4. CONCLUSION

The findings of the survey confirmed a positive attitude to the mobile devices. In fact, they are already integrated into daily life, they support distance, lifelong, authentic learning (EDUCUASE, 2010). And thanks to their other attributes such as portability, ubiquity or instant information sharing, they are very popular among the present (young) generation. Thus, it seems that m-learning is gradually taking over eLearning studies. Nevertheless, to make this m-learning really efficient and effective, the developers of mobile technologies should take into account the following aspects:

- *Portability*: The technology is available whenever the user needs to learn.
- *Individuality*: The technology can be personalized to suit the individual learner‘s abilities, knowledge and learning style, and is designed to support personal learning rather than general office work.
- *Unobtrusiveness*: The learner can capture situations and retrieve knowledge with-out the technology becoming overly noticeable or imposing on the situation.
- *Availability:* The learner can use the technology anywhere, to enable communication with teachers, experts and peers.
- *Adaptability:* The technology can be adapted to the context for learning and the learner‘s evolving skills and knowledge.
- *Persistence:* The learner can use the technology to manage learning throughout a lifetime, so that the learner‘s personal accumulation of resources and knowledge will be immediately accessible despite changes in technology.
- *Usefulness:* The technology is suited to everyday needs for communication, reference, work and learning.
- *Usability:* The technology is easily comprehended and navigated by people with no previous experience using it.

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