



New Trends and Issues Proceedings on Humanities and Social Sciences



Issue 11 (2016) 20-28

ISSN 2421-8030

www.prosoc.eu

Selected Paper of 5th World Conference on Educational Technology (WCET-2015), 15-17 October 2015, Nicosia, North Cyprus

Students' preferences for learning materials in technology-enhanced higher education

Blanka Klimova^a *, University of Hradec Kralove, Faculty of Informatics and Management, Rokitanskeho 62, Hradec kralove, 500 03, Czech Republic.

Suggested Citation:

Klimova, B. (2016). Students' preferences for learning materials in technology-enhanced higher education. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 11, pp 20-28. Available from: www.prosoc.eu

Selection and peer review under responsibility of Huseyin Uzunboylu, Near East University, North Cyprus.

©2016 SciencePark Research, Organization & Counseling. All rights reserved.

Abstract

Current trend of using ICT in different areas of modern life is also reflected in the educational process. At present higher education is run in different forms of instruction which range from traditional classes through blended ones to pure online classes. Many research studies also confirm that students like being provided online courses because they appreciate having study materials within their easy reach and being able to see and read once again the lecture texts or other materials from their face-to-face classes. In addition, they can easily access them independently on their location. Designers of these materials try to tailor these study materials to the learners' needs. Therefore the purpose of this article is to discuss what form of instruction students prefer; and on the basis of a questionnaire survey to explore whether students really welcome the online learning materials and their likes and dislikes about these study materials which are offered to them.

Keywords: students' preferences; learning materials; forms of instruction; online learning; survey

* ADDRESS FOR CORRESPONDENCE: **Blanka Klimova**, University of Hradec Kralove, Faculty of Informatics and Management, Rokitanskeho 62, Hradec kralove, 500 03, Czech Republic.
E-mail address: klimova554@seznam.cz / Tel: +45 528 15 32

1. Introduction

Most of the tertiary institutions nowadays have adopted virtual learning environments as the primary platform in delivering learning materials to their students (cf. Dang, Pan, & Wang, 2011; Weller, 2007; or Frydrychova Klimova & Poulouva, 2014). Studies (Bekele, 2010 or Lim, Morris, & Kupritz, 2007) also show that students are satisfied with this type of e-Learning environment. The e-Learning courses created in this environment are used either as a support of students' traditional, face-to-face, classes or they are exploited purely online (Frydrychova Klimova, 2009). Since the designers of these materials want to satisfy their students' needs as much as possible, the courseware for e-Learning should be more than just a set of online study materials (cf. Dang, Pan, & Wang, 2011). Therefore the designers should consider the nature of the learning activity, students' preferences, and the environment and media within which the learning community is formed and learning activities are held. In this process adaptive learning can contribute to the tailoring of learning materials to individual needs (Thalman, 2014). Chen, Lee, & Chen, (2005) and Gkatzidou & Pearson (2009) also add that the personalisation of learning materials in the form of a content adaptation tailored to the needs of the learner can increase the acceptance and efficiency of e-Learning. Vinuesa & Formos (2007) also established the conceptual principles for designing and delivering online study materials, which are as follows:

- All resources should be integrated within a single learning environment;
- The study materials should cover the needs of all students on the course, therefore the materials must be flexible;
- The materials should meet the twofold objective: it must be specific for a course, but also referential, which can be used at any time;
- The format of the study materials should be created in pdf. files so that they are of high quality and suitable for printing;
- All the components of the study material should comprise a unit that is clearly recognized by the students; and
- The study materials should be universal and easily modified.

All the above mentioned characteristics are also reflected in the online courses which are run at the Faculty of Informatics and Management (FIM) of the University of Hradec Kralove, Czech Republic. The aim of this article is thus to discuss what form of instruction students prefer; and on the basis of a questionnaire survey to explore whether students really welcome the online learning materials and their likes and dislikes about these study materials which are offered to them.

2. Material and methods

In January of 2015, 45 FIM students were given a questionnaire in order to discover their attitude towards forms of instruction used at the faculty; their preferences for study materials and their likes or dislikes about them. The research tools used were as follows:

- Pen and paper questionnaires consisting of nine questions out of which five were multiple choice questions and four were open-ended questions;
- 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. 29 (64%) of them were females and 16 (36%) were males. 19 (42%) respondents studied part-time while 26 (58%) of them were full-time students. The biggest group of the students were between 20-24 years old (44%). Then it was quite even; seven respondents (16%) were between 25-29 years old, the same number was true for 35-39 years old and under 20 years old. Most of the respondents were enrolled in studying Management of Tourism (30/66%), followed by the students of Information Management (8/18%), Financial Management (4/9%) and Applied Informatics (3/7%).

3. Findings

As it has been already mentioned, students were asked nine questions. The first four questions below were designed in order to discover whether students are well equipped for blended or pure online studies. The questions were as follows:

1. *Do you own a mobile device with the Internet connection?*
 - a) *Yes*
 - b) *No*

As far as this question is concerned, 42 (93%) FIM students have such a device, while only three (7%) do not (Fig. 1).

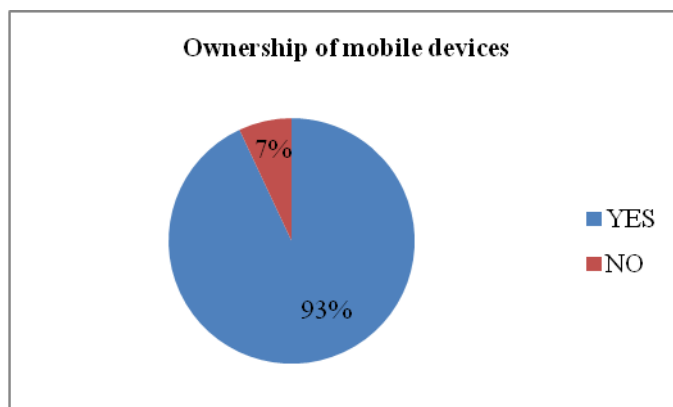


Figure 1. Ownership of mobile devices with the Internet connection.

2. *What type of mobile device do you own?*
 - a) *notebook, netbook*
 - b) *smart phone*
 - c) *tablet*
 - d) *other*

Fig. 2 below shows that the majority of the respondents (42 students/93%) own a notebook; quite a substantial number (33 students/73%) also own a smart phone; and only 13 students (29%) have tablet.

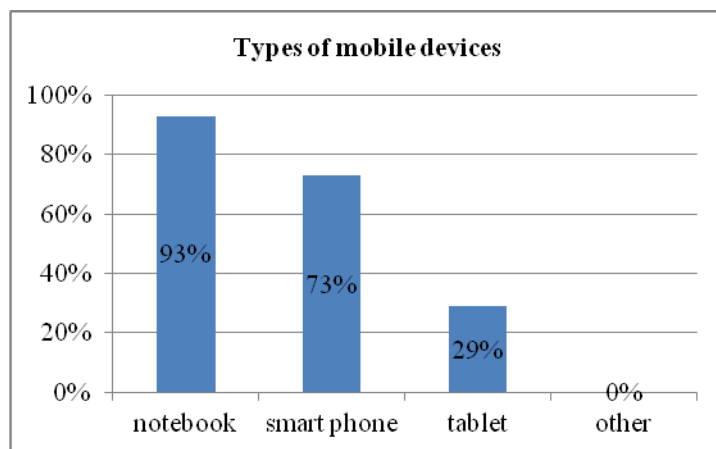


Figure 2. Types of mobile devices students own.

3. *Do you use the mobile device for your study?*

- a) *Yes*
- b) *No*

Most of the students (40 respondents/89%) use the mobile device for their studies, while only 5 (11%) do not (Fig. 3).

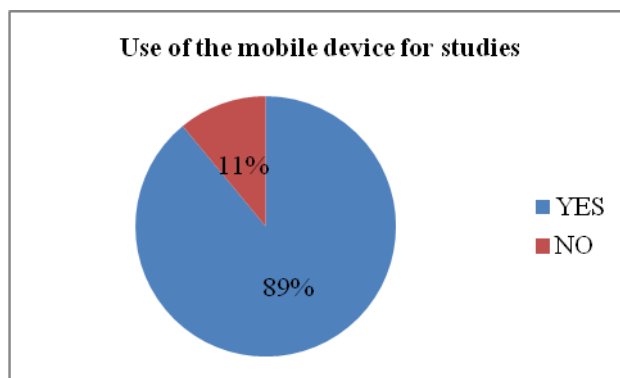


Figure 3. Use of the mobile device for students' studies.

4. *How often do you use the mobile device for your study?*

- a) *less than once a week*
- b) *once a week*
- c) *twice-three times a week*
- d) *more often*

Fig. 4 then illustrates that the respondents use it quite frequently.

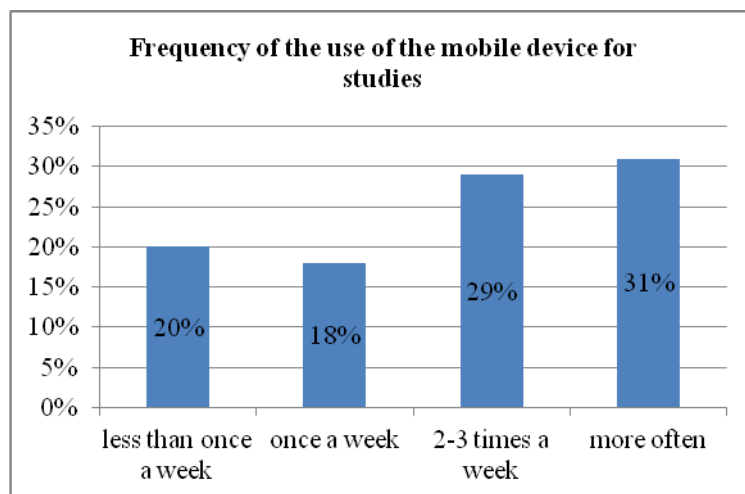


Figure 4. Frequency of the use of the mobile device for students' studies.

The rest of the questions below were then the core survey questions.

5. *What form of instruction do you prefer?*
- traditional/face-to-face*
 - online/e-Learning*
 - a combination of traditional and online/blended*

Fig. 5 indicates that 27 students (60%) prefer the blended form of instruction; 18 students (40%) the traditional one; and none of the students would like to have just the online classes.

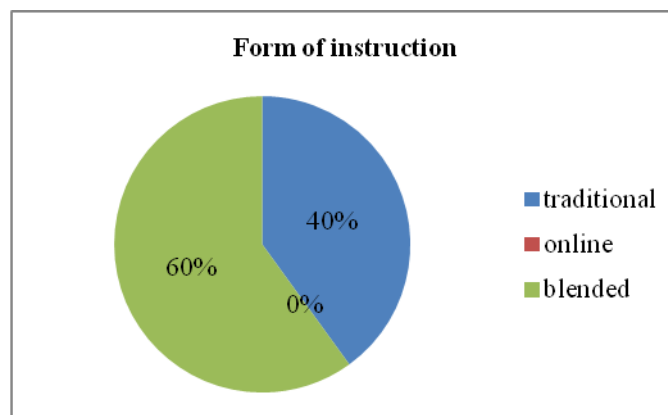


Figure 5. Form of instruction.

6. *What study materials do you prefer?*
- printed materials*
 - electronic materials available through the Internet on desk computer (e-Learning)*
 - electronic materials available in form of mobile phone, tablet (m-learning)*

Surprisingly, almost all students (40 respondents/89%) would still study from the printed materials; 16 students (36%) would also use the e-Learning materials; and only three students (7%) would prefer m-learning materials (Fig. 6).

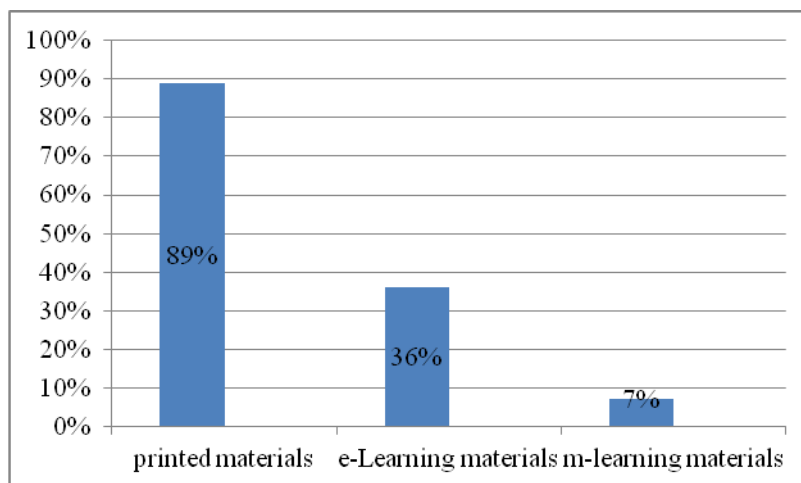


Figure 6. Preferences in the types of learning materials.

7. *Do you consider the study materials in the online course useful or not useful? Please state your reasons.*

As far as this question is concerned, almost all students (43 respondents/96%) consider the e-Learning materials useful. They appreciate mainly the availability, clear arrangement and logical sequence (particularly according to the main topics) of these materials. They also like having more study materials and exercises with their key within their reach so that they can practise their learning more. On the contrary, those who did not consider these materials useful, say that they are impersonal.

8. *What do you like about these e-Learning study materials most?*

Students mostly like the form of these e-Learning materials which is simple and clear. The texts are not long, but concise and current and they can be printed out. They are easily accessible. In addition, one can practise a large stock of vocabulary.

9. *What do you miss in these e-Learning study materials?*

Students reported that they mainly missed sample tests and listening exercises, particularly the recordings by native speakers, since this is an online course aimed at learning English. Furthermore, they also said that they also lacked a more frequent personal/face-to-face contact with their teacher.

4. Discussion

Although the sample of the respondents was not that big, on the basis of this survey, it is obvious that students at the institutions of higher education are nowadays well equipped with mobile devices which enable them to study independently on place, time and authority. Almost all students (93%) confirmed that they owned one mobile devices, mostly a notebook; two thirds of them even have two (a notebook and a smart phone). This is nowadays a common trend worldwide (cf. Kopackova, 2014 or Cheung, 2015). Furthermore, 60% of the respondents use these mobile devices more than once a week. As Traxler & Vosloo (2014) indicate, with an increasing number of people using mobile devices, there will be an increased interest in mobile learning which will result in more mobile learning initiatives, including higher education.

The survey also showed that 60% of the students preferred the blended form of instruction, which is now becoming prevalent at the institutions of higher education and it is a well-established methodology, particularly in higher education (cf. Allen, Seaman, & Garret, 2007; Norberg, Dziuban, & Hartman, 2003; or Porter, Graham, Spring, & Welch, 2013) since this form of instruction is considered to be the most suitable one to meet students' needs in the most effective way (cf. Garrison & Kanuka, 2004 or Graham, 2013). Moreover, the blended learning methodology enhances both teaching and learning by using more interactive strategies (Jusoff & Khodabandelou, 2004). Also other surveys which were conducted at FIM confirmed that students most frequently welcomed the blended form of instruction (cf. Hubackova & Semradova, 2013 or Frydrychova Klimova & Poulouva, 2013a).

In addition, institutions of higher learning have recently started to show an intense interest in blended learning (Yamagata-Lynch, 2014) because in this way they can have greater access to student population (Porter, Graham, Spring, & Welch, 2013). The improved cost effectiveness is particularly true for the corporate systems where people are permanently busy and hardly ever can afford to attend face-to-face full-time classes. However, blended learning enables them after finishing their work, family and other social commitments to start learning. Also universities are all the time looking for an increase of cost savings. For example, blended learning is an advantage for their distance learning courses or investment learning projects. In this way universities can be more economical as far as the use of faculty space, time and staff are concerned (cf. Dziuban, Hartman, Judge, Moskal, & Steven, 2006).

As far as the choice of the learning materials is concerned, the majority of students (89%) still prefer the printed materials. The reason might be that they like highlighting the main points in order to remember the key points for an exam and/or be able to carry these learning materials anywhere they go and travel. But this and other reasons would definitely need further investigation. Although only 36% of the respondents prefer the e-Learning materials, 96% of them consider the e-Learning materials in online courses useful. As Gerlich (2002) says, the majority of page views by university students are for the course materials. Students particularly appreciate their easy accessibility, clear arrangement and concise structure. They also like having additional materials for their learning and being able to print them out. On the contrary, they sometimes find the e-Learning materials impersonal. This can be solved by using less formal language and implementing more multimedia elements. As Jung, Choi, Lim, & Leem (2002) claim, interactivity is especially important in overcoming one of the shortcomings of fully distance education, which is a lack of interpersonal interaction. Mayer (1999; 2003) also adds that multimedia instructional materials promote deeper learning. Furthermore, podcasts implemented into these study materials can be a solution to the lack of listening exercises. Finally, the blended form of instruction can partially substitute the so much needed personal contact with the teacher, particularly in language classes.

4. Conclusion

Thus, as the survey indicates, mobile devices prevail among the university students and their use is as natural for them as breathing. Despite this fact, students still prefer the printed materials, which they also print out from their e-Learning courses. Therefore, as Frydrychova Klimova & Poulouva (2013b) suggest, any learning materials should possess the following characteristics:

- They should have a clear, concise, logical and simple structure (information in bullets is preferred).
- They should be well-balanced (i.e. there should be an adequate amount of relevant teaching matter
Including learning objectives and exercises/assignments/self-tests).
- The materials should be comprehensible and up-to-date.

- They should be easily navigated.
- They should be interactive with appropriate multimedia components.
- They should be linked to other suitable materials and relevant websites.

Eventually, these learning materials should be ideally used in the blended form.

Acknowledgements

The paper is supported by SPEV project no. 2108.

References

- Allen, I.E., Seaman, J., & Garret, R. (2007). *Blending in: the extent and promise of blended education in the United States*. USA: The Sloan Consortium.
- Bekele, T. A. (2010). Motivation and satisfaction in internet-supported learning environments. *A Review*, 13, 116–127.
- Chen, C., Lee, H., & Chen, Y. (2005). Personalized e-learning system using item response theory. *Computers & Education*, 44, 237-255.
- Cheung, S. K. S. (2015). A case study on the students' attitude and acceptance of mobile learning. *CCIS 2014* (pp. 45-54). Springer.
- Dang, Q., Pan, P., & Wang, T. (2011). A practical approach to design and delivery of courseware for VLE-based learning. *ITALICS*, 10, 1-13.
- Dziuban, C., Hartman, J., Judge, F., Moskal, P., & Steven, S. (2006). Blended learning enters mainstream. In C. J. Bonk & C. R. Graham (Eds.), *The Handbook of Blended Learning: Global Perspectives, Local Designs* (pp. 195-208). San Francisco: Pfeiffer.
- Frydrychova Klimova, B. (2009). Blended Learning. In A. Mendez Vilas et al. (Eds.), *Research, Reflections and Innovations in Integrating ICT in Education* (pp.705-708). Spain: FORMATEX.
- Frydrychova Klimova, B., & Poulouva, P. (2013a). ICT in the teaching of academic writing. *Lectures Notes in Management Science*, 11, 33-38.
- Frydrychova Klimova, B., & Poulouva, P. (2013b). Impact of a form of online materials on the quality of education – a case study. *International Journal of Digital Information and Wireless Communications (IJDWC)*, 3, 43-49.
- Frydrychova Klimova, B., & Poulouva, P. (2014). Forms of instructions and students' preferences – a comparative study. *Proceedings of the 7th International Conference, ICHL 2014* (pp. 220-231). Springer.
- Garrison, D.R., & Kanuka, H. (2004). Blended learning: uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7, 95-105.
- Gerlich, R. N. (2002). Web-assisted courses: a case study of how on-campus students use online materials. *Proceedings of the Allied Academies International Conference* (pp. 3-7). Academy of Educational Leadership.
- Gkatzidou, S., & Pearson, E. (2009). The potential for adaptable accessible learning objects: a case study in accessible vodcasting. *Australasian Journal of Educational Technology*, 25, 292-307.
- Graham, C.R. (2013). Emerging practice and research in blended learning. In M.J. Moore (Ed.), *Handbook of Distance Education* (pp. 333-350). New York, NY: Routledge.
- Hubackova, S., & Semradova, I. (2013). Comparison of on-line teaching and face-to-face teaching. *Procedia – Social and Behavioral Sciences*, 89, 445-449.
- Jung, I., Choi, S., Lim, C., & Leem, J. (2002). Effects of different types of interaction on learning achievement, satisfaction and participation in web-based instruction. *Innovations in Education and Teaching International*, 39, 153-162.
- Jusoff, K., & Khodabandelou, R. (2004). Preliminary study on the role of social presence in blended learning environment in higher education. *International Education Studies*, 2, 79–83.
- Kopackova, H. (2014). Preparedness for mobile learning at higher education. *Proceedings of the 10th International Conference on Digital Technologies* (pp. 146-151). Slovakia: Zilina.
- Lim, D. H., Morris, M. L., & Kupritz, V. W. (2007). Online vs. blended learning: differences in instructional outcomes and learner satisfaction. *Journal of Asynchronous Learning Networks*, 11, 38–50.
- Mayer, R. E. (1999). Multi-media aids to problem-solving transfer. *International Journal of Educational Research*, 31, 611-623.
- Mayer, R. E. (2003). The promise of multimedia learning: Using the same instructional design methods across different media. *Learning and Instruction*, 13, 125-139.

Klimova, B. (2016). Students' preferences for learning materials in technology-enhanced higher education. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 11, pp 20-28. Available from: www.prosoc.eu

Norberg, A., Dziuban, P., & Hartman, J. (2003). Blended learning: a dangerous idea? *The Internet and Higher Education*, 18, 15-23.

Porter, W.W., Graham, C.R., Spring, K.A., & Welch, K.R. (2013). Blended learning in higher education: Institutional adoption and implementation. *Computers & Education*, 75, 185-193.

Thalman, S. (2014). Adaptation criteria for the personalised delivery of learning materials: a multi-stage empirical investigation. *Australasian Journal of Educational Technology*, 30, 45-60.

Traxler, J., & Vosloo, S. (2014). Introduction: the prospects for mobile learning. *UNESCO IBE* (pp. 13-28). Springer.

Vinuesa, T. S., & Formos, R. M. (2007). A virtual mathematics learning environment for engineering students. *Interactive Educational Multimedia*, 14, 1-18.

Weller, M. (2007). *Virtual learning environments: using, choosing and developing your VLE*. Oxford: Routledge.

Yamagata-Lynch, L. C. (2014). Blending online asynchronous and synchronous learning. *The International Review of Research in Open and Distance Learning*, 15, 189-212.