STUDENTS' PREFERENCES FOR ONLINE STUDY MATERIALS

Blanka Frydrychova Klimova, Petra Poulova
University of Hradec Kralove
Czech Republic

Abstract

Most of the teaching at tertiary institutions in the Czech Republic is now supported online, usually in the form of various e-learning courses because students 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. It is also true that students particularly prefer to exploit study materials in their e-courses. Unfortunately, there are not many empirical studies addressing pragmatic issues such as the form of online study materials. Thus, the purpose of this article is to discover with the help of an online questionnaire survey conducted at the Faculty of Informatics and Management of the University of Hradec Kralove, Czech Republic, what kind of online study materials students prefer so that the teacher/tutor could adjust his/her online teaching materials to students' needs. In conclusion the authors emphasize the importance of and unique role of multimedia in designing the online study materials.

Introduction

Nowadays, almost no sphere of human activity can do without Information and Communication Technologies (ICT). This fact is also reflected in the educational process. Most of the teaching at tertiary institutions in the Czech Republic is now supported online (Frydrychova Klimova & Poulova, 2012; Simonova, 2010), usually in the form of various e-learning courses. For example, the Faculty of Informatics and Management (FIM) of the University of Hradec Králové, Czech Republic, runs more than 240 e-courses that are exploited in different ways. They are run purely as online courses, or they are led as blended courses (see Frydrychova Klimova, 2009 for their definition), or they serve as an additional support for students after their regular, face-to-face classes so that students can read once again the information already obtained during the lecture.

Many surveys confirm that students like being offered such online courses (Cechova, Zerzanova, & Berankova, 2012; Frydrychova Klimova & Poulova, 2013a; Hwang, Wang, & Sharples, 2007; Karuppan & Karuppan, 1999; O'Daniel, 2001) 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. It is also true that students particularly prefer to exploit study materials in their e-courses (Frydrychova Klimova, & Poulova, 2013b; Carmona, Castillo, & Millán, 2007). Gerlich (2002) in his study also confirmed that the vast majority of page views were for course materials, a supplement for face-to-face contact on-campus.

In addition, several studies prove that web-based/online materials have a positive effect on student learning (Baki & Guveli, 2008; Jung, Choi, Lim, & Leem, 2002; Karuppan & Karuppan, 1999) if, as Ruzich (2012) added, they are coherent and consistent with the goals and objectives teachers have planned for their lessons. Furthermore, Karuppan and Karuppan (1999) set the following principles for such online asynchronous learning:

- 24-hour access,
- interactivity,
- student's active involvement in the teaching process, and
- prompt feedback.

Particularly, the interactivity of online materials is an important issue in their design (Cechova, Zerzanova, & Berankova, 2012; Gerlich, 2002; O'Daniel, 2001). As Jung, Choi, Lim, and Leem (2002) claimed, expanded interactivity is especially important in overcoming one of the shortcomings of traditional distance education, that is, lack of interpersonal interaction.

Unfortunately, there are not many empirical studies addressing pragmatic issues such as the form of online study materials. Thus, the purpose of this article is to discover what kinds of online study materials students prefer so that the teacher/tutor could adjust his/her online teaching materials to students' needs.

Survey Findings and Results

In January of 2013, within the FIMINO project (Study Programmes of Faculty of Informatics and Management Innovation for Knowledge Economy), FIM students were asked to fill in online questionnaires in 44 subjects, which were supported online, so that FIM teachers could discover what kind of study materials FIM students prefer and consequently, take relevant steps for matching their online teaching materials to student's needs.

As far as the survey sample was concerned, out of 2,249 respondents, 1,867 students (76%) were males and 558 students (20%) were females: 24 students (1%) did not respond to this question (see Figure 1).
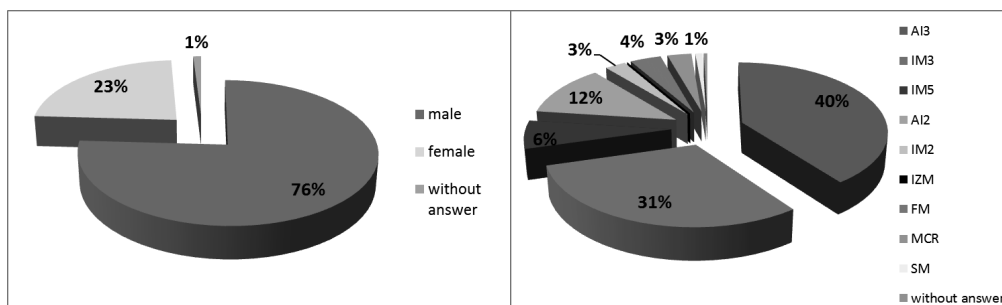

Figure 1. Respondents' sex and fields of study.

As Figure 1 shows, most of the respondents studied Applied Informatics - AI (AI3 + AI2 – 1,277 students/ 52%). The second biggest group consisted of students of Information Management – IM (IM3 + IM5 + IM2 - 999 students/

40%). Only 83 students of Financial Management (FM) and 20 students of Sport Management (SM) participated in the survey. A vast majority of these students were full-time students (2,169 respondents/ 88%) while only 262 respondents (11%) were part-time/distant students. Ten students (1%) did not respond to this question. See Figure 2.
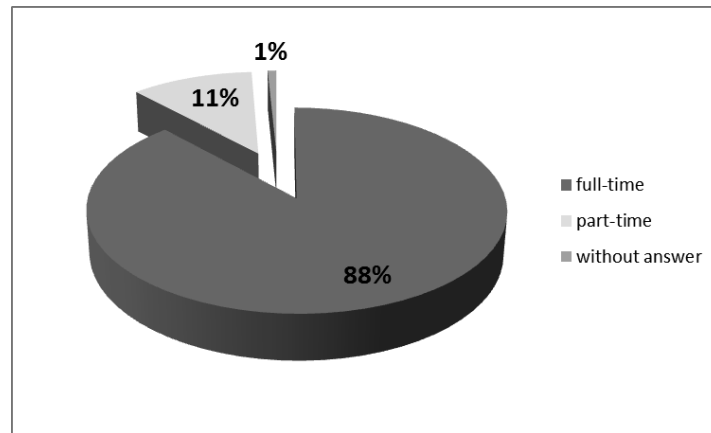

Figure 2. Respondents' form of study.

In the survey students were asked the following two questions about the study materials:

1. Were you satisfied with the placement of the study materials in your e-courses?
2. Which study materials do you prefer?

Question 1. As Figure 3 demonstrates, 930 students (38%) were pleased with the placement of the study materials. Moreover, 694 students (28%) were fully satisfied with their placement, and 659 students (27%) had no objection to their placement. Only 115 respondents (5%) had problems with the placement of the study materials, and 29 respondents (1%) did not like it at all. Finally, 22 students (1%) did not respond to this question.
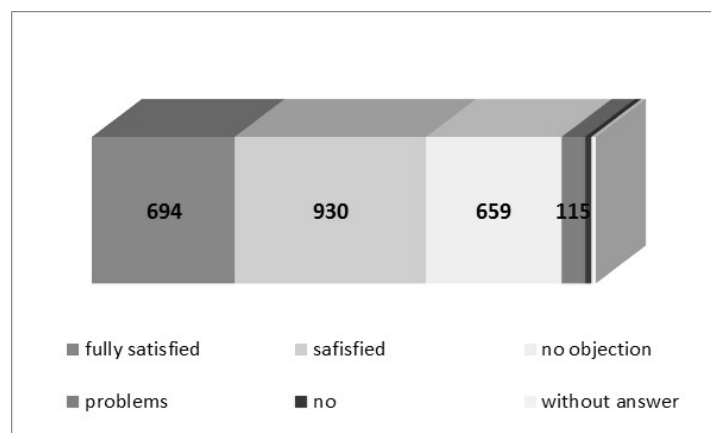

Figure 3. Students' satisfaction with the study materials in e-courses.

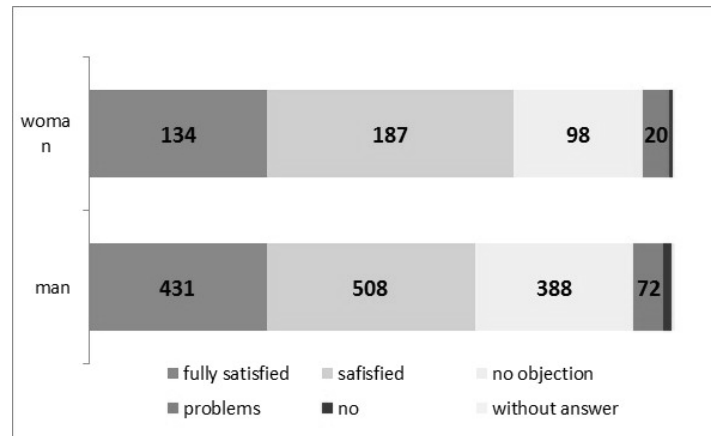There are not significant differences between women and men's views (see Figure 4).

Figure 4. Students' satisfaction with the study materials in e-courses – gender view.

Similarly, there are small differences are between the views of students from different study programs (see Figure 5).
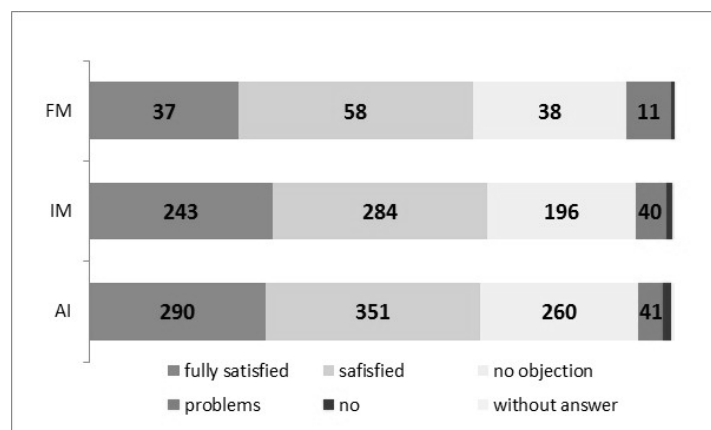

Figure 5. Students' satisfaction with the study materials in e-courses – study programs view.

Question 2. When answering this question, students could tick more than one option. Therefore, 1,266 respondents (52%) reported that they favoured having the study materials in printed forms while most of the respondents (1678 students/ 69%) said that they preferred to be given lecture materials online, e.g., in the form of a PowerPoint lecture. Of 1,307 students (53%) responded that they would desire a text with hypertext links and pictures. Fewer respondents (642 students/ 26%) would then want animated texts, and almost the same number of respondents (705 students/ 29%) would fancy video sequences.
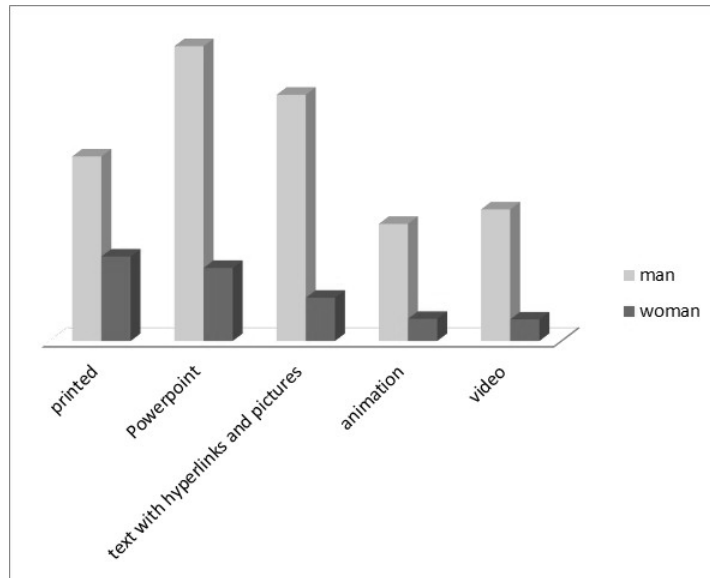
Figure 6. Students' preferences for the study materials.

As Figure 6 illustrates, the obtained results show the difference between gender preferences - most women prefer printed materials, most men prefer lecture materials online, e.g., in the form of a PowerPoint lecture.

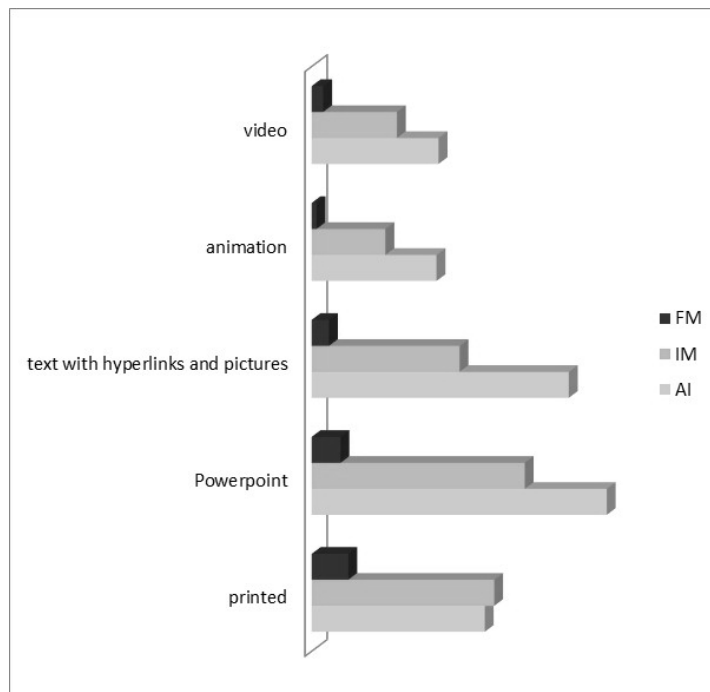There are not significant differences between study programs' views (see Figure 7).

Figure 7. Students' preferences for the study materials – study programs view.

Conclusion

As this research showed, a majority of respondents (2,283 students/ 93%) welcomed a possibility of having their study materials online. There might be different reasons for students' positive view.

- Students can access the online study materials anywhere at any time.
- They can check all the information already given to them during their face-to-face classes.
- They do not have to waste their time on looking for the desired information elsewhere.
- They do not have to be stressed during a lecture when they do not understand everything or they do not manage to take all the notes because they can find the materials in the online course afterwards.

Furthermore, this survey also indicated that students were not satisfied with the ordinary printed materials any more, but they would prefer to be offered various online texts with multimedia components, such as PowerPoint lectures, animations, or video sequences. O'Daniel (2001) claimed that online materials appeal to all sorts of learners while text appeals to just a few. Therefore, teachers/creators of online study materials should include multimedia components in their study materials because it is known that multimedia can concurrently affect more senses at one time. As Lindfors (1987) pointed out, multimedia can provide a sensory and real learning experience; it presents a greater potential for learning. Sperling, Seyedmonic, Aleksic, and Meadows (2003) also emphasized their facilitation role in the organization of the online texts.

At present multimedia are common teaching resources, aids or tools in teaching for the following reasons.

- They are modern/fashionable.
- They are up-to-date. They can be usually easily modified.
- They are user-friendly.
- They are relatively inexpensive.
- They are eye-catching/appealing to students.
- They are stimulating.
- Simply, they are natural means of student's everyday use.

In addition, as Mbarha et al. (2010) noted, multimedia instructional materials have been recognized for enabling the understanding of complex engineering and IT decision-making situations. They have been also identified as an important tool for managers and students in their efforts to connect and apply classroom theory-based learning with the analysis of real-world problems. Moreover, Mayer (1999, 2003) emphasized that multimedia instructional materials promote deeper learning.

Acknowledgement

References

Baki, A., & Guveli, E. (2008). Evaluation of a web based mathematics teaching material on the subject of functions. *Computers and Education*, *51*(2), 854-863.

Carmona, C., Castillo, G., & Millán, E. (2007). Discovering student preferences in e-learning. *Proceedings International Workshop on Applying Data Mining in e-learning* (pp. 23-33). Crete, Greece.

Cechova, I., Zerzanova, D., & Berankova, J. (2012). Materials development in language training: Online course of Military English. *Proceedings of the 11th European Conference on E-learning* (pp. 80-89). University of Gronigen, The Netherlands.

Frydrychova Klimova, B. (2009). Blended learning. In A. Mendez Vilas et al. (Eds.), *Research, reflections and innovations in integrating ICT in education Volume.2* (pp. 705-708). Spain: FORMATE.

Frydrychova Klimova, B., & Poulova, P. (2013a). Impact of a form of online materials on the quality of education – A case study. *International Journal of Digital Information and Wireless Communications (IJDIWC)*, *3(*1), 43-49.

Frydrychova Klimova, B., & Poulova, P. (2013b). Analysis of online materials and their impact on learning. *Proceedings The Third International Conference on Digital Information Processing (ICDIPC 2013)* (pp. 564-568). USA: The Society of Digital Information and Wireless Communications (SDIWC).

Frydrychova Klimova, B., & Poulova, P. (2012). Reflection on the development of eLearning in the Czech Republic. In *Proceedings of the 16th WSEAS International Conference on Recent Researches in Communications and Computers* (pp. 433-437). Greece: Corfu.

Gerlich, R. N. (2002). Web-assisted courses: A case study of how on-campus students use online materials. *Allied Academies International Conference. Academy of Educational leadership. Proceedings* (pp. 3-7).

Hwang, N. Y., Wang, C. Y., & Sharples, M. (2007). A study of multimedia annotation of web-based materials. *Computers and Education*, *48*(4), 680-699.

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*(2), 153-162.

Karuppan, M. C., & Karuppan, M. (1999). Empirically based guidelines for developing teaching materials on the web. *Business Communication Quarterly*, *62*(3), 57-45.

Lindfors, J. (1987). *Children's language and learning.* Englewood Cliffs, NJ: Prentice-Hall.

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.

Mbarha, V., Bagarukayo, E., Shipps, B., Hingorami, V., Stokes, S., Kouroma, M., & Sankar, C. S. (2010). A multi-experimental study on the use of multimedia instructional materials to teach technical subjects 1. *Journal of STEM Education. Innovations and Research, suppl. Special Edition*, 24-37.

O'Daniel, M. (2001). *Online versus printed materials*. Computimes : Malaysia.

Ruzich, C. M. (2012). On-line literature: The challenge of integrating web-based materials. *Changing English: Studies in Culture and Education*, *19*(2), 195-207.

Simonova, I. (2010). On the process of ICT implementation in the tertirary education reflected in the eLearning conferences and competitions at the FIM UHK. In I. Semradova (Ed.), *Reflections on the exploitation of a virtual study environment* (pp. 26-62). Hradec Kralove, Czech Republic: MILOS VOGNAR Publishing House.

Sperling, R. A., Seyedmonic, M., Aleksic, M., & Meadows, G. (2003). Animations as learning tools in authentic science materials. *Journal of Instrumental Media*, *30*(2), 213- 221.

Author Details

Blanka Frydrychova Klimova,
blanka.klimova@uhk.cz

Petra Poulova

petra.poulova@uhk.cz