ANALYSIS OF ONLINE MATERIALS AND THEIR IMPACT ON LEARNING

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ABSTRACT

Online courses are nowadays well established forms of learning and teaching all over the world. They are used as supporting courses of traditional classes, as complementary courses of hybrid or blended courses or pure online courses. Nevertheless, in all cases they must be designed well to attract and motivate students to work and study the uploaded information. Therefore, this paper focuses on the analysis of online materials and their impact on learning.

KEY WORDS

eLearning, online courses, learning, teaching, survey

1 INTRODUCTION

The Faculty of Informatics and Management of the University of Hradec Kralove (FIM) has been intensely involved in the application of ICT in form of eLearning since 1997 as the teachers see this as a way of improving the quality of their teaching. They also discover that eLearning contributes towards increasing the effectiveness and efficiency of the educational process. Moreover, it enhances learner's autonomy. The e-courses are created in a virtual learning environment (Learning Management System) called Blackboard Learn (Fig. 1).

At present, more than 220 e-courses are offered, with more than 45 of these being foreign language courses. Some of them can be taught completely online. However, most of them are blended as there are usually a few tutorials. At tutorials (face-to-face teaching) students usually discuss the problems they come across when doing different types of tasks or writing assignments. Moreover, sometimes there are regular classes and e-courses are used as reference courses (i.e. students can once again read the information obtained in class and do some additional exercises to practise their knowledge) for further self-study or revision of the lecture. For more information see Frydrychová Klímová & Poulová [3].
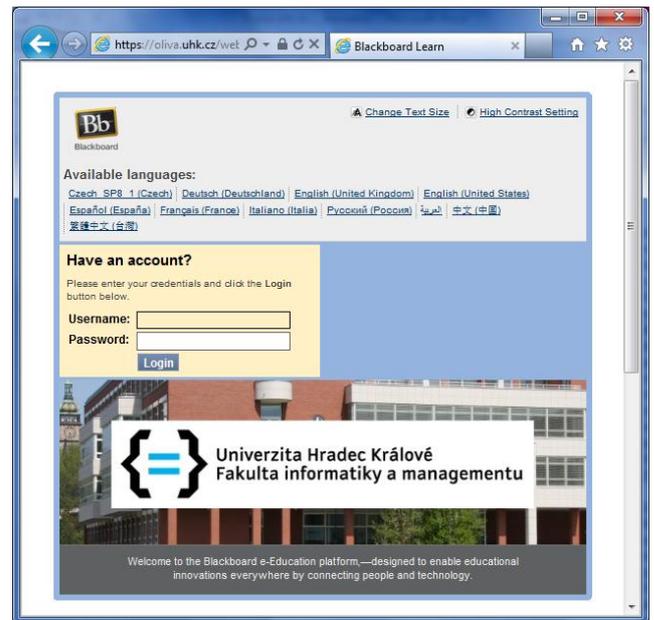

Figure 1. Blackboard Learn at FIM

In the online courses students especially exploit study materials (see Fig. 7 below) which undoubtedly play a crucial role in the acquisition of their knowledge and skills. Moreover, not much hands-on research has been done in this field yet. However, if the online courses are developed well, they definitely motivate students in their self-study.

Semradova [4], for example, outlines the following 9 key prerequisites of effective online course materials:

1. The learning material has to be clear and accessible (both technically and economically).
2. In the creation of online courses, it is important to collaborate with professionals – specialists in informatics or didactics, pedagogues or designers.
3. One should be aware of the dangers and pitfalls of selective perception, selective processing and selective memory.

4. When making a decision, it is also necessary to think carefully about the content and organization of available materials.
5. One should keep in mind the issue of "cognitive dissonance" - the source of which is a tension between a wide choice, the need to deal with what makes us tired, bored, burdensome, and it is difficult to understand, respectively, on the contrary, it seems trivial and obvious.
6. In the preparation for teaching some of the less frequent motifs, based on the teacher's need to be curious, to discover, to be playful and constructive, the need for security, comfort, contact, the desire for autonomy, and the need to manage time ...
7. The learning texts should be effective; they should include a motto, headlines and subheading in order to be well arranged, and clearly structured. It is said that the role of the headline is to challenge a reader to read at least the first paragraph and the first paragraph should be interesting enough to make the reader want to read to the very end.
8. Study materials should respect the hermeneutic approach.
9. Courses and learning materials should be an intellectual challenge.

For a detailed description of the creation of any online study materials see the evaluation checklists of [1] or [5].

2 RESEARCH AND ITS FINDINGS

In order to find the latest attitude of FIM students to the study materials, the authors made a survey in the winter semester of 2011. The survey concentrated on the eLearning form of study with respect to the study materials. The questions were as follows:

1. *Do you prefer blended classes (i.e. a combination of traditional/face-to-face classes and online classes) or only traditional classes or online classes only?*
2. *Which eLearning tools do you use most in your e-courses? Please state your possible comments on this question.*
3. *Is it easy to read the electronic texts? If not, please provide an explanation.*
4. *Are you satisfied with the content structure of electronic lectures (study materials) in your e-courses?*
5. *What do you like in your written electronic materials most? Please comment.*
6. *A number of e-subjects you have passed?*
7. *Sex*
8. *Form of study*
9. *Field of study*
10. *Degree of study*

Overall, 484 students participated in the survey. 66% were men and 34% women (Fig. 2), which in fact reflects the nature of the faculty since most respondents were from the field of informatics: applied informatics (AI), information management (IM) and information and knowledge management (IZM) - 360, other respondents studied financial management (FM – 27), sport management (SM – 17) and management of tourism (MCR – 56) – see Fig. 3.
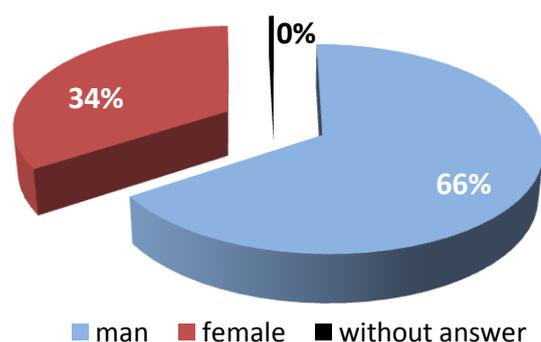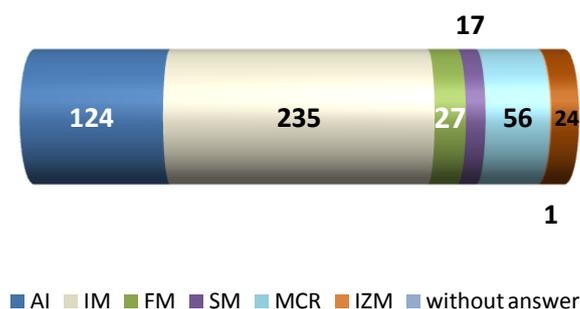

Figure 2. Respondent's sex

Figure 3. Respondent's field of study

An average age of the respondents was 22 years – 316 students (Fig. 4).

Figure 4. Respondent's age

Students usually have enough experience in working with e-subjects because 191 of them admitted studying 2-5 e-courses and 104 of them even worked in more than 10 e-courses. See Fig. 5.

Figure 5. Experience in working with e-subjects

The survey revealed that most respondents (58%) preferred the blended classes to the traditional, face-to-face classes (33%) and only 9% of respondents would rather have the online classes only (Fig. 6).
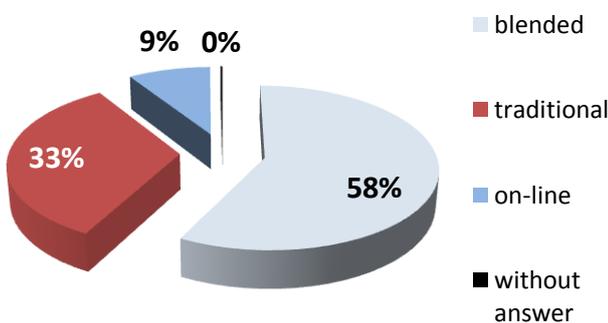

Figure 6. Preferred classes

The survey confirmed that the most exploited eLearning tools are study materials (459 respondents), followed by assignments, quizzes, and self-tests (180 respondents), then by a syllabus and study objectives (144 respondents)

and the last group formed communication tools (91 respondents). See Fig. 7. Moreover, some students added their comments to this question. Their opinions on the exploitation of the eLearning tools were both positive and negative.

Positive:
− *I am (generally) satisfied.*
− *It would be good to introduce more e-subjects.*
− *It depends, but generally, I am satisfied.*
− *I am satisfied although it is not true for a few e-subjects.*
− *I use them in my preparation for exams and so far it has been OK.*

Negative:
− *The Blackboard is not working properly at the moment.*
− *The quality of individual lectures is at different levels in some e-subjects but most of them are OK.*
− *Some e-materials could be structured in a better way.*
− *Very unclear and lengthy searching for study materials…..*
− *Study materials are rarely balanced.*
− *It is a must to unify the eLearning environment.*
− *Each subject has its content structured in a different way.*
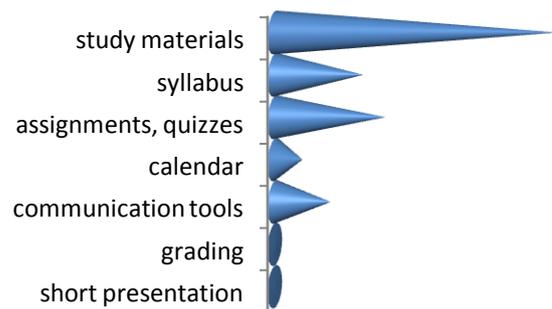− *An illogical structure of study materials…..*

Figure 7. eLearning tools and their exploitation

An overwhelming majority of students (96%) found the electronic texts easy to read in comparison with a dissatisfied minority (4%). The main reasons of respondent's dissatisfaction can be listed as follows:

• complexity of study materials;

- unclear subsections in which it is difficult to find something;
- more information in bullets is needed;
- often a chaotic *storehouse* of documents;
- the texts often contain abbreviations which are not explained;
- the texts are sometimes more difficult to understand;
- new VLA is too difficult.

Furthermore, 93% of respondents were satisfied with the content structure of their electronic materials and only 7% of respondents were not.

287 students also answered question 5: *What do you like in your written electronic materials most?* Majority of replies (almost 50%) concerned their accessibility. Students really appreciate accessing the study materials any time and anywhere, most preferably, from the cosiness of their homes. Other positive factors of the electronic materials are as follows:

- a possibility of copying, downloading and printing;
- an easy access to study materials;
- low/no costs of learning materials;
- everything that is needed for study in one place;
- simplicity;
- clarity;
- relative conciseness;
- well-written and structured;
- comprehensiveness of materials and links to other suitable materials;
- graphics of VLA and its multimedia components;
- a sufficient amount of information;
- current information;
- a chance of self-study;
- individual pace of study;
- self-tests, a chance to check one's knowledge;
- a chance to return to study materials and complete one's learning`
- interaction;
- ecological approach;
- assurance of correct learning materials;
- no need to take notes during the face-to-face lectures;
- no need to carry textbooks to classes or borrow them in the library;

- a chance to complete notes from the face-to-face classes;
- a chance of searching.

3 CONCLUSION

From the above described results of the survey, it is clear that students welcome an opportunity to work online although, predominantly, in the so-called combined/blended/hybrid form of learning. The reason is that they can complete their knowledge and thus finish their learning process, which they did not manage to do during the face-to-face classes. They are not forced to do it immediately at school or in the library because they can access the online course from the cosiness of their homes any time they feel like that. In addition, if they did not understand anything during the lecture, they can contact their teacher online and ask him/her.

In the online course students mostly exploit the study materials. Therefore, tutors should pay careful attention to their creation. As both theory and practice (survey) reveal:

- Study materials 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.

Thus, Frydrychova Klimova [2] provides the following simple framework for the creation of any topic-based study materials, be they online or traditional, i.e. textbooks:

1. Maximally a two page document consisting of the following items should be developed:

- topic (a concise sentence or a phrase of the lesson content);
- learning goal (a short statement motivating the participants to study the particular lesson); prerequisites (previous knowledge required to master the lesson);
- skills (a description of the knowledge/ skills to be gained in the particular lesson);

- explanation of the basic concept and ideas of the teaching matter discussed in the lesson (in the form of text and questions);
- conclusion with self-tests, tasks, quizzes (with keys), or an assignment;
- bibliographical sources and or links to them (see Fig. 8 below).

Figure 8. A structure of a lesson

If such a material is developed, then both teaching and learning is a challenge. Moreover, such written educational materials might increase student's interest in online studies, respectively his/her motivation for self-study.

ACKNOWLEDGEMENT

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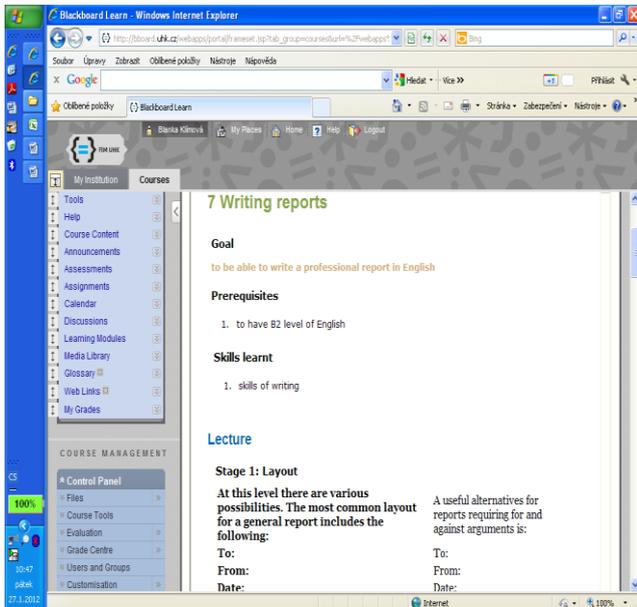5. Wright, R.C. *Criteria for evaluating the quality of online courses*. Retrieved November 22, 2012, from http://elearning.typepad.com/thelearnedman/ID/ evaluatingcourses.pdf.