

STUDENT'S READINESS FOR E-LEARNING

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Abstract: *In this paper, we present our attempt to investigate student's attitude towards a technology-enhanced learning. We are interested in exploring how learners react to changes in training methodology due to the transition to e-learning. This investigation employs survey research to assess the extent to which students are ready for changes in the training methodology regarding e-forms. Data have been collected over 200 students across different bachelor programs at New Bulgarian University in both full-time and distance forms of studies. The analysis is based on our experience in delivering courses via Moodle for both distance and full-time education. Our results concerning the students' readiness for e-learning are presented in this paper.*

Key words: *e learning, higher education*

Introduction

The development of ICT and the use of Internet made considerable changes in education possible. More and more traditional learning tasks are delivered online thus permitting to create more engaging and student-centered learning environments [1, 2]. Learning management systems are trying to offer new tools to facilitate instructors' work. In Bulgaria almost all universities implement some web-based content delivery system (mainly Moodle and Blackboard) to support both distance and regular education.

At New Bulgarian University both the full-time and distance forms of education are enhanced by e-learning. Though e-learning mainly relates to distance education it also influences face-to-face teaching. The Moodle NBU platform provides access to e-learning content for each course and supports active communications among instructors and students in both forms of study. The shift from traditional classroom to e-learning is. Instructors have to take into account potential advantages and drawbacks concerning their design solutions and this represents a major pedagogical change. Meanwhile learners can lead their learning activities, participate in discussions, and explore topics of interest, i.e. a student-centered learning is achieved. Students have the flexibility to learn "anytime and anywhere". They can choose the way of their learning.

The purpose of this study is to investigate students' attitude towards a technology-enhanced learning. More precisely, we are interested in exploring how learners react to the changes in training methodology due to the transition to e-learning. There are

many similar investigations abroad especially in developing countries [3, 4, 5, 6]. Bulgarian Universities also carry out similar researches [7, 8].

This investigation employs survey research to assess the extent to which students are ready for changes in the training methodology regarding e-forms. The analysis is based on our experience in delivering courses via Moodle for both distance and full-time education. In order to enhance understanding of pedagogical processes we developed a proper questionnaire to give the measure of student's readiness for e-learning. Data have been collected over 200 students across different bachelor programs at New Bulgarian University in both full-time and distance forms of studies. Our results concerning the students' attitude to e-learning are presented in this paper.

Questionnaire for the survey study

The survey comprises three categories of questions concerning:

- demographic information for the participants;
- students' attitude to the e-learning at NBU;
- students' sense of teachers' presence and immediacy.

It consists of 12 questions that aim to determine:

- the preferences to the type of training materials;
- the usefulness of the technology enhanced training;
- the influence of instructor's presence and immediacy in e-learning classes.

Method of study

Participants in the study responded to questions concerning their sense of e-learning. We surveyed two groups of students enrolled in bachelor programs within a two-month period during the 2017 academic year. The first group comprised 56 students in economics, business administration and tourism in the form of distance learning. The second group involved 166 learners in computer science programs in the form of full-time education.

The study is not representative but the achieved sample in distance students is very similar to a random probability sample. As it concerns full-time students, the sample is much close to a clustered one. Therefore, we can consider data with a high degree of validity. The gender distribution of the respondents is 66% male to 34% female. Students use the same registration system, LMS Moodle, and have access to the same basic student services.

Table 1 summarizes respondents' demographic data. There were 75 females, 149 males, and one unreported. Approximately 118 of the 225 respondents were between the ages 18 and 24 years, 52 were between the ages 25 and 29 years, 30 were between ages 30 and 34 years, 17 were between ages 35 and 44 years and eight

were above 44 years old. 127 of the respondents had full-time job employment status, 21 had temporary employment, 7 had part-time job, 53 were students, 2 housewives, 12 did not work and actively looked for a job, 3 with other job employment status.

Table 1: Demographic data

	Frequency	Percent
Gender:		
Male	149	66,22
Female	75	33,33
Missing	1	0,44
Age		
18 – 24	118	52,44
25 – 29	52	23,11
30 – 34	30	13,33
35 – 44	17	7,56
over 44	8	3,56
missing	0	0,00
Employment status		
Full- time job	127	56,44
Temporary employment	21	9,33
Part- time job	7	3,11
Student	53	23,56
Housewife	2	0,89
Does not work and does not look for a job	0	0,00
Does not work, actively looks for a job	12	5,33
Other	3	1,33

Results

The investigation concerning the preferences to the type of training materials is based on the answers of the following question: “What type of educational materials do you prefer: a printed book; e-book on CD; e-book on the Internet; other?” As expected, the results show (see Fig.1), that students prefer e-books on the Internet (78%). Those who prefer paper books are twice less - 25%. There is a difference between men’s and women’s responses. In women’s ones, both preferences to the type of training materials - e-books on the Internet versus paper books - are almost flat.

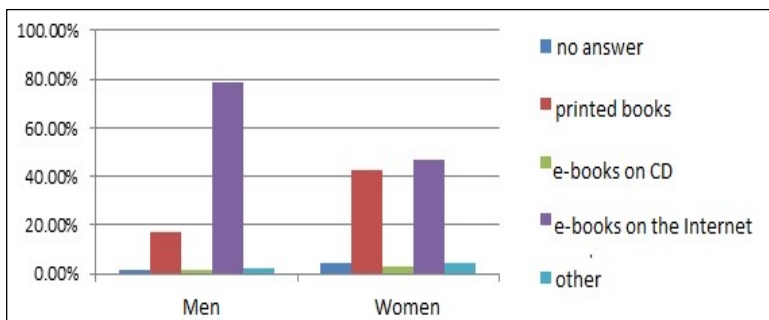


Fig.1 Students' preferences to the training materials

The difference between the responses of the two main groups is particularly notable (see Fig.2). Distance learning students prefer printed books! Naturally, students in computer science perform better in virtual environments and choose e-books. Students in economics, business administration and tourism at distance learning originally used training materials broadcast on the radio or sent by mail and for these reasons they cannot overcome inertia. In addition, these students are older than full-time students. It appears that e-learning is suitable both for distance and full-time education. However due to conservative attitudes and way of thinking e-learning is more difficult to apply for distance courses.

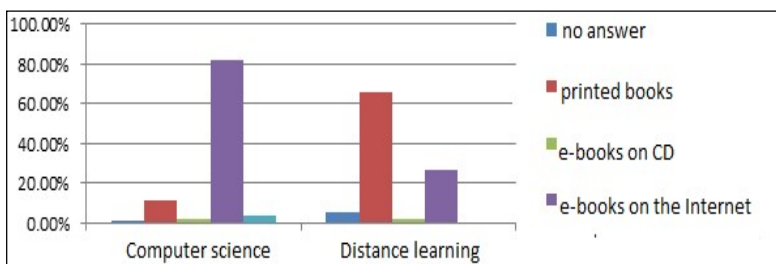


Fig.2 The difference between the responses of the two main groups

The results confirmed one more speculation - students (and young people in general) are reading less and learn better through visual and applied methods (see Fig.3). Gender differences are not observed. We notice that learning by examples or exercising is preferred by 45% of the students in computer sciences against 9% of the students in economics. This phenomenon could be explained with the fact that informatics is an applied science. However, our findings show that about 5% of the learners prefer discussions.

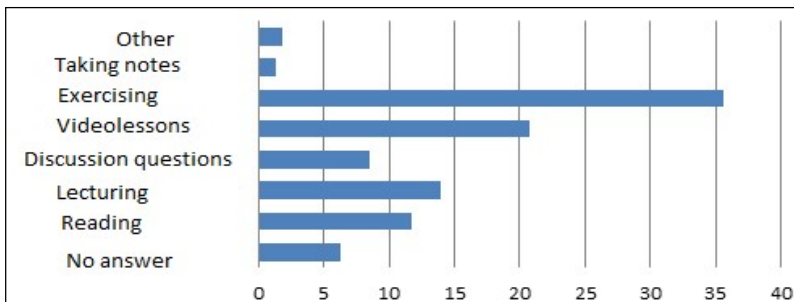


Fig.3 Students' preferences to the way of learning

The survey shows (see Table 1) that most of the students – about 70% - work. That is why the benefits of e-learning namely to choose the right moment for self-training, discussions, teachers' visibility and immediacy are crucial (see Fig.4).

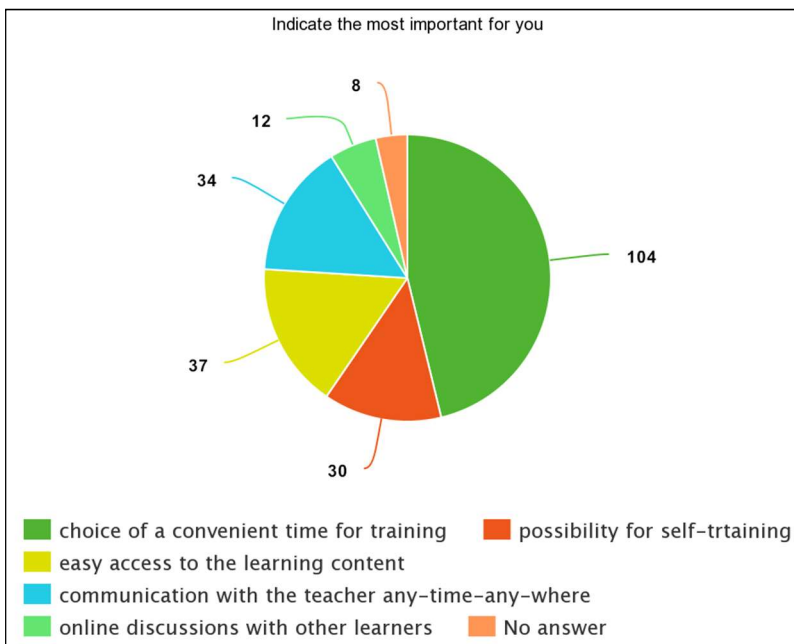


Fig.4 The benefits of e-learning

Many investigations indicate the need and benefits of teamwork. Nevertheless, the survey results illustrate that students do not have this attitude. We expected that

the students majoring computer science should have the attitude to teamwork but only 2% of them consider the importance of this skill compared to distance students (12%).

It is not clearly outlined what extra classes are needed by the students (see Fig.5). This result may be associated with the education efficiency and the individual differences among learners as well.

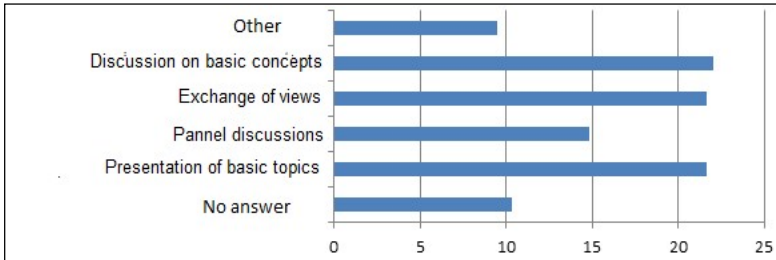


Fig.5 Students' preferences to extra classes

Students' achievements meet their expectations (see Fig.6). There are not significant differences due to the technology-enhanced learning.

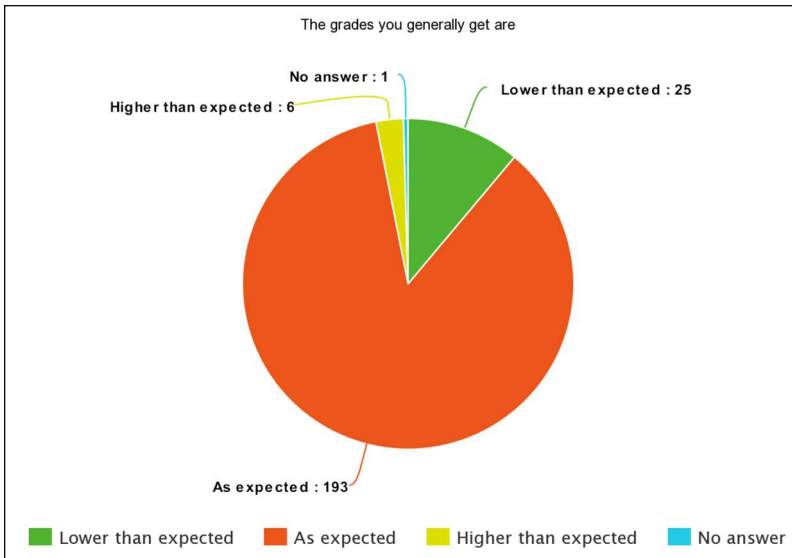


Fig.6 Students' achievements

One of the goals of the research conducted is to investigate the usability of the technology-enhanced learning. Our findings show that most of the learners find the training useful (see Fig. 7).

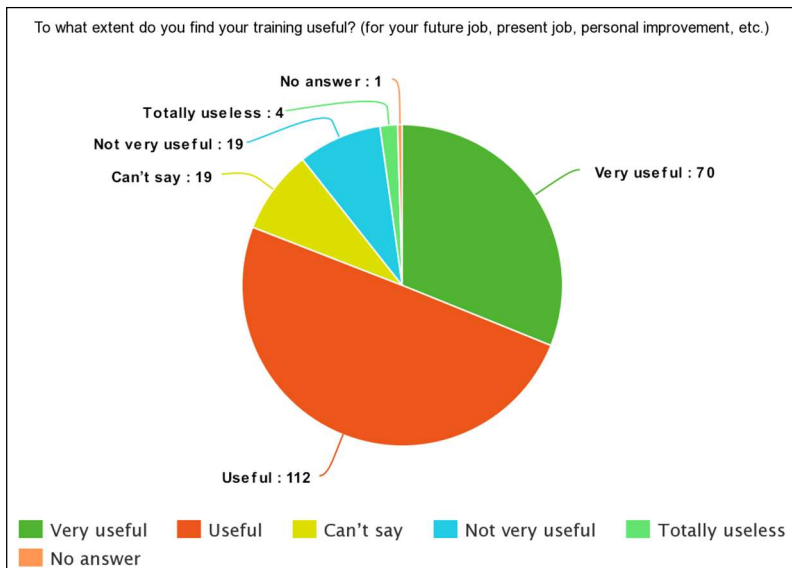


Fig.7 Usability of e-learning

Conclusion

As a whole, students at New Bulgarian University exhibit readiness to participate in a technology-enhanced learning process. Their attitude is independent with regard to gender and employment status. It appears that multimedia learning content is widely used and the trainees prefer it. However, developing multimedia content is a time-consuming activity for lecturers and they may be less inclined to teach that way. A promising and positive attitude of students towards Moodle suggest that they will use e-learning strategy for their work like creating visual presentations, presenting written work and researching topics.

Learning by examples remains a preferred way for the students to acquaint the learning content. The study confirms the usability of the technology-enhanced learning. E-learning conforms both forms of education. Nevertheless, our findings show that it is more difficult to apply e-learning for distance students, where it is really needed. Moreover, students exhibit no readiness for teamwork. They are more effective at working independently because of e-learning.

We can conclude with confidence that university students are ready to take various courses delivered via a LMS and that they find similar training useful.

References

1. Machermer, P.L. and Crawford, P. Student Perceptions of Active Learning in a Large Cross-Disciplinary Classroom. In: *Active Learning in Higher Education*, 8:1, 2007, pp.9-30.
2. Wright, G. B. Student-Centered Learning in Higher Education. In *International Journal of Teaching and Learning in Higher Education* 23 (3) 2011, pp 93–97, <http://www.isetl.org/ijtlhe/>, accessed on 15 March 2018.
3. Kar, D. et al.. Attitude of University Students towards E-learning in West Bengal. *American Journal of Educational Research* 2.8 (2014): pp.669-673, accessed on 15 May 2018.
4. Michael T. *Students' perceptions on incorporating e-learning into teaching and learning at the University of Ghana. International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 2012, Vol. 8, Issue 1, pp. 91-103.
5. Rhema, A., & Miliszewska, I. (2014). Analysis of student attitudes towards e-learning: The case of engineering students in Libya. *Issues in Informing Science and Information Technology*, 11, 169-190. Retrieved from <http://iisit.org/Vol11/IISITv11p169-190Rhema0471.pdf> on 15 May 2018.
6. Adewole-Odeshi, E. Attitude of Students Towards E-learning in South-West Nigerian Universities: An Application of Technology Acceptance Model (2014). *Library Philosophy and Practice (e-journal)*. 1035, accessed on 15 May 2018..
7. Тодорова М. Електронното обучение в ХТМУ – реалност и нагласи на студентите. Сборник с доклади на Пета национална конференция с международно участие по електронно обучение във висшето образование, 15-17 май 2014 гр.Русе, pp.99-103.
8. Тупарова Д. et al. Изследване отношението на студентите към електронното обучение, *Математика и математическо образование 2006*, 35-та Пролетна конференция на СМБ, Боровец, 5-8 април, pp. 468 -475.

ГОТОВОСТТА НА СТУДЕНТИТЕ ЗА ЕЛЕКТРОННО ОБУЧЕНИЕ

Венцислав Джамбазов, Юлиана Пенева, Делян Керемедчиев

Резюме: В тази статия е представено проведено проучване в НБУ с цел оценяване на готовността на студентите за технологично подпомогнато обучение. Интересуваме се от това как учащите реагират на промените в методологията за обучение в резултат на прехода към електронно обучение. За да се оцени степента, до която студентите са готови за промени в методологията на обучение по отношение на електронните форми, е разработена специална анкета. Бяха събрани данни за над 200 студенти от различни бакалавърски програми в НБУ, както в редовна, така и дистанционна форма на обучение. Анализът се основава на нашия опит в предоставянето на курсове чрез Moodle.