

Teachers' attitude towards e-learning courses in Bulgarian universities

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In this paper we present our attempt to estimate the current level and practices of e-learning in Bulgarian universities. All our considerations are based on questionnaire responses from numerous Bulgarian lecturers and students. This research is funded by Bulgarian National Science Fund in the frame of the project "Technological and Didactical Issues of E-learning". The presented part of our study tries to analyze the attitude of using information and communications technologies as well as e-learning by the lecturers from higher educational institutions. The target group consists of 210 university lecturers from various Bulgarian universities teaching different subjects.

Keywords e-learning; open source e-learning environments; learning path

1. Introduction

In today's global and competitive environment which is marked by the coming of Information society, using the technologies of e-learning becomes a widely accepted way of training because of the flexibility and standardization of the overall educational process they offer. The Information society requires the use technology enhanced learning and teaching at different educational forms and levels. The concept e-learning is described in a lot of literature sources. The basics of these definitions of e-learning are combination, implementation and relationship of the activities for learning and teaching via different electronic media. Therefore the recognition of the pedagogical and technological dimensions of e-learning is important as it concerns the development and application of technology enhanced courses. E-learning technologies could be applied in a variety of formal and non-formal educational forms such as distance and open learning, etc. Specific components of e-learning might be used in different educational degrees both in secondary and higher education.

Our experience shows that the efficiency of technology enhanced learning and teaching depends on several factors. Most important of them are:

- suitable technological tools – both hardware and software;
- appropriate didactical approaches – different approaches are to be followed to implement the technological tools in various educational forms, taking into account the different abilities and preferences of learners and teachers;
- high level competence of teachers – teachers appear in two important roles: as developers of e-learning content and as tutors implementing ready-made courses;
- positively motivated teachers and students to use information and communication technologies and e-learning.

This justifies the purpose of our research effort, namely to investigate the utilization of e-learning courses in Bulgarian universities. The final goal is to evaluate the needs for proper e-learning taking into account the difference in the required knowledge and skills.

In this paper we present our attempt to estimate the current level and practices of e-learning in Bulgarian universities. All our considerations are based on questionnaire responses from numerous Bulgarian lec-

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turers and students. This research is funded by Bulgarian National Science Fund in the frame of the project "Technological and Didactical Issues of E-learning". The presented part of our study tries to analyze the attitude of using information and communications technologies as well as e-learning by the lecturers from higher educational institutions. The target group consists of 210 university lecturers from various Bulgarian universities teaching different subjects. The survey of the students' attitude to e-learning is reported elsewhere and lies beyond the scope of this paper [2].

The rest of the paper is organized as follows. Section 2 deals with the project description. The structure of the applied questionnaire is also presented. In Section 3 we report the results from the inquiry concerning the lecturers' attitude towards electronic education derived from the collected data. The investigation focuses on the instructors' readiness and motivation to use and develop e-learning as expressed by the population. We summarize our results in Section 4.

2. Project description and questionnaire structure

"Technological and Didactical Issues of E-learning" is a Bulgarian project funded by Bulgarian National Science Fund under the initiative Stimulation of University Research. It aims to investigate the state-of-the-art of e-learning in Bulgaria. This project is carried out by a group composed of: South-west University (Blagoevgrad), Institute of Mathematics and Informatics, Bulgarian Academy of Sciences.

The questionnaire aims to determine:

- the types of electronic technology used in the teaching process;
- the reasons for preferences or lack of preferences for using e-learning materials;
- the correlation of these preferences with lecturers' competence and experience as well as with their computer and Internet skills.

The questionnaire consists of 14 questions divided in 3 basic groups that aim to determine:

- lecturers' profile: educational level, subject, teaching experience, weekly usage of computers and Internet;
- used electronic learning materials: scope, technology, development method;
- advantages and disadvantages to apply lecturers' own developed e-learning content
- reasons for preferences or lack of preferences for the use and development of e-learning courses.

The results of the presented study could be applied to the process of preparing and additional training of university lecturers so that they would be able to implement e-learning technologies in their courses.

3. Results from the inquiry for the lecturers' attitude towards e-learning

Our questionnaire was spread over 119 lecturers teaching natural sciences, mathematics, informatics and technical sciences and 91 persons involved with the humanities. The distribution of the lecturers according to their teaching practice is presented at Fig.1.

Over 97% from the respondents use computers for word processing and Internet access that is a positive trend (Fig.2).

A quarter (25%) of the lecturers only have pointed that they do not use computers in their work and 2% have not responded to this question (Fig.3a). Meanwhile 5% of the inquired have responded that they do not use Internet at all and 2% have not answered this question (Fig. 3a and 3b).

About 8% of the lecturers do not use electronically based teaching materials and 18% use them occasionally (Fig. 4).

Most of the lectures (about 61%) who do not use electronically based materials during the preparation of their talks; handouts, etc. appear to have a long practice - over 10 years. At the same time there is no statistically significant difference relating to the subject they are engaged with. And about 18% do not use electronically based materials in their classes at all (Fig. 5).

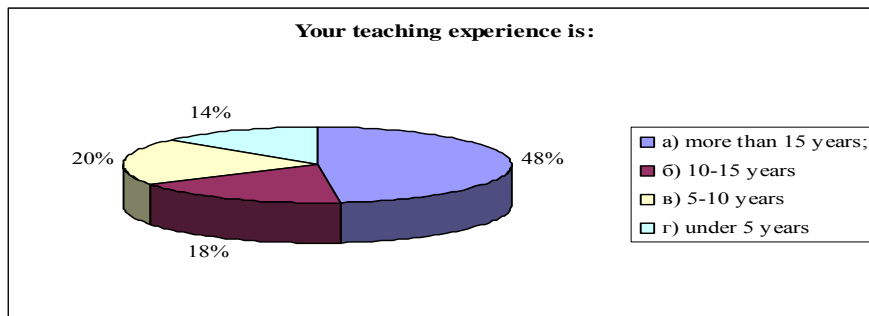


Fig.1 Teaching experience of the lecturers

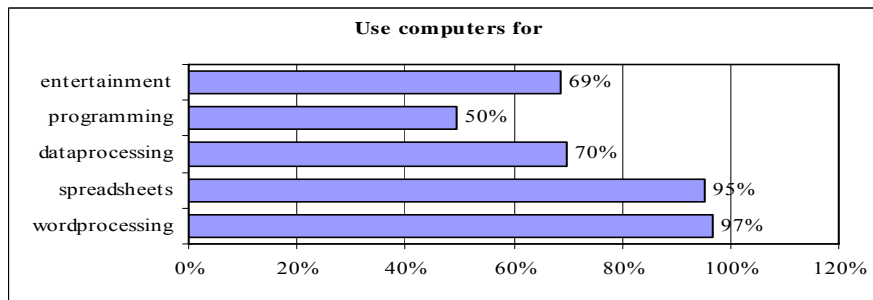


Fig. 2 Using computers by lecturers

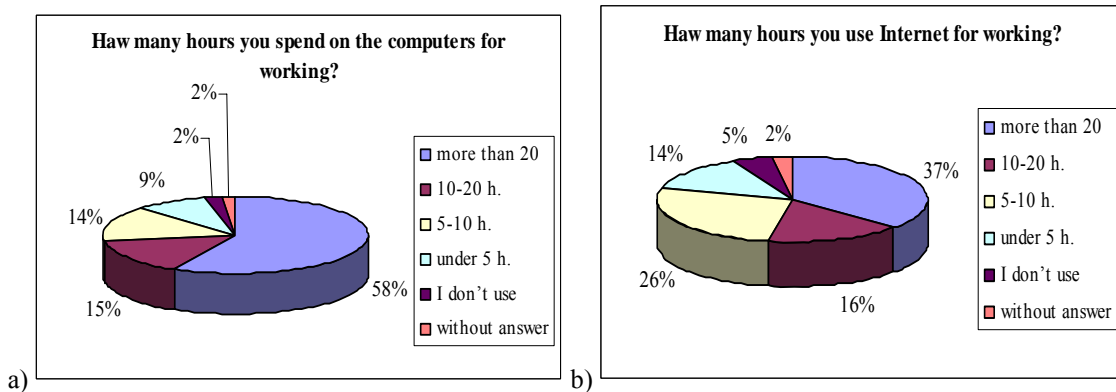


Fig. 3 Using computers and Internet for working

The lack of proper electronic materials seems to be main reason these materials not to be used in the humanities. As it concerns the lecturers in natural sciences they do not use e-content due to missing financial stimuli from the university. For both groups of lecturers, it turns that the lack of proper technical and software facilities when developing electronic learning materials is also a significant reason to decline alike activity.

Actually, the two main groups of lecturers (humanities and natural sciences) use predominantly their own authors' materials (about 75%). Different technologies in developing and delivering the electronic learning content are in use (Fig. 6).

In order to compare the relative partitions the Z[1] criterion using independent values at significance level $\alpha=0.05$ has been applied. In this case the critical value of the Z-statistic is 1.64. The value of the Z-statistic for the answer "specialized application software" is -3.8, for the answer "e-learning environment" is -1.8626, for "web-based course" is -3.832. For both groups of lecturers multimedia presentations are widely applied to illustrate and deliver learning content. The Z-statistic for the answer "presentations" is 1.2217.

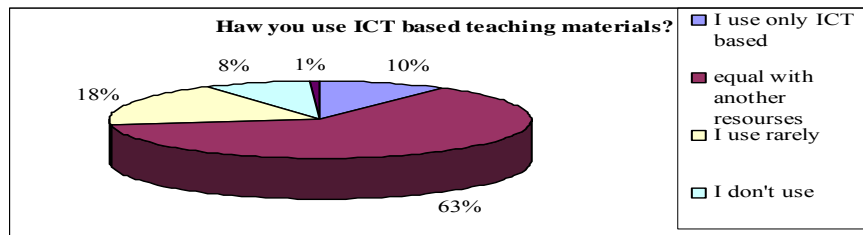


Fig. 4 Using of ICT based learning materials

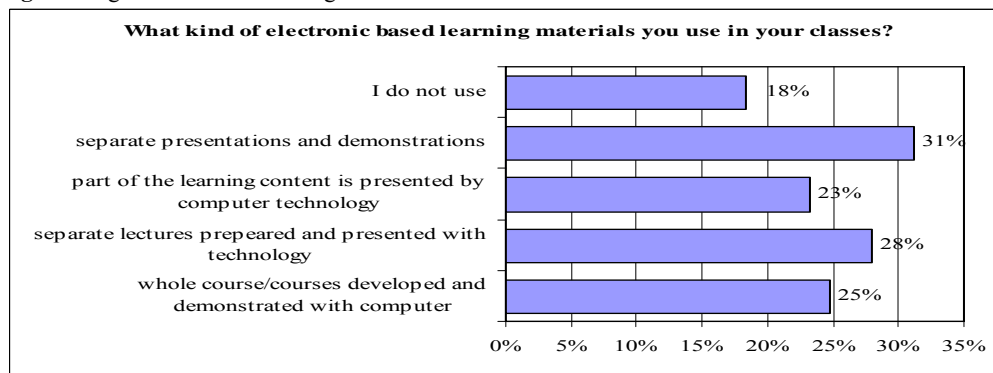


Fig. 5 Type of used electronic based materials in classes

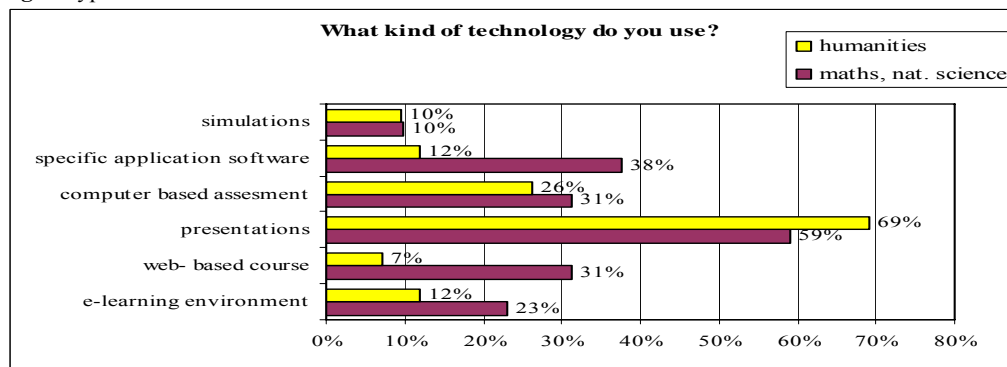


Fig. 6 Type of used technologies

The distribution of the relative parts as it concerns the applied technologies during the development of e-based learning materials according to the lecturers' experience is presented in Table 1. Multimedia presentations are widely used. Lecturers with more than 10 years of experience employ e-learning environments (33%) or distinct web-based courses (28%) and this is of interest. Lecturers with practice of 5 to 10 years deals with computer based tests and specialized application software.

Table 1

Experience	e-Learning environment	Distinct Web-based course	Multimedia presentations	Computer-based tests	Specialized application software	Simulation programs	Other
>15 years	33%	28%	70%	24%	24%	11%	2%
10-15	18%	12%	53%	35%	12%	24%	0%
5-10	0%	16%	68%	40%	48%	4%	0%
<5 years	7%	21%	50%	21%	21%	0%	0%

For both groups of lecturers (humanities and natural sciences) the development of electronically based learning materials is attractive because of the possibility for their easy update and reusability (the Z statistic is 1.6112). The use of multimedia effects to retain the students' attention is statistically more valuable for lectures in humanities than for those in natural sciences. The Z-statistic is 3.4647 (Fig. 7).

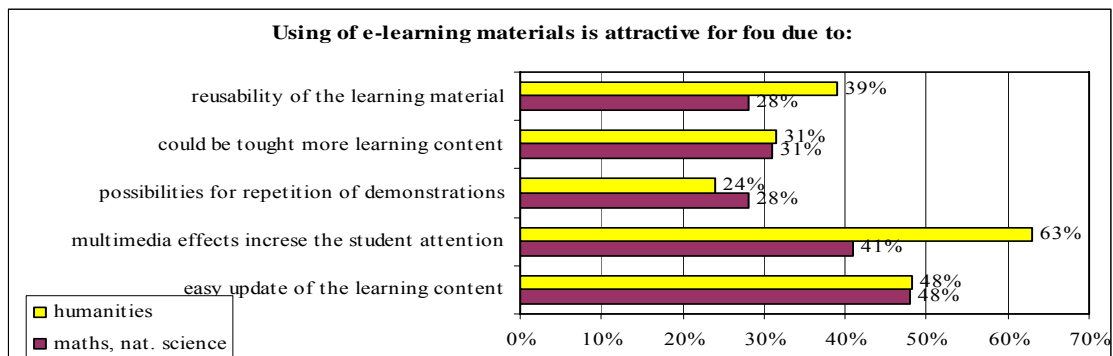


Fig. 7 Attractive reasons for preparing and using of e-learning materials

According to the participants in this inquiry the preparation of the materials is time consuming (Fig.8). In the opinion of both groups there is no a statistically remarkable difference. The Z statistic when comparing these relative partitions is -0.7959. The answer “not regarded as a publication” can not be statistically discriminated between the groups of humanities and natural sciences lecturers (Z statistic -1.489). There is a difference for the answer “not regarded as an academic work loading” (Z statistic - 1.8521).

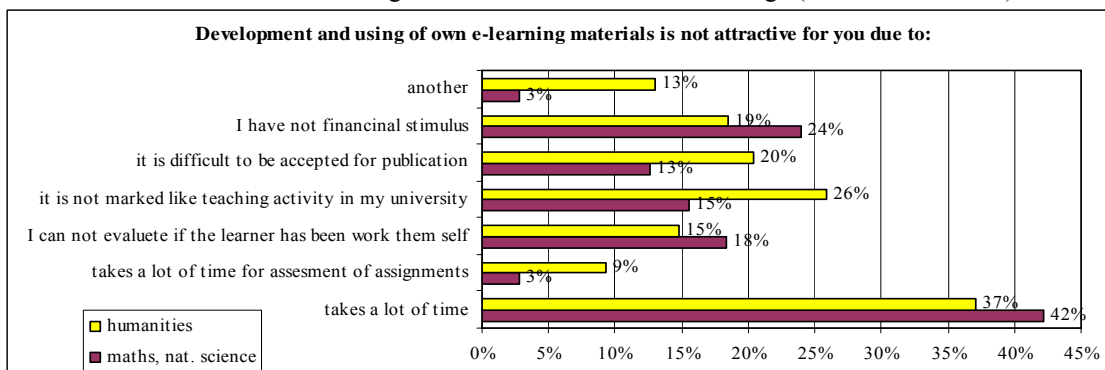


Fig. 8 Not attractive reasons for preparing and using of e-learning materials

Conclusions

As a whole, academic lecturers definitely have positive attitude towards using computers and Internet in their work. Currently multimedia presentations appears to be widely used in the overall teaching process. The possibilities to draw the students' attention and to modify the learning content are attractive factors towards the development and use of self made learning materials. The deficit of academic recognition and financial stimuli as well as the fact that the preparation of e-materials is a time consuming activity could be specified as negative factors. The lack of adequate hardware and software facilities represents an additional embarrassment. The use of ready made electronic content is poor especially in humanities because of its lack or inappropriateness. In addition llecturers with significant teaching experience (more than 10 years) are less inclined to develop and apply electronic learning materials.

We think that in the near future e-learning environments are to be made popular among academic lecturers. Moreover an adequate improvement of the academic regulations towards the recognition of the e-learning content development as a substantial professional activity is also important.

References

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