

On-line System at Faculty of Education of Trnava University

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Abstract: Paper discusses the e-learning system implemented at the Faculty of Education of Trnava University in Trnava. After buying the LMS and courses we have used it in the educational process. The emphasis of the paper is given to experiences gained previous years by using e-learning. Research of students' attitudes towards e-learning and assessment of students studying on-line courses has been performed. The results of this research are discussed in the paper, as well.

Keywords: on-line system, on-line education, LMS, EKP, active learning methods, passive learning methods, pedagogical experiment

1 Introduction

On-line educational system at the Faculty of Education of Trnava University in Trnava has been built since year 2000. Building was supported by several grants as VEGA, KEGA, Ministry of Education of Slovak Republic, and OSF. Our on-line educational system covers not only technology, but courseware and organisational units, as well.

LMS is extensive technical part of on-line educational system containing moreover educational content (courses) and tests, which all are installed at one server designated for e-learning. System offers enhancement of students' ICT knowledge and skills.

In December 2002 the server for e-learning was bought and later in 2003 LMS EKP™ with basic courses was added. The complete installation of EKP™ came to pass in January 2004 because it was depending on presence of DBS Oracle 9i, which were bought in December 2003. That was the last step in building process of the Virtual University at Faculty of Education of Trnava University in Trnava. On-line courses for obtaining the basic ICT skills were supplemented in December 2003. These activities administratively supply Continuing Education Centre (CEC) that currently keeps four employers except of head.

2 Experimental Run of On-line System

During experimental run, several courses, which were made-to-order for Faculty of Education, were deployed and published as off-line and on-line courses. Process of initiation had been split in several basic areas, what included installation and administration of the server EKP™, organisation and systematization of tutoring etc. In experimental run we found out how the system works in practice and what problems may arise during its operation.

There were no problems related immediately with the activity of server EKP™ during the operation. The system has very comfortable and user-friendly environment. Students and tutors adapted to the system relatively fast and the declarative attribute that the system is well

adapted for users registered in any user role was verified. Administrator enters in the same environment as other user except of some extra functionality.

3 Pedagogical Experiment

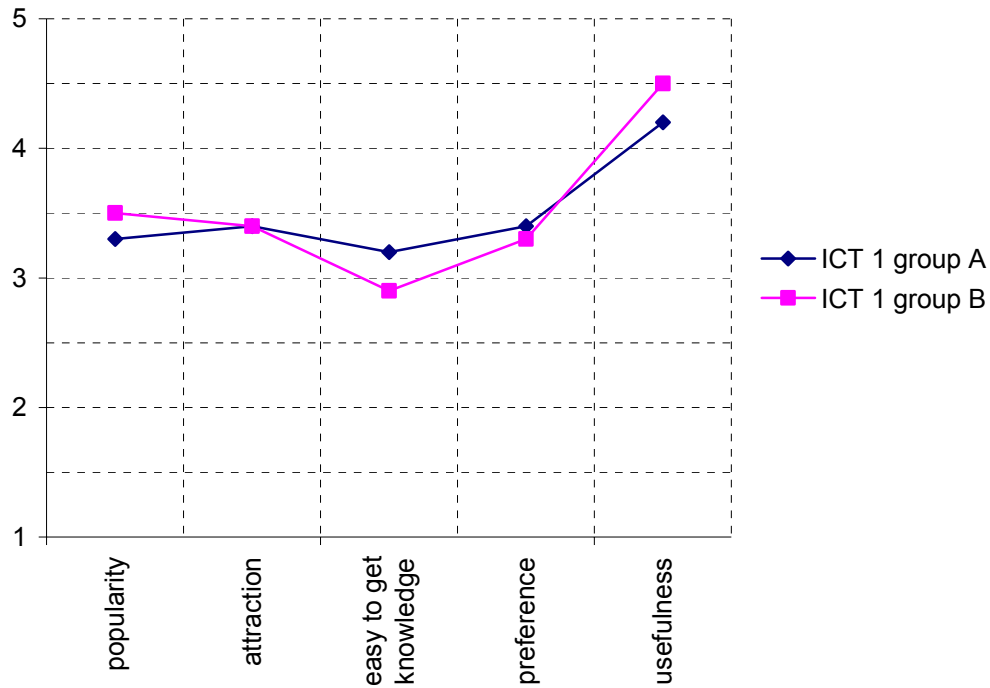
Pedagogical pseudo-experiment was performed this academic year during pilot run of on-line education. The main goal of the experiment was to find out the change in students' attitude after using new education forms and active learning methods, if any.

Pseudo-experiment was performed in academic year 2003/2004 at the Faculty of Education of Trnava University in Trnava. Research group consisted of 137 students, preparing for primary school teachers in academic disciplines: "English-Chemistry", "English-Maths", "English-Slovak Language", "Math-Ethics", "Math-Physics", "Math-Religious Studies", "Math-Biology", "Biology-Chemistry", "Biology-Art", "Slovak Language-Ethics", "Slovak Language-Religious Studies", "Slovak Language-Art" studying for the first year at the faculty. The results were compared with the results of the experiment performed in academic year 2001/2002 published e.g. in [1].

There was no possibility to reach equality of intervene variables, so pedagogical pseudo-experiment was applied as research method. Following means were used to check assumption:

- **questionnaire** – students' attitudes to monitored courses were noticed here; it was measured by 5-degree scales consisted of two adjectives, the first one expressing the negative attitude (corresponding to value 1) and the second one expressing the positive attitude (corresponding to value 5)
- **statistic methods of processing the results of research** – the data were sorted into tables and processed by means of statistic functions of program MS-Excel; the results were graphically displayed

Two-degree experimental plan was used in the research. Traditional, passive learning methods, which are characterized by transmissibility and frontal education, and face-to-face form, were used in teaching for the reference group (B) in winter term of academic year 2001/2002. Active learning methods, with the teacher as consultant, were applied in on-line teaching of experimental group (A) in the summer term of academic year 2003/2004.



Graph 1 Semantic profile of course ICT 1 in experimental (A) and reference (B) group

The goal of this research was to find out the change of students' attitudes to specific course. We used the questionnaire as the research method. The **Graph 1** shows the semantic profile of course ICT 1 in viewpoint of popularity, attraction, easy to get knowledge, preference, and usefulness in experimental (A) and reference group (B). The frequency of students' responds in experimental group (A) is summarized in **Table 1**.

Table 1: Frequency of students' responds in experimental group (A)

attitude	factor				
	popularity	attraction	easy to get knowledge	preference	usefulness
5 (positive)	9	6	2	13	24
4	12	10	14	11	11
3	17	19	21	8	7
2	5	5	6	5	2
1 (negative)	2	4	2	8	1

4 The Results of Research

Graph 1 shows a small negative change of students' attitudes to the course. The course ICT 1 is less popular for on-line studying students (experimental group – A) than students studying by traditional way (reference group – B). Popularity of the course may be related to the teaching form because the students' attitudes can be affected by their adaptability to the new educational form. Form of on-line education is new for the experimental group (A) and there would be logically expected a huge decrease of popularity of the course, and increase of "easy to get knowledge" rating, as well. However, the experimental results indicate not only low decrease of popularity, but paradoxically decrease of "easy to get knowledge" rating too. These results disagree with our expectations. The increase of ICT skills of incoming (new) students at faculty and the wide acceptance of the new educational form (on-line teaching) could be one of the possible explanations of this paradox.

As it follows from our results, we can say that educational form has an influence onto students' attitudes to the course. Even though the experimental group (A) considers the course for less popular than reference group (B), both groups consider the attraction of the course at the same level. Students generally consider the course as attractive one. The factor of preference for the course was at similar level for both groups of respondents. If the course was offered as facultative the same number of respondents from both groups would choose it.

On-line learning at the Faculty of Education TU was used for the first time in academic year 2002/2003. During the previous years ICT was taught traditionally. Another experiment, studying the comparison of students' results using active educational methods with students' results studying that same course using passive educational methods (refer to [2]), was performed, as well. Both groups of students took the final examine according to educational content of the course at the end of term. The results of this experiment are going to be published after detail analysis and statistical evaluation of the results.

5 Conclusion

Students in course ICT 1 used the active learning methods due to new form of study the academic year 2003/2004. The new on-line form has never been used before at Faculty of Education of Trnava University in Trnava in regular study. Students were not prepared enough for the computers supported study by upper secondary schools. Therefore the students are not used to work in self-guided study sessions. These may be the reasons why the attitude to active methods of study is not generally preferred, although they accept them. We will apply this experience into practice and help students to adapt to the new forms of study.

The attitude of experimental group (A) students to course ICT 1 has not considerably changed in comparison with reference group (B). Certain positive change was noticed only in factor of "easy to get knowledge". Recent graduates of course ICT 1 (experimental group) consider the course as less difficult. It can be related to the fact that recent graduates belong to generation getting in touch with computer technology from their study at upper secondary schools (for example by using MS Office). We consider this result as positive one, because the new forms and used active methods have positively affected the students' attitudes to the course. Achieved results confirmed that in training of future teachers it is necessary to use teaching using ICT and active on-line methods, what contributes to students knowledge and skills improvement.

6 References

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