Preparation of e-learning methodology in distance learning

Príprava metodiky k použitiu e-vzdelávania v dištančnom vzdelávaní

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Abstract: Education should be understood as a method of sharing and disseminating information. It deals not only with obtaining the right information in the right time but also with full understanding and processing of the information in the given context. Distance learning is a technology, where the distance between a teacher and a student, or among students, is characterized by the speed of the feedback, i.e. how quickly the student gets the feedback from his teacher – tutor. This type of education cannot exist without electronic education. It means providing the students with the content of a course via all electronic media including Internet, intranet and CD-ROMs. Before processing of the materials into this form, it is necessary to develop the methodology, which could be used effectively by distance learning project teams.

Key words: distance learning, e-learning, teaching materials, web pages

Abstrakt: Vzdelávanie je potrebné chápať v širšom slova zmysle ako metódu zdieľania a šírenia informácií. Ide nielen o získanie správnej informácie v správnom čase, ale aj jej plné pochopenie a spracovanie v určitom kontexte. Dištančné vzdelávanie (DV) je technológiou, kde vzdialenosť učiteľa od študenta, resp. študentov medzi sebou charakterizuje rýchlosť spätnej väzby, t.j. ako rýchlo môže študent takejto formy štúdia dostať spätnú väzbu od svojho učiteľa – tútora. V súčasnej dobe sa už tento druh vzdelávania nezaobíde bez elektronického vzdelávania. Ide o poskytovanie obsahu určitého kurzu prostredníctvom všetkých elektronických médií vrátane Internetu, intranetu a CD ROM nosičov. Pred spracovaním materiálov takouto formou je dôležité vypracovať metodiku, aby realizačné tímy DV mohli efektívne pracovať pri jeho príprave.

Kľúčové slová: dištančné vzdelávanie, e-vzdelávanie, učebné materiály, web stránky

INTRODUCTION

The pressure of competition is becoming more perceptible also at our universities. The management of universities is pressed to consider new forms of education and nontraditional educational methods, which e-learning belongs to. The implementation of e-learning into contact teaching allows elimination of a number of hours of contact teaching and giving space to individual work with the student. The implementation of e-learning into distance learning allows to simulate classical forms and methods of education by creating a virtual environment, which imitates classical classroom with whiteboard and the possibility of visual communication.

At the Slovak Agricultural University in Nitra, the first electronic teaching materials were presented through web pages in the year 1995. These materials served and are still serving in an innovated form as a complementary tool. However, it is not possible to call it 'e-learning'. E-learning was not used until the distance learning was started.

Many authors deal with the problems of distance learning, e.g. Hennyeyová (2001), Ilavská (2001), Korcová (2001), Drozdová (2001), Mikulecká (2002), Šemeláková (2001), Tóthová (2001). These topics were presented at many conferences and seminars specially aimed at the distance learning (Hradec Králové, Žilina, Bratislava), which could be implemented in teaching of any subject, not only at schools but in firms as well, therefore distance learning is the topic which is discussed on various occasions, even those which are not apparently related to information technologies. Teaching materials should fulfil certain criteria, which could be translated into standardised norms for this form of education. The criteria used in the E-learning Competition in Hradec Králové 2001 are presented by Mikulecká (2002).

MATERIAL AND METHODS

The project team of the Department of Computer Science and the Centre of Information Technologies at the Faculty of Economics and Management, the Slovak Agricultural University in Nitra, had begun to deal with the implementation of e-learning into distance learning before the first year of the distance bachelor study of Management in Agriculture was started. The need of the distance study form of this specialisation eventuated from the requirements of the representatives of several Slovak regions, so the implementation of e-learning form into this specialisation is highly legitimated by practice.

The following methods were used for the implementation of e-learning into distance form of education:
– Survey of existing tools for creation of information infrastructure
– Comparison of individual programs for creation of electronic teaching materials and selection of the most appropriate ones
– Distance learning project team training
– CASE tool method for the creation of databases.

RESULTS AND DISCUSSION

E-learning is not only an educational aid, it is a medium for effective presentation of information from different fields. It is a process solving:
– creation of interactive courses,
– their distribution,
– management of the teaching process with the help of these courses.

Management of the teaching process depends on the target group and on the distribution media of the course. However, it is necessary to take into consideration the feedback, as well as the administration of the course. These problems are evident in the distance courses, but in various on-line courses, designed for non-directed teaching, foreknowledge, announcements, various statistic data and other information should be arranged in advance. The problems of the interface with the management of human resources, vacancies and qualifications should be solved in advance in case of firm courses.

Creation of the e-learning courses means also consideration of one of the disadvantages in the classical form of teaching, it means that not all students accept their teacher in the contact teaching process in the same way. Not all of them are able to concentrate on the topic at the same moment. E-learning eliminates these defects, as the students have the possibility to take individual pace, the way of going through the materials and to choose the most appropriate of the several interpretation possibilities, the possibility of continuous assessment.

E-texts can be found on various web servers, however, they are mostly in the form of classical hypertext teaching materials. Although these materials are not especially designed for self-study, the web form makes their reading easier. Processed on-line teaching materials use animations, voice guide and control questions. They can be usually found on intranets, or Internet accessible after registration, usually as demo products. The full versions are commercial.

PROPOSED METHODOLOGY FOR THE CREATION OF TEACHING MATERIALS FOR DISTANCE LEARNING

Following rules were proposed for written form:
– Logical structure of teaching materials.
– Text properly divided into chapters and subheads.
– Only one thought or problem analysed and explained in one paragraph.
– Role and goals of the chapter should be stated at the beginning.
– Graphical symbols marking different parts of the chapter (e.g. definitions, exercises, tasks, etc.) should be used.
– Pictures, graphs and schemes should suitably complement the teaching material.
– Control questions in the form of self-test with key should follow each integral part.

Following rules for the e-form are proposed by the project team:
– Teaching material should be divided into sections. One chapter with two levels of subheads is proposed.
– Approved graphical symbols should be inserted.
– Hyperlinks to other materials, web servers and the index of key words can be used.
– Clear formulations and simple sentences should be used
– One text should not exceed one page (recommendations for the installation of browser or graphics should be stated).
– If the text exceeds one page (it should not be longer than three pages), the second page could be reached by a click on a graphical symbol.
– Illustrating pictures and graphs should come with the text.
– Examples and detailed explanations should be the integral part of the text.
– Control questions in the form of self-test should follow each integral part, with the possibility to go back to the topic, which was not fully understood during the first study.

The base for following recommendations was taken from the evaluation criteria of e-learning competition in Hradec Králové (Mikulecká 2002).

The following problems should be taken into consideration during the process of creation teaching materials:
– Intelligibility of the topic goals
– Intuitiveness of operating and its adequacy
– General design of the course
– Graphics of the course
– Implementation of multimedia
– Lucidity
– Inventiveness
– Speed of display
– Quality and adequacy of additional resources.

The following methods can be used to make students active:
– Asynchronous (e.g. electronic conferences and e-mail) and synchronous discussion (e.g. chat and graphic board)
– Creation of teams solving one problem
– Using illustrative examples
– Possibility of saving notes

– Using supporting tools (e.g. vocabulary, index, searching).

Consideration of feedback in case of not absolutely informative materials, i.e.:
– Possibility of monitoring the knowledge by the teacher
– Self-tests
– Knowledge check (tests, tasks, final assignment and exam).

CONCLUSION

Creating the appropriate methodology for teaching material design is not so easy. The program for the input and updating of the teaching materials can serve as the base for the methodology. This is preceded by the creation of the written form of teaching materials. The teacher should meet the need of written texts designed especially for self-study, which cannot automatically copy classical teaching textbooks. As independence is the priority of distance learning, student has to rely on him/herself and not on the help of the teacher or schoolmates. The success of this technology lies mainly on the quality of teaching materials.

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