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Virtual form of education in lifelong learning - chance for the country

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Abstract

The availability of education, including lifelong learning, is one of the value measures of quality of life in advanced countries. However, there are still significant differences between a township and a rural region. Centres of education are mainly situated in big cities; smaller municipalities are separated from these centres by tens or hundreds of kilometers (according to the conditions of the Czech Republic). While educating young people, it is usually accepted that they commute towards education; there is a whole range of social and cultural aspects; and above all, they have time for that - it is their main "working" load. The opposite situation is the case in lifelong learning, which is conducted in parallel with full-time employment but is necessary for effective and competitive performing of the employment. For participants of lifelong learning it is impossible to commute big distances; their working load does not allow it. Thus, those forms, in which so called „education which goes to the students", are chosen.

ICT brings an enormous opportunity to bring education closer to the rural regions. A text form of e-learning is practically already standard; but a voice and image broadcast give us inexhaustible possibilities of usage. The aim of this paper is to propose and verify methods of distant (virtual) education with the use of multimedia tools.

Key words

E-learning, virtual education, lifelong learning, rural development, multimedia.

Anotace

Dostupnost vzdělání, včetně celoživotního, patří mezi veličiny, kterými se měří kvalita života ve vyspělých zemích. Stále však existují značné rozdíly mezi městskými aglomeracemi a venkovskými regiony. Centra vzdělávání se převážně nacházejí velkých městech, menší obce však od těchto center oddělují desítky i stovky kilometrů (dle podmínek České republiky). V celoživotním vzdělávání, které je provozováno paralelně s hlavním pracovním poměrem, ale které je nezbytné pro efektivní a konkurenceschopné vykonávání tohoto pracovního poměru, není možné, aby účastníci dojížděli velké vzdálenosti, neumožňuje jim to jejich pracovní vytížení. Proto se volí formy, kde takzvaně jde vzdělávání za studenty.

ICT přináší ohromnou možnost na přiblížení vzdělání venkovským regionům. Textová forma eLearnigu je již téměř standardem, ale přenos zvuku a obrazu nám dávají nepřeberné možnosti využití. Cílem práce je navržení a ověření metod vzdálené (virtuální) výuky s využitím multimediálních nástrojů.

Klíčová slova

Elektronické vzdělávání, virtuální výuka, celoživotní vzdělávání, rozvoj venkova, multimédia.

Introduction

One of the principles of European civilization is an equal access of inhabitants to sources, services, and generally to achievements of human activity. There is a range of areas and places, where it is not like that; for instance national minorities, women and men, young and old people, countryside and town etc. As for a solution to these disparities, it is necessary to use knowledge from different scientific disciplines for their elimination.

The disparity of economic and social relationships between towns and rural regions is commonly recognized; it is caused by a whole range of historical, geographical, political and economical

phenomenon. In the period of development of the information society, the potential usage of information and communication technologies (ICT) can be considered as one of the key tools for rural development.

In general, it can be said that the contribution of ICT for the countryside can be seen in the area of better accessibility to information, quality communication, accessibility of services, education etc. On the other hand, according to Salmelin et al. (2005), it must be emphasized that these general phenomena will not be addressed without creating a mutual relationships and the involvement of all appropriate regional structures.

Information and communication technologies (often substituted by the "all-encompassing" concept of the internet) form a line that connects the course of rural development, and contributions had to be sought in more effective ways, to bring economic profit. On this basis, it is possible to identify three areas in which ICT has a potential to stimulate growth and development for rural areas:

- Business support
- Business itself
- Improvement to quality of life

A benefit is to make rural or remote areas more attractive, to decrease their isolation and achieve a higher productivity through the progressive use of modern technologies of a knowledge society. It requires a systematic innovation which means parallel activities from a view of politics, technology and social implementation – education has to include all this; Jarolimek (2007).

Centres of education are mainly situated in big cities; smaller municipalities are separated from these centres by tens or hundreds of kilometers (according to the conditions of the Czech Republic). While educating young people, it is usually accepted that they commute towards education; there is a whole range of social and cultural aspects; and above all, they have time for that - it is their main "working" load. The opposite situation is in the case of lifelong learning which is conducted in parallel with full-time employment but is necessary for effective and competitive performing of the employment. For participants of lifelong learning it is impossible to commute big distances; their working load does not allow it.

The aim of the paper is to propose and verify new methods of distant (virtual) education with the use of multimedia tools and developing from the current availability of network services in the countryside, the description quote Vaněk et al.(2008) and Šimek (2008).

The development of education in remote and rural areas can be guaranteed only by the use of new e-learning technologies. This term not only includes the technical connection and contents, but also the transformation of all pedagogical systems, so that they match the need to acquire new skills and for lifelong learning. Education and training is important from the point of view of social inclusion, as well as reducing the difference between the availability of training in the rural and town areas, and thus improving opportunities.

Objectives and methods

The proposal of teaching methods with the use of multimedia tools was proposed on the basis of theoretical knowledge from researchers and available literature.

The pilot research study into lifelong learning was aimed at the target group 50+. Education within this group has a motivational as well as a social aim, whilst also addressing another aim, that of professional fulfillment. It was carried out in 7 consultancy centres; in the rural area of Pilsen region more then 200 people participated. An educational course from the field of Forestry was developed for verification in a set of 4 lectures, each in length of 40-45 minutes, part of which was the possibility of off-line communication with a lecturer, check tests, syllabi and recommended literature, including on-line sources.

Feedback was obtained on the basis of statistical outputs from LMS (Learning Management System) Moodle used to provide the educational process, and also by questionnaire enquiry (entrance and final) by the education participants, as well as interviews with lecturers and guarantors of education in the consultancy centres.

Results and discussion

The virtual education represents a new alternative to the classic attendance lecture education. It is based on the use of new communication technologies and the internet, and has components

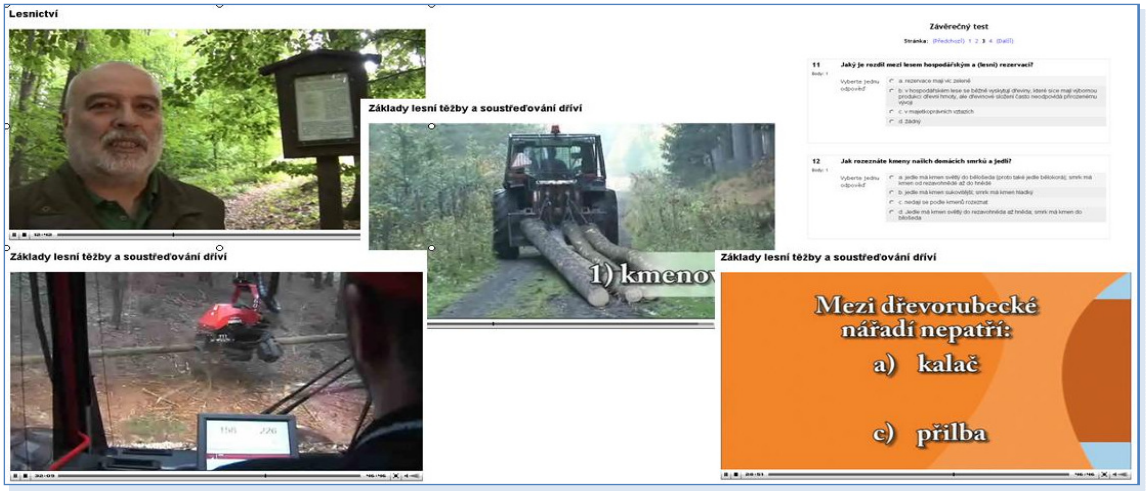


Fig. 1: Examples of the virtual lectures Forestry and Fundamentals of forest mining.

of distance teaching and e-learning. It can be also used as a suitable complement to classic attendance education.

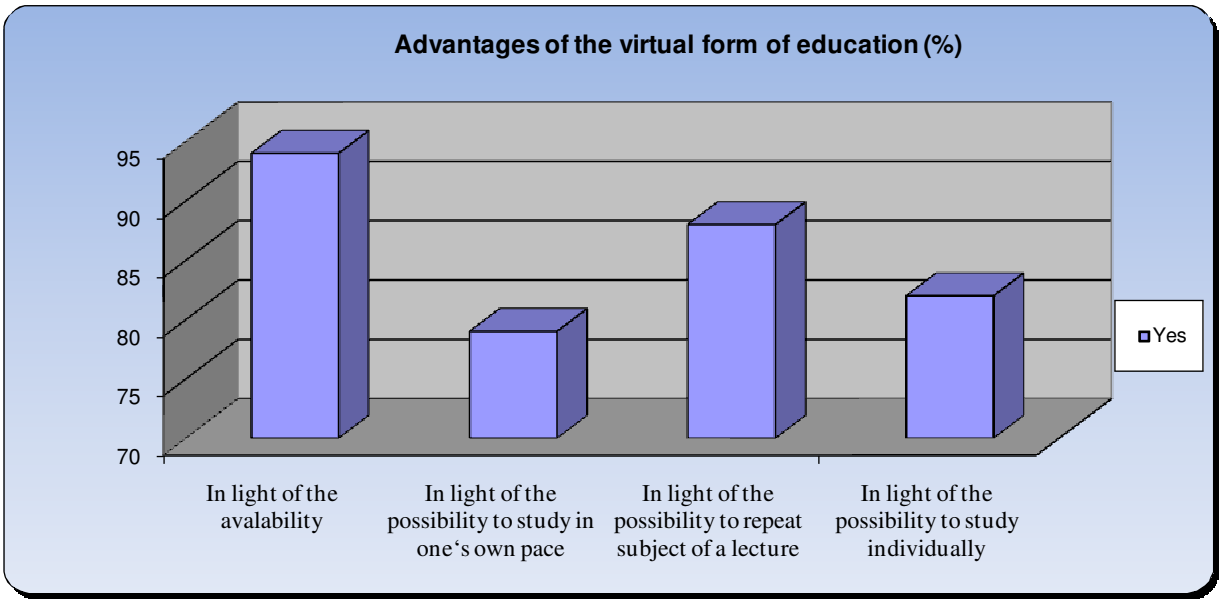
Modern didactical means of university education are developing quickly. In connection with that, the new areas of the so called "media didactics" and "media pedagogy" have originated. Media didactics first of all ask how to integrate a component media into the process of education to reach optimisation. Media pedagogy makes the media themselves and their usage, the object of analysis. Both are very closely related and intermingled. Virtual education uses these theories and experiences from the practice of university pedagogy.

Nowadays, there is an increasing tendency throughout the world towards the use of media means of all types in the field of education. Possibilities of interactive technology, and the creation of systems leading to an active involvement of all applicants, have been analysed. For instance, Yves Bertrand, a world-famous pedagogue, suggests the creation of open models - thus right virtual courses - as basic general principles of media background arrangements.

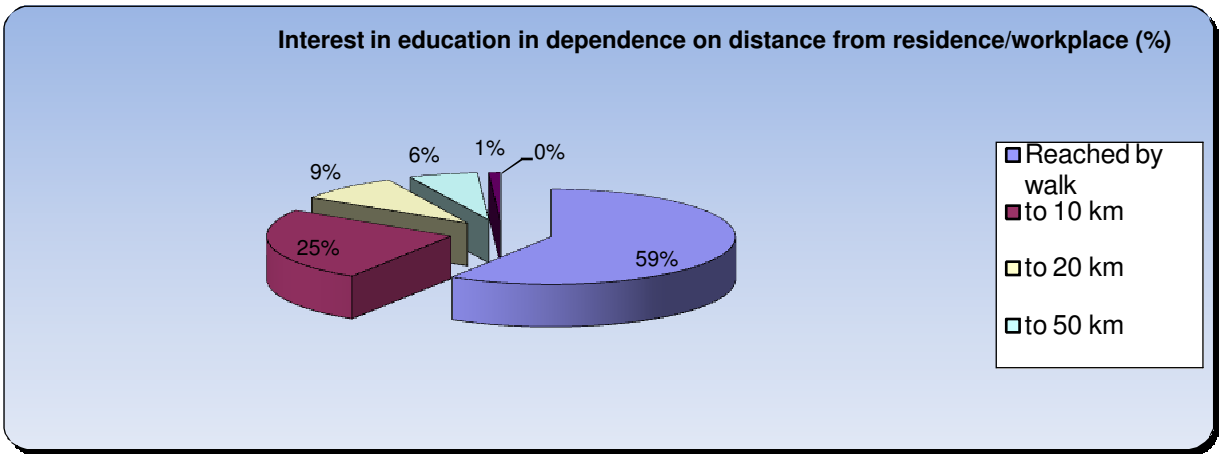
This type of education has a virtual character – multimedia lectures exist only in electronic form, they have never been really held in this form. Although they include, among others, video sequences from real lectures, the main core is a professional lecture accompanying picture material – filmed in exteriors, laboratories, details from microscope or binoculars, diagrams, scientific pictures, computer animations etc. Part of that can be also sound records, eventually supporting musical or other background effects.

The virtual education is primarily meant for staff/worker education in regions; for those who cannot take part in lectures in an attendance form, for different reasons. Topical cycles of multimedia lectures, supplemented by generated tests for each lecture, syllabi, "Questions for lecturer" and "Discussion forum" sections, or possibly further study materials, are placed on a virtual education portal. Registered students can return anytime to the virtual educational materials stored on the portal. The participants can go repeatedly either through a whole lecture, or its parts, according to their need; without place, time or background limitation. By answering questions in the generated tests they can test their grade to ensure topic mastering. Between working through the tests, they can look anytime at any detail of a lecture, which escaped their notice. The participants also appreciate the fact that they can work through the test at their own pace without time restriction and stress. They also appreciate the possibility of asking the lecturer later - after some days, after they have thoroughly thought the subject over; whereas in classical education there is only a limited time for questions immediately after the end of a lecture.

In the classical presence lectures, the participants carry off only what they managed to note down and remember; they have no possibility to return to the speech of the lecturer and the printed study materials never fully substitute for it. The main didactical advantage of the virtual method of education in comparison to the classic presence



Graph 1: Advantages of virtual form of education (%).



Graph 2: Interest in education in dependence on distance from residence/workplace (%).

Indicator	Attendance education		Virtual education	
	+	-	+	-
accessibility		bound to a place and time	unlimited by place and time 24x7	
communication	personal	unrepeated	continuous, saved for further education	impersonal
comprehensibility		depends on the lecturer, repetition is not possible	illuminating, use of multimedia, repeatability	
preparation	relatively fast			time- consuming and finance demanding
costs	low initial costs	high for repetition	minimal for repetition	high initial costs
time demands	low initial	high for repetition (time of a lecturer is a limiting factor of repeatability and extensibility)	minimal for repetition	high initial

Technical background	independent			dependence, minimum of facilities
computer literacy	is not needed		develops	at least minimal
social aspects	exist		exists in group education	do not exist in individual education

Table 1: Comparison between attendance and virtual education (Jarolimek, 2009).

lectures is just based on the possibility of repetition – repetitio mater studiorum.

Conclusion

The results of the pilot study imply that virtual education methods are usable in lifelong learning. They are particularly important for use in rural regions in which the availability of contact education is a problem. The contribution of this solved project can be seen first of all in an application of modern methods in rural regions of the Czech Republic where, in these regions, a respect for usage of information and communication technologies still prevails.

In relation to ICT it is possible to state that:

- students quickly got used to the new method of education;
- they stopped being afraid of working with a computer;
- lectured topics lead them to further self-improvement through the use of the internet.

The evaluation of the virtual education contribution is also interesting; the biggest contribution has been seen in the attainability of the education. Our own question is therefore answered, as well as from willingness / reluctance to commute towards education. The possibility to study at one's own pace and to be able to repeat the education was also very positively assessed.

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