

Research plan in the field of education for life in the information society

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Abstract

This paper offers basic information about the research plan of the Faculty of Education of Charles University in Prague called Education for Life in the Information Society and, above all, about processes that emerged and results of the solution.

Introduction

This research plan represents a relatively new form of research and development supported by the institution that may be seen as the direction or the orientation of the research of the given institution in five years or more. Having realised the importance of education and information education for life in the emerging information society, the proposal of a research plan Education for Life in the Information Society has been outlined. This proposal is oriented on the wide range of the field of problems of education in the conditions of the emerging information society. Above all, it focuses on the topic of preparing the teachers in order to be able to meet the tasks of school of the information society and, in the first place, to be able to implement the aspects of information education. The research plan has been approved for the Faculty of Education under the ref. number MSM 114100003 and it has been running since the 1999. Twenty-three employees of the Faculty of Education of Charles University from seven departments have been participating on the research.

The characteristics of the research plan

The research plan Education for Life in the Information Society focuses on the topic of education in the emerging information society, or a learning society, where the information and knowledge are used by means of the new information and communication technology for economic, social, cultural, and political development and where the capability of quality and continuous education is becoming a pre-condition for successful life of an individual as well as of the whole society. Due to the wide range of the topic, the field of problems of the plan has been divided into five linked thematic coverage points. There the topic should be dealt with both on the general and application levels. The coverage points are following (within each of these coverage points, there are the premises declared that characterize its concept):

- Education in the Conditions of the Information Society
The new ICT stress the growing importance of knowing or education, which is becoming a condition and an attribute of the emerging information society. The environment and the expectations of the information society will lead to significant changes of current education model, curriculum, methods a means and will be significantly reflected in the work of teachers as well as in the training for this profession. This also includes the concept of the institutions in charge of the training of teachers.
- Education of Students for Life in the Information Society and for this Society
The school at the dawn of the century is the school of emerging information society era. This

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school is obliged to prepare its pupils for live in the society based on information, ICT and education. New ICT can be looked at as a co-factor, but also co-solution of the expected changes of the education model, concept and contents of the schoolwork.

- Life Time Education of People Living in the Information Society
New ICT initiate the changes in availability, manner and contents as well as the forms of education. ICT enable to increase the effectiveness of education and make it more reachable for humans, which implies significant changes in lifetime education, where the technology offer dramatic changes.
- The Integration of the Information and Communication Technology into the Teaching plans of the Institutions Training Pre-service teachers
The current technology creating open global information and communication space puts teachers into new position for which they should also receive new training. The ability to use the ICT and to realize the information education is becoming one of the important tasks of the training of teachers and an essential condition for the execution of the profession of a teacher.
- Pre-gradual and post-gradual Training of Teachers for Educational Tasks within the Framework of the Information Society
Pre-gradual and post-gradual training in the field of ICT and information education must be of a wide concept and must include specialized and general part. The orientation on ICT and information education must be incorporated into the teaching plans of schools training teachers and to develop such subject or courses here, the graduates of which would meet the needs of the real life.

The goal of the research plan is to contribute to the development of the pedagogy and the methodologies of specialized subjects mainly by supplying the scientific evidence of the conditions and needs of the information society related to education, supplying the diagnosis and prognosis of these processes, contributing to the influence on the education sphere by generating and implementing the models of education, above all the education of teachers, and also reflecting the abilities and saturating the requirements of the emerging information or learning society. Besides the above-mentioned main goal of the research plan, there are also other partial goals that are followed:

- The analysis and description of the impact of the processes that characterize the birth of the information society on the sphere of education
- The analysis of the manner of integration and development of the information education in conditions of primary and secondary schools and instruction methods and means of communication using the ICT, including the designing of a model of the information support
- To formulate the need for further education of people living in information society, and to map out the conditions for lifetime education in the Czech Republic on the basis of the ICT, to create a model system of distance on-line courses for teachers and approve it
- To support the development of specialized methodological streams of the faculty by means of application of active methods, forms and models of teachers' education with the possibility of using the ICT
- To generate and to approve the concept of pre-gradual and post-gradual specialized and general education of teachers for the educational tasks within the framework of the information society

The topicality of the research plan Education for Life in the Information Society, or its individual goals, was, besides the rapid development of the information society during the time the research was going on, also supported by the fact that basic strategic documents had been

formally approved- The State Information Policy- a Way Towards the Information Society [1] and the Concept of State Information Policy on Education [2]. The principles and intentions these documents are based on have been to a certain extent anticipated by the above-mentioned goals of the research plan.

Existing results of the solution

The expected outcomes of the research plan have the form of theoretical and comparative study, scientific elaborates, theoretical and practically approved models of education, concept documents, study schemes, learning, methodological and information materials, software solutions, technical solutions and realizations. The following actions, or the interim outcomes generated from them, took place within the framework of the research plan.

The theoretical research activities in the sphere of analysis of the impact of the processes accompanying the transformation to the information society on education were realized. In the framework of the sub-project Analysis of the Factors Influencing Education the method of applying the pair comparisons (factor analysis) was used with the aim to outline the factors describing the model of optimal functioning of the Czech education system during the transformation of the education system towards the information society. The contents are the here-defined factors and their interactions in two versions: The general version, where the factors are linked to their theoretical importance and their probable influence on the school system. And a version that can be used within the computer system connected to the Internet, therefore, every user has the possibility to refer to their probable influence on other factors of the school system. This concrete version enables the automatic calculation of their final value. In both versions long term corrections of the set of the factors and their values are expected in co-operation with the professional public and arising from applying the models on the basis of known and emerging situations in education. For the collection of the values and the influence of the factors the suitable program administered in the WWW environment was created. The interim outcomes of the above-mentioned research activities have even been published [3].

The research activities in the second field were oriented mainly on the realization of the prestigious international research SITES Module 2 (Second Information Technology in Education Study) co-ordinated by the well known scientific association IEA (International Association for the Evaluation of Educational Achievement), with which the research plan was connected and where the Department of Education represented the Czech Republic. The whole research is composed of three modules. First module that the UIV is working on was focused on the statistical evaluation of the conditions of using the ICT at schools. The outcomes were published at the end of the 1990 and used for the foundations of the State Concept of Information Policy in Education. [2]. Module 2, realized within the framework of the research plan, is an international qualitative research of new ways, possibilities and methods that introduce the use of the ICT to Education. Individual national teams of the thirty countries involved used common tools and study methods for the collection of data that will be processed from the global and local perspectives. The main goal of the Module 2 is to find and qualitatively describe the concrete ways of suitable use of the ICT in education and, by means of evaluation of the cases researched on the national level, to formulate theoretically founded recommendations on how to use the ICT in education most effectively. [4]. Within the framework of the Module 2 and after the localization of the research tools, a first pilot research has been carried by the internationally agreed methodology, and then other regular case studies was been carried out. Eight case studies are expected; each of them includes approx. a week stay of three researchers at the chosen school, where, according to the methodology and the localized research tools, they carry out observations, interviews, take documentation and establish many contacts. The reports are handed over to the international co-ordination centre and published (<http://it.pdf.cuni.cz/sitesm2/>).

The activities in the field of information supported instruction at the basic schools were mainly oriented on the development of the Teachers Co-helper-Učitel'ský spomocník, designed as an information server (<http://www.spomocnik.cz/>) dedicated to the in-service and pre-service teachers. It is trying to support the functional usage of the ICT in instruction and to increase the quality of information education at schools. Due to the non-existence of the official school WWW portal, the activities linked to the direct support of teaching at schools have been mainly developed. It also applies to the teacher's list of links that has already become known by the teachers' public as a source of topically classified links or ESP pages supporting the engagement of our schools in international network projects.

Another sphere of activities was oriented on creating and experimental verification of the on-line support of the on site instruction on the basis of on-line courses that had been developed and administered on the platform of LearningSpace as the environment for distributed instruction and education and the presentation of methodological learning materials for implementation of the ICT into education and the support of information education. The on-line courses as technology basis of the models of distance forms of the education of teachers have been created and verified. (<http://it.pdf.cuni.cz/>, <http://aqua.pdf.cuni.cz/>). A methodology of the realization and use of the videoconferences in educational activities of the students of primary and secondary schools and for preparing the training of teachers for selected educational ITC competences was also created and verified. The interactive educational situations for teaching various subjects at basic schools, also serving the purpose of development of educational communication skills for pre-service teachers, were also proposed and verified. The outcomes of the current solution were published [5].

In the purpose of the research plan, the activities of the solvers were focused on the improvement of the conditions of pre-service teachers' training at the Faculty of Education of the Charles University by means of creating the technological complex that would support individual and experimental work of students using the ICT. In this aspect the research plan has been linked to project of the FRVS 1343/2000 and by associated means the students' ICT lab was built with the support of the faculty. This lab offers free admittance to the ICT with 30 computers, network, print and reprographic services, when the building of the faculty is opened, including the possibility to use the computers that may be considered as top class in the conditions of the faculty.

As an important interim outcome of the research plan an international conference TET 2001 (Telecommunications for Education and Training) is being prepared under the bulwark of the Charles University and in cooperation with the MFF CU and an international organization IFIP. This conference is going to deal with the field of problems of using the telecommunication systems in education. From 23 to 26 of April 2001 a concrete models of functional environments, evaluation of the current findings and visions of telecommunication applications for lifetime learning on the basis of tele-learning and tele-teaching will be offered to the participants.

References

- [1] Státní informační politika-cesta k informační společnosti.
<http://www.vlada.cz/rady/sip/dokumenty/sip.win.htm>
- [2] Koncepce státní informační politiky ve vzdělávání.
<http://www.msmt.cz/pdf/kestazeni/SIPveVZ.doc>
- [3] Smetáček, V. a kol.: Změny v postavení člověka a společnosti, výchovy a pedagogiky. Pedagogická orientace, 2000, č. 1, s. 6 - 21. ISSN 1211-4669.
- [4] Brdička, B.: Mezinárodní výzkum využití moderních technologií ve vzdělávání SITES.
<http://www.ceskaskola.cz/r-art.asp/id2454/app>
- [5] Černochová, M., Siňor, S.: On-line support to teacher training. Conference EURO Education 2000. Aalborg : Danish Ministry of Education 2000. ISBN 87-986760-1-6.