Support for the development of a model for lifelong learning of teachers in the Republic of Croatia - Faculty of Teacher Education

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Abstract: - The work presents the research conducted on teachers in lower primary school in the Republic of Croatia (N=813), where elementary school teachers were in the school year 2006/2007. The aim of the research was to test possession and use of information communication technology in everyday life. Possession and use of information-communication technology is the prerequisite for developing a model for lifelong learning of teachers in the Republic of Croatia through distance learning and teaching.

Key-Words: - lifelong learning, information-communication technology, ITLET, distance learning

1 Introduction
The use of information and communication technologies is inevitable in the educational process. One of the possibilities for enriching the traditional way of teaching is e-learning, which does not imply their mutual substitution. An important role of e-learning is to enable lifelong learning, as well as the possibility of a better individual approach primarily in education and continuing education of adults. [Moore M.H.;Anderson W.,2003]; [SABOR RH,2007]
The development of a framework which can offer efficient support in the implementation of the development of a model and upon that an efficient system for learning and teaching is virtually impossible without using information-communication technology. [Peters O.,2001]

2 Assumptions on the development of the model
The development of computer technology, computer networks and computer systems as a sequence of new knowledge developed the use of information-communication technology in overall support to organizations, preparation, delivery, implementation and evaluation of distance learning. We can say that today ICT is an environment or framework for planning, modeling, development and implementation of distance learning programs. Some authors such as Lindner claim that ICT in education should adopt the acronym ITLET (Information Technology for Learning, Education, and Training) since today it is the key element of all forms, models of distance learning [Linder R.,2006].

Distance learning, as a contemporary approach in education represents a synergy of modern information-communication tools (consistently) supporting information-communication technology and new awareness of pedagogy. It is indisputable that teachers who are involved in the implementation of the primary school curriculum in the Republic of Croatia have one of the most dominant roles in the system of education in Croatia. About 28.335 teachers in the Republic of Croatia are implementing the primary school curriculum (lower grades of primary school). Work with young population demands continuous education or lifelong learning for teachers in all segment and therefore presents an important element in elevating the quality of the entire system of education in the Republic of Croatia. The document „Education Sector Development Plan 2005 – 2010 adopted in 2005 by the government of the Republic of Croatian special emphasis is given to the development of lifelong learning and professional development as well as the application of information-communication technology".

2 Special priority areas in the Development plan 2010 include:
* improvement in the teaching and learning in schools, developing knowledge and the ability of the nursery, and teaching staff and improvement of their social and material status;
* improvement in the work conditions in schools and their equipping;
* developing habits for lifelong learning according to the market needs;
* application of information-communication technologies. 

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For the analysis to be relevant, as there were 30,450 elementary school teachers in the school year 2006/2007\(^3\), the minimal number of respondents is 379, at the confidence level of 95%, and confidence interval of 5.

3 Research results

In order to establish all the necessary elements for the development of a model for lifelong education of teachers in the Republic of Croatia, we have conducted a research on a sample N=813 of participants from the entire area of Croatia. The aim of the research was to establish the current situation on personal IT equipment and IT knowledge of teachers as one of the basic preconditions for the development of a model of distance lifelong education. In addition to that, the aim was also to obtain quality information on the importance of particular media which they use in their everyday teaching practice and personal willingness of teachers for further learning, professional development through distance learning and teaching as a new way of teaching and learning. [Rees R.,2005]

Using a questionnaire which was anonymous our aim was to obtain the current situation of participants through their year of birth:

Table1: Year of birth

<table>
<thead>
<tr>
<th>Year of birth</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>811</td>
<td>1940</td>
<td>1982</td>
<td>1963.34</td>
</tr>
</tbody>
</table>

Valid N (listwise) 811

From this basic descriptive statistics it is evident that the variable “year_birth” which was min=1940, that is the year 1940 (66 years of age) up to the max=1982, that is the year 1982 (24 years of age). The mean is \( x =1963, \) (43 years of age). The median is \( m =1965, \) that is the year 1965 (41 years of age).

In addition to the years of age of the participants, it was important that we obtain data on the years they have spent in the teaching process. We assume that teachers have spent some time in search of work in education/teaching and we wanted to know the years of their work experience.

Table 2: Work experience

<table>
<thead>
<tr>
<th>No. of years in teaching</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>792</td>
<td>1</td>
<td>45</td>
<td>17.77</td>
</tr>
</tbody>
</table>

Valid N (listwise) 792

It is evident from the table that the variable “years_work” is min=1, that is, from one year of work experience to max=45, that is, forty-five years of work experience. The mean value \( m =16, \) that is, sixteen years of work experience. The standard deviation is \( \sigma =11.138. \)

Graphic display:1-1 Work experience (Number of years in teaching)

Graphic display 1 shows that our participants, teachers, have been in the teaching profession on average 17

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strengthening the preventive role of school against socially unacceptable behavior;
encouragement of various aids in learning, extracurricular activities and creating an environment which makes the school a community of learning and where pupils create a close and tolerant relationship;
improvement of managing educational institutions and introducing a system of assessment and external evaluation of the educational work;
rationalization and decentralization of the system of education;
increase in direct support in regional development;
increase in the involvement of family, the local community, social and other partners in the improvement of the system;
innovative approaches in the educational process and harmonization with EU programs at all levels;
harmonization of the Croatian system of higher education with the scientific system;
innovative approaches in the educational system;
strengthening of national and cultural values;
strengthening the awareness of belonging to a European cultural circle.
years. From the mean we can assume that they have sufficient work experience.
Furthermore in the research we were interested in the IT equipment of teachers and whether they had internet access or not.

Graphic display: 1-2

It is evident from the graphic display that a big number of teachers, 85.6% of them possess a personal computer, and that only 14.4% do not possess a personal computer. If we compare the year of birth and possession of a personal computer (graph 1-3) it is evident that the predominantly younger population possess a computer.

Graphic display: 1-3
(birth date/number of teachers, which possess a personal computer at home/office)

If we compare Possession of computer with years of work experience (graph 1-4)

Participants N=74 have answered negative to the question of whether they possess a personal computer, and therefore they fall into the category “did not answer” the question. Of the N=739 participants who possess a personal computer N=593 (80.2%) of them answered in the positive, while N=146 (19.8%) of those participants answered in the negative, that is they do not have internet access.

Table:3 Internet access

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid no answer</td>
<td>74</td>
<td>9.1</td>
<td>9.1</td>
</tr>
<tr>
<td>Yes</td>
<td>593</td>
<td>72.9</td>
<td>72.9</td>
</tr>
<tr>
<td>No</td>
<td>146</td>
<td>18.0</td>
<td>18.0</td>
</tr>
<tr>
<td>Total</td>
<td>813</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Having internet access is the key element for our future model of lifelong learning through the Internet. We can assume that the number of teachers who have internet access will increase with each year, that is, the number of teachers without internet access will decrease.

4 Conclusion and future work

From this research we can conclude that teachers in the Republic of Croatia have good information – communication infrastructure. Having a quality infrastructure for a teacher is an affirmation for our idea of the possible development of a model for lifelong learning and teaching of teachers using information-communication technologies. In further research it will be necessary to test the information and communication literacy of teachers as the next step in setting a framework for building a future model for lifelong education through the Internet. The need for a model of learning and teaching for all teachers in the Republic of Croatia thus acquires even more significance.

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References: