Topical Report

ICT AND E-LEARNING IN TEACHER TRAINING

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ABSTRACT

One of the specific aims of the program LLL is to support the development of the innovative IICT based products, services and methods of teaching. ICT suggests means for support of a good result and efficient post graduation education of the teachers, where the learners, are not only users of ready knowledge, but also creators and founders of knowledge. ICT makes possible the realization of flexible forms of training, for the facilitation of the access and the economy of resources. With the development of the technologies, the modern distant training included elements of electronic, computer-orientated, web-based, and other trainings. In the practice of the postgraduate education of the teachers the understanding is established, that, the most preferred from of training is the one, where elements are combined of the distant and traditional training, as well as there are combined means the methods which propose ICT with traditional ones. The informational – communicational (digital) competence is generally defined in the documents of the EU as skilful and correct utilization of the electronic devices in the work, in your leisure time, in and with the purpose of communicating. The presence of a certain level of digital competence is compulsory conditions for the realization of the distance and electronic training.

Key words: ICT to support LLL, distant training, computer skills

INTRODUCTION

The major goal of the program Lifelong Learning (LLL), established with a resolution of the European Parliament and the council of Europe, is to contribute for the development of the EU as a society based on the knowledge, with sustainable economical development. One of the specific aims of the program is to support the development of the innovative IICT based products, services and methods of teaching in the LLL. The integrated utilization of the ICT in the very process of the LLL supports the realization of the national strategy for LLL (2008-2013) (1).

PURPOSE OF RESEARCH

The article represents the results from the researches regarding the capacities of the ICT and the electronic training for support of the LLL, particularly the post graduation qualification of the teachers.

RESEARCH METHODS: Comparative theoretical analysis, questionnaire, observation

RESULTS AND DISCUSSION

From the studies of the national institute of statistics in the sector of education, for participation in the LLL, and the conclusion is drawn that the most active participation in similar studying processes is established with people with higher education, amongst which 71.1 % for a period of 12 months, have participated before the study, in various forms of the LLL, and the level of participation of the city living ones is 52.2%, much more higher than the one of the living in the villages 38.0% (2).

Analyzing the said results, the conclusions can be made that the motivation of the adult learners is directly interrelated with their education. There is an influence of course of the access in regards of the distance of the place of
living, settlement, specific needs, etc. The teachers are among those learning ones, which need continuous improvement of their qualification, as a result of the influence of various factors. They have higher education, they have underlined interests in certain sphere, they possess professional and life and practical experience; they themselves put certain goals and tasks, in accordance with their demands and necessities.

In order the post graduation education to be resulting and comparatively successful, it must comply some basic requirements:
- To be motivating one, that is the aims to be precisely determined and related with the school demands the changing skills and competences, necessary for their work and their career developments
- To require from the studying one, to use the accumulated knowledge, as in the same time to gain new knowledge;
- To be performed for a sufficiently long period of time, so that the learning one to perform his basic obligations and occupations;
- To lead to the achievement of the preliminary put tasks.

1. ICT in support of the post graduation education of the teachers

ICT suggests means for support of a good result and efficient post graduation education of the teachers, where the learners, are not only users of ready knowledge, but also creators and founders of knowledge. ICT makes possible the realization of flexible forms of training, for the facilitation of the access and the economy of resources.

Since the year 2007 the ICT for education has turned itself into on of the four lines for “LLL” in the four priority programs – “Erasmus”, “Comenius”, “Leonardo da Vinci” and “Gründwig. All the member states of the EU have programs and actions for integration of the ICT in education and training in accordance with the first three priorities, indicated in the programs for reforms in Lisbon. Most frequently this is related with the efforts for the provision of equipment with computers and with training of teachers as well as the creation of appropriate school content for computer training. Through the ICT, the readiness, and the desire for learning is increased, as well as enlargement of the market of educational services is achieved.

The general conclusion is that the ICT must be considered as key instrument for the modernization of all aspects of the education and training. The results from the report are that the expected results for maximal and optimal use of the ICT in the education and training are not achieved (3).

ICT give abilities for:
- Learning through interaction /social learning /
- Cooperative learning , that is, discovery, understanding, and solution of the problems, through the exchange of ideas, opinions sharing of practices;
- Learning through discover , individual solving of the problems, through the analysis, usage of appropriate information, and summary; self regulated learning;
- Learning based on projects.

By the support of the ICT, the training and the qualification of teachers can be realized as:
- Dynamic process, that is only in the progress of the joint activities, the learners to formulate and solve various problems, (scientific or practical), they can present different positions, to look at the assigned problems from various perspective, through which they create knew knowledge;
- To be realized in the process of joint and modifying activities, which to lead to a change in the visions, standing, positions, values, orientations;
- The dialogue is one of the effective methods of training, through which, mutual; respect is achieved of the opinion of the others, of their positions and feelings, and it is a guarantee for cooperation;

2. Capacities of the ICT for improvement of the access to LLL

2.1. Distant training, as an alternative of post graduation education and qualification of teachers.

The distant training is an accumulation of forms of organization, methods of management, and means of training, with the use of resources, which are various types as functionality, divided in terms of location, manner of participation and time of utilization; various – human, material, and informational (4).

The distant is mostly featured as training without direct contact between the trained and the trainer, neither between the trained themselves. The ICT facilitates the realization
of the distant training in various aspects: for popularization and motivation for training, in the process of organization for the creation of the new educational environment, for the creation of various work materials, depending on the goal and the tasks of the concrete training, etc.

With the development of the technologies, the modern distant training included elements of electronic, computer-orientated, web-based, and other trainings. The increasing usage of the internet and of the ICT based instruments, open new opportunities of adult training. More concretely, the ICT have the capacities for maintenance of the informal and of the individual training. For example, the ICT has the capacities for maintenance of the informal and of the individual training. For example in the report of the EC (3) it is indicated that 1 of 8 adults uses internet for informal training activities, as scientific researches and downloading of school contents. Half of the adult learners consider the online training as the necessary condition for the formal training too. Every two of three learners online, state that they shall again train in such forms. This can be due to the abilities for training of elders supported by ICT for the choice of appropriate form of education. The interactive forms of electronic training, give opportunities for discussions, which can have motivating effect over the adult learners. On the other party, a considerable percentage of the participants (2/3) however look at the adults training, as an opportunity for contact with people of similar interest. The computer based trainings, do not comply this social motif.

The Euro Stat data show that the available education determines the so called electronic inclusion. It is three times more probable, the highly educated people to be Internet users.

Features of the distant training (4):
• flexibility – setting of time, location and temp;
• modularity-allows choice of programs, as well as realization of individual programs
• independence – proposes training along with the work and with the execution of other obligations;
• scope – proposes the use of various sources of information, contacts with other trained, communications with teachers;
• economical- efficient usage of the informational and other material resources;
• technology – usage of ICT and other modern technologies and means;
• social quality –equalizing of the abilities for receiving of education for various groups of people;
• untraditional role of the teacher – in the direction of the coordination of the process of the training, consulting, and supervision;
• change of the profile of the trained one – requires self-control and self organization, skills for use of the ICT and others.

In the practice of the postgraduate education of the teachers the understanding is established that, the most preferred from of training is the one, where elements are combined of the distant and traditional training, as well as there are combined means the methods which propose ICT with traditional ones.

2.2 Computer skills and competences as the precondition for distant and electronic training
The digital competency is one of the eight key competences, defined in the documents of the EU and it is necessary to every person in active work age in the modern informational reality. The informational – communicational (digital) competence is generally defined in the documents of the EU as skilful and correct utilization of the electronic devices in the work, in your leisure time, in and with the purpose of communicating. The acquisition of computer skills and knowledge is present on all the levels of the formal education, represents a major accent of the informal and individual education; the presence of a certain level of digital competence is compulsory conditions for the realization of the distance and electronic training.

SWOT analysis results
During a expert meeting of the work group of the “Education and qualification for adults”, within the project “ICT 4 LLL” (5) a SWOT analysis was made of the strategy of the LLL, considering the ICT as a comparatively exterior for the Strategic Media, the omissions and the difficulties are laid out in regards of the realization of the ICT support for the LLL (Table 1).
Table 1. SWOT analysis of the possibilities for ICT support of the LLL

<table>
<thead>
<tr>
<th>Positive Impact</th>
<th>Negative Impact</th>
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<tr>
<td>Strengths</td>
<td>Weaknesses</td>
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<tr>
<td>Internal Environment Bulgarian LLL Strategy</td>
<td>Breached technological consequence between activities and terms;</td>
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<tr>
<td>- In harmony with the goals and scope of the European policy for LLL;</td>
<td>- Non-binding of the strategy with the national documents for career development;</td>
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<td>- Gives opportunity for development on the three levels – formal, informal and individual;</td>
<td>- Publicity of the operational plans for realization ;</td>
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<td>- Clearly defined goals, tasks, activities and terms;</td>
<td>- Lack of clarity of the monitoring.</td>
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<td>- Preserved connection – education-business.</td>
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<th>Opportunities</th>
<th>Threats</th>
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<tr>
<td>External Environment ICT</td>
<td>Insufficient computer skills and competences as precondition for distant and electronic training ;</td>
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<td>- Development and/or adaptation of specific training methodologies ;</td>
<td>- Little differentiation between the various forms of training for different target groups ;</td>
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<td>- Creation of educational environment assisting the LLL;</td>
<td>- Lack of information on the necessities;</td>
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<td>- Creation of e-resources for: informing, online trainings upon key competences, distant self-evaluation of non-validated competences;</td>
<td>- Non-coincidence between the approach of the ICT specialists and the educators (creators of content);</td>
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<tr>
<td>- Research and analysis of the necessities of the various age groups;</td>
<td>- Lack of intention (motivation );</td>
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<td>- Establishment of unified qualification frame;</td>
<td>- Insufficient popularization of the capacities of ICT;</td>
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<td>- Development of unified and equally standing policy for LLL.</td>
<td>- Little popularity of the career consulting.</td>
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RESULTS FROM THE QUESTIONNAIRE

The basic goal of the quizzing is to estimate the level of being informed and the intentions for participation of the teachers in the various forms of the LLL, as well as the possibilities and the readiness to realize LLL with the help of ICT, in its three main types: formal education, and training, informal training and independent training.

The results are represented in accordance with the following summarized groups of questions:

1. Level of being informed on the strategy of the LLL, connection and nature of the key competences laid out in the European qualification frame (6). Informed on the nature of the Strategy from life long learning, as policy of the EU and the national policy are 10% of the questioned. The answers are mainly in the direction of the description of the internal motifs and demands- 82%.

2. Validating and certifying of the knowledge, and skills, expressed in a motivated way, demonstrated by 79% of the quizzed. No such demands expressed by -21%.

The certificates are acquired predominantly within the frames of the formal education and training.

3. Formed digital skills and competences – preconditions for the realization ICT support for the LLL
   Level of self-evaluation
   - average and over the average level, up to very high – 82%
   - declared lack of computer skills -5%
   3.2 formed digital skills and competences
   No such skills – 7 %.
   3.3. Predominant digital skills:
   - Work with the Internet – 82%;
   - Work with text processing programs – 77%;
   - Works with electronic tables – 45%;
   - Computer graphics – 57%.
   - Computer presentations – 61%
   Poorly presented Act of Establishment the skills for:
   - Programming – 14%;
   - Installing and the setting of OS – 23%.
   - Systems for database management – 15%
   3.4. Manner and forms of training for formation of digital skills and competences.
   The formal education and training:
   - Education in a Higher School – 43%.
- Computer courses – 43%.
- Informal training:
  - Individually formed – 66%.
  - Work with colleagues, family – 42%.
  - Refusing to answer – 11%.

4. Necessity of ICT training

Motivated and partially motivated necessity expressed by – 64%; lack of motivation - 16%; no answer – 20%. Table 2 shows the summarized trends on the base of the questionnaire answers provided

Table 2. Summarized trends on the base of the questionnaire answers provided

<table>
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<th>Summarized trends:</th>
<th>Necessities:</th>
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<td>- Low level of information on LLL;</td>
<td>- Creation of e-resources for information and online training on key competences;</td>
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<tr>
<td>- Lack of information on the key competences in the context of European Qualification Frame;</td>
<td>- Establishment of educational media, supporting the LLL;</td>
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<tr>
<td>- Predomination of the individual informal and formal education for acquisition of ICT competences;</td>
<td>- Creation of possibilities for validation of knowledge and skills in cases of informal training;</td>
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<td>- Expressed necessity for participation in forms of additional qualification in the sphere of ICT – 64%;</td>
<td>- Necessity of measures for stimulation of the participation of people with high education for formation of ICT competences.</td>
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<td>- Expressed low level of participation of the quizzed in forms of additional qualification in the sphere of ICT – 58%.</td>
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CONCLUSIONS

The digital competence of teachers is a condition for realization of electronic training, which shall lead to real ICT support of the post-graduation qualification and professional development of the pedagogical staff. In that direction and as a result of the researches performed the following recommendations can be formulated:

- Defining of the levels of the digital competences, comparable with the levels of the European qualification frame and the national qualification frame, which shall be created after the year 2011
- Establishment of national multi-level system for validation of the digital competence, expressing and engaging all training variants.
- Establishment of standards of the school content in accordance with the levels of the digital competence.
- Binding of the said frames and systems with the motivation for career and professional growth of teachers.

The acquisition and the validation of the digital competence on the one party and the proposal of the qualitative electronic courses on the other party, shall strengthen the motivation and shall facilitate the access to postgraduate qualification of teachers.

REFERENCES

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