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## Experience of primary school teacher training to the use of information-communication technologies of German-speaking countries (Germany, Austria, Switzerland)

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**Abstract.** In the article, the main methodical aspects in primary school teacher training to the use of information-communication technologies in German-speaking countries (Germany, Austria, Switzerland) are revealed. The main competences of future teachers in the sphere of media education of these countries are investigated; state documents, which define the implementation of media education in the process of teaching on all the levels of system of education and methodical support in media centres that are based in Germany, Austria and Switzerland are analysed.

**Keywords:** primary school teacher, media education, media literacy, information-communication technologies, platform Moodle

**Introduction.** In modern development of innovative technologies all spheres of society faced the changes, especially in education. The reason for such a transformation is increasing development of modern gadgets and their constant improvement, which provokes great interest of pupils to use them in studying and free time. In return, such a process caused the implementation of ICT in teaching subjects of primary school.

In the process of Ukraine's modernization the problem of renovation of methods and forms in professional training of future primary school teacher is becoming actual. In particular, this concerns the use of information-communication technologies (ICT) in teaching primary school pupils. The problem is revealed in state documents concerning education in Ukraine, i.e. in the document "Concept of implementing media education in Ukraine" (2010) it's said that "elements of media should be implemented in the programs of professionally-oriented humanitarian training", accordingly an important task of the process of studying is to develop in pupils media immunity, media literacy and media reflexion [2, p. 3].

This makes it important to get to know profound world experience, particularly in primary school teacher training in German-speaking countries (Germany, Austria, Switzerland).

**Articles review.** The problem of ICT use on all levels of Ukrainian educational system and in the world is on a special concern in the works of profound Ukrainian and foreign scientists. In particular, the research of the use of ICT in professional training in Ukraine was done by V. Hurvysh, M. Koziar, A. Lytvyn, V. Bykov, B. Shuneych peculiarities of primary school teacher training to the use of ICT were investigated by A. Kolomiets, I. Shaposhnikova, N. Morze. In Switzerland the usage of ICT at primary school was studied by D. Petko, P. Mishra, M. Koehler, in Austria – V. Hornung-Prähauser and dr. G. Geser, in Germany – G. Tulodziecki, S. Blömeke and D. Spanhel. All scientists emphasize the importance of ICT training for future primary school teachers.

**The aim of the article** is to ground the main methods of primary school teacher training to the use of ICT in German-speaking countries (Germany, Austria, Switzerland) on the basis of scientific literature.

**Materials and methods.** In the article the materials from peer reviewed resources of Germany, Austria and Switzerland, state documents, results of investigations done by the famous scientists in the sphere of media education, in particular the results of surveys, recommenda-

tions concerning implementation of some aspects in mediaeducation in university curriculum for primary school teachers are used.

**Results and their discussion.** Information-communication technologies of teaching is computer oriented part of pedagogical technology, which reveals some kind of formal model of a particular component in the content of studying and the methodology of its integration in the process of teaching. It is presented in the form of pedagogical program means, which presupposes the use of computer, computer communication networks for performing didactic tasks or their elements [1, p. 49-50].

In German-speaking countries the information-communication technologies in education are often identified as the use of technical equipment at the lesson. Thus, the availability of computer or the Internet is not effective without appropriate use of suitable technical and pedagogical means. For these countries the process of integration of ICT technologies in education passed gradually.

For Switzerland, the implementation of ICT took rather long period of time. First, the recommendations concerning gradual integration in the process of studying at primary school and the formation of media literacy of teachers were introduced. All the cantons maintained such an initiative and in a year in Pedagogical Highschools additional subjects concerning the use of ICT at primary school, didactic and methodological consultations concerning this point were integrated.

Media centres, which main task is to consult qualified teachers and students on the problem of didactic peculiarities of ICT use during classes appeared in the Universities of some cantons. Several surveys concerning this point, in which a lot of respondents took part, were done in Switzerland. They gave the impact on recommendations which can be used in the development of this sphere. Profound Swiss scientist in the field of media technologies D. Petko did a survey of teachers and pupils, and found out that the most popular among modern techniques are the Internet, overhead projector, computer and laptop. The scientist admits that sometimes e-mail communication is used to send the information to a particular pupil. In such a way media competence of primary school teacher is improved and the tendency to self-improvement and self-education is traced [5, p. 17-21].

Implementation of ICT should be done on the level of individual, school and the whole system of education. Media literacy embraces all the hierarchy of Swiss system of education. During classes it is proposed to use the

model consisting of three components: wish, skills and means [4, p. 156].

The scientists P. Mishra and M. Koehler stated that for a successful use of media at classes a teacher should have such competences:

- technological (the use of technical equipment);
- technological content (understanding the use of media during classes);
- technological pedagogical (understanding that media is a part of a teaching and its use should help in better presentation of the material);
- technological pedagogical content (embraces all previous experience and helps a teacher to choose a particular media for the class) [4, p. 158].

All competences are united under the term “content”, which includes school atmosphere, presuppositions in studying a subject and the conditions of media use. For their successful use there is a need in media literacy improvement of primary school teachers of foreign languages. It was declared on the state level in Switzerland in the document “Law about the importance of integration of information-communication technologies in school” (2001). For teachers there are special courses and seminars, which present everything in the sphere of innovative technologies in teaching foreign languages and other subjects at primary school.

D. Petko notes that the use of ICT is impossible without didactical support of a future teacher during its training at Pädagogische Hochschule. It is proposed to implement new courses, which do not give direct recommendations in using media during classes, but give general principals of use media technologies while teaching.

In Bern Pedagogical High School there are several free courses that can be chosen, in which a student can learn how to use media technologies at classes at primary school. Subjects, like 3D modeling, multimedia, media pedagogics, are part of didactics of a particular subject. The main competences formed during this course are stated in “Curriculum 21”. Its main principle is to provide media to pupils and teachers are encouraged to improve their knowledge and competences in this area.

In Bern Pedagogical High School future primary school teachers have a course in media literacy, which includes planning of media use at classes taking into consideration didactical principles. Future teacher can learn here how to select proper information, synthesize it and present to primary school pupils. The second part of the course is devoted to work in the system of web, print, tone [9].

In Austria, as well as in Switzerland, the problem of improving condition for media usage in teaching primary school pupils caused the need in initial and additional teacher training. The analysis of surveys done among pupils, teachers and media experts showed that this area is still developing.

With the help of Austrian Federal Ministry of Education, Art and Culture scientists V. Hornung-Prähauser and dr. G. Geser determined that ICT is present in most educational establishment of all levels. They admit that the term “technology” in German means not only innovation, but also includes the usage of several pedagogical means at classes. In Austria the knowledge how to use media at classes is called “media-pedagogical competence” or “media-didactical competence” [8, p. 9].

In the countries of European Union the European Pedagogical ICT License (EPICTL) was introduced. In the future it should be necessary to get such a licence to get a qualification of a teacher. Starting in 2006 in Austria, such an initiative was held by Federal Ministry of Education, Art and Culture, that gave the opportunity for the pedagogues to work out and integrate special courses in the biggest universities in the country [8, p. 15].

Teacher training to the use of ICT at primary school should have a great technical potential in the university. First of all, the ability of using personal computers, the Internet all the time, special emphasis is put on the usage of Moodle platform which allows students communicate with their ICT instructors in any time. The authors of such courses admit that students who attended them can use media at classes at primary school, make e-Portfolios, write blogs, communicate with other students and get to know about new tendencies in the sphere of media technologies in the world.

For Austria the implementation of ICT in curriculum of University College of Teacher Education Lower Austria, University College of Teacher Education Vienna, University of Salzburg and University of Innsbruck was the result of numerous pilot projects, which stated that the forming of media competence of future primary school teachers is very important in professional teacher training. This sphere is constantly improving. Thus, there are some obstacles that are connected concerning Internet connection or lack of teacher’s competence in this area.

The primary school teacher training at University College of Teacher Education Vienna by studying the course “Media pedagogics” include acquaintance with the peculiarities of structure and use of database, search of necessary information, work in social networks and in different offices. The course lasts two semesters and consists of three parts: new technologies, media products (audio, video) and publications on-line. Each part embraces didactic consultations and the possibility of self-improvement and selfeducation.

In Germany the problem of teacher training to the use of ICT while teaching at primary school was discussed at the Council of Ministers in 1995. As a result, elements of media pedagogics were included in training of teachers of all levels. This developed into establishing obligatory courses of media pedagogics in the universities. Scientists of this sphere G. Tulodziecki and S. Blömeke defined a number of competences in the field of media pedagogics that are necessary for future primary school teachers:

- peculiarities of pupils’ perception of media;
- use of media while teaching;
- importance of upbringing and educational aim in the use of media;
- development of mediacompetence at school [3, p. 95].

Centres of teacher training maintained several initiatives aiming to help Pädagogische Hochschule in training qualified primary school teacher that is able to use media during the classes. Among such initiatives are:

- BIG-Initiative (education in information society);
- Project “New Media in Teacher Training” (Neue Medien im Lehramtsstudium);
- Project “Intel – Studying for Future” (Intel – Lehren für die Zukunft).

Berlin Humboldt University, Universities in Bielefeld, Dortmund, Hamburg and Pädagogische Hochschule Weingarten made a network "Teacher training and New Media" (Lehrer Ausbildung und Neuen Medien) it helps to form media pedagogical competence of future primary school teachers.

A group of scientists led by G. Tulodziecki and D. Spanhel worked on the project "New Media in Teacher Training" (Neue Medien in der Lehrerausbildung). They worked out two concepts concerning implementation of media pedagogics in teacher training. It is proposed to include the main principles of work of equipment, use of media technologies and the importance of media in reaching the upbringing and educational aims of a lesson. This course should be studied at least two semesters. They also suggested to put in each school one teacher who is competent in all media pedagogical aspects of each subject. That should be a consultant on local level [6, p. 46].

In Hessen and Nordrheinwestfalia it is possible to create e-Portfolio, which is a document and an object for reflection concerning the use of media while teaching [2, p. 96]. Some universities give the opportunity to get an additional qualification "Media and Informational Technologies in Upbringing and Education" (Medien und Informations technologien in Erziehung und Bildung). The graduates of these courses can become consultants in the field of ICT use during classes at primary school.

Dr. D. Spanhel considers that in teacher training should:

- take into consideration the importance of media for pupils' everyday life, curriculum, pupils' general development and German system of education;
- use media as a mean of improvement of studying;
- consider the use of media technologies at school and take part in the school development in the field of implementing ICT in teaching;
- improve herself/himself in this sphere, i.e be in touch with new trends in this area, discuss them, propose own ideas and constantly work on improvement [6, p. 45].

The basis of German primary school training to the use of media technologies became the University in Paderborn, which is the place of constant investigations made by G. Tulodziecki. The proposed courses are taken as the basis in forming all the courses concerning mediapedadodics in primary school training.

The emphasis should be put also on in-service training for qualified teachers. Which are held in universities and schools. The seminar concerning media literacy, in which the problems of use of mediareources, selection of methods for work with media and defining interdisciplinary relations are discussed [7].

**Conclusions.** Increasing development of media technologies in modern world gave the impact on the modernization of modern education in Ukraine and abroad. The analyses of numerous investigations in the field of media technologies and their use while teaching at primary school showed that one of the most important aspects is primary school teacher training to the ICT use at classes. In German-speaking countries (Germany, Austria, Switzerland) great attention is paid to the study of principles of the work of new technologies, methodics of their use in the process of teaching. Common for all these countries is steady motivation to the development of this area, constant investigations aiming at the improvement of the process of use of ICT and gradual integration of media literacy and media didactics in the system of teacher training. The given countries are on the different stages of media education development. For example, in Switzerland the course on media pedagogics is declared on the state level, but in Germany this course is used only in some federal states. In Austria the use of ICT is a result of pilot projects that are constantly working and help in improving the given field. The results of implementing ICT in teacher training is perspective for the use of their experience in Ukraine.

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**Когут Н.М. Опыт подготовки учителей начальных классов к использованию информационно-коммуникационных технологий немецкоязычных стран (Германия, Австрия, Швейцария)**

**Анотация.** В статье отображены методические аспекты подготовки учителей начальной школы к использованию информационно-коммуникационных технологий в немецкоязычных странах (Германия, Австрия, Швейцария). Исследованы основные компетенции студентов педагогических учебных заведений этих стран в области медиатехнологий; проанализировано нормативные документы, регламентирующие внедрение медиаобразования в учебный процесс разных уровней системы образования и методическую поддержку в медиacentрах, основанных в Германии, Австрии и Швейцарии.

**Ключевые слова:** учитель начальных классов, медиаобразование, медиаграмотность, информационно-коммуникационные технологии, платформа Moodle