УДК 37:004-047.22

TREATING OF THE CONCEPT «ICT COMPETITIVENESS OF THE PEDAGOGUE» BY FOREIGN AND UKRAINIAN SCIENTISTS: COMPARATIVE ANALYSIS

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The article analyzes the interpretation of the concept of "ICT competence" by foreign and Ukrainian scholars, describes the key features of ICT competence, defines common and different in foreign and domestic terminology, it was found that, according to studies by both foreign and Ukrainian scientists.It was proved that ICTcompetence implies ability of the person to be oriented in the information space, to possess and operate information in accordance with the needs of the labor market. ICT competence is related to the qualities of technically educated personality, prepared for life and active work activity in the conditions of modern high-tech information society, covering the main components of the informational culture of students. It is based on rational coexistence with the technosphere, according to their professional self-determination taking into account individual opportunities.

Key words: competence, ICT competence, ICcompetence, e-competence, digital competence, ICTcompetence of the teacher, competency approach.

Introduction

Competency-based approach is gradually becoming fundamental in modern education, which makes it possible to eliminate inconsistency between education systems and real educational needs of society in times of informatization and computerization. One of the main ideas of competency-based approach is to form an individual's competency, which means the ability to mobilize the obtained knowledge, skills, experience and behaviour patterns in a particular situation, a specific activity. In our opinion, ICT competency as a separate component of general competency acquired great importance at the beginning of the 21st century. The need for introducing this competency is caused by complex technological, pedagogical and sociocultural transformations in modern society, active use of ICT in all spheres of human activity, etc. O. Ovcharuk (2013) indicates, 'competency-based approach forms the basis of national qualifications frameworks in different countries and Ukraine.

The system-based structural analysis of the available knowledge of the problem has enabled us to determine that such native educators as N. Balovsiak, V. Bykov (2010), M. Holovan (2007), N. Morze, A. Pometun, O. Ovcharuk (2013), A. Hurzhiy (2013), M. Rafalska, O. Spirin have been systematically investigating the problems of competency-based approach during the late 20th – early 21st centuries. Foreign pedagogy has accumulated many prominent works of such scholars as

M. Dahmani, J. Habermas (2003), R. Krumsvik (2008), J. Raven (2002), D. Reaken, J. Romani (2009), U. Moser, L. Salganik, M. Spector, B. Youssef. Having analyzed the mentioned works we have concluded that the concept of ICT competency has rather varied interpretations in modern science, which is why it is relevant to conduct a lengthy analysis in order to study the peculiarities of interpretation of the very concept of ICT teacher competency by foreign and Ukrainian scholars.

The aim of the studyis to analyze the views of foreign and Ukrainian scholars on understanding the concept of ICT teacher competency in order to define its essence and perspectives for its realizaition in the education space of Ukraine.

Results. In foreign scientific school in the context of the problem under research, J. Habermas' works require utmost attention, since introduction of the concept of competency is associated with his very name [15]. Thus, the scholar uses this concept as a sociological term in the context of speech communi-cation theory. In subsequent researches on social psychology, this category was considered as a set of professional qualities, that every individual was supposed to obtain while mastering their profession [10]. In fact, the essence of competency means adequacy and effectiveness of solving various problematic situations that individuals may face in society.

However, those changes taking place in modern concept of education have allowed continuing further development of views on the category of competency as a specialist's quality in the context of key competencies. Among researches on the problem under study we would like to single out J. Raven's «Competency in Modern Society» (2002). Under key competencies he understands those kinds of competencies or internal motivated qualities that are associated with a system of personal values; perceptions and expectations associated with the mechanisms of society functioning and human role in society. In his opinion, competency is a specific ability required for effective implementation of specific actions in a particular subject area, which includes highly specialized knowledge, subject-specific skills, ways of thinking and understanding of responsibility for their actions. Being competent means to have a set of specific competencies of different levels.

Other foreign scholars (U. Moser, D. Reaken, L. Salganik, M. Spector et al.) suppose that the main peculiarity of competency-based approach is forming an ability or readiness of an individual to mobilize their resources needed to implement specific tasks at the appropriate level in accordance with a specific situation, aim and conditions of realization [14].

In the European Reference Framework there have been singled out eight categories of key competences for lifelong learning, including: 1) communication in the mother tongue; 2) communication in foreign languages; 3) mathematical competence and basic competences in science and technology; 4) digital competence; 5) learning to learn; 6) social and civil competences; 7) sense of initiative and entrepreneurship; 8) cultural awareness and expression [13].

Apparently, basic competences in science and technology and digital competence are included in the list of key strategic international documents, are multifunctional and can be used in various spheres of life. It must be noted that in the context of ICT competencies foreign education systems are based on digital

literacy, technology literacy, information and technology literacy, ICT competency, ICT skills [7].

J. Romani (2009) singles out five concepts that, in his opinion, form the content of e-competence: e-awareness, technology literacy, information literacy, digital literacy and media literacy. He indicates that within his study such concepts as e-competence, digital competence, information and communication competence are synonyms [19]. R. Krumsvik (2008) considers digital competence to be teacher proficiency to use ICTs in a professional context with pedagogical and didac-tic criticality and awareness of its importance for learning strategies and student digital education.

The authors of the UNESCO project «ICT Competency Standards for Teacher (ICT-CST)» pay special attention to the fact that in order to succeed in life, learning and work in the information society teachers and students should use ICTs, namely:

- search for and analyze data, conduct certain operations with them;
- solve professional tasks and take decisions;
- creatively and effectively use all possible means to enhance academic progress and professionalism;
- become full-fledged citizens of the information society [16].

In 2011 they released an updated edition of the first publication of the guidelines on ICT Competency Framework for Teachers (ICT-CFT), which is the product of many years of cooperation between UNESCO, CISCO, INTEL, ISTE and Microsoft. This document is designed to help each country to develop a compre-hensive strategy and recommendations for ICT teacher competency that should be regarded as a significant part of the master plan for education informatization.

The UNESCO project was aimed at:

- developing the complete structure of information and communication competencies;
- designing education standards of learning and curricula for ICT-CST;
- accelerating global changes in this area.

A syllabus of the course offered in this document directed at forming teacher's information and communication competencies, takes into account three approaches to education informatization (using ICTs, deepening and creating knowledge) and has six components (understanding the role of ICTs in education, curriculum and assessment, teaching practice, ICT hardware and software, organization and mana-gement of the education process, professional development).

The above mentioned competencies serve as the foundation for professional competencies to be formed, which, in their turn, provide specialists' professional mobility in labour market and their readiness for lifelong learning.

In 2012 they published a book under the title «ICT in Primary Education» [16]. This is the result of three-year UNESCO project «ICT in Primary Education». There

have been analyzed conditions and initiatives for an effective implementation of modern innovative technologies in primary school as well as the most successful examples of ICT using resulted from pilot schools around the world. The concept of ICT teacher competency has been studied by such foreign scholars as T. Bastiaens, V. Brazdeikis (2007), B. Zwaneveld, S. Jans; the problems of its structure – D. Bukantaitė, L. Ilomeki, T. Sabaliauskas, A. Kantosalo, M. Lakkala, K. Pukelis et al. [17]. Thus, V. Brazdeikis (2007) interprets ICT teacher competency as knowledge, skills, attitudes, values and personal qualities that define a successful use of ICT in teaching. According to this scholar, it consists of ICT basic competence and ICT integral educational competence, relating to teacher professional activity.

Among obligatory ICT teacher competencies P. Kirschner, I. Wopereis and P. Van den Dool single out personal ones that suggest that there are basic skills to work with Office programs, Internet, various types of search engines, communication means and abilities to use ICT to interact with students and colleagues, as well as for further professional development [17].

For instance, since 2003 Poland has been using Training Standards for Information Technology and Computer Science Teacher, where there is a section on teaching computer science in primary school, gymnasia; information technology as a part of general education in high school. It has been indicated in the Standards that in comparison with subject teachers information technology teachers expand computer competences, namely, the basic use of terminology (concepts), devices (means), software (tools) and IT methods as a part of teaching as they know the elements of algorithmics, programming and more sophisticated features of the operating system, user and other programs; the role and using IT in teaching their subject – due to the use of more sophisticated features of a computer system and its software that are required for certain lessons. At the same time, in the Standard there are requirements (profound competency) for computer science teachers, namely, for computer science teachers in primary school, gymnasia and high school as described in Section 4. This competency involves the knowledge needed for conducting computer science lessons that, for example, in lyceums, contains the elements of computer science as an academic science, including the following sections:

1) algorythmics;
2) language and programming techniques;
3) database;
4) multimedia;
5) computer networks [20].

During the late 20th – early 21st centuries, native pedagogues (V. Bykov (2010), N. Balovsiak, M. Holovan (2007), O. Ovcharuk (2004), O. Pometun, M. Rafalska, N. Morze, O. Spirin et al.) have been studying the problems of competency-based approach and the forming of ICT teacher competency. Thus, special attention should be paid to a composite work of Ukrainian researchers under the title «Competency - Based Approach in Modern Education: World Experience and Ukrainian Perspectives» edited by O. Ovcharuk (2004), where they consider competency as an evaluative category that characterizes an individual as the subject of professional activity, their ability to successfully perform tasks within their competency. The

competency, therefore, reflects the functionality of specialists as well as a range of special duties entrusted [7].

O. Pometun suggests that under the term «competency» educators understand specifically structured sets of knowledge, skills and attitudes that are being obtained during learning [7, p. 18]. The researcher stresses that competencies allow dealing with problems specific to certain activities, regardless of context. Analyzing the concept of competency M. Holovan (2007) states that it is «many-valued» and «multi-component». O. Spirin defines ICT competency as the proven ability of an individual, who autonomously and responsibly applies information and communications technologies in practice to meet their own needs and solve socially important, particularly professional tasks in a particular subject area or field of activity [1, p. 46]. T. Tykhonova considers ICT teacher competency as a component of their professional competency and the ability to perform professional tasks in terms of ICT-rich environment [9].

H. Degtiarova (2011) interprets ICT competency as the ability to master relevant knowledge and solve problems in educational and professional activity with the help of a computer.

However, a group of leading scientists headed by V. Bykov (2010) in «Fundamentals of ICT Competencies Standardization in Education System in Ukraine» determined that ICT competency is the result of various human abilities and consists of the following components: abilities and skills: to obtain information from different sources in an understandable form; to work with different information; to critically evaluate information; to use information and communication technologies in professional activity; knowledge: basics of ergonomics and information security; ICT functionality; specific skills in using computer equipment and ICT; individual attitude to the use of ICT for responsible social interaction and behaviour [1].

Analyzing the research portfolio of Ukrainian scholars, O. Ovcharuk concludes, «Ukrainian specialists, like most researchers in the CIS, offer the same names of this concept as well as mainly similar characteristics. However, native researches are still characterized by subjective needs to justify the concept of ICT competency according to one's own objectives and themes. In this way, scholars limit or expand the concept's meaning to the spectrum of researches they conduct» [6, p. 5–6).

Thus, the performed analysis allows concluding that nowadays there is still no common view on how a key competency related to the ICT sector should be named in foreign and Ukrainian pedagogy. Thus, one may come across such concepts as digital literacy (EU), e-competency and ICT competency. However, most scholars suppose that it is not enough for teachers to have only basic ICT skills, as it is important to master new ICTs and use them in the education process. B. Youssef and M. Dahmani suppose that ICT competency is a combination of knowledge, skills and attitudes needed to effectively use information and communication systems, and, in particular, design a website, make presentations, use graphics programs, online libraries information, etc. [11].

A. Hurzhiy and O. Ovcharuk indicate that under this concept one should understand the proven ability to work individually or collectively using tools,

resources, processes and systems that are responsible for accessing and evaluating the information obtained through any media resources and use such information for problem solving, communication, taking informed decisions, creating products and systems, as well as for obtaining new knowledge [3].

Conclusions

So, according to the researches of both foreign and Ukrainian scholars, ICT competencies provide the ability of an individual to navigate in the information space, possess and operate information according to labour market needs. They are associated with qualities of a technically and technologically educated person, prepared for active professional life in today's high-tech information society, that cover the main components of students' information culture based on rational coexistence with technosphere, according to their professional self-determination taking into account their individual abilities.

Rather perspective for further researches in this area we consider the study of foreign experience in training ICT competent teacher.

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Received: February, 2
Accepted: March, 12