DEVELOPMENT OF COMPETENCY-BASED APPROACH TO EDUCATION

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Liudmyla HOLUBNYCHA¹, Tetiana SHCHOKINA², Natalia SOROKA³, & Tetiana BESARAB⁴

¹ D. Sc., PhD, Full Professor, Department of Foreign Languages # 3, Yaroslav Mudryi National Law University, Kharkiv, Ukraine.

□ E-Mail: golubnichaya11@gmail.com

ID http://orcid.org/0000-0002-8252-9893

² Ph.D., Associate Professor, Department of Foreign Languages # 2, Yaroslav Mudryi National Law University, Kharkiv, Ukraine.

□ E-Mail: meja3777@gmail.com

ID https://orcid.org/0000-0002-8894-2216

³ Ph.D., Associate Professor, Department of Foreign Languages # 2, Yaroslav Mudryi National Law University, Kharkiv, Ukraine.

□ E-Mail: sorokanata74@gmail.com

ID https://orcid.org/0000-0002-8652-917X

⁴ Ph.D., Associate Professor, Senior Lecturer of Yaroslav Mudryi National Law University, Kharkiv, Ukraine.

□ E-Mail: besarabtp73@gmail.com

ID https://orcid.org/0000-0002-3667-3886

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ABSTRACT

The paper deals with competency-based education. Both the development of the category “competence” and application of competences in educational sphere were considered. The purpose is to examine the development of competency-based approach to teaching and learning from the standpoint of modern educational paradigm.

The methods of the investigation are analysis and syntheses of the associated researches used to collect and present the findings and draw the conclusion.

The results revealed that competency-based education appeared under the influence of the term “competence”; in its development three main stages may be distinguished: 1) 1960-1970 (introduction of the category “competence” in the theory and practice of language learning); 2) 1970-1990 (extension of the studied phenomenon to the field of management and leadership); 3) since the 1990s to the present (comprehensive consideration and analysis of the stated category; finding the blocks of competencies, the principles of systematization; studying the structure of competencies).

The conclusion is that in modern educational system competency-based approach is one of the central as existence of the system of competences contributes in description of academic and professional profiles, levels and results of higher education at the international level. Moreover, due to the application of the system of competencies, the process of expanding academic and professional recognition and mobility, as well as increasing the comparability and compatibility of diplomas and qualifications has become possible.


INTRODUCTION

The competency-based approach to teaching and learning is one of the central in modern educational paradigm and it is usually considered as a set of general principles for determining the goals of education, selecting content, organizing the educational process and evaluating educational results.

The reasons why this approach has become the key one were determined by the trends of social development: the acceleration of the pace of development of society and the strengthening of the uncertainty factor; changing lifestyles at all levels beginning from global, through state, to individual; introduction of market mechanisms in vocational education; the increasing role of horizontal mobility during working life, the transformation of many professions, the dominance and complication of the tasks of personal growth and development. In this situation, it is important to develop in a person such qualities as mobility, dynamism, constructiveness, professional universalism.

Thus, as a result of studying the labor market and determining the requirements that are formed on it in relation to the employee the ideas of the competency-based approach to teaching
and learning appeared in educational area. Analysis of researches shows topicality of the stated problem in the scientific world. So, most attention of the scientists is paid to applied aspects of the competency-based approach to teaching different subjects both in secondary (Bowden, 2004; Bykovska, 2007; Hurnyak, 2008) and higher schools (Griffith, Lim, 2014; Hafiyak, Kononets, 2019; Kostikova, et al., 2019; Khodan, 2013; Medvedovska, 2011; Rybalko, 2015).

A considerable number of scientific investigations are devoted to theoretical aspects of the approach under study (Boychuk, 2013; Levine, Patrick, 2019; Luhovyi, 2009; Ovsienko, 2017; Sturgis, et al., 2011). There are papers related to the development of certain hard and soft competences (Holubnycha, et al., 2019; Danik, 2016; Lench, et al. 2015; Nestulya, 2018; Pellegrino, Hilton, 2012; Vandergrift, 2002). Some researchers address to historical issue of the phenomenon (Khoruzha, 2012).

However, the problem of competency-based approach to education in the aspect of its development needs to be analyzed comprehensively. Thus, the purpose of the study is to examine the development of competency-based approach to teaching and learning from the standpoint of modern educational paradigm.

**METHODOLOGY**

As the paper is of theoretical nature general theoretical methods were applied to it. They are analysis and synthesis of the associated researches that enabled to collect and present the findings and draw the conclusion as well as narrative method of offering the material.

**RESULTS**

Generalization of research on the problem of the competency-based approach allowed us to distinguish three stages of its development.

The *first stage* (1960-1970) is characterized by the introduction of the category “competence” into the scientific apparatus. Since the 1960s the corresponding term began to indicate some hidden human qualities that, other things being equal (knowledge, diploma, work experience), contribute to professional and life success. At first the term was used to denote the knowledge of the language system, gradually, in contrast to the linguistic competence, the term “communicative competence” appeared which began to be understood as the ability to communicate through language.

The *second stage* (1970-1990) is associated with the meaningful development of the concept of “social competence”. So, the category “competence” began to be applied not only in the theory and practice of language learning but also in assessing the level of professionalism in the field of management and leadership. The new notion of competence has become a management tool; a dictionary of competencies was presented, as well as a practical guide for adapting competency models for various types of activities.

The transformation of competence into a management tool began in the 1970s and is seen as the result of a change in the management paradigm: from a hierarchical, bureaucratic, top-down management system to a democratic, self-organizing one. In the former model of the so-called “scientific management”, the object was precisely measured indicators of labor productivity – the sequence of operations, output, time spent.
The main tools used to be working timing sociometry, rational organization of the workplace. In the new model, named the “model of human relations” or “motivational model”, the object of control is the “subtle” aspects of the inner world of the individual his abilities, motives, desires.

As motivational management is believed to be based on the psychological concept of a motive as an unconscious desire, inaccessible to self-observation McClelland (1973), an American psychologist, proposed a new methodology for selecting personnel, which seemed to him more productive than IQ (“intelligence quotient”).

It consisted in the analysis of tests of thematic apperception, which makes it possible to predict what type of behavioral strategy a person is prone to. The concept of McClelland is based on the idea of three main motives of human activity, which are: the need for achievement, the need for power, the need for participation (affiliation).

At the same time, the psychologist was most interested in the first two motives in two opposite behavioral strategies, namely: avoiding failure and focusing on success. In the work of McClelland “Testing for Competence Rather Than for ‘Intelligence’” (1973), which is considered the starting point of the competency-based approach in management, the term “competence” is determined as an index, a numerical indicator that allows measuring the strength of a motive in a 100-point system as the ratio between the hope for success and the fear of failure.

Starting with McClelland, the competency-based approach is associated with the formalization of things that are difficult to formalize, with the ability to calculate behavioral models predicted using psychological tests.

In the 70-80s of the 20th century in management, there was a real competency boom. The problems of an analysis of the behavioral aspects of various professional tasks, the “fragmentation” of behavioral elements, the compilation of “competence portfolios” on their basis and others were widely discussed in close connection with the traditions of behaviorism.

The Competence Portfolio became a kind of new standard for recruiting, career planning, determining the type and amount of compensation, developing and training the organization's personnel. This became a standard that should be subject to constant correction: through questioning, monitoring, dictionaries of competency elements are refined; they got dozens or even hundreds of components. Competence portfolios were being created for various professions, career growth schemes, assessment programs, and incentive methods.

The quintessence of the above was Raven’s work “Competence in modern society – its identification, development and release” (1984), where the author gave a detailed interpretation of competence and emphasized that “types of competence” are “motivated abilities”, i.e. the whole set of cognitive, affective and volitional components of motivated behavior (Raven, 1984, p. 281).

In this work, Raven listed 37 types of competencies. In various types of identified competencies, the categories of “readiness”, “ability” are most widely represented. Moreover, conducted his research using the Edinburgh Questionnaires the author paid attention to a large number of components that make up competence.

In his opinion, being relatively independent of each other they are more
cognitive or more emotional but can be interchangeable for effective behavior. “The more such components a person involves in the process of achieving goals that are significant for himself, the higher the likelihood that he will achieve these goals” (Raven, 1984, p. 253).

The third stage, which began in the 90s of the last century and continues to the present, is characterized by the allocation of competence as a subject of comprehensive consideration and analysis. Researchers define blocks of competencies in relation to various areas of professional activity, the principles of systematization; study the structure of competencies.

During this period, in the world educational practice competence is considered to be one of the central concepts and a desired and predictable result of education.

McClelland’s research was continued by Spencer (1993). In the book “Competence at Work: Models for Superior Performance” the author presented a fairly broad definition of the notion “competence” like a “basic quality of an individual that has a causal relationship to effective and/or best performance based on criteria in work or in other situations” (Spencer, 1993 p. 9).

By “basic quality” the scientist means that “competence is a very deep and stable part of the human personality and can determine the behavior of a person in a variety of situations and work tasks” (Spencer, 1993, p. 9). Speaking about “causal relationship”, he implies that “the competence predetermines or causes certain behavior and performance”. And it depends on the competence whether that “performance” will be good or bad.

According to the author, the structure of competence is determined through five basic personality traits, such as motives, psychophysiological characteristics (or features), “I”-concept (attitudes, values), knowledge, skill.

If we use the image of an iceberg, then skills and knowledge are on the surface. They are relatively easy to develop, the deep part is motives and characteristics that are more difficult to assess and develop, part of the competence based on the “I”-concept lies somewhere in the middle, and it also undergoing changes. The paper contains semantic shades of the notion of “competence”.

In the field of social psychology and acmeology a number of researchers tried to clarify the content of the notion of “competence”, to determine the list of key competencies and their structural components, as well as the criteria and procedures for assessing their formation and development.

As a result, blocks of competencies were identified in relation to various areas of professional activity, the principles of systematization, and the structure of competencies was determined.

Among the fundamental provisions of psychology, it is distinguished the theoretical basis for the selection of groups of competencies:

− a person is a subject of communication, knowledge, labor;
− a person manifests itself in the system of relations to society, to other people, to oneself, to work;
− human competence has a vector of acmeological development;
− professionalism includes competencies.

As a result of the study, competence is interpreted as some internal, potential, hidden psychological neoplasms. They are...
knowledge, ideas, programs (algorithms) of actions, value systems, which then manifest themselves in human competencies.

Competence is an open system that includes interacting components that are activated (updated) and enriched in activity as real vital problems, which the holder of competence faces, arise. Competence is understood as an integrated characteristic of personality traits, the result of preparing a person to perform activities in certain areas (competences).

There are various options for classifying competencies. Here is one of them:

- competencies related to oneself as a person, as a subject of life activity (competencies of health preservation, value-semantic orientation in the world, integration, citizenship, self-improvement, self-regulation, self-development, personal and subject reflection);

- competencies related to human interaction with other people (social interaction competencies, communication competencies);

- competencies related to human activity, manifested in all its types and forms (cognitive activity competencies, activity competencies, information technology competencies).

It is emphasized that the notion of “competence” includes not only cognitive and operational-technological components, but also motivational, ethical, social and behavioral aspects. Thus, as part of any competence, at least five characteristics (aspects) can be distinguished: motivational, cognitive, behavioral, value-semantic, and emotional-volitional.

If initially the problem of competence was associated with the areas of human professional activity later it penetrated into the educational sphere, since any employee enters professional activity and social reality with some educational baggage that the labor market has ceased to suit. It was necessary to translate the language of professional competencies into the language of educational competencies. So, the task of identifying the so-called basic, key competencies was solved.

One of the first steps in this direction was the UNESCO report “Education: a hidden treasure" on the current quality of education (prepared for UNESCO by the International Commission on Education for the 21st Century). The Commission considered the phenomenon of lifelong learning as based on four pillars:

- “learning to know” implies that the learner constructs his own knowledge on a daily basis by combining internal and external elements;

- “learning to do” focuses on the practical application of what has been learned;

- “learning to live” together actualizes the ability to refuse any discrimination, when everyone has equal opportunities to develop themselves, their families and their communities;

- “learning to be” emphasizes the ability to develop one’s potential, which is necessary for the individual (Delort, 1996).

Further, the Council of Europe identified 5 key competencies, trying to give a general definition of the qualities of human social life:

1. Political and social competencies: the ability to accept responsibility, participate in group decision-making, resolve conflicts non-violently.
2. Competences related to life in a multicultural society: respect for others, acceptance of differences, ability to live with people of other cultures, languages, religions.

3. Competencies related to oral and written communication (importance of knowing more than one language).

4. Competences related to the increasing informatization of society: knowledge of information technologies, understanding of their application, and critical attitude to information.

5. Ability to learn throughout life.

In the context of pedagogical science, the well-known position deserves attention. So, a competence is an alienated, predetermined social requirement (norm) for the student’s educational preparation, which is necessary for his high-quality productive activity in a certain area.

Educational competencies model the student’s activities for his full life in the future. Educational competence is a requirement for educational preparation, expressed as a set of interrelated semantic orientations, knowledge, skills, and experience of the student’s activities necessary to carry out personally and socially significant productive activities in relation to objects of reality.

It is expedient to represent all existing competencies in the form of a three-level hierarchy corresponding to the division of content in education into a general meta-subject (for all subjects), inter-subject (for a cycle of subjects and educational areas), and subject (for each academic subject).

Key competencies represent the highest level in the hierarchy of competencies, they should be possessed by every member of society and they are universal and applicable in different situations. Key competencies have the following characteristic features:

- key competencies are multifunctional (competences are classified as key competencies if mastering them allows a person to solve various problems in everyday, professional or social life, they must be mastered to achieve various important goals and solve various complex problems in various situations);
- key competencies are meta-subject and interdisciplinary, they are applicable in various situations, not only at school, but also at work, in the family, in the political sphere, etc.;
- key competencies require significant intellectual development: abstract thinking, self-reflection, determination of one’s own position, self-assessment, critical thinking, etc.;
- key competencies are multidimensional, that is, they include various mental processes and intellectual skills (analytical, critical, communicative, etc.), “know-how”, as well as common sense;
- all competencies require different types of action: act autonomously and reflexively; use various tools interactively; to enter socially heterogeneous groups and function in them.

It is on the basis of these characteristics that it is necessary to form key competencies at all stages of human learning, within all subject areas.

Key competencies for general education are well known. They are the following: value-semantic, general cultural, educational and cognitive, informational, communicative, social and labor, personal self-improvement competencies.
The activity and fruitfulness of research on the problem of interest has increased significantly in the context of the Bologna process since the late 1990s.

The result of the ten-year development was summed up in the “Declaration on the European Higher Education Area”. Ministers of Education of the countries participating in the Bologna Process announced the creation of the European Higher Education Area, as envisaged in the 1999 Bologna Declaration.

The Bologna Declaration set out the vision for an attractive and internationally competitive European Higher Education Area by 2010, in which higher education institutions can perform diverse tasks in a knowledge society and in which students benefiting from mobility in accordance with fair recognition of their qualifications, will be able to choose the most appropriate educational trajectory.

This process was based on a competency-based approach. Already in the Berlin Communique (2003), it was recognized that it was necessary to develop a framework of comparable and compatible qualifications for national higher education systems, which would allow qualifications to be described in terms of workload, level, learning outcomes, competencies and profiles to meet diverse personal and academic needs, as well as labor market demands.

Within the framework of the Bologna process, European universities are guided by a competency-based approach, which is seen as a kind of tool for strengthening the social dialogue of higher education with the world of work, a means of deepening their cooperation and restoring mutual trust in new conditions.

According to European project TUNING, competences are a combination of characteristics (related to knowledge and its application, to positions, skills and responsibilities) that describe the level or degree to which a certain person is able to realize these competencies.

Competences are interpreted as a single (coordinated) language for describing academic and professional profiles and levels of higher education. It is sometimes said that the language of competencies is the most adequate for describing the results of education.

The orientation of standards, curricula (educational programs) to the results of education makes qualifications comparable and transparent, which cannot be said about the content of education that differs dramatically not only between countries but also universities, even when preparing for the same specialty (subject area).

So far, a more modern methodological tool for the “Bologna” update in curricula and programs of European universities has not been found yet. The results of education, expressed in the language of competencies, according to experts, are the way to expand academic and professional recognition and mobility, to increase the comparability and compatibility of diplomas and qualifications.

Moreover, the implementation of the competency-based approach can act as an additional factor in maintaining a single educational, vocational qualification and cultural and value space.

The list of competencies is relatively easy to compile, but it is difficult to justify it methodologically. In different educational systems, there are several classifications of competencies in the field of vocational education.

What is more, it became obvious that competencies can be divided into two groups: universal (key, supra-professional) and subject-specialized (professional). In the face of accelerating change and...
increasing uncertainty in today’s labor markets, shared competencies are becoming increasingly important.

DISCUSSION

Scientific investigation of manuscripts devoted to development of competency-based approach in education has shown that the stated issue attracted attention of researchers. So, Khoruzha (2007) making a retrospective look at the development of the idea, focused more on the introduction of pedagogical innovations into the educational process of school but not on general process of development as it is presented in our research.

Being in alignment with the well-known findings about three stages of competency-based approach development, we added the characteristics of every stage and tried to present the development from the standpoint of modern educational paradigm.

The authors also relatively agree with Fediv et al. (2020), who, centering on the study of historical experience, determination of the stages of formation and development of methods of the competency-based approach to education for the development of personal qualities of an individual for the preparation of a modern specialist, distinguished the same three stages as in our investigation. But the researchers revealed partly other content of those stages (Chernenko, 2021).

CONCLUSIONS

Thus, education based on competencies (competency-based education) appeared under the influence of the term “competence” proposed in relation to the theory of language. At the same time, competency-based education has three main stages in its development.

They are:

1) 1960-1970 characterized by the introduction of the category “competence” into the scientific apparatus. The category “competence” is applied in the theory and practice of language learning;

2) 1970-1990 associated with the meaningful development of the concept of “social competence”. So, the application of the studied phenomenon was extended to assessing the level of professionalism in the field of management and leadership;

3) the 1990s to the present characterized by comprehensive consideration and analysis of the stated category. Researchers have defined blocks of competencies in relation to various areas of professional activity, the principles of systematization; are continuing to study the structure of competencies.

Since today competences can be considered as a single international language for labeling academic and professional profiles, levels and results of higher education. Due to the application of the system of competencies, the process of expanding academic and professional recognition and mobility, as well as increasing the comparability and compatibility of diplomas and qualifications has become possible.

CONFLICT OF INTERESTS

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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REFERENCES


АНТОАЦІЯ / ABSTRACT [in Ukrainian]:

РОЗВИТОК КОМПЕТЕНТНІСНОГО ПІДХОДУ ДО НАВЧАННЯ

Стаття присвячена компетентнісній освіті. Розглянуто як розвиток категорії «компетентність», так і застосування компетентностей в освітній сфері. Мета – дослідити розвиток компетентнісного підходу до викладання та навчання з позицій сучасної освітньої парадигми.

Методами дослідження є аналіз і синтез пов’язаних досліджень, які використовуються для збору та представлення результатів і висновків.

Результати показали, що компетентнісна освіта виникла під впливом терміна «компетентність»; у її розвитку можна виділити три основні етапи: 1) 1960-1970 рр. (введення категорії «компетенція» в теорію і практику вивчення мови); 2) 1970-1990 рр. (поширення досліджуваного явища на сферу управління та лідерства); 3) з 1990-х рр. по теперішній час (комплексний розгляд та аналіз зазначеної категорії; виявлення блоків компетентностей, принципів систематизації; вивчення структури компетентностей).

Висновок: у сучасній освітній системі компетентнісний підхід є одним із центральних, оскільки наявність системи компетенцій сприяє опису академічних і професійних профілів, рівнів і результатів вищої освіти на міжнародному рівні. Більше того, завдяки застосуванню системи компетенцій процес розширення академічного та професійного визнання та мобільності, а також підвищення порівнянності та сумісності дипломів і кваліфікацій стало можливим.

КЛЮЧОВІ СЛОВА: компетентність, компетентнісна освіта, розвиток підходу, освіта, методичний підхід.

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