

On Competency Building Approach in Education Activities of Vocational-Technical Schools Students

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Abstract

The article reviews general characteristics of competency building approach in education; it reviews several stages of its development. Key competencies which young Europeans should have are showed. General characteristics of education program, oriented at competency building model of education, are outlined. Four competency models are stated, each of which leads to different approaches to planning, organization and provision of high vocational education, particularly to evaluation and recognition of student's achievements and evaluation of his/her job placement possibilities at the job market.

Keywords: competence, competency, competency building approach, education contents, competitive advantages of the higher education institution.

Introduction

Redirection of evaluation of education results is occurring in the modern context from ideas of “qualification”, “accomplishment” towards the ideas of “competence”, “competency” of the students, which leads to a shift towards competency building approach in education. General notion of such an approach lies within an idea of preparing new generation of work force, which is able to adapt to dynamic production, easily shift from one kind of labor to another, which have capabilities required for a broad spectrum of professions [1]. Competency building approach is proposed as a way of renovation of education contents. Ideology of education contents interpretation formed from “the result” is laid within its basis.

Key principle of the competency building approach towards education is orientation towards results, significant for the world of work. As information volumes grow, allocation of material which is subject to be learned becomes more and more difficult; therefore, most researches think that the “knowledge part” of the education loses its fundamentality in a sense that it is no more a basis for orientation of a person in a broad spectrum of life and professional problems, it does not create a basis for activity under the conditions of speeding up of pace of life, its unpredictability growth, freedom growth, difficulty of choice and responsibility for each of them [2]. Professional education nowadays must provide quick and effective professional self-development, professional development, professional retraining, and professionalization. Competency oriented professional education is aimed at mastering an activity, which provides preparedness to solve problems and tasks on the basis of knowledge, professional and life experience, values, other internal and external resources.

Modern job market sets up requirements towards workers' competency more often than towards specific knowledge. This is a more distinctive feature of those professional activity areas, current business practice of which requires constant changes tracking in external and internal environment. In the context of dynamic, inconstant, unstable external environment, formation of competitive advantages which allow a higher education institution to function in long run requires strategic management by means of implementation of well-timed changes inside the organization in accordance to the requirements of the surroundings as well as in external environment. It is the conditions of the external environment that are the basis for higher education institution management in the context of market-driven economy. They determine strategic goals and tendencies of development of the higher education institution which is able to provide high level of competitive performance.

In this regard N. Sosnin denotes that the changes of external environment (based on the requirements of the modern society, economy, personality etc.) lead to expression of results of

education in terms of competencies, encouraging formation of new direction of education process, which corresponds to the new conditions and prospects for the development of competitive and dynamic economy [3]. Internal changes lay within the determination of results of education in the form of target-oriented, basic function of the higher education system meaning a switch towards the education model with the emphasis shifting from contents (what is being taught) towards the result (which competencies would the student master, what would he know and be prepared to do). Such an approach towards organization of education process, aimed at students' achievement of a set result of education, makes teachers and students equal subjects of education process with their own goals and responsibilities, but connected by a sole education goal.

With competency building approach, first place takes student's ability to cope with numerous professional problems rather than his general information level. Hence not only a transfer of knowledge is maintained, but also capability of seeing the problem, form the task, find its solution is developed, even with lack of knowledge and practical experience. S. Merkulova emphasizes that "a student must realize problem definition, evaluate new experience, control the efficiency of his own actions individually, i.e. exercise his competency which is represented by a complex synthesis of cognitive, practical and personal experience. Competency is not synonymous to "completion of a course", it is rather connected with several additional prerequisites of specialist's development: his creative potential, emotional-volitional, motivational characteristics." [4]

Competency building approach is an adaptive education strategy but its basic principle is not the idea of preparation of a student for active correlation with the environment, but rather the idea of exclusion from the education contents of everything which is not directly related to his future profession. This idea is materialized by way of provision of education contents in form of a set of competencies, required for fulfillment of professional functions [5].

First question arising during the review of the competency building approach is related to interpretation of correlation of notions "competency" and "competence". First of all it is worthwhile to say that two variants of determining of correlation of these notions exist: they are either synonymous, or they can be differentiated.

From the first point of view, the competency category is a result of new economy and new approach to human resources, which arose from the need of adaptation of a person to conditions which change too often. A person, who has the competency, has knowledge, skills and expertise required for work in a specific profession but he is also capable of exercising self-dependence and flexibility during solving of the professional problems and he is able to maintain cooperation in the professional area. Competency is first and foremost oriented at development of individual principles of thinking, analytic self-consciousness, independence and responsibility for decision making; competency is set within the standards by means of determining of the criteria of activity, are of application and required knowledge.

European Training Foundation (ETF) glossary notes, that the term "competence" is used in the same senses as competency and it is used mainly in descriptive view. Within the scope of such an approach, competency is defined as area of relations, existing between knowledge and action within the human practice [6], and competency building approach suggests critical enhancement of practical orientation of education [7].

Amongst the representatives of the second point of view, one of the first people to suggest the meaning of competency was N.Khomsky, who noted that "there is a fundamental difference between competency (knowledge of his language of the speaker – listener) and usage (actual usage of language in specific situations). Only in ideal case the usage is the actual reflection of competency." [8] In this meaning, "usage" is the actual exercise of competency as hidden and potential for practical activity. At the same time, in R. Wiles work "Motivation reevaluation: competency concept" the category of competency is inclusively filled with actual personal aspects, including motivation [9].

The notion of competency has appeared in theory of human psychological development across theory of activity and behavioral sciences, it is used in situations when a person has a necessity of solving problems at minimal expenses of his own resources at one unit of useful result. The difficulty of implementation of this meaning lies within the fact that it describes human potential, which manifests itself depending on the situation and describes the tools of "the understanding and the action at the same time, which allows to perceive new cultural, social, economic and political realia." [10]

Therefore, in the 60-ies of 20th century, both the notions themselves and the difference between the notions “competency” and “competence” have been outlined, with the latter interpreted as based on knowledge, intellectually and individually predetermined social-professional human life and activities. The analysis of works on the competency and competence problem allows us to separate five stages of establishment of competency building approach.

The notion of competency appears in 19th century, when labor organization begins to be based, first and foremost, on learning of professional activities and acquisition of qualification acclaimed within a certain sphere and within the society. In 1911 W. Taylor develops principles of scientific labor organization which suggests basic programs of professional education for short-term qualification training for workers. Gradually the programs of professional education become complex and differentiate into different areas of activity. In 1930 a notion of “qualification” has been implemented for the first time in the USA for the purpose of systematization of the sector of employment. It is the appearance of the term “qualification” that leads to the development of a scientific notion – competency several decades later.

The second stage of development of competency building approach belongs to the period of 1960-1970 and is characterized by implementation of category “competency” into the scholarly apparatus by creation of prerequisites for differentiation of the notions “competency” and “competence”.

Third stage (1970-1990) is different in usage of categories competency / competence in theory and practice of language study and management. J. Raven’s work “Competency in modern society” gives an extensive explanation of competency as phenomenon consisting of large amount of components, most of which are relatively independent from each other, with some components belonging more to the cognitive area, while the others belong to the emotional but can substitute each other as contents of effective behavior.” That said, the types of competency make for different motivated human capabilities [11] and different types of activities have their own separate types of competency.

Fourth stage of development of competency building approach is characterized by an appearance and wide spreading of the scientific category of competency in domestic researches. In the middle of 1990-ies, works of A.K. Markova have been released, where within the general context of psychology of labor the professional competency becomes subject of a specialized comprehensive examination [12]. L.M. Mitina in her turn showed that except expertise, knowledge and skills (the EKS complex) the pedagogical competency also includes methods and techniques of realization of EKS in activities, communication, development and self-development of an individual [13]. Therefore, two components of pedagogical competency have been outlined: activity-based and communicative.

At the currently active stage of development of competency building approach, the meaning of competency and competence are defined as the main result of education. IN a report of international education committee for 21st century “Education: Hidden treasure” J. Delor has defined four global competencies, which form the basis for education: learn to perceive; learn to do; learn to live together; learn to live [14].

In 1990-ies a question of differentiation of the types of definition of key competencies for different stages of education arises. For evaluation of quantitative contents of competencies it should be noted, that according to the Job market terms glossary, the development of standards of education programs and education plans of ETF, four models (methods) of determining competencies have been outlined: based on characteristics of an individual; based on the fulfillment of the tasks for the activities; based on the fulfillment of production activities; based on activities results management [15].

The report of V. Hutmacher, prepared for a symposium on the program of Council of Europe, notes that different approaches to determining of main and key competencies exist. There might be only two of them – an ability to write and think or seven – learning, research, thinking, communication, cooperation, interoperation, an ability to do real work, to finish work, to adapt to oneself, to accept oneself. V. Hutmacher provides the definition of five key competencies approved by the Council of Europe, which all young Europeans should have:

- political and social competencies;
- competencies, connected with life in a multicultural society;
- competencies, related to possession of verbal and written communication;
- competencies, connected with an increase of society informatization;
- ability to learn throughout the life a part of the basis of lifelong learning.

Key competencies in this understanding give general definition of adequate exercise of social life of a person in modern society. They are all social, reflecting peculiarities of interaction, communication and IT usage.

B. Oscarson puts forward a list of basic skills, which might be interpreted as competencies – “personal, interpersonal characteristics, capabilities, skills and knowledge, which are expressed in different forms and varied situations of work in a team, planning, problem solving, creativity, leadership, entrepreneurial behavior, organizational vision and communication skills and they can be grouped in the following manner:

- general skills, for example, literacy, calculation;
- true-life skills, for example, self-management, relations with other people;
- key skills, for example, communication, problem solving;
- social and civilian skills, for example, social activity, values;
- skills required for employment, for example, information processing;
- entrepreneurial skills, for example, business capabilities researching;
- management skills, for example, consulting, analytical thinking;
- broad skills, for example, analysis, planning and control.

At the basis of comparison of the classifications existing nowadays, the developers of “The strategy of modernization of contents of basic education” have proposed general basics of differentiation of competencies according to the areas of human activity:

- competency in an area of individual cognitive activity, based on learning of methods of acquisition of knowledge from different sources of information;
- competency in an area of civil-social activity (realization of citizen, voter, consumer roles);
- competency in an area of social-labor activity (ability to analyze job market situation, evaluate own professional capabilities, feel confident with the standards and ethics of interrelation, self-organization skills);
- competency in household area (including aspects of own health, family life and others).

Within the “Concept of modernization of education for the period of 2010” the changes of the contents of basic education are presented as “a new system of universal knowledge, capabilities, skills, as well as experience of individual activity and individual responsibility of the students, i.e. modern key competencies.” The works of Russian didactics scientist A. Khutorskoi, who developed an algorithm and technique of construction of key competencies applicable to different educational levels, are dedicated to fundamental conceptual elaboration of the problem of key competencies as a component of person-oriented paradigm of education.

In the course of TUNING program work, with more than 100 universities from 16 countries, which signed the Bologna Declaration, participating in it, several groups of competencies have been separated:

1. Instrumental competencies, which include cognitive capabilities, capability to understand and use ideas and observations; methodological capabilities, ability to understand and control the environment, organize time, develop strategies of education, decision making and problem resolution; technological capabilities, capabilities connected with the usage of technology, computer skills and skills of information management; linguistic capabilities, communicative competencies.

2. Interpersonal competencies, i.e. individual capabilities, connected with ability to express feelings and relations, critical re-evaluation and auto-criticism ability, as well as social skills connected with processes of social interaction and collaboration, ability to work in groups, take social and ethical obligations.

3. System competencies, i.e. a combination of understanding, attitude and knowledge, which allows to perceive in what way the parts of a whole correlate with each other and evaluate place of each of the components in a system, ability to plan changes for the purpose of improving the system and constructing new systems.

I.A. Zimniaya comes to conclusion on a need of further resolution of a fairly complicated task of differentiation of key competencies and volumes of components, included into them, in connection with which she suggests differentiation of competencies into three main groups:

- competencies, belonging to the person himself as an individual, subject of activity, communication;
- competencies, belonging to social interaction of a person and social sphere;
- competencies, belonging to the activity of a person in all of its types and forms.

Civic competencies are distinguished in the first group: knowledge and adherence to the rights and obligations of a citizen; freedom and responsibility; self-confidence, self-dignity; civil duties; knowledge and pride in one's country symbols (coat of arms, flag and anthem).

Competencies of social cooperation are distinguished in the second group: with the society, community, group, family, friends, partners: conflicts and their resolution, cooperation; tolerance, respect and acceptance of alternative (race, nationality, religion, status, role, sex); social mobility.

Competencies of cognitive activity (tasks, problem situations, out-of-the-box solutions), activity competencies (game, work, planning, designing, modeling), information technologies competencies are distinguished in the third group.

The specifics of competency building approach are that the conditions of birth of knowledge are traced, rather than the ready knowledge is learned. With such an approach the education activity, which acquires researching or practical-transformation characteristics, on its own becomes a subject of learning.

Compared to professional competency, having standard sphere of application, formed samples of activity results and requirements towards their quality, key competence is exercised as a certain level of functional literacy. These two types of competency are united by experience, which is not limited to a set of knowledge and skills, integrity and specificity of situation perception, readiness to receive a new product.

The competency building approach towards education, which is formed on this basis, is reviews also in the context of Bologna process. As stressed by N.A. Seleznyova, "the usage of such an approach could encourage overcoming traditional cognitive orientations of higher education, lead to a new vision of the contents of education itself, its methods and techniques".

Four models of competencies are widespread in European higher education institutions practice currently, each of which leads to different approaches in planning, organization and provision of higher professional education and, particularly, to evaluation and recognition of student's achievements and evaluation of his employment capabilities at the job market.

Competency model, based on the personality parameters (CM₁), lays at the basis of the approaches, which attach particular importance to the development of moral, spiritual and personal qualities of a person. The used education programs/education plans and models of evaluation are aimed at selection and encouragement of those, who possess academic abilities. This model in many ways influences traditional higher education and traditional methods of managerial personnel training.

The competency model of task resolution (CM₂) pays particular attention towards acquisition of standard (algorithm-based) procedures and operations by a person (by means of studying of the labor process, method of working and others). Tasks and processes analysis lays at the basis of the education program, as well as difficulties evaluation which a person may encounter during the learning process of tasks, which are required to be resolved at a work place.

The competency model for production activity (CM₃) underlines the importance of achieving results and is highly spread approach to competency in jobs and professions where the activity is measured in results, for example, sales, project management and production. The education program based on evaluation of motivation and strategies, which are used for achievement of goals.

According to the model of activity management (CM₄), the activity is a function of social context of a person, who has a certain order of requirements and expectations relative to a person at a work place which may be mutually coordinated. The education programs are based on the analysis and coordination of important expectations which people should meet during the fulfillment of their employment duties.

General characteristics of the education program aimed at competency building model of education rather than the subject-knowledge model are as follows:

- description of characteristics and expected level of competency in a certain area;
- determining of required and sufficient set of training tasks-situations;
- process technique;
- algorithms and heuristic schemes, which organize activity of the students on overcoming of the difficult situations;
- techniques of accompaniment, consultation and support of the students at the process of training by the program.

That said, the key competencies, being a reason of unavailability of economic rents to the competitors, define the competitive advantages not only of a graduate, but also of the highest education institution. Materialization of the idea of “key competencies of a higher education institution on the basis of key competencies of a graduate” is tangible embodiment of understanding of competition in the education sphere as “competition”.

Under the conditions where the circle of potential customers of vocational-technical schools' services is limited by the boundaries of a territory and when several one-field vocational-technical schools function within its area, a single possible way of competition amongst them is suggestion of a service, which takes into account all of the individual requirements of applicants to the fullest: this task lies not so much in offering of a certain training program on some kind of a profession, as in making this program as close as possible to its user, i.e. put the education service on a level of individual requirements, having the highest level of personification. That is why the competitive advantages are maintained only in case the vocational-technical school positions itself at a fairly certain segment, characteristics of which are set by individual preferences of the education services consumers. In this case the figures of how much did the vocational-technical school offer its services oriented at a steady differential characteristic of demand on the education market come first and foremost amongst the figures of competitive advantages of a vocational-technical school instead of the quantity of students, studying there. This said, if a vocational-technical school is able to form its education service in such a way that it would take into account individual characteristics of a student, then the goal of determining of the key competencies of a vocational-technical school on the basis of key competency of its graduate would be reached.

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