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**FORMATION OF KEY COMPETENCIES: HEURISTIC**  
**CONVERSATION**

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*Abstract*

Changes in social and economic spheres, growth of high-technology productions set a task for educational system to train the specialists with effective performance and constant self-development. In the modern context the orientation for proactive education and formation of competencies are necessary. Special attention should be paid to the development of key competencies, which are the base of the other skills. At present, the relevant objective is the development of pedagogic technologies directed at realizing this goal. Regarding this issue, the key role belongs to the developmental teaching. The analysis of heuristic conversation potential for forming key competencies on the basis of competency-based and technologic approaches is the objective of this research. Experience in problem solution, development of communication skills, formation of critical thinking, and ability to structure information with the help of this method are justified in the article. The obtained results can be used for further studying the forms, methods and modes of instruction, which promote the development of competencies. Also, it can be useful in teaching practice when setting a goal and choosing teaching methods.

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**Keywords:** Heuristic conversation, problem-based learning, competency-based approach, key competencies, the Council of Europe.



## **1. Introduction**

### **1.1. Urgency of an issue**

The increase of high-technology productions proportion in the modern society, change of technologies, growing tempo of changes in all spheres of life set a task for education service (including higher education) to train a specialist of a new type, who possesses such features as self-instruction and constant professional development. One of the crucial tasks is to shape critical, project, operational and innovative thinking. Communication and teamwork skills, interaction with experts are important for effective performance in post-industrial epoch. Possession of information technologies and orientation skills in a growing stream of information are of great importance. What is more, a young professional should know how to set a goal and build up endeavors upon reaching these goals.

In relation to social and economic changes, taking place in the society, high school is to be directed firstly at proactive education with regard to the necessities of tomorrow, secondly – at the formation of competencies among graduates, which can help them to adjust in a rapidly changing world. Besides professional ones, man of today needs cultural, communicative, personal, managing competencies as well. These are abilities to make a decision, plan your activities, self-organization feature, readiness to resolve an issue in full measure for example. This list can be enlarged. However, any activity has basic, key competencies in its foundation. And special attention must be paid to their formation.

Taking into account the importance of this issue, its resolution is being discussed on different levels very often. For example, procedural-technological classification of key competencies was submitted during the symposium of the Council of Europe in 1996. Groups of competencies, connected to the search of information, study of new material, thinking, adapting, activity, cooperation were outlined.

If we analyze this document, the direction to the training of individual behavior, formation of systematic approach ability, development of the creative initiative can be noticed. Such competencies like “ability to resolve problems”, “ability to find new solutions”, “ability to think critically”, “ability to stand fast”, ability to organize interconnections of your knowledge, “organization of past and present events interconnection”, “ability to find benefits from experience” unpack this document.

The solution to such an issue (problem of forming the creative skills) requires an innovative approach from a teacher. Personal features and capabilities of a teacher are playing a significant role. At the same time, the development problems of pedagogic technologies, forms, methods and modes of teaching, directed at systematization of theoretical knowledge, formation of work methods among students, development of personal and business qualities, motivational adjustment, fulfillment the potential and finally - formation of competencies is a topical issue.

### **1.2. Literature review**

Taking into consideration the emergence of a new educational goal and the search for ways it can be achieved by scientific and pedagogical society, multiple publications are devoted to problems of education quality improvements and formation of competencies during the education process.

For example, the issues on students’ increasing level of motivation are described by Bogdanov (2013), pedagogical conditions when stimulating educational activity can be found in the work by Kameneva and Bondarenko (2018). McCardle, Webster, Haffey, and Hadwin’s (2017) paper includes the

research on students' goal-setting process, its influence on the work results. The article by Milovanova, Kharitonova, Fomina, and Dayker (2017) describes the formedness of skills and habits of independent work, students' readiness to it. The work by Andreeva and Rashodova (2015) is devoted to the international practices analysis of critical thinking development, the necessity of its creative reinterpretation is stated. The potential of "reversed" courses for developing the ability to think critically is estimated by Styers, Van Zandt, and Hayden (2018). Isakova (2017) offers to think about the issues of communicative competency formation, as well as intercultural communication.

Some publications are devoted to certain methods and forms of instruction, that promote competency formation among students. For example, in Kalaian, Kasim, and Nims' (2018) study it is detected that innovative forms of studying have a meaningful result in small groups, the improvement of online-studying is considered by Kelly, Coates and Naylor (2016), according to the research (Lee et al., 2018) it is specified, that taking into consideration the thinking mistakes improves the quality of education. Pokhomchikova (2018) notes that the development of professional competencies is possible with the help of specially organized cycle of educational activities. Vainshtein, Shershneva, and Safonov (2016) suggest using CDIO ideology for the usage of such activities. Developmental teaching methods are playing the key role in the system update. In some works the formation of research competency is considered. Latypov, Evsecova, and Sajniev (2015) highlight that regular application of heuristic methods during education process promotes the formation of students' creative thinking. Idijatov (2015) believes that the conditions of problem-based learning application results are not developed in full measure in didactics. The work of Katashev (2018) is dedicated to the pedagogical heritage of Andreev, including descriptions of highlighted features and levels of forming the research skills among students.

At the same time, the analysis of literature shows that research, directed at studying methods and modes of instruction in the context of competencies formation, is insufficient.

## **2. Problem Statement**

For successful socialization the graduates should possess the set of qualities and skills which can help them to adapt to the realities of the changing modern world. However, the significant part of the utilized teaching methods is typical for the industrial society, it's directed to the acquisition of knowledge, that rapidly become outdated. It negatively impacts both the youth social progress and the overall development of the society.

At the same time, the emphasis on the competencies development allows to form an identity, able to self-development in professional and social spheres.

In other words, the shift of accent in teacher's activity can allow to optimize the academic process with taking into account the realia of the present day.

## **3. Research Questions**

The allotted task requires to clear up which forms, methods and ways of education promote the formation of one or another key, universal-cultural and professional competencies.

#### **4. Purpose of the Study**

The analysis of heuristic conversation usage in educational activities and revealing its potential to form key competencies among students is the research objective.

#### **5. Research Methods**

Competency-based and technological approaches compose the basis of the research. Competency-based approach is manifested by defining the developing and shaping the education goals that can be achieved with the help of heuristic conversation. Under the frame of such approach we can define which key competencies are being formed during the application process of this method. Technologic approach allows generalizing, systematizing, and comprehending the accumulated pedagogical experience in a theoretical way.

The methods of analysis, synthesis, abstraction, induction, interpretation were used from the number of general scientific theoretic methods. The results of research, pedagogical experience, conducted with the aim of finding more effective training methods, comparing performance of diverse forms, ways and modes of teaching compose the empirical base of the research.

#### **6. Findings**

##### **Development of finding-solution skill**

Taking into account the transfer to the knowledge-driven economy in human society, the tendency of increase in number of working places, with the competency “ability to resolve problems” can be traced, and the proportion of workplaces with routine labor is decreasing. The stated competency is connected to the ability to define and analyze the new obstacles and find ways of effective overcoming the difficulties as well. It is based on such features as leadership, decisiveness, outcome orientation.

Heuristic conversation possesses high potential for developing such competency during the process of education. The teacher, who knows this method, can push students to independent solution of the issue with the help of specially selected questions. That means students are not only acquiring knowledge but also getting experience in problem solution. Heuristic methods must be used on a regular basis to form neural connections that promote the search of the most effective solutions, among students.

The solution is sometimes connected to an ability to see unconventional ways and modes. That’s why the development of the considered ability is directly connected to the formation of the “ability to find new solutions”.

A lot of different vital or professional tasks have several variants of solutions. In most cases ordinary approach is quite obvious. However, modern society needs challenging ideas. The ability to find new ways can be and should be studied.

If problem methods are used during training, heuristic conversation, to be more exact, only teacher knows the final goal, the finding that students should achieve through the education process. For students, new information, acquired by resolving a problematic issue is subjectively new.

Thus, when a teacher is using this method of knowledge transfer, students get useful experience, that can be shaped during participation in research activity, which is included into the structure of most competencies.

### **Development of communicative skills**

In the modern world any information can be received by telecommunication means. That's why interpersonal communication among people becomes crucial. Developed social skills can help to carry on a dialogue, negotiate, defend your point of view, and take into account someone else's opinion.

The propensity to effective communication is being shaped during professional studies, especially when a teacher is using innovative methods. Heuristic conversation is not an exception. When a teacher is asking a problem question, it's hardly possible to get an absolute answer from a student group. Usually students start disputing, which require new clarification questions by a teacher. Communicative skills, ability to dispute and "stand fast" are being formed during accidentally born dispute.

Such experience is especially important in modern epoch, when communication is losing interpersonal character and proceeds to virtual world.

### **Formation of critical thinking**

Constantly growing volume of information and virtualization of youngsters' perception require work organization upon formation of critical thinking, the ability to extract information from the information traffic of credible information. It's extremely important to conduct information analysis, draw own conclusions. To develop critical thinking a man should possess an ability to see a process or an event from different perspectives, know how to analyze and interpret information, and estimate its significance, sources quality.

Students don't get information cut and dried but try to leap to a conclusion during the processes of thinking and discussing, acquire experience of conclusions validity estimates during educational process. Also, they get used to independent search of problem resolutions, estimate opinions of other people, and form their own attitude to it. In other words, they learn how to "think critically".

The ability to think critically, shaped during student years, can help to make mature, considered opinions.

### **Structuring skills development**

Acquired knowledge can be applied practically only when it is interconnected and structured.

It's hard to overestimate the complexity of heuristic conversation when generalizing and systematizing knowledge, studying its possible usage in adjacent areas and resolving practical issues. Thus, using heuristic conversation promotes students to "organize interconnection of their knowledge and arrange it".

In future self-organization skills will help to systematize methodological, theoretic, special knowledge, experience, got from professional activity – it will positively influence the future competency of a young specialist.

According to the analysis of modern scientific literature, the questions of forming key competencies are covered basically in publications devoted to school education. The main task of high school (in the opinion of various authors) is to develop culture-universal and professional competencies.

However, the formation of key competencies cannot be considered as completed until the moment of finishing the secondary school. Moreover, these competencies can be changed so far as new experience acquired during a life span. That's why not only school but also university education should add to the development of key competencies.

## 7. Conclusion

According to the results of the research, the application of heuristic conversation promotes formation of various competencies, stated during the European Council's symposium.

Students get experience from problem solutions and ability to look for new solutions because a teacher is leading them to the resolving of problems with the help of a series of questions. During discussion, emerged in debating, students develop their communicative skills. Because knowledge is acquired by searching the solutions and discussing, the critical thinking is being shaped among students at that time. Heuristic conversation, applied during the knowledge generalization, develop students' abilities to structure information.

The results of the following article can be used for further research in different scientific spheres. First of all, the search for the most effective methods of students' thinking organization is necessary for the formation of competencies stated in the article. Secondly, the role of heuristic conversation in the development of other key competencies (e.g., ability to cooperate, to adjust) is still open. Finally, the interconnection of key, culture-universal, professional competencies formation during the process of developmental teaching is not revealed.

The results of the research can be applied in practice, for example, when planning the developmental goals for academic studies and choosing teaching methods for achieving such goals.

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