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Research Competence Of Pupils As The Component Of Content Of Education

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Abstract

The aim of the study is to investigate the research competence of pupils of primary classes as the component of the content of the updated education in Kazakhstan via comparative qualitative research methods. As a result, there are educational areas with high concentration of meta-subject content of education. In conclusion, one of the most important components of the content of the updated Kazakhstan education and means of implementing the chosen content in modern conditions is the research competence of pupils of primary classes.

Keywords: Primary Education, Competence, Research, Pupils.

Competencia de los alumnos de las clases de primaria en Kazajstán

Resumen

El objetivo del estudio es investigar la competencia de investigación de los alumnos de las clases de primaria como el componente del contenido de la educación actualizada en Kazajstán a través de métodos de investigación cualitativa comparativa. Como resultado, hay áreas educativas con alta concentración de contenido de meta-materia de la educación. En conclusión, uno de los componentes más importantes del contenido de la educación actualizada de Kazajstán y los medios para implementar el contenido elegido en las condiciones modernas es la competencia de investigación de los alumnos de las clases de primaria.

Palabras clave: Educación Primaria, Competencia, Investigación, Alumnos.

1. THE PROBLEM STATEMENT

The relevance of the topic is caused by the fact that the quality of Kazakhstan education lags behind other countries considerably that is confirmed with independent objective estimates of the famous experts of such researches as Programme for International Student Assessment (PISA). The public expenditures on education in Kazakhstan remain low in comparison with other countries that, probably, complicate the ability of the country to provide effective training, and they should be revised, especially considering aspiration of Kazakhstan to be among the countries of the world with high-

income level by 2030. Despite updating of the Kazakhstan content of education where the dominating value has the development of the competencies, promoting to the realization of the concept life-long learning, the research results demonstrate low manifestation of creative skills among pupils of primary classes, about the low level of functional literacy, research activity.

In this regard, the problem of formation of research competencies among pupils of primary classes as a component of the content of the updated education in Kazakhstan does not raise doubts. It is followed from the analysis of scientific sources that works of Nurgaliyeva et al. (2011) and other scientists were devoted to the development of thinking and research abilities. The competency-based approach, its psychological and pedagogical provisions, general scientific categories competence and competency, their essence were considered in the works of Nurgaliyeva (2017) and other scientists. The analysis and possibilities of use of foreign and domestic experience of the organization of research among pupils were reflected in the works of Repet (2013), researchers agree with the opinion that the formation of research competence is carried out in the conditions of systemic and continuity of educational process, technological effectiveness (Pustovit, 2013), and predictability of the training result.

The works of Dementieva (2013) have the big value for the understanding of the formation of research abilities; the scientists note interrelation of the processes of training and development, the role of methods of mental activity in the formation of logical thinking, the dependence of formation of research abilities on the way of training. Various approaches to the creation of the scheme of the research process are presented in the works of Faritov (2016) and other

scientists. Pustovit (2013) and many others studied the questions on the organization of research work of pupils. The analysis of research and educational practice shows that there are contradictions between:

- The necessity of the updated content of the Kazakhstan education in scientific and methodical substantiation of the process of forming the research competencies among pupils of the primary school and its insufficient readiness;

- The practice of research activity in the conditions of the updated content of education and its inefficiency in the development of the research competencies among pupils of primary classes.

These contradictions actualized the necessity of the research and predetermined the choice of the work theme. The research objective is theoretical substantiation of the content of research competencies as a component of the content of the updated education (Tayebiniya & Saeidiankhorasgani, 2018).

2. METHODOLOGY

Method of the system analysis; analysis and generalization of scientific literature, comparison and confrontation.

3. THE RESEARCH RESULTS AND DISCUSSION

The processes of updating education in the education system in the majority of the developed countries began in the late 80th of the last century. Updating, in general, finished in the middle of the 90th. It should be considered the purposes and tasks which were designated in the State Program of Education Development in the Republic of Kazakhstan:

- Updating of content and structure of education;
- Improvement of educational and methodical and scientific providing of the educational process;
- Integration of education, science and production;
- Strengthening of ecological training of the students;
- Introduction of new pedagogical, information technologies;
- Raising the social status of pedagogical professions, etc.

Achievement of the final generalized goals, the most important priorities of the new educational policy of the Republic of Kazakhstan depends on the solution of each above-stated point, namely:

- Improvement of quality of training and education of pupils;
- Compliance of the education system with strategic plans of social and economic development of the country (Indah & Subanji, 2018).

Kazakhstan only begins the transition to the updated program. In the 2016-2017 academic year, the first classes of all schools passed to it. September 1, 2017, the changes were affected the pupils of the second, fifth and seventh classes. Besides, in the 2017-2018 academic year, the updated training programs are tested in the 3rd classes at 30 pilot schools. Stage-by-stage updating of education will take 4 years. In the 2018-2019 academic year, the changes will be affected the 3, 6, 8 and 10 classes, in 2019-2020 - 4, 9, 11 classes. So far many of

parents and pupils are not guided well in this important process. Let us consider the main changes which will affect all Kazakhstan schoolchildren in the next years. The updated training program, which was introduced in the first classes in a 2016-2017 academic year, was based on the experience of training in Nazarbayev's intellectual schools. In the coming academic year, the content of programs of the second, fifth and seventh classes at all schools and also the third classes of pilot schools will be updated the same way. In the 2017-2018 academic year, the same subjects and disciplines remained in the program without exception. Any innovations are not provided in curricula. At the same time, the list of the additional literature, allowed for use at schools, is expanded.

It is being introduced the new criterion system of estimation with the updated content of education in classes. The marks will be given according to the accurate, in advance defined criteria. These methods provide a much better and objective assessment of the knowledge and skills of pupils. Besides, the system develops at schoolchildren ability to adequately control and estimate the work, to identify the reasons for the appeared difficulties and to eliminate them independently. The 1st September will be the starting point of the teaching in English of the separate subjects on natural-science cycle at 799 schools. It will allow to schoolchildren to consolidate a foreign language in practice. At this year, about 160 thousand pupils, meanwhile in the pilot mode, will be a study in English the physics, biology, geography, chemistry, and other subjects. Our Ministry is actively engaged in training of the acting subject-teachers for phased transition on trilingual education. The teachers must be mastered the

English language at a high level, and together with it, they have to master the methodology of teaching of own subject in English. At this moment, over 1 thousand subject-teachers had finished the language courses and had given the corresponding certificates.

Five-day school-week. Classes, which will pass to the updated system, will study five days a week. Transition to a five-day week should not worsen quality of education by no means: each subject has the same training hours as at six days. The volume of the training material remains the same. It should be noted that only free time of schoolchildren is increased at the transition to five-day educational week. Distinctive features of the updated training programs are:

- The principle of helicity, that is, gradual knowledge-building and abilities from the theme to theme, from the class to class;
- Focusing on the training purposes based on formation of cogitative skills of pupils from elementary (knowledge, understanding, application) to high levels (the analysis, synthesis, assessment);
- Existence of prevailing themes that will allow to organize most effectively intersubject communications, forming the basis for full introduction of the especially important at the present time program of trilingualism.

Introduction of amendments in the educational program of primary classes is caused by the necessity to develop the skills of reading, writing, speaking, listening, and also solving of various problems of pupils, conducting the scientific research and analysis of information materials. Pupils have to show understanding of each subject of primary class and apply this knowledge in different situations further. Advantages of updating of the educational program of primary classes are that the qualities and skills of XXI centuries are

taken into account, which pupils should have (critical thinking, development of functional literacy, research skills, and skills in use information and communication technologies). In the updated training program, the training purposes, which are achieved at this lesson, have the specific code (the reference to the training program) and are differentiated (for all, majority and some). Also the language purposes, intersubjective communications are determined and recommendations to use of information and communication technologies are given (Momeni et al., 2018).

Advantages of the spiral training program are: information is repeated and remembered every time when the pupil repeats the subject; the spiral educational program allows to do the logical transition from the simplified ideas to complex; pupils can apply knowledge in the subsequent sections of training or educational programs. The training programs, created on the spiral model of training, assume reconsideration of knowledge and ideas in process of transition of pupils from class to class. The training purposes are determined on the united directions and under the directions for retracing of the training progress. For this reason, the competency-based approach, the transition to the new developing, constructive model of education, providing cognitive activity and independence of thinking at schoolchildren replace the traditional reproductive style of training. Thus, the changes, which are carried out both in structure and in the content of education of the Republic of Kazakhstan, have the huge value for primary education designed to develop key competencies in which one of the central places occupies the problem of development of research competencies at schoolchildren. A large

number of researchers concerned this problem; however, the concept research competence is treated ambiguously. There should be considered and analyzed the several definitions of this term.

The issues of realization of research competencies were revealed by, Dementieva (2013) and others. The analysis of scientific literature revealed that in researches of Repet (2013), Dementieva (2013) there were studied the-level structure and content of project-research and informational-research competence of pupils, the models and recommendations on their formation and diagnostics are developed and approved. Khutorskoy (2012), Petunin (2012) attribute the research competence to meta-subject competence for obtaining productive results (at first educational, and then all others). The research competence is considered as acquired in the process of research and cognitive activity of pupils which allows to master and receive the system of new knowledge, to expand its volume, to find own place in the world. The research competence contains the abilities of pupils to get and master new knowledge and also to apply basic knowledge, abilities, skills and ways of acting in non-standard situations for them, showing at the same time independence. The research competence includes: the research abilities of pupils consisting of universal educational actions: personal, and we attribute to them - self-development, self-control, self-checking and self-assessment; regulatory, and we attribute to them - all components which are connected with the organization of research activity of pupils; cognitive, and we can attribute to them - modeling, the choice by pupils of the most effective ways of the solution of tasks, work with information; communicative, and we can include to them.

- The rules of communication, realization of speech activity both in oral and in written forms.

We agree with opinion Lyadius about the main conditions of effective interaction of the pupil and teacher, which we attribute to the formation of research competence: first, participants of the pedagogical process join in research activity since its beginning; secondly, the pupils and teacher plan together the system of intermediate research, creative and reproductive tasks; thirdly, cooperation is determined by own contribution to research activity; fourthly, actions between the teacher and pupils are divided and are supported by self-regulation and self-motivation. Studying the process of formation of research competencies also assumes determination of the principles, the activity content, methods and training means, development of the models and recommendations for managing this process. The content of research competencies of schoolchildren, according to the author's opinion, is sufficiently investigated and even classified. Vorobyov marks out three blocks in research competence of the schoolchild: 1) knowledge; 2) abilities; 3) experience of research activity. Each of these blocks is filled with concrete competencies.

The first block is included knowledge: terminology and laws of fundamentals of sciences; terms of the scientific mechanism of research (object, subject, hypothesis, problem, methods, importance, etc.); the main directions of researches (at the level of training); stages of research activity; ethics of the young scientist. In the second block, the author, characterizing abilities of the schoolchild for research competence, designated the necessary skills and abilities: to plan and put forward the problem; to determine the object and subject; to

formulate the theme, the purpose and tasks; to choose sources for theoretical research; to put forward the ideas, to plan ways and variants of the problem solving; to find the reasons of the phenomena and processes; to analyze, compare, generalize, draw conclusions; to correlate the results with goal and the planned tasks. The third block includes the competencies necessary for the schoolchild to implement the research activity in the form of concrete experience: the teamwork experience and independent work; work with various sources of knowledge; possession of information and communicative competences; choice of the research methods; ability to work with the simplest devices; organization of sociological poll, questioning, etc.; fixation and processing are of the research results; registrations of results; determination of the subjective and objective importance of the received results.

Proceeding from the aforesaid, it is possible to consider that the research competence of pupils of primary classes is the ability and readiness independently to receive and master new knowledge, to put forward ideas and hypotheses for the solution of the planned problems, ability to work with various sources of knowledge, to observe, to experiment and conduct experiments, to find and choose the most optimum solutions of problems. Taking into account the principle of availability, such educational and research activity has to be adapted to the level of cognitive opportunities of schoolchildren.

4. CONCLUSION

The research results and given above theoretical analysis of the scientific literature confirm the following provisions:

- Despite the important scientific and practical value of the conducted researches, the problem of formation of research competencies at pupils of primary classes in the training process demands further studying.

- Taking into account the diversity of components, included in research competence, their formation is possible by means of a large number of pedagogical technologies. Formation of research competence assumes also the development of critical thinking which can be developed due to interactive involving of schoolchildren in the educational process, in which there are developed the next abilities: to put forward new questions; to reasonably argue own point of view; to think over the consequences of the made solutions, etc.

- It is necessary to recognize that there are educational areas with high concentration of meta-subject content of education. This statement allows presenting the main task of this educational area as the help to the growing person, to format him technologies of impact on himself and on objects of the outside world from the position of his personality. One of the most important components of the content of the updated Kazakhstan education and means of implementing the chosen content in modern conditions is the research competence of pupils of primary classes.

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