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The Project And Research Activity Of The Modern Teenagers: Problems And Involvement

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Abstract

The article aims to investigate the relevance of the involvement of modern teenagers in project and research activity. The research is conducted by means of the complex of theoretical and practical methods: the analysis of sources on the studied problem, comparison and generalization, empirical - observation, polling method (questioning). In result, carrying out the project, teenagers experience the most various emotions and comprehend various stages and actions, directed to obtaining of the concrete result. In conclusion, cooperation as the leading form of project and research activity contributes to the

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creation of favorable psychological climate in group and school, in general.

Keywords: Project and Research Activity, Position, Teenagers.

El Proyecto Y La Actividad Investigadora De Los Adolescentes Modernos: Problemas E Implicación

Resumen

El artículo pretende investigar la relevancia de la participación de los adolescentes modernos en las actividades de investigación y proyectos. La investigación se realiza mediante el complejo de métodos teóricos y prácticos: el análisis de las fuentes sobre el problema estudiado, la comparación y la generalización, la observación empírica, el método de sondeo (cuestionamiento). Como resultado, al llevar a cabo el proyecto, los adolescentes experimentan las más diversas emociones y comprenden varias etapas y acciones, dirigidas a obtener el resultado concreto. En conclusión, la cooperación como forma principal de actividad de proyecto e investigación contribuye a la creación de un clima psicológico favorable en el grupo y la escuela, en general.

Palabras clave: Actividad de proyecto e investigación, Posición, Adolescentes.

1. INTRODUCTION

In modern conditions of the rapid development of science and technology, global informatization of society the conditions for successful integration of science and education created. In this regard, the requirements for pupils of secondary school are raised considerably. Having the powerful volume of theoretical knowledge, the modern schoolchild has to be able to apply them in various life situations, to predict and to think critically, show social and creative

activity, research interest in scientific problems, initiative and creativity, independence. Much attention is paid to the improvement of the secondary education system from the Head of the State and Government. So, in the State program of education development for 2011-2020, it is noted the need of modernization of secondary education system according to modern requirements of the development of the Kazakhstan society and conditions of integration into world educational space, where one of the conditions acts the familiarizing of pupils with project and research activity.

Modern education has to contribute an increase in the level of the general culture of personality at pupils, the formation of an adequate scientific picture of the world, which provides the success of the integration of schoolchildren into modern society, by means of research and project activity. During project and research activity the pupils have the opportunity of independent acquisition of knowledge at the solution of various practical tasks. In our opinion, this method is especially relevant in the organization of educational process of modern teenagers. Project and research activity allows increasing the educational motivation level of teenagers, as it is directed to the practical use of their subject knowledge, the actualization of various cognitive abilities, activation of individual and collective creativity, the solution of questions of professional self-determination at pupils of teenage age. All these qualities strengthen the role of pupils as subjects of cognitive activity during which they build individual educational trajectories and choose educational actions (García, 2019).

In any subject area, where the project and research activity is carried out, the teenagers solve various research problems under the

leadership of the teacher. The teacher, in this case, builds his pedagogical work on the basis of the technology of project training taking into account the principles of scientific research. This technology allows pupils to understand and to solve independently various vital difficulties. During project and research activity the pupils conduct the individual research, directed to receiving of the educational product which allows explaining the scientific and vital phenomena. The style of pedagogical management by these actions is based on interaction and cooperation of schoolchildren with the teacher and with each other (Shakhmarova, 2016). It is known that the project, in the broadest understanding, represents the planned, conceived activity. An essential distinctive feature of project activity is a collaboration of the pupils among themselves, studying with the teacher, a peculiar exchange of opinions and the reflexive relation to the subject of their activity.

The foregoing allows understanding the project as the form of the organization of joint activity of the teacher and pupils, directed to the solution of the specific problem, significant for pupils and presented in the form of the certain final product. The research project – is the type of educational project with saving all characteristics of project activity at pupils with the inclusion of components of scientific research. Project and research activity, according to requirements of the state educational standard, is directed to the formation at pupils of the bases of the culture of research and project activity. As Leontovich & Savichev noted (Leontovich & Savvichev, 2012), the main idea of realization of the project and research activity in modern education consists in the development of cognitive activity at pupil to the world

around and to himself. It is also important to use the potential of scientific research for the development of the positive relation to practical project and research activities of schoolchildren at the step of the general education. Gromova considers Gromova (2006) that personal result of project and research activity is the research position, i.e. the special manifestation of the personality, expressing the active, initiative attitude of the pupil towards knowledge and the way of its receiving, it is the position of the person, improving himself.

The teenage age is favorable for the development of the research position as during the research the teenager studies not only the outside world, but also the internal. The search of new knowledge, the truth, characteristic of any research, as own result has not only to change of an objective picture of the world, but changes, first of all, in the personality of the pupil; changing himself, the schoolchild begins to notice changes in the world around (Tsyrenova & Golavskaya, 2011). The organization of project and research activity has the following structure: intention, planning, preparation and carrying out of the research, registration and check of results. Carrying out the cognitive, reflexive, developing, bringing up functions, the project and research activity is directed to expansion and deepening of subject knowledge, ability to put forward and prove a hypothesis, to carry out the experiment, ability to represent results of project activity and the experiment (Komarova, 2015; Ulandari et al., 2019).

The analysis of theoretical sources Komarova (2015) & Leontovich (2017) allows to mark out the structural and functional models of project and research activity. The structural model or otherwise model of subject research activity of pupils determine the

sequence of investigation phases which is begun with a statement of the problem; work with theoretical sources on the chosen subject follows further. The following stages are the formulation of a hypothesis, selection of methods for the research and collecting necessary materials; interpretation of the received results and conclusions on the basis of the received results. It is obvious that the leading role in the organization of project and research activity of teenagers belongs to the educator (teacher), having research competence. In other words, the efficiency of the project and research activity of teenagers depends on the quality of training of teachers to the organization of this activity (GHAZANFARPOUR et al, 2013).

Today, in the conditions of modernization of the Kazakhstan education, in line with its transition to 12 years' training and the updated contents, the problem of training of student of pedagogical higher education institutions for the involvement of teenagers in project and research activity is very relevant. Today the teacher is faced by the task to organize training such way that teenagers would be wanted to acquire knowledge themselves. So, at first, it is necessary to create interest for teenagers, then to create the situation in which pupils get new knowledge independently, and at last to give them the opportunity to show visually the received results. The analysis of educational practice showed the importance and need of formation at students of pedagogical higher education institutions – future teachers, readiness for the involvement of modern teenagers in project and research activity. In science, this problem also requires more specific elaboration. In psychological and pedagogical foreign, Russian and Kazakhstan science there are conducted researches which reflect

various directions of vocational training of future specialists in the higher education institution (Meryance et al., 2018).

So, the questions of the humanization and humanitarization of education are shown in works of Rodzhers, etc.; various features of training of pedagogical personnel for secondary professional and higher education are marked out in researches of (Khmel, 2001), (Taubayeva, 2000), etc.; the concepts of the competency-based and oriented education are proved in Slastenin's works, etc.; the innovative technologies and forms of education are opened in Klarin's works, (Lyaudis, 1981), etc. Now it is increased the number of works of the Russian and Kazakhstan scientists in which various aspects of the formation of research activity and culture at future teachers are revealed (Kulmagambetova, 2001). Research culture is considered as:

a component of the basic culture of the personality as its integrative quality which is characterized by unity of knowledge of the complete picture of the world, abilities, skills of scientific knowledge, the valuable attitude towards its results and providing its self-determination and creative self-development (Makotrova, 2002: 20).

The research activity of pupils of various age, being the object of studying a large number of scientists, is considered in various viewpoints: a way of development of the personality of the pupil (Bayzulayeva, 2010); as the type of cognitive activity, directed to obtaining new knowledge; as innovative educational technology. A number of scientific works open the questions of transition of educational and creative activity to scientific creativity; features of the organization and content of research activity of teenagers; development of research abilities of teenagers in out-of-class work;

creation of educational and research projects. The analysis of the works, devoted to research activity of teenagers demonstrates that the problem of involvement of teenagers in project and research activity is studied not completely. Practically, there are no works on this subject matter in the Kazakhstan pedagogical science. The advanced pedagogical experience of schools and universities is not sufficiently generalized; scientific and methodical instruments of formation of readiness at the future teacher for the involvement of teenagers to project and research activity are poorly developed (Elmes, 2018).

The aforesaid allows to note that there is not practically considered in the studied works by us, at best, it is only indicated, the problem of psychological and pedagogical training of the students of pedagogical higher education institutions for the involvement of teenagers in project and research activity. It is the basis of formulation of the research problem: what are the theoretical bases and psychological and pedagogical conditions of student training of pedagogical higher education institutions for the involvement of teenagers in project and research activity? The logic of our research assumed disclosure of features of project and research activity of modern teenagers of the Republic of Kazakhstan. It was allowed us to concretize the main directions of student training of pedagogical higher education institutions for the involvement of teenagers in project and research activity and to construct its ideal model.

2. METHODOLOGY

For the purpose of determination of project and research activity of modern teenagers and its features, we did express-poll of pupils of the 8th classes of Almaty schools of the Republic of Kazakhstan. The survey was conducted by means of the questionnaire developed by us which included 10 questions. Questions of the questionnaire are grouped in the following directions: the content of project and research activity, the form of its performance, a role of the teacher and the main difficulties during the performance of the project and research activity. 273 teenagers, at the age of 14-15 years participated in the poll. Results of the survey revealed that most teenagers, during the determination of the content of project and research activity, showed a partial understanding of its essence. So, 45% of the interviewed teenagers connected project and research activity with the implementation of projects, writing of abstracts, reports, preparation of the presentations, portfolio, in-depth studying of the certain theme on academic subjects. 17% of pupils found it difficult to give concrete answers. 38% of respondents correlated the project and research activity to a scientific, creative search of new knowledge, the leading role in which belongs to the teacher. Such understanding at modern Kazakhstan teenagers was formed most likely because now the project technology gained great popularity in Kazakhstan. It is considered one of the productive forms of work during which the pupils acquire knowledge in the process of performance of practical tasks – projects.

Most teenagers – 78%, at the performance of the project and research activity, gave preference to collective and group forms of work. Only 22% of respondents considered individual work as the most productive form of performance of project and research activity.

This is due to the fact that at teenage age, the leading form of activity is communication with peers, according to periodization of mental development of the Russian scientists. In other words, the direction of mental development at teenage age is set by the system of relationship with people around, especially with peers. It is known that at teenage age the motivation for learning is significantly reduced. It is very important during training to carry out the connection of the studied material with real practice, with the concrete facts from life. It will allow enjoying the independent performance of tasks and will promote self-organization and self-development. Therefore 29% of the interviewed teenagers specified that the projects are the most effective form of project and research activity, 26% considered participation in competitions and conferences as the main form of the studied activity, and 38% of respondents marked out the experiment, independent performance of creative tasks as the leading form of project and research activity.

At determination of role of the teacher in performance of project and research activity, there are more than a half of teenagers – 57% pointed to the estimating role of the teacher, 35% of respondents noted the importance of the teacher as partner and mentor, 8% of respondents see in the teacher of the main corrector of their activity. All teenagers noted that the role of the teacher in the performance of the project and research activity is very important. The work efficiency depends on erudition and literacy, creativity and emotionality of the teacher, on his ability to interact and organize the interaction of pupils among themselves (communicative abilities). It is much easier and more pleasant to work with the initiative and keen teacher who simply

and clear explains information. Difficulties in project and research activity arise almost at all pupils and it is made 95%. From them, difficulties at the choice of the theme are experienced by 42% of pupils, and 53% of respondents meet difficulties directly during the performance of project and research activity. In particular, it is difficult for pupils to search and analyze information, to formulate the purpose, problem and hypothesis. Many teenagers did not understand the sense of scientific character in the performance of project and research activity. Practically, all interviewed teenagers – 95% considered, as the main difficulty and an obstacle to the performance of project and research activity, congestion in training and lack of free time because of the visit of the organizations on additional education (sports sections, study groups, tutors and so forth).

Thus, the held express-poll was allowed to reveal the features and the leading characteristics of the project and research activity of modern teenagers. So, more than 62% of the interviewed teenagers have no clear idea of the essence of the project and research activity. More than 30% of the interviewed pupils connect project activity with the research, scientific search where the important role is carried out by the teacher. Nearly 80% of the pupils, participating in the survey, consider that the most effective form for implementation of the project – is collective or group. It allows distributing reasonably functions between performers, taking into account their individual and personal, cognitive and other psychological abilities. Most teenagers specified that the lack of free time and workload are important factors which interfere them with involvement in project activity. It should be noted that all teenagers pointed to the importance of the role of the teacher in

the organization and implementation of the project activity of pupils. Thus, the conducted survey was allowed to mark out key features of the project and research activity of modern teenagers. During such activity, teenagers gain experience in scientific research, there are occurred a judgment and generalization of the gained knowledge which contributes to the full development of their personality. The search of new knowledge, the truth, which is characteristic of any research, as the result has not only to change of the objective picture of the world, but changes, first of all, in the personality of the pupil; changing himself, the schoolchild begins to notice changes in the world around.

3. RESULTS

Now the project and research activity is considered one of the most productive educational technologies. Such technologies develop at pupils the important ability, especially relevant for life in modern society – the ability to work and make decisions in the conditions of uncertainty and novelty. Slobodchikov attaches great importance to the research activity of pupils for their self-knowledge (Goncharova, 2013; JalaliNezhad & Jenaabadi, 2014). In this regard, we understand under project and research activity of teenagers – the educational technology which is directed to the decision by teenagers of educational, research, creative tasks during cooperation with the teacher, directed to realization of the scientific method of knowledge and self-disclosure of its participants. An important result of this activity is the product

which reflects the personal research position of its participants. In other words, the result of project and research activity reflects the manifestation of the personality, expressing the active, initiative relation of the teenager to the way of knowledge.

The analysis of works of scientists-educators, psychologists and also results of the conducted survey allowed to reveal the main components in the structure of the personality of teenagers which exerts an impact on their involvement into project and research activity. First, there are occurred the essential changes in the motivational sphere. Carrying out this or that project, the teenager very clearly understands what was served as the reason for his participation in the project. It can be cognitive motives – internal and external motives – social. Depending on the prevailing motive, there will be depending on the nature of performance and quality of all projects. Secondly, the project and research activity contributes to the development of the intellectual sphere of teenagers. During the implementation of the project, they learn to plan, to formulate the hypothesis, to notice important information in the literature, to generalize and draw conclusions. Thirdly, there are occurred the high-quality changes in the subject and practical sphere of the teenager. Teenagers develop various skills and abilities, solving, during the implementation of the project various research and creative tasks.

Fourthly, the project and research activity contributes to the development of strong-willed qualities, self-control and self-checking of teenagers. It is shown in accurate planning and formulation of the project tasks, the aspiration to meet the set deadline, the ability to cope with the appeared difficulties. At last, fifthly, essential changes happen

in the emotional and reflexive sphere. Carrying out the project, teenagers experience the most various emotions and comprehend various stages and actions, directed to obtaining of the concrete result. We marked out the main areas of work with teenagers, activating their involvement into project and research activity on the basis of own practical experience and the carried-out theoretical analysis of problems on the involvement of modern teenagers in project and research activity. The following:

- Considering age psychological features of teenage age, the work on the involvement of teenagers in project and research activity has to contribute their self-disclosure, self-knowledge. During the implementation of projects, teenagers have to understand more deeply own specific features, abilities and potential. It will allow them not only to solve specific cognitive research objectives, but will contribute to understanding own unique originality, promoting full formation and acceptance of their personality, identity;

- The group or collective work acts as the most productive form of the organization of activities for the involvement of teenagers in project and research activity. Correctly organized group work assumes the accurate distribution of functions between members of the group, concrete formulation of the tasks, solved at the implementation of the project, mutual respect and taking into account the specific features of everyone. It is important that the teacher provided to teenagers independence and he has to consider their wishes at the distribution of functions and the role of each participant of the research group. For example, it will be contributed use of the elements of self-diagnostics of pupils at lessons of self-knowledge or implementation of the

research projects, directed to the knowledge of other people and own identity;

- The work on the involvement of teenagers in project and research activity has to have system character. In this regard, it is important to use the lesson and after-hour activities for the implementation of scientific projects. So, all subjects of the educational process (the teacher, pupils and parents) have to be involved in this process.

4. CONCLUSIONS

Thus, the project and research activity is modern effective educational technology. She will allow the directing activity of schoolchildren to the course of the intellectual and creative search, to acquaint them with ways of scientific knowledge. Cooperation as the leading form of project and research activity contributes to the creation of a favorable psychological climate in group and school, in general. Relationships between the teacher and pupils, and also pupils with each other during project and research activity are characterized by maturity, mutual respect, the healthy competition and productive partnership. The result of the project-research activity of teenagers is the product which reflects their personal and research position. The feature of project and research activity of teenagers is that during its performance there is occurred self-knowledge, self-disclosure of their personality.

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