Project Method as a Means of Developing the Research Activity of a Student

R.Kh.Dzhurayev

Academician, doctor of pedagogical sciences.
Head of the Department "Management Education", Uzbek Research Institute of Pedagogical Sciences named after T.N. Kari Niyazi

The article presents the author's approach to the research activities of younger students, considers teaching them the skills and abilities of research search. The teacher's work on various types of projects and the general structure of research work are presented. Theoretical positions, typical tasks and professional tasks solved by bachelors in specially modeled situations of teacher's professional activity related to the organization of design and research work of schoolchildren are described.

Keywords: primary school age, zone of proximal development, independence, research activity, project method.

In an era when the individual is in the first place both in the social and educational space, it is necessary to create favorable conditions for its implementation. It is assumed that the educational process of the teacher should be aimed at achieving a level of education that would be sufficient for an independent creative solution of worldview problems of a theoretical or applied nature. The achievement of this goal is associated with the organization of the educational activity of the younger student, which has a research orientation.

Early school age is an important period in a child's life. For 4 years, children learn a large amount of educational material, which contains the foundations of science, art, morality, law and other developed forms of social consciousness. During this period, the child learns special psychophysical and mental actions that serve different types of educational activities. The period of study in elementary school is favorable and significant for the identification and development of the creative potential of the individual. A child at this age is curious, he wants to know, explore, touch everything. He is interested in everything.

The teacher needs to develop the creative activity inherent in each child, to educate him with the necessary qualities for this, to create pedagogical conditions that will contribute to this process. The most favorable condition for the development of cognitive activity is the use of the project method. It forms in students the ability to independently obtain new knowledge, collect the necessary information, put forward hypotheses, draw conclusions and conclusions.

According to E. S. Polat [1], the method of projects, as a way to achieve a didactic goal, through a detailed development of a problem (technology), which should end with a very real, tangible practical result, designed in one way or another, is a set of techniques, actions of students in their specific sequence to achieve the set task - solving a problem that is personally significant for students and designed in the form of a certain final product. It is important that the work being done is interesting for the child himself and relevant to society, that is, socially significant.

This method is not fundamentally new in pedagogical practice, but still it is referred to the pedagogical technologies of the 21st

century. It arose in the second half of the 19th century in agricultural schools in the United States and is reflected in the works of American educators John Dewey, W. H. Kilpatrick, E. Collins and others. Russian teachers became interested in the project method at the beginning of the 20th century. S. T. Shatsky in 1905 organized a group of employees who tried to use project methods in teaching practice. Among them were V. N. Shulgin, M. V. Krupenina, B. V. Ignatiev. In Russia, the project method was used in schools on the personal orders of N. K. Krupskaya. During these years, the method of projects was also called the method of problems. Training was proposed to be built on the basis of the student's expedient activity, his personal interest was taken into account. The problems were taken from real life. They were meaningful to the student. To solve them, it was necessary to apply previously acquired knowledge or acquire new ones. The role of the teacher in the educational process is changing: he ceases to be the only source of knowledge, but only guides children to find the necessary information and gain experience. Working on the initial problem of the project, students improve existing knowledge and acquire new ones, extract information from various fields and transfer it to their own life experience. The measure of the success of project work is not the mark set by the teacher, but real life. The mark only fixes the actual state of affairs [2].

The main ideas of this system are as follows: the child performs with great enthusiasm only those activities that he has chosen independently; activity goes beyond the scope of the subject; relies on the hobbies of children; true learning is never one-sided, side information is also important.

The purpose of the project method is to develop the ability of younger students to work with information, teaching independent thinking, and the ability to work in a team.

It is important for adults to know that in order to learn new things, children watch adults for a long time, imitate them, and only then begin to reproduce everything on their own. The main thing that adults should understand is that the child needs communication and interaction. Activities should be built on the cooperation of an adult and a child. An adult not only provides guidance on the actions of the student, he provides metered assistance that will support interest and push for further actions. Everything that a child does today together with an adult, tomorrow he will do it himself. From the zone of proximal development, his skills move into the actual zone. It is known [4] that the concept of the "Zone of Proximal Development" was introduced by L. S. Vygotsky, who considered it the most important factor in the development of the child himself. Consider the application of this concept on the example of writing design research papers by younger students.

The zone of proximal development is a conceptual space that a child is already ready to master with someone's help. The level of development achieved by a child in the process of his interaction with an adult is realized by a developing personality in the course of joint activity with an adult, but is not manifested within the framework of individual activity. This concept was introduced into the psychological lexicon by L. S. Vygotsky, on the one hand, in order to emphasize the fundamental feature of personality development in the early stages of ontogenesis, when the child learns and appropriates the accumulated social experience, primarily through partner activity interaction with an adult, and on the other hand, in order to qualitatively separate the actual level of development of the child, which is manifested by him in individual activity, and the more high level of development, which is realized by a developing personality, but only within the framework of joint activity with an adult, acting as "the area of immature, but maturing processes" [3 p. 400]. L. S. Vygotsky emphasized that education can be activating the development of children only if it is adequate for a given child in form and content.

Consider the types of projects (according to E. S. Polat). They are usually distinguished by the nature of the dominant activity in the project:

• research projects;

- information projects;
- practice-oriented projects;
- creative projects;
- game projects.

As a primary school teacher, the author of the article is working on each type of project. For example, in the lessons on the subject "The world around us", the guys prepare information projects, they are small and aimed at collecting information about an object, phenomenon, familiarizing the project participants with this information and analyzing it and summarizing the facts. Work is carried out in tandem with a neighbor.

Creative projects. The guys made wall newspapers "My first holidays", "Our summer", "Our mothers", baby books about proverbs and sayings, seasons .. At first we did them together, our parents actively helped us. In the classroom, we have self-management. The guys are divided into groups, every quarter they change. A report on the work done is presented in the form of a project. It includes scenarios of events held, results of competitions. The work is carried out in collaboration with the school librarian.

Brochures about healthy lifestyle. Topics are offered to the children by the paramedic of the educational institution. She also gives the guys primary information. Together with the physical education teacher, a set of exercises is developed to maintain posture and preserve vision, which the children must carry out with classmates. Of course, first-graders cannot do anything on their own. Parents, older brothers and sisters actively help them. The main role at this stage is assigned to the teacher, it is he who interests the children, motivates, shows the existing project work done with the children of the previous graduation.

The teacher's task is to give the right direction to the student's creative thinking, to stimulate creative search by creating appropriate situations and conditions, to give impetus to systematic research, analysis, and the search for new, one's own ways to solve a particular problem. Correctly formulated goals and objectives contribute to the development of creative thinking. Interest from project to project increases. From the zone of proximal development, their activity moves into the actual zone of development. What is initially available to the child under the guidance of adults then becomes his own property (skills, abilities). The children learn to work independently, find the necessary information from a huge stream, group it correctly, highlighting the most important, useful, and interesting. The teacher is gradually given the role of an accomplice in the dialogue, capable of improvisation, able to quickly respond to possible versions; a friend who can be trusted even with a dubious hypothesis, and the course of reasoning is as interesting and new as it is interesting and new for students.

Let us dwell separately on the next type of projects - research. They have a clear, well-thought-out structure, which practically coincides with the structure of a real scientific research. In terms of content, our works are mono-subject or inter-subject, but there are also over-subject ones. It is known that what the child discovers himself is remembered for a long time.

Undoubtedly, parents provide great support to children in research activities. Together with the children, they think about the topic, look for additional material, conduct research, and formulate questions for the survey. A productive "pedagogical triangle" (teacher - student - parent) is being created. It arises from the moment when the child enters an educational institution. Achievements in the upbringing and development of children depend on how the relationship between teachers and students develops. We spend more time together, discuss, provide an opportunity for children to independently search for answers to various questions of interest. Thus, the educational horizons of students are expanding, and persistent cognitive interest is increasing.

Over the years of work in project activities, a methodology for writing and designing research projects has been developed. The work is carried out according to the following structure.

I. Introduction.

1. Subject. (What do you want to study.)
2. Relevance. (Why is this interesting to

you? How can it be interesting and useful to others?)

3. Hypothesis of work. (Guess. Why might this be so...)

4. The purpose of the work. (What will be the result of the study.)

5. Tasks of work. (What needs to be done by studying the problem.)

II. Main part.

1. Study the available data on the problem (literature, Internet, etc.).

2. Conduct an observation, experience or experiment.

III. Conclusion.

Draw conclusions based on the results of the experiment and observations.

List of sources and literature.

When preparing a research work, a student fills in a special table. Writes in it: what you need to think about yourself, what to ask; what information to learn from a computer, TV; which specialist in which field to ask; what to read in a book, reference literature; what observations, experiments and experiments to conduct.

Further, having correctly completed the work, the guys are preparing to present it to interested listeners, for this you need to choose the most important and interesting in the work, prepare visual materials.

Students defend their work first in front of classmates, then go to the conference. They get a lot of experience from this participation and achieve high results. From year to year, not only the number of participants is growing, but also the effectiveness of the presented works. The eyes are burning not only in the youngest researcher, but also in the listeners to whom he speaks. The desire to continue, to go further is a good confirmation that we are on the right track. The child's actions become independent. He is not afraid to think, learn, make mistakes, rejoice in success.

The main goal of organizing the project activities of students is to develop the cognitive interests of students, the ability to independently construct their knowledge and navigate in the information space, to develop critical thinking. The main thing is that students understand what knowledge acquired on their own can be useful for [6]. It is important that in the course of the work, children have an interest. They begin to reason, think, express their opinion, evaluate their work. The nature of evaluating one's own activity activates the cognitive activity of students in the zone of proximal development. At each stage of work, certain goals are jointly set; upon completion of work on this stage, the child summarizes the result of the work done and evaluates his actions. But even when the work is finished, the children have a desire to continue it, to learn new information, not to dwell on the knowledge gained. Many actions of a younger student eventually move into an actual zone of development.

In the design and implementation of the content of modern pedagogical education, in the process of its resolution, there is a contradiction between the abstract subject of educational and cognitive activity of students (texts, sign systems, action programs) and the real subject of assimilated professional activity, where knowledge is not given in its pure form, but is presented through educational processes and situations. The design of the subject-activity content of the teacher's professional and personal development should, if possible, model the given structure of his pedagogical activity. In the words of T. V. Savinova, “it is important for a future teacher to master the ability to think and act as a subject of his own professional communication” [6].

How to organize the training of a teacher in a pedagogical university who is able to effectively carry out his professional activities at school?

Obviously, in a pedagogical university, students should be “immersed” in situations and conditions that model their future professional activities, on the one hand, and on the other hand, it is necessary to expand the boundaries of their independent work, allowing the necessary personality traits to manifest themselves in the context of conscious professional creativity, consistent and gradual independent choice of solutions in certain situations modeled in the learning process.

Classes are based on this starting point, in particular, lectures for bachelors are offered

professional tasks and possible models for their solution, and the practical part of the course is conducted mainly in the form of methodological workshops [2], creating conditions for the gradual development of the received methodological knowledge, their " translation" into the practical sphere of the teacher's activity in the classroom.

Let us turn to the consideration of such a topic of this discipline, which has not yet been included in its traditional content. This is due to the fact that the new state educational standard of general education introduced the requirement that students must complete an individual project, which is an educational project or educational research carried out by a student within one or more academic subjects, which should ensure the acquisition of skills in self-mastery of the content and methods of selected subjects. areas of knowledge and / or types of activities or independent application of acquired knowledge and methods of action in solving practical problems, as well as developing the ability to design and implement expedient and productive activities (cognitive, design, social, artistic and creative, other). In the requirements for the results of the implementation of an individual project, he indicates the following:

- ability to plan and implement project and research activities;
- the ability to present the results achieved, including the ability to prioritize goals, taking into account values and life plans; independently implement, control and carry out correction of their activities on the basis of preliminary planning;
- ability to use available resources to achieve goals; to choose constructive strategies in difficult situations;
- the ability to create products of one's activity that are in demand by society and have pronounced consumer properties;
- formation of skills to use all the necessary variety of information and knowledge, skills and competencies obtained as a result of training for goal setting, planning and implementation of an individual project[4].

University training of future teachers based on these requirements defines a set of theoretical issues included in the plan of two lectures in the 4th year.

1. Design and research work of students in design and research activities.
2. Structural and content features of the educational project and educational research as varieties of the student's individual project.
3. Methodology for organizing project activities of schoolchildren.

The third question is considered in a separate lecture session.

Let us present a summary of the lectures. Project and research activity in modern education. Universal learning activities and forecasting their formation in the organization of project and research activities of students. Criteria for evaluating the results of project and research activities of students as guidelines in the course of organizing individual projects. Accounting for the specifics of the stages of educational projects and educational research in the organization of this type of work for schoolchildren. Accounting for the specifics of the methods for implementing educational projects and educational research in the organization of this type of educational activity for schoolchildren. Accounting for the specifics of the direction of project and research activities of students in the basic school (grades 5-8) when coordinating these types of educational activities. The specifics of the organization of individual projects of students in grades 9-11.

Coordination (organization, supervision) of the stylistic design of the results of the individual project of students. Organization of text activities of schoolchildren in the preparation of an oral presentation of the results of an individual project. Organization of individual projects: taking into account the specifics of the object and subject of research, the originality of research methods and techniques.

In practical classes, these questions are transferred to the professional sphere of activity, they are consistently analyzed in simulated situations of lessons and various forms of extracurricular activities. For example, bachelors perform typical tasks:

1. Describe the system of general

scientific and specific methods for organizing student project activities.

2. Expand the methodology for organizing the research activities of schoolchildren in the framework of electives, elective courses, circles. Give examples of topics for research projects of schoolchildren.

3. Describe the research and project activities of students as a separate system in education and one of the directions for the modernization of modern education using the subject area as an example.

4. Develop a model for the stage-by-stage organization of the student's individual project (the type of individual project, topic, methodological base, stages, etc. are chosen independently).

The indicated content is deepened and expanded in the additional professional advanced training program “Methodology for organizing project and research activities of students in the region.

Here are examples of professional tasks solved by bachelors within the discipline in the classroom for an additional professional program when studying the methodology for organizing design and research activities of schoolchildren:

1. Develop a fragment of the lesson SOLVING THE RESEARCH PROBLEM / CREATING A PROBLEM SITUATION / INCLUDING INTER-SUBJECT GIVEN SITUATION for the specified class of the main / senior general education school / school with in-depth study of the humanities.

A fragment of a lesson should contain the following components: justification of the need for this element of the lesson in accordance with the topic and objectives of the lesson; the educational purpose of this element; description of the content of the element; methods and techniques to implement this element of the lesson; form of work with the class; means of education; didactic material necessary for the implementation of this element.

2. Imagine yourself as a curator of an individual project (individual research) of a student of a certain age group. Develop and present a work plan to guide the student's project (research) activities within the framework of the subject studied in this class.

The following components should be presented in the plan: the topic of the educational project (research); educational problem, the solution of which the project (research) is devoted to; the structure of the educational project (research); expected results of the project (research); methods for implementing an individual project (individual research) of a student; requirements for the design and presentation of the final results by students; criteria for evaluating results; ways of reflection.

3. Comment on the criteria below for evaluating individual student projects: preparatory stage (relevance); work planning stage (awareness); research activity (scientific character, independence); the stage of presenting results or conclusions (significance, consistency, structuredness, integrativity, creativity); the stage of presentation of the finished product (presentability, communication, approbation); stage of evaluation of the process and results of work (reflexivity).

4. Describe the following specific (subjective) methods of implementing an individual project (individual research) of a student: descriptive, interpretive, comparative methods; semantic, contextual, linguistic analysis, philological analysis, rhetorical analysis; statistical processing of the material; linguistic experiment. Illustrate the specifics of using one of these methods.

Such a system of work, in our opinion, contributes to a more effective preparation of future teachers in a teacher training university for solving their professional problems. A teacher involved in innovative educational processes must possess both a highly developed individual culture of information processing (including with the help of modern computer technologies) and be able to adapt it in accordance with the capabilities of children, have didactic abilities and deep practice-oriented knowledge of their methodological field. . He creatively realizes himself, works productively, if he is given the opportunity to competently choose various trajectories of

pedagogical activity through the formation of an individual style of searching and finding adequate ways and means of realizing his individuality.

List Of Sources and Literature:

1. Выготский Л. С. Собр. соч.: в 6 т. Т. 4. - М., 1984.
2. Полат Е. С. Метод проектов. - URL: http:// distant.ioso.ru/project/meth%20project/meto d%20pro.htm (дата обращения: 05.03.2017).
3. Выготский Л. С. Педагогическая психология. - М.: Педагогика, 1991.
4. Новикова Т. А. Проектные технологии на уроках и во внеурочной деятельности // Народное образование. — 2000. - № 7. - С. 151-157.
5. Белова Н. А. Методика организации индивидуальных проектов учащихся: учеб.-метод. пособие: в 2 ч. Ч. 2. Практикум. - Саранск: Мордовский гос. пед. ин-т, 2013. - 300 с.
6. Савинова Т. В. Содержательное оснащение процесса развития компетентности студента как субъекта педагогического общения // Гуманитарные науки и образование. - 2011. - № 1. - С. 76-78.
7. Djurayev R.Kh., Karakhonova L. M. Media education as a factor of increasing the quality of teaching schoolchildren //Образование через всю жизнь: непрерывное образование в интересах устойчивого развития. – 2013. – Т. 11. – №. 2 (eng). – С. 287-288.
8. Джураев Р. Х., Карахонова Л. М. Педагогическое сопровождение одаренных детей образовательными учреждениями //Integration of science, education and practice. Scientific-methodical journal. – 2022. – Т. 3. – №. 4. – С. 66-70.
9. Ибраимов Х. И. Креативность как одна из характеристик личности будущего педагога //Наука, образование и культура. – 2018. – №. 3 (27). – С. 44-46.
10. Караханова Л. М. Новые интерактивные электронные ресурсы в современном открытом образовании в обучении естественных наук //Academic research in educational sciences. – 2021. – Т. 2. – №. CSPI conference 1. – С. 1303-1305.
11. Караханова Л. МУЛЬТИМЕДИЙНЫЕ ТЕХНОЛОГИИ НА УРОКАХ ЗООЛОГИИ //Збірник наукових праць Уманського державного педагогічного університету. – 2011. – №. 1.