

Methods of Developing Research Skills in Primary School Students Based on Steam Education

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Abstract:

Currently, the world education system pays special attention to modern methods. Today, the basis for the introduction of modern approaches to education in our republic is aimed at developing the thinking and outlook of students. In this regard, STEAM education is widely used. The article talks about methods of using the STEAM approach in developing the research activities of primary school students.

Keywords: STEAM, research, technology, method, natural sciences, mathematics, education.

Introduction. In order to raise the quality of education to a new level, on September 5, 2018, Decree No. PD-5538 of the President of the Republic of Uzbekistan "On additional measures to improve the management system of public education" was adopted. In it, as the main directions of the reform of the national education system, the introduction of advanced foreign experience into the education system, modern pedagogical technologies into the educational process, including innovative methods of teaching, a new generation of educational and teaching-methodical literature a number of tasks such as creating

In order to ensure the implementation of this Decree, approved by the Resolution No. PD-3931 of the President of the Republic of Uzbekistan dated September 5, 2018 "On measures to introduce new principles of management into the public education system" Program of measures for the further improvement of the public education system of the Republic" in Section II, Clause 11: Improvement of the new state educational standards and curricula of general secondary education and, at the same time, STEAM (science, technology, engineering and mathematics) step-by-step implementation of the methods is defined.

In order to fulfill these tasks, first of all, the participants of education - pedagogues, methodologists, students, parents, etc., need to know the information about the STEAM method and international studies in the field of education quality, and have the skills to keep them in practice.

Methods: How does the STEAM approach affect academic performance? Its main idea is that practice is as important as theoretical knowledge. That is, during learning, we need to work not only with our brain, but also with our hands. Learning only within the walls of the classroom is not keeping pace with the rapidly changing world. The main difference in the STEAM approach is that children use both their brains and their hands to successfully learn a variety of subjects. They "hear" the knowledge they receive. STEAM education is not only a teaching method, but also a logical thinking education.

Integrating education not by subject, but by "subjects". STEM education combines interdisciplinary communication and the design method, which is based on the integration of natural sciences with technology, engineering creativity and mathematics. It provides training for engineering-related professions.

One of the current issues under consideration in modern psychology and pedagogy is the issue of development of abilities. Of course, this is not in vain. Because in today's society, the need for active, independent, creative thinking young people who can solve various life problems is increasing. In the conditions of the implementation of the state educational standard, great attention is paid to the formation of general skills, competencies, and independent judgment in students.

Ability - the individual potential and capabilities of a person. Ability is sharply different from knowledge, knowledge is the result of reading, Ability is a characteristic of the psychological and physiological structure of a person. Ability is different from skill. Ability is seen as a gift given to a person. In most scientific sources, ability is equated with skill.

Research skills are individual personal characteristics that are subjective conditions for successful research activities. In the process of research activities, elementary school students develop a number of important skills and abilities. They learn to formulate a problem, plan their activities, determine the tools necessary for the implementation of certain activities, study various objects and events, and search for information according to the task.

The analysis of regulatory documents developed today in our republic showed that one of the indicators of the development of modern education in this country is the search for new forms, methods and technologies for the integration of natural sciences and engineering sciences. This state requirement can be met by developing research skills in students from school age.

Developing research skills is a necessary competence for the development of today's youth.

In order to develop the inquisitiveness of a primary school student, we expect that if the lessons are organized using various modern methods, rapid question and answer, cooperation technology in groups, didactic games, and innovative technologies. gives effective results.

The lesson is organized on the basis of interactivity in such a way that not a single student is left out, that is, they have the opportunity to openly express what they see, know, and think. Every opinion expressed by the readers, whether it is right or wrong, is not criticized. Students will have the opportunity to add their personal contribution to learning and mastering the content of the subject while working in collaboration and co-creation. A process of exchange of mutual knowledge, ideas, thoughts takes place. Such situations ensure mutual sincerity, the desire to acquire new knowledge and mastery increases.

Results. In order to develop the inquisitiveness of the elementary school student, the student's self-evaluation, critical view develops during the educational process. The lesson becomes an interesting subject for the student. A creative approach to the study process, inquisitiveness, and a positive

attitude are shown. It leads to the ability of each student to think independently, to search, to observe. In interactive lessons, the student not only learns the educational content, but also develops his critical and logical thoughts. In such conditions, the teacher should have a highly developed thinking ability, a deep observation of problems, and the ability to solve problems in a timely manner.

The teacher needs to take into account the necessary conditions and certain requirements when carrying out research activities among students based on the STEAM approach.

- ✓ readiness of schoolchildren for this type of activity;
- ✓ schoolchildren's interest in the researched problem;
- ✓ acquisition of new knowledge needed by students to complete the project;
- ✓ the practical direction and importance of the sought problem;
- ✓ creative formulation of the problem;
- ✓ feasibility of the project.

In order to develop the inquisitiveness of the elementary school student, the student's self-evaluation and critical view are developed during the educational process. For the student, the lesson becomes an interesting subject. A creative approach to the study process, inquisitiveness, and a positive attitude are manifested. It leads to the ability of each student to think independently, to search, to observe. In interactive lessons, the student not only learns the educational content, but also develops his critical and logical thoughts. In such conditions, the teacher should have highly developed thinking skills, deep observation of problems, and the ability to solve problems in a timely manner.

Every opinion expressed by students, regardless of whether it is right or wrong, will not be criticized. Pupils will have the opportunity to add their personal contribution to learning and mastering the content of the subject while working in cooperation and co-creation. The process of mutual exchange of knowledge, ideas, and opinions takes place. Such situations ensure mutual sincerity, increase the desire to acquire and master new knowledge. In the course of the lesson, mutual support, sincere and friendly relations are formed. The creation of this environment is of great educational value

Discussion. So, let's summarize: in the process of teaching and upbringing primary school students, it is necessary to skillfully find a way to the heart of each of them, based on the individual characteristics of the child. Using STEAM education to develop students' discovery abilities requires a variety of skills. However, one of the main tasks of the science of pedagogy is to find effective ways of educational influence on the child's personality and conduct scientific research in this direction.

Thus, in the most generalized form, the definition of traceability can be presented as follows. The ability to pursue is the individual characteristics of a person's quality that determine the success of various types of pursuit.

REFERENCES:

1. O'zbekiston Respublikasi Prezidentining 2018-yil 5 sentyabrdagi "2018–2021-yillarda O'zbekiston Respublikasi xalq ta'limi tizimini yanada takomillashtirish bo'yicha chora-tadbirlar dasturi to'g'risida"gi №PQ–3931- son qarori
2. O'zbekiston Respublikasi Prezidentining 2019-yil 29-apreldagi "O'zbekiston Respublikasi xalq ta'limi tizimini 2030-yilgacha rivojlantirish konsepsiyasini tasdiqlash to'g'risida"gi PF-5712-son farmoni

3. O'zbekiston Respublikasi Prezidenti Mirziyoyev Sh. M . Milliy taraqqiyot yo'limizni qa'tiyat bilan davom ettirib, yangi bosqichga ko'taramiz. –T.: O'zbekiston.2017-yil.
4. Choriyevna, K. R. B. R. L. (2023). STEAM TA'LIMIDAN AMALIY ISHLARNI TASHKIL QILISH METODIKASI. *Confrencea*, 12(12), 251-257.
5. Rajabova, L., & Shavkatova, N. (2023). METHODS OF USING MARIA MONTESSORI METHODOLOGY IN THE STEAM EDUCATIONAL APPROACH. *Modern Science and Research*, 2(12), 387-391.
6. Ochilova, L., & Rajabova, L. (2023). STEAM USULI-TA'LIM JARAYONIDA INNOVATSION TEXNOLOGIYA SIFATIDA. " ПЕДАГОГИЧЕСКАЯ АКМЕОЛОГИЯ" *международный научно-методический журнал*, 1(3).
7. Rajabova, L. (2021). МАКТАБГАЧА ТА'LIM TASHKILOTLARIDA "STEAM" TEXNOLOGIYASINI TADBIQ ETISH. *ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu.uz)*, 7(7).
8. Rajabova, L. (2020). Steam ta'lim dasturi asosida matematika masalalarini yechishning ilg'or usullari. *центр научных публикаций (buxdu. Uz)*, 1(1).
9. Temirovna, O. L., & Laylo, X. (2023). BOSHLANG'ICH SINFLAR O'QUVCHILARINING QIZIQARLI MASALALARNI YECHISH FAOLIYATINI SHAKLLANTIRISH USULLARI. *PEDAGOGS jurnali*, 1(1), 748-748.
10. Temirovna, O. L. (2023). KASRLAR MAVZUSINI O'RGATISHDA INNOVATSION TEXNOLOGIYALARDAN FOYDALANISH. *PEDAGOGS jurnali*, 1(1), 743-743.
11. Темировна, ОЛ (2023). ПРЕИМУЩЕСТВА ИСПОЛЬЗОВАНИЯ МЕТОДА ПРОБЛЕМНОГО ОБУЧЕНИЯ НА УРОКАХ МАТЕМАТИКА В НАЧАЛЬНОЙ ШКОЛЕ. *Журнал современных образовательных достижений* , 7 (7), 403-407.
12. Темировна, ОЛ (2023). РАЗВИТИЕ ТВОРЧЕСКОГО МЫШЛЕНИЯ ДЕТЕЙ ПРИ РЕШЕНИИ НЕСТАНДАРТНЫХ ЗАДАЧ. *Журнал достижений современного образования* , 10 (1), 294–300.
13. Темировна, ОЛ (2021, июнь). УРАВНЕНИЕ, Тождества, ЭКВИВАЛЕНТНОЕ УРАВНЕНИЕ, УРАВНЕНИЕ С ОДНОЙ НЕИЗВЕСТНОЙ ПЕРВОГО ПОРЯДКА, ДРОБНЫЕ РАЦИОНАЛЬНЫЕ УРАВНЕНИЯ И ИХ РЕШЕНИЕ. В *Архиве конференций* (стр. 103-106).
14. Ochilova, L. (2020). КОМПЬЮТЕР ТЕХНОЛОГИЯЛАРИДАН БОШЛАНГИЧ СИНФЛАРДАГИ МАТЕМАТИКА ДАРСЛАРИДА ФОЙДАЛАНИШ. *ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz)*, 2(2).
15. Huriyat, E., & Hayrullayeva, D. N. (2024). SALOMLASHISH ODOBI. *PEDAGOGS*, 54(3), 10-12.
16. Madina, A., & Hayrullayeva, D. N. (2024). BOLALARNI MAKTABGA TAYYORLASH JARAYONIDA O 'QISH VA YOZISH MALAKALARINI SHAKLLANTIRISHDA FOYDALANILADIGAN O 'YIN TEXNOLOGIYALARI. *PEDAGOGS*, 54(3), 7-9.
17. Jumayeva, H. (2024). BOSHLANG 'ICH SINFLARDA O 'QITISHNING ZAMONAVIY METODIKASI. *ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz)*, 45(45).
18. G'afarovna, J. H. (2023). BOSHLANG 'ICH SINF O 'QUVCHILARINING IJODIY QOBILIYATLARINI RIVOJLANTIRISHNING PSIXOLOGIK XUSUSIYATLARI: Jumayeva Habiba G 'afarovna Buxoro davlat universiteti boshlang 'ich ta'lim metodikasi

kafedrası o ‘qituvchisi. *Образование и инновационные исследования международный научно-методический журнал*, (1), 226-231.

19. Jumaeva, H. (2022). Ўқувчиларнинг чапақайлигининг физиологик, психологик ва педагогик хусусиятлари. *Buxoro davlat universitetining Pedagogika instituti jurnali*, 2(2).
20. Qo'ldoshev, R. (2022). PIRLS HALQARO BAHOLASH TIZIMIGA KITOB OQISH MADANIYATINI SHAKLLANTIRISH ORQALI ERISHISH. *Buxoro davlat universitetining Pedagogika instituti jurnali*, 2(2).
21. Qo'ldoshev, R. A. Organization of Modern Schools and Teaching Methods at the Beginning of the 20th Century. *MIDDLE EUROPEAN SCIENTIFIC BULLETIN*.
22. Qo'ldoshev, R. A. (2021). TESTS AND METHODS FOR DETERMINING LEFT-HANDEDNESS. In *Информационные и инновационные технологии в науке и образовании* (pp. 401-404).
23. Rustambek, Q. L. (2020). Birinchi sinf chapaqay o ‘quvchilarining maktabga moslashishi, maktabga moslashishi davridagi pedagogik yordamning mazmuni. *ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz)*, 1(1).