



EFFECTIVENESS OF USING TRIZ PROGRAM IN PRIMARY EDUCATION

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Abstract. Developing the creative abilities of primary school students has always been a topical issue. This article discusses modern forms, methods and techniques for developing students' creative abilities using the TRIZ program in primary school.

Keywords: Creative thinking, ability, education, class, lesson.

INTRODUCTION

The TRIZ program appeared in the mid-20th century, and at first it was not even related to pedagogy. In 1946, Heinrich Altshuller, a former Soviet engineer, scientist, and science fiction writer, began studying the methods most commonly used by inventors. There were about forty such techniques, and all of them, together with the inventive problem-solving algorithm (MHQA), formed the basis of TRIZ.

During this time, he developed new algorithms, and in the early 1980s, educators used it as a basis for experimental classes as well as teaching methods in schools.

METHODS AND LITERATURE REVIEW

The goal of TRIZ pedagogy is to develop flexible thinking and imagination, the ability to solve complex problems skillfully and effectively.

In modern pedagogy, the unique methods of working with students, unusual teaching techniques and the TRIZ program are an innovative solution in achieving high results.

Course mode, number of hours. The program is designed for children aged 7-10 years and lasts for 4 years.

The number of students is 34.

1st year study 1 hour per week (total 33 hours)

2nd year study period 1 hour per week (total 34 hours) 3rd year study period 1 hour per week (total 34 hours) 4th year study period 1 hour per week (total 34 hours).

The program is funded by additional study hours.

Venue: It is recommended to conduct classes not only in classrooms, but also in gyms, gymnasiums, playgrounds (depending on the type of educational process).

Types of action:

- Game process (through action games)

- Literary-artistic process

- Visual process

- Perform relaxation exercises, develop creative thinking, dialectical systematic, associative, creative, logical thinking, design action.

RESULTS

The effectiveness and efficiency of the application of the program of the theory of solving inventive problems in grades I-IV depends on the following conditions.

- The desire to volunteer and express themselves.

- Form and style of work, novelty and fun.
- The role of the teacher in ensuring the solidarity of children's initiatives.
- The combination of individual, group and collective action.
- Projects and festivals of different levels, competitions - the opportunity to participate in competitions, the presence of purposeful and effective actions.

- Involve children in open, free thinking.

Outcomes of the extracurricular learning plan.

Requirements for knowledge and skills in the educational process in the program of the theory of solving inventive problems.

The level of the educational process is determined by the requirements of the school's general secondary education program.

Requirements for students to know in the implementation of this program: Must know the first year of study.

- What is Creative Thinking (RTV)?
- Why is it necessary to develop creative thinking?
- Creative Games.
- Methods of fantasy through fine arts.
- Imaging algorithm of fantastic objects.
- Playing games aimed at developing creative consciousness.
- Create objects and fantastic objects using the image algorithm.
- Write their history using icons.
- be able to tell a story using schematic models (pictograms).
- Express your opinion.
- Respect the opinion of others.
- Apply the knowledge and skills acquired under the motto "Do no harm"

In the second academic year, according to the Inventive Problem Theory Program requirements for knowledge and skills that students need to know in the learning process.

Must know:

- What is a complex?
- Complex creation algorithm.
- Gianni Rodari's fantasy method.
- The basic concept of the theory of solving inventive problems, the method of fantasy. Skill:
- Writing reality in the form of comics.
- Playing games aimed at developing creative consciousness.
- Weaving fairy tales, inventing fantasy stories using previously learned fantasy techniques.
- Describe the process in terms of the object.
- Express your opinion.
- Respect the opinion of others.
- Apply the knowledge and skills acquired under the motto "Do no harm".

ANALYSIS AND DISCUSSION

Requirements for knowledge and skills to be acquired by students in the Inventory Problem Theory Program in the third academic year.

Must know:

- "System Operator", "Magic Screen", "Nine Screens", "System", "Subsystem", "Over System", "Function", "Past System", "Next System", "Antisystem", "Not a system", definition of concepts.
- Puzzle weaving algorithm.
- Algorithm for weaving fairy tales and events based on the method of "morphological box".
- Discussion of the logic of the game "Yes - no". Skill:
- To listen to each other, to express one's opinion, not to speak to each other.
- Ask a question, clear an unknown area.
- Weaving fairy tales and events using the methods of "Morphological box", "Morphological analysis", "Nine screens".

- Development of games using the method of "morphological analysis".

- Have your say

- Respect the opinion of others.

"Don't do any harm!" to apply the knowledge gained under the motto.

Requirements for knowledge and skills that students should acquire during the fourth academic year in the Inventive Problem Theory Thesis program.

Must know:

- Define the concepts of "contradiction", "solution of the principles of opposition".

- Define the concept of "problem of creation".

- Define the concept of "field resources".

- "Inversion", "Heavenly transition", "transition to another state", "pre-set pillow", "Matryoshka", "crushing-merging", "jumping", "turning loss into profit", opposite - method of resolving resistances.

Skill:

- Create a logical connection between the event and the object.

- Solve the problem of "creation" under the motto "Do no harm", eliminate contradictions, strive for the right, apply the acquired knowledge and skills.

CONCLUSIONS

TRIZ technology can be used as a universal tool in almost all types of activities (both in the learning process, in games, and in regime moments). This allows you to form a unique, consistent, science-based model of the world in the mind of a school-age child. A successful situation is created, the results of the decision are shared, the decision of one child activates the opinion of another, expands the scope of imagination, stimulates its development. Technology allows each child to show their uniqueness. Teaches children to think outside.

REFERENCES

1. В Busov, «Case studies in TRIZ education at Technical universities in the Czech Republic», in Proceedings of the TRIZ Future Conference 2010, C Rizzi, Ed , Bergamo, Italy: Bergamo University Press, 2010, pp 285-291
2. ЕРМАТОВА, Р. О. (2018). УПРАВЛЕНИЕ ВРЕМЕННЫМ УЧЕНИЕМ ДЛЯ СТУДЕНТОВ С ОБУЧЕНИЕМ ИНВАЛИДЫ. Наука среди нас, (7), 85-88.
3. Ermatova, R. O. (2018). ADVANTAGES OF THE TECHNIQUE" WHAT/HOW/WHY OUTLINES" IN DEVELOPING PRODUCTIVE SKILLS OF THE MEDICAL STUDENTS. Актуальные проблемы гуманитарных и естественных наук, (6), 69-71.
4. Utegenova, S., & Rozumova, D. (2024). DIRECTIONS FOR IMPROVING TAX AUDIT. Modern Science and Research, 3(6).
5. Utegenova, S., & Mirzabaeva, U. (2024). TODAY'S IMPORTANCE AND PROSPECTS OF AUDIT ACTIVITIES IN UZBEKISTAN. Евразийский журнал академических исследований, 4(6), 93-95.
6. Utegenova, S., & Oralbaeva, F. (2024). O'zbekiston iqtisodiyotiga xorijiy investitsiyalar oqimini oshirishda mamlakatning investitsion muhiti jozibadorligini oshirish. Журнал академических исследований нового Узбекистана, 1(6), 131-134.
7. Khasanova, S., Akisheva, N., & Zholayeva, M. (2023). Methodological aspects of tax planning in the context of sustainable development. Revista Gestão & Tecnologia, 23(3), 286-298.
8. Маматқулов, Б. М., & Нематов, А. А. (2021). Ўзбекистон Республикаси аҳолиси орасида COVID-19 тарқалишининиг хусусиятлари.
9. Abdullayeva, N. (2023). AHMAD YASSAWI SECT: THE ISSUE OF ZIKR AND THE STATUS OF ZAKIR. Modern Science and Research, 2(5), 438-440.
10. Bazarov, S. (2024). JURNALIST VA BLOGERLAR NUTQI ETIKASI. Инновационные исследования в современном мире: теория и практика, 3(1), 36-39.
11. Norqulovich, S. H. (2023, October). NURILLO CHORINING BADIY ASARLARIDA MILLIY KOLORITGA XOS KO 'RINISHLAR NUTQIY JHATDAN IFODALANISHI. In International conference on multidisciplinary science (Vol. 1, No. 3, pp. 25-29).
12. Ziyodullayeva, M., & Muxtorova, M. (2024). ABDULLA QODIRIY HAYOTI VA IJODIGA

- AYRIM CHIZGILAR. NRJ, 1(3), 860-863.
13. Muxtorova, M. (2024). MAXTUMQULI SHE'RIYATIDA AYTISHUV: AN'ANA VA IZDOSHLIK. NRJ, 1(3), 254-257.
 14. Tajenova, G., Turdiyeva, G., Qurbanov, A., & Isakov, I. (2020). Current state and development of agricultural products exports of the Republic of Uzbekistan. Архив научных исследований, (14).
 15. Janabay, I., Gulbahar, T., Gulayda, T., Alisher, Q., & Ilkhambek, I. (2020). Current state and development of agricultural products exports of the republic of uzbekistan. International Journal of Psychosocial Rehabilitation, 24(8), 1684-1693.
 16. Turdieva, G., Abishov, M., & Muratbaev, I. (2024). THE IMPACT OF CREDIT RISKS ON AN EFFECTIVE ORGANIZATION IN THE FINANCIAL SERVICES OF COMMERCIAL BANKS. NRJ, 1(4), 215-225.
 17. Beglenov, N., & Muratbaev, I. (2023). HOTEL SERVICES AS AN OBJECT OF STRATEGIC MARKETING ORIENTED TO THE CONSUMER. Science and Education in Karakalpakstan, 32(2), 175-177.
 18. Xalmuratovich, B. S. (2024). JAHON AMALIYOTIDA AGROKLASTER TIZIMINI SAMARALI TASHKIL ETISH VA YURITISH BO 'YICHA TO 'PLANGAN TAJRIBALAR TAHLILI. Scientific Journal of Actuarial Finance and Accounting, 4(04), 140-150.
 19. Bayjanov, S. X., & Abishov, M. S. (2024). DEVELOPING THE ACTIVITY OF JOINT STOCK COMPANIES BY IMPROVING DIVIDEND POLICY. Science and innovation in the education system, 3(3), 94-97.
 20. Sultanov, B., Nurimbetov, T., Bayjanov, S., Seyilbekov, B., & Durmanov, A. (2023, October). Trends in change and the current state of the effectiveness of land reclamation measures in agriculture. In AIP Conference Proceedings (Vol. 2921, No. 1). AIP Publishing.
 21. Байжанов, С. Х. (2023). ВНЕДРЕНИЕ ЦИФРОВИЗАЦИИ В СЕЛЬСКОЕ ХОЗЯЙСТВО НОВОГО УЗБЕКИСТАНА. BOSHQARUV VA ETIKA QOIDALARI ONLAYN ILMIY JURNALI, 3(4), 51-53.
 22. Omonovna, E. R. (2023). KLINIK ATAMALAR SHAKLLANTIRISHDA SUFFIKSATSIYA USULI VA TA 'LIM TEXNOLOGIYALARI. Лучшие интеллектуальные исследования, 9(3), 198-204.
 23. Shodiyeva, G. (2024). O 'ZBEK VA INGLIZ TILIDA SO 'ZLARNI TURKUMLARGA AJRATISH MASALALARI. Interpretation and researches, (4 (26)).
 24. qizi Tursunova, M. A., & qizi Shodiyeva, G. N. (2023). MAIN INFLUENTIAL FACTORS TO LANGUAGE LEARNING PROCESS. Educational Research in Universal Sciences, 2(3 SPECIAL), 1181-1183.
 25. Aliyeva, N., & qizi Shodiyeva, G. N. (2023). Ingliz Tilida So 'Z Turkumlari Tasnifi Masalalari Sharhi. Scholar, 1(13), 22-27.
 26. Navruza, A. (2023). INGLIZ TILI MORFOLOGIYASIDA SOZ TURKUMLARINI ORGANISH ZARURIYATI. ITALY" ACTUAL PROBLEMS OF SCIENCE AND EDUCATION IN THE FACE OF MODERN CHALLENGES"., 14(1).
 27. M Ogot and G E Okudan, «Integrating systematic creativity into first-year engineering design curriculum», International Journal of Engineering Education, vol 22, pp 109-115, 2006