

THE IMPORTANCE OF USING NON-STANDARD TEST TASKS IN MONITORING STUDENT KNOWLEDGE

Yuldashev Odiljon Toshpo‘latovich
Qo‘qon DPI, Texnologik ta‘lim kafedrası o‘qituvchisi
email: dj.odilbek59@gmail.com, +998975552522

ABSTRACT

In this article, Keys-stage assignments and levels of difficulty, productive, partially exploratory and creative (creative) tests, which are included in the content of the training courses, play an important role in the composition and development of creative activities in students. It should be noted that one of the main methods of qualimetry in the control and assessment of knowledge, skills, abilities and competencies acquired by teachers in the educational process is the use of test assignments, standard and non-standard test assignments and information about their species is given. Non-standard tests encourage students to apply their knowledge in unfamiliar situations in the assessment of their knowledge, leading to a sense of the inextricable link between theory and practice. In general, it teaches to take a creative approach to life's problems and solve them quickly and intelligently.

Keywords: competence, creative, productive, partially exploratory, creative, non-standard, standard, educational function, analysis, synthesis, comparison, problem, mobilization, endurance, patience, easy (reproductive), moderately difficult (productive), difficult (partially explored), most difficult (creative), testology, mathematical approach, subjectivism, difficulty level, blum taxonomy, multi-answer nonstandard test.

It is clear to all of us that the cornerstone of development and the force that makes the country powerful and the nation great is science, education and training. Our tomorrow, the bright future of our country, is closely related, first of all, to the education system and the education we provide to our children.

Shavkat MIRZIYOYEV

INTRODUCTION

Modern life today cannot be imagined without the development of science and education, as if humanity revolves around the axis of science. It is not for nothing that the development of education in the leading countries of the world is defined as the first task. After all, the future development of the country is closely related to its achievements in this field.

Today, the educational activities of universities are further improved, and the quality of our people's pursuit of knowledge, which has been formed over the centuries, is being demonstrated once again. Our young people want to live a healthy and beautiful life, have a permanent job in their profession, take responsibility, and not be allowed to belittle their human dignity, in short, strives to achieve perfection and sees education as the most important prerequisite in this process.

LITERATURE ANALYSIS AND METHODS

It is not considered as a whole and complex process that determines the current level of knowledge of students, provides education and strengthens knowledge. Specialists who use tests in their work need scientifically based, experienced literature and manuals suitable for our national characteristics.

The tests used in school practice have not yet been sufficiently scientifically based, their reliability, appropriateness, and objectivity criteria have not been determined in most cases. The high degree of randomness during the execution of test tasks, the failure to take into account various internal and external factors, casts doubt on the objectivity of the tests.

The analysis of the scientific and methodical literature on test science shows that in the scientific research conducted on this topic, mainly in psychology, the use of tests in the process of teaching foreign languages in higher educational institutions, and a number of their types are used in the lessons of informatics and computer technology, chemistry, and biology. Issues have been developed. Such studies include: V.S. Avanyosov ("Nauchnye-problemi testovogo kontrolya znaniy", 1994), M.S. Bernstein ("K metodike sostavleniya i proverki testov", 1968), T.A. Ilina ("Testovaya metodika proverki znaniy i programmirovannogo obucheniya", 1967), N.V. Cherkezova ("Formirovanie u studentov samokontrolya obucheniya s ispolzovaniem testovoy metodiki", 1989), E.A. Shtulman ("Metodicheskiy eksperiment v sisteme metodov issledovaniya", 1976) and others.

The following researches were created in Uzbekistan in this field: A. A. Abduqadirov ("Test materials for the basic course", 1995), E. Kh. Atoev ("Problemy razrabotki, primeneniya i analiza kachestva testovyx zadaniy po khimii - na primere tekhnicheskogo vuza", 1996), I. Ahmedov ("Nauchnye osnovn podgotovki po russkomu yaznku uchiteley nefilologicheskogo profilya s ispolzovaniem EVM", 1992), M. Usmonova ("Pedagogicheskoe testirovanie: istoriya razvitiya i sovremennoe sostoyanie", 1995), B.L. Farberman ("Metodika razrabotki i enienia pedagogi-cheskikh testov", 1995), S. Shoykulov ("Nekotore voprosn ispolzovaniya standardizovannogo kontrolya i tekhnicheskikh sredstv v uchebnom protsesse tekhnikumov v gruppakh s uzbekskim yaznkom obucheniya ", 1973).

At the same time, it should be noted that the issues related to the use of tests in general secondary education have not been sufficiently developed.

Our attention was drawn to the above problems, including how they are solved in language classes. Today, effective teaching of foreign languages in a short period of time requires improvement of traditional methods of teaching students and monitoring their knowledge, as well as search for new methods.

In October 2019, the concept of developing the higher education system of the Republic of Uzbekistan until 2030 was adopted in our country. This document was based on tasks such as the development of integration of science, education and production in order to accelerate intellectual development, train competitive personnel, effectively organize scientific and innovative activities, and strengthen international cooperation. The content of the concept reflects the priorities of the reform of the higher education system of our country. It includes expanding the level of coverage and improving the quality of education in higher educational institutions, introducing digital technologies and educational platforms, attracting young people to scientific activities, forming innovative structures, commercializing the results of scientific research, achieving international recognition and other improvements. It clearly defines directions. All this serves to raise the educational process to a new level of quality.

Case-study assignments and difficulty levels of productive, semi-exploratory and creative (creative) tests, which are included in the content of educational courses, play an important role in the creation and development of students' experiences of creative activity. It should be noted that one of the main methods of quality control in the control and evaluation of the acquired knowledge, skills, skills and competences of students in the educational process is the use of test tasks, the inclusion of standard and non-standard test tasks in the control structure. must

Taking into account the above points, there is a need to use non-standard test tasks in addition to standard test tasks to determine the level of mastery of all components of the educational content by students.

One of the types of control used by students to determine the main components of the educational content is test tasks, and in order to form them appropriately and use them in their place, it is necessary to know the theoretical basis of this process.

The organization of the educational process and the determination of its effectiveness are of great importance in the control and diversification of its types.

The educational process is a holistic system, its organization, progress control, analysis of the teacher's pedagogical activity according to the obtained results, identification of typical deficiencies in the acquired knowledge, skills and qualifications of the students according to the rating system, and requires defining the ways of their correction.

Test assignments are one of the types of control in determining and evaluating the knowledge, skills and qualifications acquired by students in the courses included in the curriculum.

Test tasks belong to the series of didactic materials, which perform the following functions:

- **Educational function of test tasks.** The test assignments identify typical deficiencies in students' acquired knowledge, skills, and abilities, and encourage them to study the fundamentals of science in a regular and systematic manner in order to gain their knowledge.

- **Educational function of test assignments.** Qualities that pave the way for perfection in students by making test tasks feel certain cognitive difficulties in the process of finding the right answer, performing mental operations in order to solve the problem: analysis, synthesis, comparison, generalization and drawing conclusions: will, conscious discipline, certain provides an opportunity to develop as a person by mobilizing to solve educational problems, endurance, patience, using knowledge and energy to achieve achievements.

Test assignments encourage students to develop their own knowledge, skills, and abilities, and take into account the importance of their share in the achieved results, realizing their responsibility in their future activities. Taking into account the above points, test assignments as didactic material should meet the following requirements:

1. Each test task must be created on the basis of the State educational standard and curriculum for the educational courses included in the curriculum for the relevant type of education. Integrative tests should also be created on the basis of the content of the State Education Standard and curriculum of related subjects.
2. The test task is based on generally accepted terms, it contains words, phrases, symbols, adjectives and figurative meaning that are out of the lexicon, as well as rarely used or have many meanings. should not.
3. Test tasks should be created on the basis of scientifically based data, with a single educational goal: determining the level of mastery of certain knowledge or skills by students during the educational process.
4. The test task used in the educational process should be created on the basis of four levels of difficulty, and the level of difficulty of each task should be indicated in the passport of the task:

• **Easy (reproductive) (I)**-the level that requires students to know the essence of events, events, laws and terms, without processing the educational material, determining their ability to remember;

• **Moderately difficult (productive) (II)**-a level that requires students to analyze, synthesize, compare objects, apply several laws and regulations at the same time, and draw conclusions by summarizing;

• **Difficult (partially researchable) (III)**-a level that requires students to apply previously acquired knowledge, skills, and abilities in new unexpected situations, analyze objects, synthesize, compare, apply laws and regulations, and draw conclusions;

- **The most difficult (creative) (IV)**-the level that requires students to apply previously acquired knowledge, skills and abilities in solving educational problems that arise in unexpected situations, perform mental operations such as analysis, synthesis, comparative comparison, 50 generalization, drawing conclusions
- The question of the test assignment should be clear, concise, and concise, it should contain the necessary and important information, not use unnecessary and redundant words, and the question should not have two different meanings.
- A standard test item has four answers, one of which is absolutely correct, alternative answers include "all answers are correct", "all answers are incorrect", " phrases such as "no correct answer", "correct answer A and B" or "correct answer C and D" should not be used.
- Both the answers and wrong answers of the test task should be within the same topic, should be close to each other in terms of form, the correct answer should not be different from the form, and should not repeat words unnecessarily in alternative answer options. , it is also required to be comprehensible, clear and short, to be chosen reasonably.
- Words and phrases that help to find the correct answer should not be used in the question of the test task, spelling and grammatical errors should not be allowed.
- The number of test tasks to be submitted by DTM for educational courses

There should not be less than 200 test tasks, different in form and the same in content, and they should not be repeated. It is strictly forbidden to use keyboard characters, enter drawing and picture tests when entering the materials of test tasks into Microsoft Word.

- It is recommended to use the following table for each test assignment to have its own passport.
- It contains the name of the training course, chapter and section number, the difficulty level of the test task, the sign "*" is placed before the correct answer option, and the correct answer is located in the first column of the answer options must Testology is a combination of the words (from the English word test-test), Greek logos-knowledge.

Testology is an interdisciplinary science, and it is considered a science of scientifically based and qualitative diagnostic measurement methodology.

In psychology, the content of testology largely corresponds to the content of differentiated psychometrics.

The principles and methods of testology have gone beyond the boundaries of psychology and are now successfully used in the fields of pedagogy, medicine, technology, and management.

Common features in the application of testology: the method of creating test tasks, efficiency, variability, reliability, validity, as well as the specific features of each field of science, in particular, the educational content of the science, the logical structure of the tests, the purpose of conducting the test. , the procedure and measure of monitoring and evaluation of professional and general education knowledge should also be taken into account.

Today, the science of testology is an applied science, which presents theoretical problems, mathematical approaches, models and methods to researchers.

It has the following advantages for the wide spread, development and improvement of the test method:

- Test tasks allow accurate assessment of the knowledge, skills and qualifications of the respondents in accordance with the purpose of the research;
- It is possible to identify and generalize the opinions and opinions of many respondents who participated in social surveys;
- The process of determining and evaluating students' knowledge, skills, and abilities is carried out objectively, subjectivity on the part of the evaluator is avoided.

• It has created a basis for conducting a comparative statistical analysis of the data obtained from different groups of respondents. Before the general introduction of the test assignments, the objectivity of the test, the obtained results and the evaluation should be analyzed in the selected target group.

It is appropriate to determine the degree of mastering of information and information on a specific topic by controlling whether students have achieved the learning goal according to Bloom's taxonomy. For this, the student should identify the objects on the subject, rate them, process data, express his opinion, explain the essence of a certain process, object or event, the nature of this process, object or event. will have to highlight its specific features.

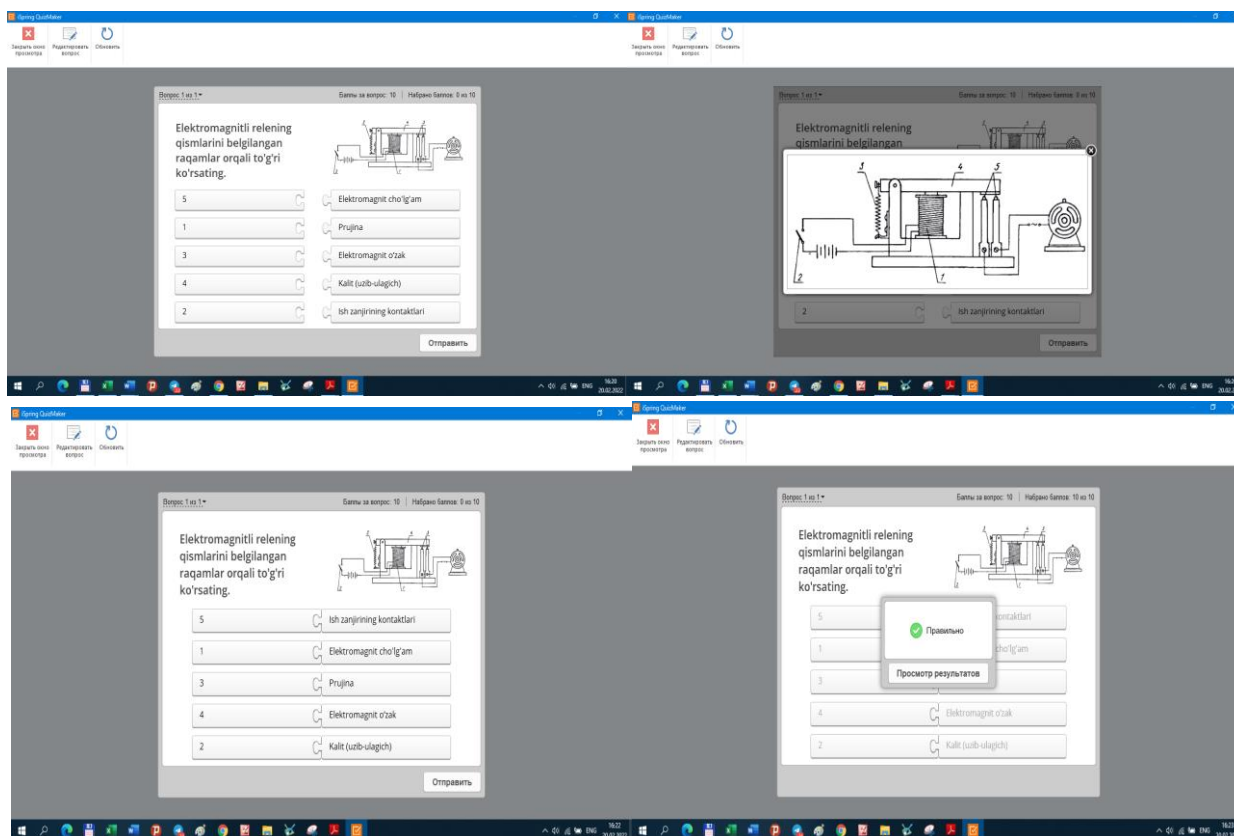
These ideas cannot be implemented with a standard educational and test task, it is recommended to use the following non-standard tests with pictures and multiple answers to determine the level of achievement of the educational goal of knowledge.

RESULTS AND DISCUSSION

These test assignments allow to control and evaluate not only the acquired knowledge of the students, but also the ability to identify the familiar and unique features of the object and its parts.

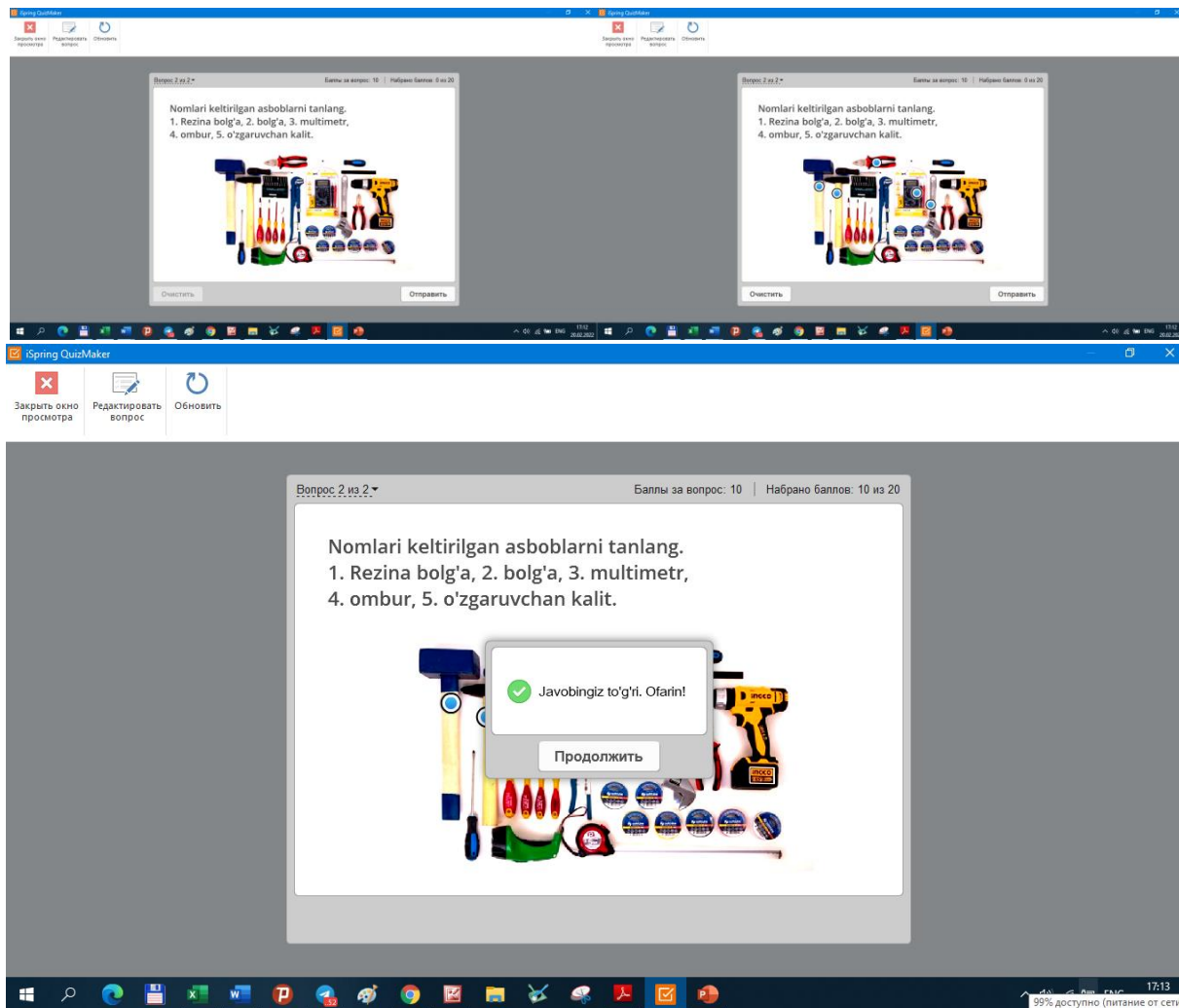
Computer test tasks allow to assess the knowledge levels of students without the help of a teacher. In addition, with the help of these tests, it is possible to pass a self-test and determine the shortcomings in mastering the topics. The practical value of test assignments is that when using tests in art, students' desire to learn the science of art increases, and their practical skills increase.

1. A non-standard test on the correct representation of the parts of an electromagnetic relay by the specified numbers for the technology education courses.



2. Select the electrical assembly tools listed.

1. Rubber mallet, 2. Hammer, 3. Multimeter, 4. Ambur, 5. Adjustable wrench.



3. Identify the types of equipment used in electrical installation work and write the corresponding numbers under each picture in the table.

1) Isolants; 2) intelligence; 3) otvyrtka; 4) box; 5) Welding device; 6) Multimeter;

Non-standard test answer with pictures and multiple answers

4	5	2	6	1	3
---	---	---	---	---	---

Content and form play a key role in the preparation of non-standard test tasks. Therefore, it is necessary to think about the principles of choosing the content of test tasks.

Principle 1. The principle of matching the content of the test tasks with the purpose of the test. This principle requires that the content of the test tasks in the control types of the rating system for monitoring and evaluating the acquired knowledge, skills and qualifications of the students be selected in accordance with the purpose.

Principle 2. The principle of control and the importance of evaluated knowledge. The principle of relevance requires that the most important laws, theories, concepts and skills in the curriculum be included in the questions of the test.

Principle 3. The principle of unity of content and form. This principle requires that the content and form of the test tasks are compatible with each other and form a whole.

Principle 4. The principle of content accuracy of test tasks. It is desirable to include objective and real knowledge of the content of the training course in the test tasks.

Principle 5. The principle of re-presentation of the content of the taught subject in the content of the test tasks. This principle assumes that the content of the training course is fully and adequately covered in the preparation of test tasks.

Principle 6. The principle of conformity of the content of test tasks to the current state of science. This principle requires adapting the content of the test tasks to the socio-economic, spiritual and educational views, legal norms, and the science innovations included in the educational content of the science course.

Principle 7. The principle of complex and balanced content of test tasks. This principle creates appropriateness in choosing the content of test tasks.

Principle 8. The principle of systematicity of the content of test tasks. Based on this principle, when choosing the content of test assignments, the content should meet the requirements of systematicity in controlling the acquired knowledge, skills and qualifications of students.

Principle 9. The principle of variability of the content of the test task. It can be seen from the above-mentioned points that the content of the test tasks should be both modern and suitable for the stages of acquisition of scientific knowledge by students.

Requirements for test assignments:

- The following requirements are set for the test tasks:
- Correctness of the content of the test task;
- Logically correct choice of the question;
- Correctness of the form of the test task;
- Shortness of questions and answers of the test assignment;
- The correct location of the elements of the test task;
- The correct answers of the test task are evaluated the same;
- To give students the same instructions on how to complete the test task;
- Appropriateness of the instructions to the test task and content.

CONCLUSIONS

By means of non-standard tests, students are encouraged to apply their acquired knowledge in an unfamiliar situation when evaluating their knowledge, it leads to realizing the inextricable connection between theory and practice. In general, it teaches a creative approach to life problems and a quick and intelligent solution.

LIST OF USED LITERATURE

1. Mirziyoyev Sh.M. “Erkin va farovon, demokratik O‘zbekiston davlatini mard va olijanob xalqimiz bilan birga quramiz” mavzusidagi O‘zbekiston Respublikasi Prezidenti lavozimiga kirishish tantanali marosimiga bag‘ishlangan Oliy Majlis palatalarining qo‘shma majlisidagi nutqi. – Тошкент, “O‘zbekiston”, 2016.-56 b.

2. O‘zbekiston Respublikasi Prezidentining 2022 yil 28 yanvardagi “Yangi O‘zbekistonning taraqqiyot strategiyasi to‘g‘risida”gi PF-60-son farmoni.
3. Ishmuxamedov R.J., Yuldashev M. Ta’lim va tarbiyada innovatsion pedagogik texnologiyalar.– Toshkent, “Nihol” nashriyoti, 2016.-279 b.
4. Muslimov N., va boshqalar. Kasb ta’limi o‘qituvchilarining kasbiy kompetentligini shakllantirish texnologiyasi – Toshkent, “Fan va texnologiyalar”, 2013 y. 128 b.
5. Karimov A.S. va boshqalar Elektrotexnika va elektronika asoslari, O‘qituvchi, 1995 yil.
6. Inoyatov U.I., Muslimov N.A., va boshqalar, Pedagogika: 1000 ta savolga 1000 ta javob. Toshkent, “Ilm-Ziyo” nashriyoti. 2012 yil 12 b.t.

REFERENCES

1. Тохиров, У. О., & Турсунов, Ж. Э. (2012). Вопросы формирования методологических, когнитивных и креативных качеств учащихся. In Педагогика: традиции и инновации (pp. 112-113).
2. Турсунов, Ж. Э. (2021). ЭФФЕКТИВНЫЕ СПОСОБЫ ОПРЕДЕЛЕНИЯ КРЕАТИВНЫХ СПОСОБНОСТЕЙ УЧАЩИХСЯ НА УРОКАХ ТЕХНОЛОГИИ. In СОВРЕМЕННЫЕ НАУЧНЫЕ ИССЛЕДОВАНИЯ: АКТУАЛЬНЫЕ ВОПРОСЫ, ДОСТИЖЕНИЯ И ИННОВАЦИИ (pp. 153-157).
3. Турсунов, Ж. Э. (2018). V-VII синфлар меҳнат таълими машғулотида ўқувчилар креативлик қобилиятларини шакллантириш модели. Современное образование (Узбекистан), (1), 12-20.
4. Турсунов, Ж. (2011). Использование технологии эвристических обучающих ситуаций в развитии креативных способностей учащихся. Молодой ученый, (11-2), 177-178.
5. БАЙБОБОВ, Н. Г., ХАМЗАЕВ, А. А., & РАХМОНОВ, Х. Т. (2014). Расчет кинетической энергии пруткового элеватора с центробежной сепарацией. Вестник Рязанского государственного агротехнологического университета им. П.А. Костычева, (2), 19-21.
6. Байбобоев, Н. Г., Бышов, Н. В., Борычев, С. Н., Мухамедов, Ж. М., Рахмонов, Х. Т., Акбаров, Ш. Б., ... & Рембалович, Г. К. (2019). Навесная сепарирующая машина.
7. Rahmonov, X. T. (2018). SUBSTANTIATING THE PARAMETERS OF CLOUDS-DESTRUCTING BODY OF THE INTEGRATED ASSEMBLY. Scientific-technical journal, 1(2), 127-130.
8. Sotvoldiyev, E., Khamdamova, V., Ibragimova, M., & Usmanova, M. (2020). PREPARING STUDENTS FOR BUSINESS ACTIVITY IN SCHOOL TECHNOLOGY CLASSES. European Journal of Research and Reflection in Educational Sciences, 8(2), 1-4.
9. Ibragimova, M., Yusufkhodjaeva, F., Sattorova, D., & Sotvoldiyev, E. TECHNOLOGY OF USING INTERACTIVE METHODS IN SCHOOL EDUCATION.
10. Исакова, З. (2018). МЕЖПРЕДМЕТНАЯ ПРЕЕМСТВЕННОСТЬ СРЕДНЕ-СПЕЦИАЛЬНОГО И ВЫСШЕГО ОБРАЗОВАНИЯ. Актуальные научные исследования в современном мире, (12-4), 59-63.
11. Хонбобоев, Х. О., Икромов, М. Х., & Икромов, М. А. Х. (2016). Та’лимда ахборот texnologiyalarni qollashning oziga xos xususiyatlari. Молодой ученый, (3-1), 21-22.
12. MUBINAKHON, I., & ANASKHON, I. M. The Importance of Using the Ict to Increase the Efficiency of Education. JournalNX, 7(1), 106-108.
13. Юсуфходжаева, Ф. М. (2018). Тарбия усулларини тўғри танлашнинг таълим жараёнидаги аҳамияти. Современное образование (Узбекистан), (1), 52-59.
14. Юсуфходжаева, Ф. (2018). ОСНОВЫ ОБРАЗОВАТЕЛЬНОЙ ПРАКТИКИ ПЯТИКЛАССНИКОВ ОБЩЕОБРАЗОВАТЕЛЬНЫХ ШКОЛ. Актуальные научные исследования в современном мире, (5-6), 44-46.

15. Юсуфходжаева, Ф. М. (2019). Касбий маҳорат ва компетентлиликни ривожлантириш жараёнида мотивлаштириш. Современное образование (Узбекистан), (1 (74)), 11-17.
16. Sobirovna, U. M., & Iroдахон, Т. (2022). TEXNOLOGIYA FANI MASHG'ULOTLARINI SAMARALI TASHKIL ETISH METODLARI. PEDAGOGS jurnali, 21(1), 41-44.
17. Sobirovna, U. M. (2022). Improving the educational system for children with disabilities. The Peerian Journal, 4, 20-22.
18. Yusufkhodjaeva, F., Usmanova, M., Sattorova, D., & Khamdamova, V. THE USE OF ICT IN SCHOOL EDUCATION. computer, 1, 104.
19. Maryam, I., & Mukhlisa, U. The Use of Interactive Methods in the Orientation of Students to Entrepreneurial Activity. JournalNX, 7(03), 223-226.
20. Ibragimova, M. G. (2022). METHODS OF INVENTING YOUNG PEOPLE TO ENTREPRENEURSHIP THROUGH INTERACTIVE METHODS. Galaxy International Interdisciplinary Research Journal, 10(2), 45-48.
21. Ибрагимова, М. Ф., Ҳамдамова, В. А., & Юсуфходжаева, Ф. М. (2020). ЁШЛАРНИ ИҚТИСОДИЙ ТАРБИЯЛАШДА ТЕЖАМКОРЛИКНИНГ ЎРНИ. Интернаука, (23-3), 61-62.
22. Ибрагимова, М. Г. (2019). НОВЫЕ ТЕХНОЛОГИИ ШИТЬЯ В ТРУДОВОМ ОБУЧЕНИИ. Актуальные научные исследования в современном мире, (2-5), 113-116.
23. Ибрагимова, М. Г. (2011). Факторы морально-нравственного ориентирования учащихся профессиональных колледжей на предпринимательскую деятельность. Молодой ученый, (12-2), 99-101.
24. Ибрагимова Мариям Гуломовна (2019). Иқтисодии музокаралар жараенида танкидий фикрлашга йўналтирилган педагогик методлар аҳамияти. Современное образование (Узбекистан), (1 (74)), 18-24.
25. Tojiyevich, R. X., Juraevich, X. A., & Toshpo'latovich, Y. O. (2022). Theoretical Justification Of The Dimensions Of The Working Part Of The Combined Aggregate Cutting Grinder. Journal of Positive School Psychology, 6(9), 3663-3667.
26. Toshpulatovich, Y. O. (2021). SCIENTIFIC AND TECHNOLOGICAL BASIS OF POTATO DEVELOPMENT. Galaxy International Interdisciplinary Research Journal, 9(12), 296-300.
27. Юлдашев, О. Т. (2018). Умумий ўрта таълим, олий таълим тизимида меҳнат таълими дарсларини ташкил этишда интеграция жараёнининг ўрни. Современное образование (Узбекистан), (1), 35-43.
28. Zapparov, A., Rakhmonov, K., & Isakova, Z. (2021). Modular Teaching Technology In Technical Sciences Application Methodology. Oriental renaissance: Innovative, educational, natural and social sciences, 1(3),
29. Abdurahmonov, S. H., Bo'taev, A., & Zokirov, V. (2022). TECHNICAL CREATIVITY GEOMETRIC-GRAPHIC DESIGN IN STUDENTS DEVELOPMENT BASED ON EXERCISE. Conferencea, 140-145.
30. Butaev, A. A., Isakova, Z. R., & Zapparov, A. (2021). THE METHODS OF DEVELOPING MODERN TECHNOLOGY SKILLS AMONG GENERAL SECONDARY SCHOOL PUPILS. Экономика и социум, (2-1), 112-114.
31. Baratboyev, B., Butayev, A., & Mamadiyev, U. (2019). THE USE OF INTERACTIVE METHODS IN THE TEACHING OF FINE ARTS. European Journal of Research and Reflection in Educational Sciences Vol, 7(12).
32. Бутаев, А., & Абдурахманов, Ш. (2011). Развитие критического мышления через пространственное представление и техническое рисование. Молодой ученый, (11-2), 151-154.
33. Farruxovna, B. G., & Ashirovich, B. A. Pedagogical and Psychological Factors in the Membership of Individual Interest in the System of Continuous Education. JournalNX, 7(04), 388-391.
34. Ashirovich, B. A. To Develop The Ability of Thinking Creatively of Students in The Process of Drawing.

35. Zikrillaev, N. F., Saitov, E. B., Tursunov, O. B., Khusanov, A. J., & Kurbonaliev, K. K. (2021). Features Of Self-Oscillatory Processes In A Strongly Compensated Silicon With Nanoclusters Of Impurity Atoms. *European Journal of Molecular & Clinical Medicine*, 8(1), 935-939.
36. Jurayevich, H. A. (2020). Some issues of directing students for independent scientific research. *ACADEMICIA: AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL*, 10(12), 1314-1317.
37. Kamilov, T. S., Kabilov, D. K., Samiev, I. S., Husanov, A. Z., & Dadamuhamedov, S. (2005, June). The thermoelectric radiation detector based on the multielement structures of the higher manganese silicide films. In *ICT 2005. 24th International Conference on Thermoelectrics, 2005*. (pp. 543-545). IEEE.
38. Камиллов, Т. С., Хусанов, А. Ж., Бахадырханов, М. К., & Кобиллов, Д. К. (2002). Поликристаллические неселективные приемники излучения на основе пленок высшего силицида марганца. *Письма в ЖТФ*, 28(22).
39. Souma, T., Ohtaki, M., Zhang, Y., Bian, Z., Shakouri, A., Terasaki, I., ... & Dadamuhamedov, S. (2005). Том. 2005. *Proceedings-ICT'05: 24th International Conference on Thermoelectrics.-Сер. Proceedings-ICT'05: 24th International Conference on Thermoelectrics. Evaluation*, 387, 390.
40. Usmonovich, O. B., & Qizi, O. D. B. (2021). FORMATION OF INFORMATION LITERACY IN PRIMARY SCHOOL STUDENTS. *World Bulletin of Social Sciences*, 2, 122-123.
41. Olimov, B. U., & Olimova, D. B. Q. (2021). INNOVATSION TA'LIM MUHITIDA O'QUVCHILARNING KITOB O'QISHGA BO'LGAN QIZIQISHLARI YUZASIDAN UZVIYLIK VA UZLUKSIZLIKNI YO'LGA QO'YISH. *Academic research in educational sciences*, 2(10), 321-325.
42. Olimov, B. U., & Olimova, D. B. (2020). ORGANIZATION OF MENTAL ARITHMETIC COURSES FOR PRIMARY SCHOOL STUDENTS. *Theoretical & Applied Science*, (4), 943-946.
43. Olimov, B. U., & Olimova, D. B. (2020). The effectiveness of mental arithmetic courses in pre-school education. *ISJ Theoretical & Applied Science*, 02 (82), 525-527.
44. Olimov, B. U., & Olimova, D. B. (2020). ORGANIZATION OF MENTAL ARITHMETICS COURSES FOR EARLY CLASS STUDENTS IN SCHOOLS. *Theoretical & Applied Science*, (2), 522-524.
45. Eminjanovna, S. G. (2021). The role of national music in education of youth. *ACADEMICIA: AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL*, 11(2), 1285-1288.
46. Ikramova, M. (2022). SPECIFIC CHARACTERISTICS OF USING MODERN EDUCATIONAL TECHNOLOGIES AND METHODS IN TRAINING FUTURE TEACHERS OF TECHNOLOGY. *Emergent: Journal of Educational Discoveries and Lifelong Learning*, 3(9), 1-4.
47. Isaqova, Z., Ikramova, M., & Abdusamatova, M. (2021). TO EDUCATE STUDENTS TO BE SMART, POLITE, WELL-MANNERED, INTELLIGENT AND PHYSICALLY HEALTHY IN THE PROCESS OF LABOR EDUCATION. *Galaxy International Interdisciplinary Research Journal*, 9(12), 868-870.
48. Usmonovich, O. B. (2021). ORGANIZATION OF TECHNOLOGY LESSONS IN SECONDARY SCHOOLS. *Galaxy International Interdisciplinary Research Journal*, 9(6), 359-361.