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The Use Of Innovative Technologies In Organizing The Professional Training Of Teachers In The Field Of Technological Education

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Annotation. The article provides for the improvement of students' professional training, analyzes the stages of modern lessons, and methods of using innovative technologies in the lesson process.
Keywords: cluster approach, professional training, electronic platform, scientific research, scientific development, innovative technology.

The introduction of modern innovative methods in the organization of professional training for students is one of the important conditions for the development of the higher education system of the Republic of Uzbekistan until 2030 and its transformation into one of the leading countries in the world in terms of industrial and technological sectors of the economy by 2030. The development of society, the development of production, in a certain sense, depends on the content and level of education provided to the younger generation, the direction, essence, and results of education in educational institutions operating in this field. Indeed, the development of the education system in terms of content and essence, the provision of moral and cultural education to students, the introduction of advanced scientific, technical, and technological advancements into the educational process, the achievement of high results with minimal physical effort and time, the formation and enrichment of spiritual and moral qualities in a person, and the formation of a spiritually healthy lifestyle in society. Development occurs in the spheres of society in which a spiritual environment and a healthy lifestyle are achieved.
In the context of education globalization, in the process of reforms aimed at improving continuous education and upbringing, practical efforts are being made to organize the educational process in these educational institutions

based on a new approach, enhance their effectiveness, and develop the professional training of future teachers.

- Development of theoretical foundations for improving the professional training of future technology teachers in higher education institutions based on a cluster approach;
- professional training of future technology teachers and its improvement;
- creation of methodological foundations for organizing the educational process based on a cluster approach;
- development of a methodology for using a cluster approach in developing the professional competencies of future technology teachers.

"And for that:

- availability of a database on the latest achievements of science and technology and their practical significance, as well as the possibility of its regular updating;
- possessing a database of innovative competencies corresponding to the professional activities of technology teachers;
- to have a database of information about communication with technical means (parts, devices, mechanisms, connections, machines, etc.), belonging to various professions, and to be able to use them as educational information in carrying out professional activities (using knowledge, skills and abilities in practical activities);
- familiarization with the scientific foundations of innovative production;
- to have practical skills (measurement, calculation, processing and installation) based on technical objects and technological processes;
- it is necessary to have the knowledge and skills necessary for many professions related to various parts and their parts, assemblies, connections, technical devices, mechanisms and machines.

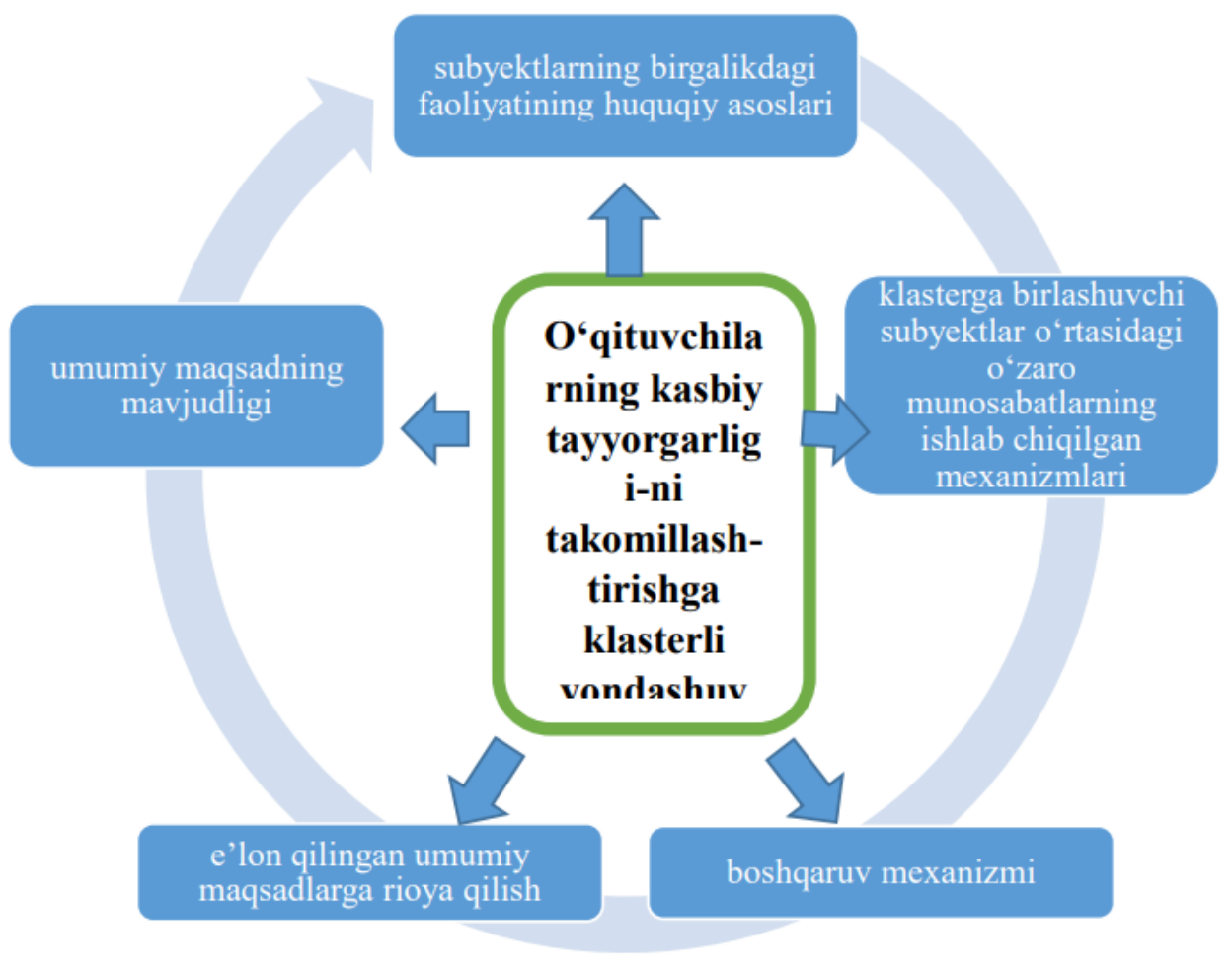
Acquiring such knowledge and skills in children leads to the improvement of technological functions in future specialists and creates opportunities for applying acquired knowledge and skills to other types of activities.

It has been determined that the solution of the following important issues in the professional training of future technology teachers in higher education institutions is an urgent task:

1) The use of innovative technologies in the process of professional training of future technology teachers, the determination of the level of formation and development of students' abilities to apply practical skills in their future professional activities;

2) Scientific substantiation of the place, role, and significance of future teachers in becoming mature specialists who meet modern requirements based on a cluster approach;

3) The organization, conduct, and implementation of experimental work that determines the level of development of sufficient skills and abilities in the creative, technical, technological, and pedagogical abilities of future technology teachers based on a cluster approach;



Summarizing the above, we present several key components for implementing the cluster approach:

- common goal;
- legal basis of joint activities of subjects;
- development of mechanisms of interaction between subjects;
- mechanisms for managing implementation in the practice of the cluster approach;

- technologies for implementing a cluster approach that aligns with common goals.

Changes in the global market, in the field of advanced production, in the field of economics, as well as in the social sphere, are the result of the development and very "aggressive" spread of new technologies, practically in all spheres of human life. At the same time, it can be confidently stated that the solution of some problems related to personnel provision, including the country's economy, is related to the subject area of "Technology." Such large-scale transformations in the economy require reflection in the mandatory subject area of "Technology," in which the learner's competencies are activated, allowing them to solve applied tasks related to the transformation of energy, information and structural materials, as well as the design, design and manufacture of prototypes and others with a certain share of creativity.

Given global experience in general education, it can be confidently said that the subject area of "Technology" is the third vector alongside humanitarian and natural science, while it allows for the practical application of basic knowledge of sciences in the chains of technologies for digital design and construction and the use of best-in-class production technologies in the production of prototypes of products, taking into account creative reinterpretation, while building a transition and continuity at all levels of education, as well as in professional activities.

Factors influencing changes in the subject area of "Technology" The transformation of the subject area of "Technology" in the general education system was significantly influenced by the following changes in the regulatory framework at the moment:

1. Reduce the number of hours for studying the subject "Technology" in school: at the levels of primary general education, basic general education, secondary general education. Since 2004, the federal basic curriculum of the federal component of the state educational standard in the study of the subject "Technology" at the primary school level has been allocated 1 hour a week for first and second graders and 2 hours a week for third and fourth graders instead of the usual 2 hours a week in the 1993 federal basic curriculum. Since 2011, when implementing the Federal State Educational Standard for Primary General Education, each educational organization has independently determined the

number of hours per week for studying the subject "Technology" and most often from grades 1 to 4, allocating 1 hour per week.

At the level of secondary general education in grades 10-11, according to the federal component of the state educational standard, the subject "Technology" is excluded from the invariant part of the basic curriculum. In the Federal State Educational Standard of Secondary General Education, the subject "Technology" is not mandatory when organizing specialized learning. Therefore, there is a trend towards a decrease in the number of hours spent studying technology, which cannot but affect the quality of technological training.

2. The content of the subject "Technology" has undergone the following changes since 2004. In the 3rd and 4th grades, the module "Informatics and Information and Communication Technologies (ICT) " was added to the subject "Technology (Labor) " aimed at ensuring universal computer literacy. In grades 5-8, drawing is studied as a separate module instead of the previously studied subject "Drawing," as students' engineering skills and technological literacy are formed based on graphic literacy. In the requirements of the FGOST LLC, determining the number of hours for both the subject itself and the modules of the "Technology" subject belongs to the responsibility of the educational organization.

The actual problem is that in many schools, the administration does not take into account the very wide content of some sections, both mandatory and variable components of the curriculum based on modern technological training, including taking into account the specifics of the region's economic and production components.

3. The material-technical and educational-methodological support of the subject "Technology" includes the availability of special equipment, textbooks and teaching aids. One of the acute problems of technological education remains the provision of access to modern equipment to students in all schools of the country, as technology workshops have been closed in a number of regions. Textbooks and teaching aids have not changed the content of the subject "Technology."

4. In the pedagogical universities responsible for the training of specialists in the technological direction, the number of students - future technology teachers decreases, the status of the technology teacher itself decreases. The subject "Technology" is one of the few, it can be said that it is the only one that has been studied for many years and has been divided into subgroups according to the

principle: boys and girls. Changes in technological education, embedded in the FGOST of general education, require a technology teacher as a "universal" teacher who possesses educational technologies for teaching boys and girls together in "indivisible classes." Therefore, the main problems of technological education of schoolchildren today are: in most schools of the region and the country as a whole, the number of hours for mastering this subject is constantly decreasing, workshops, inter-school educational complexes are closed or equipment in existing workshops is outdated, textbooks and teaching aids do not reflect the variability of modules and all cross-content lines of the subject "Technology" with regional specificity accents.

It is no coincidence that in recent years, the problem of technological education has been given attention at all levels of education and government [3-5]. In the context of implementing the requirements of the Federal State Educational Standard of Basic General Education in the area of updating the content and results of the subject "Technology" since 2015, the issue of training students - future technology teachers and additional professional education (training courses, retraining) of technology teachers is extremely relevant [6-8]. The subject results of technology in the requirements require "students' awareness of the role of technology and technology in the progressive development of society; formation of a holistic understanding of the technological sphere, the essence of technological culture and labor culture; clarification of the social and environmental consequences of the development of industrial and agricultural production, energy and transport technologies."

References:

1. Suyunov, B. T. (2024). Development of meaning in words and semantics of medical terms. *European Science Methodical Journal*, *2*(6), 187-193.
2. Suyunov, B. T. (2023). Medical lacunars of the Uzbek language. Web of Teachers: Inderscience Research, 1(8), 119-125.
3. Sayfullayeva, R. R., Tursunova, S. T. (2022). Boshlang‘ich sinf o‘quvchilariga so‘z ma’nosini tushuntirish usullari. Lingvodidaktikaning dolzarb masalalari, 1(1), 499-501.
4. Sayfullayeva, R. R., Tursunova, S. T. (2022). So‘z ma‘nosi ustida ishlashda o‘quvchilarning kreativ qobiliyatlarini takomillashtirish. Образование и наука в XXI веке, 2(5), 194-196.

5. Mambetaliyev, Q. A. (2024). Methods for The Development Of Education And Literacy In Primary School. Pedagogical Cluster-Journal of Pedagogical Developments, 2(4), 313-316.
6. Mambetaliyev, Q. A. (2024). Boshlang'ich sinf o'quvchilarini tanqidiy fikrlashga o'rgatishning pedagogik asosi. Mug'allim, 1(3), 525-528.
7. Mambetaliyev, Q. A. (2024). O'zbek va qozoq she'riyatida adabiy an'analarining aks etish takomili. Til va adabiyot, 1(7), 100-101.
8. Мамбеталиев, Қ. А. (2023). Воқеабанд шеърларда замон талқини. O'zbekistonda fanlararo innovatsiyalar va ilmiy tadqiqotlar jurnali, 2(18), 792-797.
9. Mambetaliev, K. A. (2023). Reflection of world literary styles. Galaxy International Interdisciplinary Research Journal, 11(4), 717-721.
10. Kadirova, Z. Z. (2024). Alisher Navoiy Nasriy asarlaridagi perifrazalarning morfologik xususiyatlari. Philological research: language, literature, education, 3(3), 38-42.
11. Kadyrova, Z. Z. (2024). The Uzbek language corpus and the practical significance of forming the base of philological terms in it. International Scientific Journal Theoretical & Applied Science, 3(131), 98-100.
12. Kadirova, Z. Z. (2021). Shukur Xolmirzayev asarlarida metaforalar. Konferensiya, 1(1), 179-185.
13. Кадирова, З. З. (2017). Из истории о перядке морфем в узбекском языке. Актуальные вызовы современной науки, 1(1), 16-20.
14. Кадирова, З. З. (2017). Ҳадис ва тарбия. Буюк муҳаддис Абу Исо Термизий ва Термизийларнинг бой илмий-маънавий меросини ўрганиш, 1(1), 9-12.
15. Кадирова, З. З. (2017). Лингвопоэтика асослари бўйича мулоҳазалар. Филолоия фанларининг долзарб масалалари" номли республика илмий-назарий конфиренци, 1(1), 3-8.
16. Xamidullayeva, X. Z. (2024). Tarbiya-ma'naviy taraqqiyotimizning tayanch nuqtasi. Ta'lim innovatsiyasi va integratsiyasi, 17(1), 25-27.
17. Zulayho, X., Jasmina, T. R., & Durdona, R. (2024). Mayda qo 'l motorikasini rivojlantirishda predmetlarni sirt tuzilishini farqlash qobiliyatini rivojlantirish usullarini o 'rgatish. PEDAGOGS, 50(1), 20-24.
18. Xusnuddinova, Z., Torayeva, J., & Raximova, D. (2024). Professions recommended for persons with visual impairment. Modern Science and Research, 3(1), 953-956.

19. Xusniddinova, Z. X. (2024). Ko‘rishda nuqsoni bo‘lgan bolalarda predmet tasavvuri va ko‘ruv idrokining o‘ziga xos xususiyatlari. Kasb-hunar ta’limi, 1(7), 129-133.
20. Khamidullayevna, K. Z. (2023). Conditions of education of visually impaired children in inclusive educational environment. Web of Humanities: Journal of Social Science and Humanitarian Research, 1(9), 25-28.
21. Khusnuddinova, Z., Torayeva, J., & Rakhimova, D. (2023). Vocational training of children with visual impairment. Web of Teachers: Inderscience Research, 1(9), 9-14.
22. Egamberdiyeva, N. A. (2024). Diagnosing and organizing rehabilitation of children with disabilities on the autism spectrum. European Science Methodical Journal, 2(6), 463-468.
23. Azizovna, E. N. (2024). Alohida ta’lim ehtiyojiga ega bolalarni inklyuziv ta’limga qamrab olishning shart-sharoitlari. Ta'lim innovatsiyasi va integratsiyasi, 12(1), 53-55.
24. Egamberdiyeva, N. A. (2024). Autizm sindromli bolalarning diagnostika jarayonini tashkil etish. Xalq ta'limi, 3(1), 117-120.
25. Haydarova, G. (2023). O‘zbek tili taraqqiyotida baynalmilal so‘zlarning ahamiyati. UzMU xabarlari, 1(4), 306-308.
26. Navruzov, U. B. (2024). Matnli masalalarni tenglama tuzish yo’li bilan yechish usullari. Ilmiy ijodkorlik, 1(1), 68-76.
27. Navruzov, U. B. (2023). Ba’zi matematik masalalarni yechishda klassik tengsizliklardan foydalanish usullari. Unifikatsiya, 1(1), 48-54.
28. Navruzov, U. B. (2022). Aniq va aniqmas integralni hisoblashda bo`laklab integrallash usulining qo’llanilishi. Mustaqil fikrlash, 1(1), 212-215.
29. Останов, К., Наврузов, У. Б., & Бобоев, Б. Э. (2022). Использование нестандартных задач как средство формирования креативного мышления учащихся. Academy, (2 (73)), 55-57.
30. Usarboyeva, D. (2024). Talabalarning akademik mobilligini shakllantirish mexanizmlari. Таълим тизимида ижтимоий-гуманитар фанлар, 1(1), 74-77.
31. Usarboyeva, D. (2024). Talabalarning akademik mobilligini shakllantirish mexanizmlarini rivojlantirish. Mugallim, 1(1), 154-158.
32. Usarboyeva, D. (2023). Ta'lim jarayonini tashkil etishda innovatsion ta'lim metodlarining ahamiyati. Current Issues of Bio Economics and Digitalization in the Sustainable Development of Regions (Germany), 1(1), 184-187.

33. Khimmataliev, D., Abdurakhmanova, D., & Usarboeva, D. (2023). Advanced foreign experiences in organizing student independent education. Science and innovation, 2(B10), 272-277.
34. Raxmatilla, M., Usarboeva, D. U., Otaqulov, A., & Kurbanbayeva, N. (2022). Zamonaviy ta'lim metodlari–ta'lim samaradorligi kafolati (Modern educational methods-a guarantee of educational efficiency). 1(1), 75-80.
35. Musurmonov, R., Usarboeva, D. U., Otaqulov, A., & Kurbanbayeva, N. (2022). Zamonaviy ta'lim metodlari–ta'lim samaradorligi kafolati. Oriental renaissance: Innovative, educational, natural and social sciences, 2(Special Issue 20), 181-188.
36. Yunusovna, F. U. (2024). Deaf and weak rowing children with a mum in rowing are the present and future of your education. Galaxy International Interdisciplinary Research Journal, 12(3), 1-3.
37. Yunusovna, F. U., & Shohsanam, V. (2024). The role of surdopedagog teachers in improving the effectiveness of the education of deaf and weak hearing children. Academia Repository, 5(03), 1-5.
38. Yunusovna, F. U. (2024). Present and future of special education. European Journal of Interdisciplinary Research and Development, 25, 1-4.
39. Sultanov, T., & Turginbayeva, S. (2024). Goals and tasks of teaching logical problems in primary class mathematics course. Western European Journal of Modern Experiments and Scientific Methods, 2(4), 138-141.
40. Sultanov, T. M., & Paxriddinova, S. B. (2024). Boshlang 'ich sinf o 'quvchilarini o 'yin texnologiyalari asosida ta'limga adaptatsiya qilishning pedagogik metodlari. PEDAGOG, 7(3), 547-551.
41. Sultanov, T. M. (2024). Boshlang'ich sinf o'quvchilarini o'yin texnologiyalari asosida ta'limga adaptatsiya qilishning pedagogik metodlari. Ta'lim Fan Innovatsiya, 2(2), 362-365.
42. Sultanov, T. M., Turdaliyeva, A. M. (2024). Pedagogika yo'nalishi talabalarini prezident maktablariga kadr etib tayyorlash metodikasi. Finland Academic Research Science Publishers, 12(4), 1-4.
43. Sultanov, T. M. (2023). The Need To Use Game Technologies In Primary Education. Diversity Research: Journal of Analysis and Trends, 1(3), 370-373.
44. Кулдашева, Г. Д. (2022, August). ПРИМЕНЕНИЕ ЦИФРОВЫХ ТЕХНОЛОГИЙ В ДОШКОЛЬНОМ ОБРАЗОВАНИИ: Кулдашева Гулбахор Давлятовна, доцент кафедры «Педагогики и психологии» института переподготовки и повышения квалификации директоров и

специалистов ДОО E-mail: gulya. kuldasheva@ mail. ru. Научно-практическая конференция.

45. Шамсутдинов, А., & Кулдашева, Г. Д. (2022, August). ПЛЮСЫ И МИНУСЫ ТЕЛЕМЕДИЦИНЫ В ПСИХОЛОГИЧЕСКОМ КОНСУЛЬТИРОВАНИИ: Шамсутдинов Альберт, Студент 3-го курса, факультета «Клинической психологии» ТГСИ, г. Ташкент. Кулдашева Гулбаҳор Давлятовна, доцент кафедры «Педагогики и психологии» института переподготовки и повышения квалификации директоров и специалистов ДОО E-mail: gulya. kuldasheva@ mail. ru. Научно-практическая конференция.
46. Кулдашева, Г. Д. (2022). ПРИМЕНЕНИЕ ЦИФРОВЫХ ТЕХНОЛОГИЙ В ДОШКОЛЬНОМ ОБРАЗОВАНИИ. Конференция, 1(1), 71-75.
47. Kuldasheva, G. D. (2022). Socio-Psychological Barriers and Ways to Overcome Them. Pioneer Journal of Advanced Research and Scientific Progress, 1(4), 136-140.
48. Кулдашева, Г. Д. (2022). ТИББИЁТ ХОДИМЛАРИНИНГ ФАОЛЛИК ВА ФИДОЙИЛИК ТУЙҒУСИНИ КУЧАЙТИРИШ ЙЎЛЛАРИ. Конференция, 1(1), 360-365.
49. Кулдашева, Г. Д. (2021). РОЛЬ И ЗНАЧЕНИЕ ЦИФРОВИЗАЦИИ В МЕДИЦИНСКОМ ОБРАЗОВАНИИ. Конференция, 1(1), 128-135.
50. Худоёрова, О. К., Кулдашева, Г. Д. (2021). O‘zbekiston Respublikasi konstitutsiyasi – mamlakat taraqqiyoti va jamiyat farovonligining huquqiy kafolati. Конференция, 1(1), 386-389.
51. Кулдашева, Г. Д. (2021). Ҳарбий хизматчиларни хизмат фаолиятига тайёрлашда фаолиятли ёндашув тамойиллари. Конференция, 1(1), 53-57.
52. Ergashevna, A. M., Nosirovna, M. R., Davlatovna, K. G., & Kurbanovna, N. M. (2021). Innovative and Ecological Approaches in Improving the Professional Competence of Teachers of Medical Education. Turkish Online Journal of Qualitative Inquiry, 12(8).
53. Кулдашева, Г. Д. (2021). Мобиль телефон фойдаси ва болалар соғлиғига таъсири масалалари. Бола ва замон, 1(2), 30-33.
54. Кулдашева, Г. Д. (2021). Пути преодоления социально-психологических барьеров в жизнедеятельности человека. Бердақ номидаги Қорақалпоқ давлат университетининг Ахборотномаси, 1(2), 81-83.

55. Kuldasheva, G. (2024). Characteristics of the process of biological growth and development of the child. Центральноазиатский журнал образования и инноваций, 3(5 Part 3), 188-192.
56. Ахмедов, Б. А. (2024). Модель трудоустройства молодого специалиста в современном обществе. Проблемы применения инновационных и цифровых технологий в системе образовании, 1(1), 955-970.
57. Ахмедов, Б. А. (2023). Реформирование трудоустройства молодых специалистов в условиях нового этапа развития Республики Узбекистан. Мировая наука – Проблемы и перспективы развития, 1(1), 92-115.
58. Ахмедов, Б. А. (2023). Анализ эффективности формы профессиональной подготовки молодых специалистов в процессе трудоустройства. Вестник НамГУ, 1(4), 125-131.
59. Ахмедов, Б. А. (2023). Модель управления процессами распределения молодых специалистов в профессию. БухГУ Образование и инновационные исследования, 1(3), 339-350.
60. Ахмедов, Б. А. (2022). Развития индикаторов рынка труда молодежи в условиях трансформационных преобразований. Вестник НамГУ, 4(1), 77-85.
61. Ахмедов, Б. А. (2022). Профессиональный выбор и предпочтения молодых специалистов вузов Узбекистана. Хорезмская академия Маъмуна, 5(2), 209-218.
62. Akhmedov, B. A. (2022). Methodology of teaching informatics in under-developed schools of the Tashkent region. FIZIKA MATEMATIKA va INFORMATIKA, 1(6), 66-74.
63. Axmedov, B. A. (2023). Umumta'lim maktablarida informatika va axborot texnologiyalari fanini muammoli o'qitish metodlarining turlanishi. Ta'lim fan va innovatsiya, 6(1), 478-480.
64. Axmedov, B. A. (2023). Muammoli ta'limda Suqrotona yondashuv metodikasi. Mugallim, 6(3), 126-130.
65. Akhmedov, B. A. (2024). Dialogue Leading to a Problematic Situation and Its Place In School Education. Journal of Pedagogical Inventions and Practices, 28, 17-21.
66. Akhmedov, B. A. (2023). Socratic methods in education based on conflict dialogue. Sciental Journal of Education Humanities and Social Sciences, 1(3), 1-7.

67. Akhmedov, B. A. (2024). Reorganization of teaching manual in higher education in Tashkent region. Uzbek Scholar Journal, 24, 13-25.
68. Akhmedov, B. A. (2024). Methods Of Improving the Quality of Dissertation Works in The Exact Sciences of The Tashkent Region. Pedagogical Cluster-Journal of Pedagogical Developments, 2(1), 39-57.
69. Akhmedov, B. A. (2023). Socratic dialogue as a response to the challenge of the Epoch. Sciental Journal of Education Humanities and Social Sciences, 1(1), 1-9.
70. Akhmedov, B. A. (2023). Physics is a Science Forming Knowledge About Health. Diversity Research: Journal of Analysis and Trends, 1(3), 350-355.
71. Тангиров, И. Х., & Ахмедов, Б. А. (2021). Перспективы развития правового государства. Политика и общество, 7(18), 178-186.
72. Axmedov, B. A., & Muxamedov, G. I. (2021). Klaster Mobile DGU 09834.
73. Akhmedov, B. A. (2023). Use of information technology in medicine, history, biology, literature, physical education. Uzbek Scholar Journal, 22, 17-29.
74. Inomjonov, N., Axmedov, B., & Xalmetova, M. (2023). Kasbiy faoliyatida axborot-kommunikativ kompetentlikni oshirish usullari. Academic research in educational sciences, 4(CSPU Conference 1), 580-586.
75. Akhmedov, B. A., & Khimmataliyev, D. O. (2023). The emergence-theoretical aspects of dialogue in education. Sciental Journal of Education Humanities and Social Sciences, 1(2), 1-7.
76. Akhmedov, B. A. (2023). Prospects and trends of digital twins in education. Uzbek Scholar Journal, 23, 6-15.
77. Akhmedov, B. A., Makhmudova, D. M., & Akhmedjonov, D. G. (2024). Using the Socrates method in improving the quality of education in pedagogical universities. Sciental Journal of Education Humanities and Social Sciences, 2(1), 16-24.