**World Bulletin of Social Sciences (WBSS)**
**Available Online at:** https://www.scholarexpress.net
Vol. 2 August-September 2021
**ISSN:** 2749-361X

# GENERAL FOUNDATIONS OF PEDAGOGICAL TECHNOLOGY IN THE HIGHER EDUCATION SYSTEM

**Khalikov Abdulxak**
Professor of Tashkent State Transport University,
Doctor of Technical Sciences,
Uzbekistan, Tashkent
**Musamedova Kamola**
Applicant for Tashkent State Transport University
Uzbekistan, Tashkent

**Article history:**
**Received:** June 6th 2021
**Accepted:** July 10th 2021
**Published:** August 7th 2021

**Abstract:**
The work examines the problematic issues of modern pedagogical technology in the pedagogical education system, the goals, objectives of education and upbringing, which guarantees the availability of pedagogical technology for higher education, touches upon some aspects of pedagogical skills associated with the practical implementation of the technological process inherent in pedagogy. It is shown that pedagogical technology has a scientific character and it is necessary to recognize that it has a practical orientation that can be used in solving specific issues.

**Keywords:** Pedagogical technology, teacher skill, pedagogical education system

## 1. INTRODUCTION

For a number of years, the theory and practice of pedagogical technology were studied independently of each other, and this was in various activities. Today in our country there are ample opportunities for discussing the possibilities of scientific research. Ensuring the unity of theory and practice opens the way to defining the true essence of modern pedagogical technology.

In our opinion, the new pedagogical technology cannot be considered as a separate branch of pedagogical science or simply a system aimed at optimizing educational practice. Pedagogical technology determines the directions of activity within the framework of combining theoretical and practical research in this area [3-7]. The essence of the research here is modernization based on the study of the elements that make up the pedagogical system.

The reason is that the organization of any educational process reflects one or another pedagogical system. This means that pedagogical technology is a project of a well-known pedagogical system that can be implemented into practice.

## 2. PEDAGOGICAL SYSTEM

The pedagogical system is a set of interrelated means, methods and processes that purposefully implement the pedagogical influence on the formation of certain personality traits.

Consequently, in each society, the goal of forming a personality is established, and in accordance with it, a pedagogical system should exist. The system also needs to be changed if the goal changes.

The project of the pedagogical system, common for the types of education, can be characterized as follows (Fig. 1):

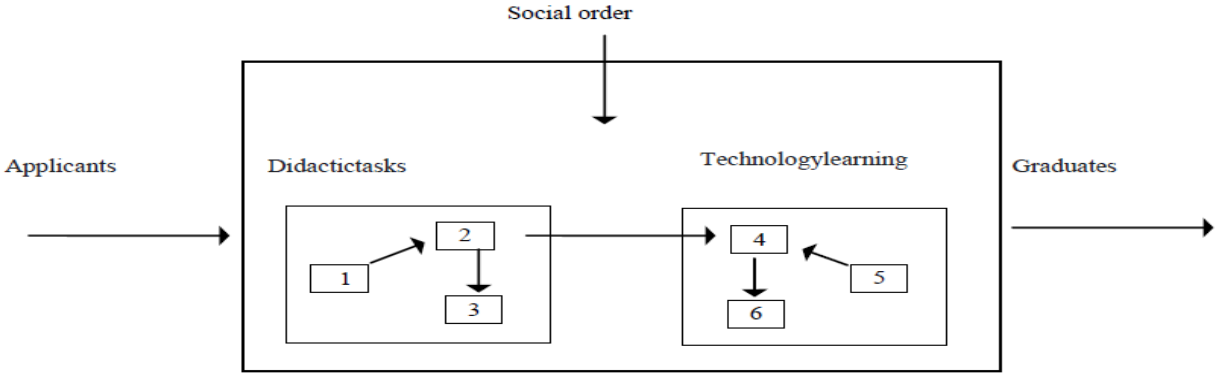


Fig.1. The structure of the pedagogical system common to the types of education

**World Bulletin of Social Sciences (WBSS)**
**Available Online at:** https://www.scholarexpress.net
Vol. 2 August-September 2021
**ISSN:** 2749-361X

The "National Program for Personnel Training" is the main goal of educating a comprehensively developed person who feels his responsibility to society, state and family. This means that the national program is perceived by us as a state order in the field of education and upbringing [1,2]. Only the state order determines the specific goals and objectives of education and upbringing or guarantees the availability of pedagogical technology for higher education[1].

The results of the research work have shown that any pedagogical system (Fig. 1) consists of the following interrelated elements:

1. Students.
2. The purpose of training and education.
3. Content of education and training.
4. Educational process or didactic process.
5. Technical means of teaching or learning.
6. Organizational forms of training and education.

The above pedagogical system, as inherent in any scientific theory, covers the following two concepts: didactic questions and the technology of their solution. Didactic issues within the pedagogical system, as in any field of human activity, require a clear goal and conditions for its achievement, as well as information for this activity.

It should be noted that teacher-methodologists have so far paid attention to the clear expression of didactic questions and the development of the corresponding pedagogical technology. In this regard, the use of the national program as a social order with the addition of the word "New" to the new pedagogical technology made our scientists and teachers somewhat thoughtful, now many understand that the old approach to the design of the educational process is impossible [8-11]. Let us dwell on the structure of pedagogical technology, which is given above. This continuous social order for the system has its effect and sets the educational goal as a whole. And the goal is the main link of pedagogical technology, which in turn gives rise to the need to update the remaining elements of the pedagogical system.

1. Pedagogical technology

The "National Program for Personnel Training" sets the goal of education and training in a new direction, that is, it defines the priority task of training highly qualified personnel at the level of developed democratic countries that meet high

[1]Мирзиёев Ш.М. «Обращение в Сенат и Законодательную палату ОлийМажлиса» - Ташкент. 20 января 2020 г.

MirziyoyevSh.M. "AppealtotheSenateandtheLegislativeChamberoftheOliy Majlis" - Tashkent. January 20, 2020

moral requirements, to completely rid the education system of ideological views and stalagmites of the past. Thus, the goal of education has been updated; it is natural that the content is updated in accordance with it.

The content of education is expressed in state educational standards (SES), educational programs, textbooks and teaching aids. In this regard, our scientists were given such an honorable and responsible task as the development of the content of education in the field of science [12-18].

Thus, the fact that didactic issues in pedagogical technology have their own solutions is an important stage in the implementation of the National Program.

If in the hands of the teacher are students who are keen on knowledge, programs, textbooks and manuals related to the goals of science, then he can comprehensively and consistently introduce new pedagogical technologies into practice, using organizational forms of cognitive activity for the successful implementation of the didactic process. Therefore, it is necessary to dwell in detail on the dependence of a lot on the skill of the teacher, his role in the pedagogical system.

1. The teacher must clearly define the goal of education, corresponding to the state order, so that as a result, it is possible to draw up and implement a didactic process that will ensure its achievement in a certain period of time.
2. It is necessary that the teacher deeply mastered the content of the educational process, corresponding to the goal in the pedagogical system, according to the educational program, regularly walked independently in accordance with the requirements of the scientific and technical development of his pedagogical skills.
3. The teacher must be familiar with the implementation of the didactic process as a structural element of the pedagogical system: this is, first of all, the need for acceleration and monandria by nature. Acceleration requires the use of a didactic process that is able to solve didactic problems in a certain period of time, somewhat faster and at a higher level. The factor determining this requirement for education and training is the speed with which pupils (students) master certain types of activities.Secondly, it is necessary to organize the educational process in such a way that students have the opportunity to gain a wide range of experience and develop their intellectual skills. These are the factors that determine the

**World Bulletin of Social Sciences (WBSS)**
**Available Online at:** https://www.scholarexpress.net
Vol. 2 August-September 2021
**ISSN:** 2749-361X

demand: the desire of students to study, attitude to academic performance and healthy psychophysiological activities.

4. The teacher must be able to use effective forms of teaching in the implementation of the didactic process. The correct choice of organizational forms of training indicates that the elements of the pedagogical system are interconnected on the basis of certain legislation. Using these connections and finding the most suitable organizational forms opens the way to the loss of formality in education.

5. The teacher must constantly monitor the extent to which the student, who is a participant in the pedagogical system, takes the influence of the content of education and upbringing using the most optimal methods. And the information obtained in such a correct way gives the pedagogical system the opportunity to purposefully influence others or determines which element in the system should be adjusted in terms of its content.

Here, we touched upon some aspects of pedagogical excellence associated with the practical implementation of the technological process inherent in pedagogy. Focusing on the fact that PT has a scientific character, it is necessary to recognize that it is inherent in a practical orientation; it can be used in solving specific issues. Understanding the need to correlate theory with educational practice allows us to single out a number of situations that determine the structure of modern pedagogical technologies:

1. Modernity dictates the need to introduce innovations, didactic procedures, which are scientifically substantiated by the practice of education and tested in practice.
2. The rationalization of the learning process is a matter that cannot be postponed.
3. Science requires the use of new means in education, active methods, didactic materials, new solutions to organizational issues.
4. The programmed activity of the student and the teacher provides the desire to remove the total unnecessary efforts from the educational process, to ensure high harmony and achieve the desired results.
5. The widespread use of didactic materials, which determines the effect of the use of information technologies and technical means that provide training, is one of the main features of modern PT.
6. The expediency of the material and technical base of the educational process is the next sign of PT.
7. A qualitative assessment of the results of the educational process is the goal of the PT itself.

Thus, new technical means and new technologies are among the most important components for the introduction of new procedures in education [19-23]. But in fact, it is very important to know how to apply and apply them in practice. This requires special training, great efforts and time, that is, the role of the teacher does not decrease with the introduction of innovative processes in education, but increases at higher stages of the educational process. This requires the teacher to re-analyze and critically analyze their knowledge.

Because whether he will use the new procedures or remain as a source of information depends on the same teacher. The teacher must be seriously prepared, directed, adapted and inspired by the direct procedures of the teaching technology.

The teacher's creative potential is reflected in his desire to form his own creative qualities, the manifestation of pedagogical etiquette, advanced training and professionalism, the ability to show ingenuity in unexpected situations, the ability to lead students to perfection.

A teacher is a gifted person who constantly develops and improves his abilities to develop new ideas in the pedagogical process. Pedagogical creativity by its nature is a professional, special expression of a person's creative work to form and improve new knowledge. Pedagogical research is always defined in relation to a subject in a particular direction of study.

The main forms of innovation as a result of pedagogical research are non-standard solutions to everyday educational problems, methodologically and theoretically perfect development, invention and improvement of methods of pedagogical influence and their effective use.

The goal of including valuable spiritual values of the past in the content of the new education system and reviving part of the forgotten or forbidden is not to bow down to the past, but to rely on it and enter a new stage of development, using it creatively.

Today, when developing a new type of education system, we must rely on the experience of labor and vocational education in the most prosperous period of the Turkestan civilization, that is, in the 7th-12th centuries. The basis of culture and science of that period was education, the formation of clear conceptual ideas of philosophers and teachers on the way to the highest peaks of development. In modern terms, education and upbringing, science is a process of continuous development of spiritual, physical and mental potential.

Philosophers of that period defined the spiritual, physical and mental qualities of a person as a whole. Such a philosophical pedagogical concept recognizes the educational process as a factor that initiates the

**World Bulletin of Social Sciences (WBSS)**
**Available Online at:** https://www.scholarexpress.net
Vol. 2 August-September 2021
**ISSN:** 2749-361X

spiritual and moral characteristics of a person. The content of these concepts is reflected not only in the works of philosophers, but also in the works of various representatives of labor and creativity.

During the period of Uzbekistan's independence, the formation of a national ideology, education of young people in the spirit of national and universal values remains one of the most important tasks. Since the state is based on spirituality, a state that does not pay attention to spirituality has no future. Turning to domestic pedagogical practice is one of the key factors in achieving these goals.

Teaching young people to self-study is one of the most important and urgent tasks of our time [24-42]. It should be noted that today the spiritual and intellectual stimulation of young people is of great importance. The definition of spiritual and intellectual qualities in modern ways makes effective changes in the educational process. A system of fair assessment of achievements and shortcomings in the qualities of the spiritual and intellectual development of students should make adjustments to improve the content, methods and organizational forms of training.

Monitoring and assessing the knowledge and mental state of schoolchildren and students is an important task at the state level. At the same time, the process of monitoring and evaluation affects the enrichment of students' knowledge, their personal development and education.

Pedagogical science emphasizes that there are 3 tasks of timely control and assessment of knowledge:

1. Based on the results of monitoring and evaluating the development, a conclusion is made about how state educational standards are being implemented and tasks for the future.
2. As a result of monitoring and assessing knowledge, students gain knowledge.
3. Good results in education have a positive effect on the upbringing of young people. They have a sublime spirit, confidence and interest in their powers.

As a result of international best practice and the work of many teachers, the assessment method is recognized today as the most acceptable criterion for control.

Rating is an assessment, regulation, classification, assessment of an event according to a given indicator. This testing method is also used effectively for rating control.

A test is a test tool that allows you to determine the level of perfection of a specific task and determine it qualitatively and quantitatively, giving rise to any form of activity and the form of a specific task [14, 22, 43].

The advantage of the test can be determined as follows:

- less time is spent on control;
- allows you to determine the level of control and practical knowledge in an objective environment;
- the ability to observe simultaneously with a large number of students;
- Cognitive outcomes are quickly verified by the teacher, etc.

The rating is included in the curriculum as the basis of the control system.

Qualitative indicators of student performance in each subject are expressed in points. The process of assessing the progress of students in the form of the sum of points scored in each semester is carried out regularly during the quarter and semester and is organized in the form of the following types of control:

- current control;
- intermediate control;
- final control.

Monitoring is the systematic monitoring of how the student masters topics during the lesson. This control consists in regularly checking during the lesson how the teacher is coordinating it. This control is carried out by the teacher, who involves determining the level of knowledge of the student in each subject.

Interim control is a series of topics covered by a subject and serves to determine the student's level of knowledge in the subject. Intermediate controls are carried out outside the classroom and allow students to improve their knowledge.

Final control - this control is carried out in writing or orally on the topics studied, as well as in the form of tests after the topics identified for the semester have been fully studied. A student's grade for a semester in a subject is determined by the points scored in the current, intermediate and final control.

The knowledge gained during academic, pedagogical, industrial and undergraduate practice is also rated by rating points.

Today, independent Uzbekistan has made a name for itself in the world economically and politically. At the same time, for Uzbekistan to become one of the developed countries, modern personnel are needed that meet the spirit of the future. The independent state also has its own important historical documents, among which the National Training Program occupies a special place.

In the main directions of development of the training system, recognized in the program, it is noted that the creation of a single information space of the education system ensures the intellectualization of educational programs. This means that the new century will be the

**World Bulletin of Social Sciences (WBSS)**
**Available Online at:** https://www.scholarexpress.net
Vol. 2 August-September 2021
**ISSN:** 2749-361X

century not only of information technologies, but also of their large-scale involvement in the educational process.

## CONCLUSION AND CONCLUSIONS:

Thus, based on the analysis of the above points of view, the following conclusion can be drawn:

1. Modern pedagogical technology has its own particular theory associated with pedagogical and other scientific achievements.
2. Pedagogical technology is aimed at building the educational process on a scientific basis; first of all, it provides a basis for joint activities of teachers and students, based on the widespread use of informative teaching aids and didactic materials, active methods.
3. The responsible task in this case is the development of the content of education in the field of science.
4. The fact that didactic issues in pedagogical technology have their own solutions, which is an important stage in the implementation of the National Program. If in the hands of the teacher are students who are passionate about knowledge, programs, textbooks and teaching aids related to the goals of science, then he can directly and consistently introduce new pedagogical technologies into practice, using organizational forms of cognitive activity for the successful implementation of the didactic process.

## BIBLIOGRAPHICLIST

1. Мирзиёев Ш.М. «Обращение в Сенат и Законодательную палату ОлийМажлиса» - Ташкент. 20 января 2020 г.
2. Указ Президента Республики Узбекистан от 7 февраля 2017 г. №УП – 4947 «О стратегии действий по дальнейшему развитию Республики Узбекистан. 3.Концепция развития системы высшего образования Республики Узбекистан до 2030 года (Приложение № 1 к Указу Президента РУз от 08.10.2019 г. № УП-5847).
3. Кулдашев Е. Расулов А. Подготовка современных инженеров в системе непрерывного образования. //Журнал непрерывного образования, - 2015, № 5, – С.91-98.
4. Атабаева К. Р. Таълимтизимидамасофавийўқитишнингафзалликлари.
5. // Молодой ученый. – 2017. –№ 24.1 (158.1). – С. 5-7.
6. Азизходжаева Н. Компетентности подход в должности учителя. //Журнал «Проблемы образования», - 2016, № 2, – С.7-10.
7. АрифджановМ.К., Мусамедова К.А. Применение информационных и телекоммуникационных технологий в учебном процессе. //ТДТУ ЁшларнингБерунийакадемияси "Техника юлдузлари" илмий журнал. №1,2.Ташкент, 2010. –С.16-18.
8. Баундер А. Новые информационные технологии образования. Вашингтон, изд. Share; 2015; 14(2):–С.214- 224.
9. Дайнеко Н.А. Дистанционное обучение будущего. //Профессиональное образование.2015. №4 (22). – С.17-22.
10. Ибрагимова О.А., Мусамедова К.А. Олий таълимда инновация. // Журнал Интернаука. №11(140). Часть2. 2020. – С.47-48.
11. Козак О.О., Шуклин Д.А. Обучение XXI века: дистанционное обучение в высших учебных заведениях. //Наука и образование в современном обществе: вектор развития. Сборник научных трудов по материалам Международной научно-практической конференции: В 7 частях. ООО «Ар-Консальт». 2014. – С.94-95.
12. Мусамедова К.А.Использование JavaSkript для создания интерактивных Web-страниц. // Материалы научно- практической конференции студентов магистратуры по итогам работы над диссертацией. Ташкент-2010, – С.15-17.
13. Мусамедова К.А.Обеспечение методологической базы в дистанционном обучении в обучении курса «Теория электрической связи». // «Инновационные факторы развития Транссиба на современном этапе». Международная научно-практическая конференция, посвященная 80-летию Сибирского государственного университета путей сообщения. Тезисы конференции. Часть II. Новосибирск-2012.–С 82-84.
14. Мусамедова К.А. Об основных этапах конструирования педагогических тестов. // Международная научно-техническая конференция«Методика преподавания и инновационные технологии обучения специалистов для отрасли связи» 2013г. Сборник докладов. Российская Федерация. г. Липецк-2013. –С.270-271.
15. Мусамедова К.А. Ўқиш жараёнида телекоммуникация технологиялари- таълим сифатини ошириш омили. // "Юқори малакали кадрлар тайёрлаш миллий тизими-Ўзбекистон тараққиётининг муҳим шарти" мавзусидаги Республика илмий-амалий конференцияси материаллари. Тошкент-2013. 261-2626.

**World Bulletin of Social Sciences (WBSS)**
**Available Online at:** https://www.scholarexpress.net
Vol. 2 August-September 2021
**ISSN:** 2749-361X

16. 16.Мусамедова К.А. Модуляция в системе технологии дистанционного обучения. UNIVERSUM: Психология и образование. : электрон.научн. журн. 2020. №5(71). Москва-2020. –С. 8-10.
17. Мусамедова К.А., Ибрагимова О.А. Олий таълимда инновация. //Журнал Интернаука. №11(140). Часть2. Москва-2020. –С.47-48.
18. Саттарова Ё.Ю., Мусамедова К.А. Олий таълимда янги ахборот технологиялари фаол ўқитиш услуби сифатида. // Ўқитувчиларнинг замонавий ахборот коммуникация технологиялар бўйича компитентлиги: муаммо ва ечимлар. Вазирлик тизимидаги олий таълим ва илмий тадқиқот муассасалари миқёсида илмий-амалий анжуман материаллари. 1-қисм. Тошкент- 2012. 206-208 б.
19. Халиков А.А.,Ешмуратова Н.У. Особенности и возможности использования современных видеоинформационных систем для дистанционного обучения. // Материалы шестой межвузовской научно-практической конференции студентов бакалавриата и магистратуры, стажеров и соискателей "Молодой научный исследователь". Тошкент-2009.–С.16.
20. Халиков А.А., Сержанова Ж.Т. Основные требования к информационно-поисковой системе для организации дистанционного обучения. //Межвузовская научно-практическая конференция студентов бакалавриата и магистратуры, стажёров и соискателей "Молодой научный исследователь", посвященная летию независимости Республики Узбекистан. Ташкент-2011. –С.28-30.
21. ХаликовА.А.,Темиров Ж.А. //Особенности и возможности использования, современных видео-информационных систем для дистанционного обучения. //Материалы международной конференции, посвященной 75-летию Ташкентскогоинститутаинженеровжелезнодорожноготранспорта. Ташкент-2006. -С. 36.
22. Халиков А.А., Кривопишин В.А. Особенности методики рейтинг контроля знаний студентов по выпускающей кафедре. //XV-Международная научная конференция «Математические методы в технике и технологиях». Тамбов-2002. – С.75-76.
23. Халиков А.А., Кривопишин В.А., Романова О.О. Проблема компьютерного тестирования и дистанционного обучения в ТашИИТе. //Труды Международной научно-практической конференции «Техника и технология дистанционного бучения». Ташкент-2002.–С.211-213.
24. Халиков А.А., Кривопишин В.А. Проблема дистанционного обучения. // «Ахбороттехнологияларивата ъ лиммуаммолари» Республика илмий-услубий конференцияси. Тошкент-2003. ТАТУ. -С.28-30.
25. Халиков А.А., Колесников И.К., Кривопишин В.А. Проблемы компьютерного тестирования и ДО в ТашИИТе. //Сборник международной конференции Алматы, 2003. -С.48-51.
26. Халиков А.А., Мусамедова К.А. Ўқув фаолиятини самарадорлиги ва унга таъсир этувчи омиллар. // Журнал "Таълим муаммолари" – №3. Тошкент-2011. 112-1146.
27. Халиков А.А., Мусамедова К.А. Электронная педагогика в учебном процессе. // UNIVERSUM: Психология и образование.–№4 (70).Москва - 2020. – С.13-16.
28. Халиков А.А., Мусамедова К.А. Модуляция в системе технологии дистанционного обучения// UNIVERSUM: Психология и образование: лектрон. научн. журн. 2020. № 5(71). Москва-2020. –С.8-10.
29. Халиков А.А., Мусамедова К.А. Анализ реализации программы подготовки и переподготовки кадров специалистов на железнодорожном транспорте. // UNIVERSUM: Психология и образование.№ 5(71). Москва-2020. – С.4-7.
30. Халиков А.А., Мусамедова К.А. О методе совместного обучения в образовательном процессе. ***UNIVERSUM: Психология и образование.№ 6(72). Москва-2020. – С.8-10.***
31. Халиков А.А., Мусамедова К.А. Концепция, подходы, законы, принципы педагогической методологии науки. // UNIVERSUM: Психология и образование. № 6(72). Москва – 2020. – С.4-7.
32. Халиков А.А., Ибрагимова О.А., Мусамедова К.А. Анализ методов дистанционного обучения и внедрения дистанционного обучения в образовательных учреждениях. //Труды Северокавказского филиала московского технического университета связи и информатики. №1. Ростов на Дону-2013. – С.458-461.
33. Халиков А.А.,Ибрагимова О.А., Мусамедова К.А. Анализ методов дистанционного обучения и внедрения дистанционного обучения в образовательных учреждениях. // Журнал

**World Bulletin of Social Sciences (WBSS)**
**Available Online at:** https://www.scholarexpress.net
Vol. 2 August-September 2021
**ISSN:** 2749-361X

Вестник научных конференций. №3-6 (19). Часть 6. Тамбов-2017. – С. 171-173.
34. ХаликовА.А.,МусамедоваК.А. O'quvjarayonidapedagogiktexnologiyalardanfoydalanish. // Интернаука:электронныйнаучныйжурналМосква -2020. №12 (141).Часть 3. – С.65-66.
35. Xalikov A.A., Musamedova K.A. Pedagogik fan metodologiyasining tushunchasi, yondoshuvlari, qonuniyatlari, tamoyillari. ЖурналИнтернаука. Москва – 2020. № 25(154).Ч.2. – С.35-37.
36. Халиков А.А. Ўқитишни ташкил этиш услуби. / Институт кафедраларнинг XXV илмий – услубий анжумани (17 - 18 апрел 2008 йил). Тезислар тўплами. Тошкент- 2008. –С.15-16.
37. Халиков А.А., Мусамедова К.А. Ўқув фаолиятини эффективлиги ва унга таъсир этувчи омиллар. // "Таълим муаммолари журнали". Олий таълим вазирлиги. Тошкент - 2011. – №3. 112-114б.
38. Халиков А.А., Мусамедова К.А., Ортиков М.С. Анализ методов дистанционного обучения и внедрения дистанционного обучения в образовательных учреждениях. //Кадрлар тайёрлаш сифатини оширишда ахборот технологияларининг ўрни. Тошкент ахборот технологиялари университети профессор-ўқитувчиларининг Республика илмий услубий конференцияси. Маърузалар тўплами. 1– қисм. Тошкент-2017.– С.136-137.
39. Khalikov A.A.,Musamedova K.A.Modulation in the system of remote learning technology. //XIXInternationalcorrespondencescientific specialized conference «International Scientific Review of the Problems of philosophy, psychology and pedagogy». Boston. USA – 2020. -pp.5-11. Conference site: https: //scientific-conference.com.
40. Халиков А.А., Айнакулов Э.Б. Методика преподавания технических дисциплин с применением символьной обработки информации. / Институт кафедраларнинг XXV илмий – услубий анжумани (17 ÷ 18 апрел 2008 йил). Тезислартўплами. Тошкент- 2008. – С.126-128.
41. Халиков А.А. Ўқишжараёнида телекоммуникация технологиялари. Институт кафедраларининг 27-илмий-услубий анжуманитезислар тўплами.ТТЙМИ.10-11б. Ташкент- 2012. – С.10-11
42. XalikovA.A. Kasbta'limimetodikasi. / Kasbta'limimetodikasifanidanamaliymashg'ulotlarni bajarishgadoiruslubiyko'rsatma. TTYMI. Toshkent-2012. –112c.
43. Халиков А.А., Мусамедова К.А., Ортиков М.С. Об основных этапах конструирования педагогических тестов. Кадрлартайёрлашсифатиниоширишдаахборотте хнологияларинингўрни. Тошкентахбороттехнологиялариуниверситети профессор-ўқитувчиларининг Республика илмийуслубийконференцияси. Маърузалартўплами. 1 - қисм. Тошкент-2017. Тошкент-2017. – С.148-149.