Formation of Didactic Competence of Students as a Pedagogical Problem

¹Dustnazar Omonovich Khimmataliev, ²Jamshid Oktyamovich Khakimov, ³Shakhlo Sadullaevna Sharipova, ⁴Muzaffar Farmonovich Turaev, ⁵Muzaffar Jumaevich Gofirov, ⁶Zulfiya Qayumovna Murodova

 ¹Doctor of Pedagogical Sciences (DSc), Professor, etc., Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, Tashkent, Uzbekistan.
²Doctor of Philosophy (PhD) in Pedagogical Sciences, Associate Professor, Tashkent State Technical University named after Islam Karimov, Tashkent, Uzbekistan.
³Doctor of Philosophy in Pedagogical Sciences (PhD), Associate Professor, Institute for Retraining and Advanced Training of Directors and Specialists of Preschool Education Institutions, Tashkent, Uzbekistan.
⁴Senior Lecturer, Karshi branch of Tashkent University of Information Technologies

named after Muhammad Al-Khwarizmi, Karshi, Uzbekistan.

⁵Senior Lecturer, Karshi Institute of Engineering Economics, Karshi, Uzbekistan. ⁶Teacher, Karshi State University, Karshi, Uzbekistan.

Abstract. The article deals with the competence approach in preparing students for professional activity, professional competence, its manifestation, the introduction of a specialist with professional competence, the system of professional education, the essence of the concepts of "competence", "professional competence", approaches of pedagogical scientists, basic competencies, their summary description, the main differences between traditional vocational education and competency-based vocational education, didactic competence, its content, the formation of didactic competence of students as a pedagogical problem.

Keywords: student, professional education, basic competencies, professional competence, didactics, didactic competence, modular, active, skill.

Introduction

In modern conditions, the multi-level system of vocational education is an important area of optimization of training, maximum satisfaction of educational needs of the individual and society, differentiation of vocational training. The most important feature of continuing professional training is the adherence to the principle of consistency, reliance on tradition in achieving educational goals. Analysis of the activities of vocational education teachers in higher education institutions shows that the current vocational education teachers are able to deepen their knowledge of the subject on the basis of rapidly evolving educational trends and develop their necessary competencies in training competitive professionals to meet modern market requirements. it is required to be able to form the skills of consistent application in their activities.

In today's conditions, the level of development of countries is determined not only by their technical condition, but also by the professional competence of specialists trained in higher education institutions.

Material and methods

Professional competence is the acquisition by a specialist of the knowledge, skills and competencies necessary for the performance of professional activities and their application in practice at a high level.

Professional competence implies the acquisition of integrative knowledge and actions in each independent direction by the specialist, rather than the acquisition of individual knowledge and skills. Competence also requires the constant enrichment of professional knowledge, the study of new information, the ability to understand important social requirements, the ability to search for new information, process it and apply it in their work.

Professional competence is evident in the following cases:

- in complex processes;
- when performing indefinite tasks;
- when using conflicting information;
- being able to have a contingency plan.
- Professional competent specialist:
- Consistently enriches their knowledge;
- assimilates new information;
- deeply understands the requirements of the time;
- seeks new knowledge;
- processes them and uses them effectively in their practical activities.

Significant work is being done in our country to modernize the education system, including the modernization of higher education. In this regard, it is important to fulfill the tasks set out in the Decree of the President of the Republic of Uzbekistan dated October 8, 2019 No PF-5847 "On approval of the Concept of development of higher education in the Republic of Uzbekistan until 2030."

The decree defines the priorities of systemic reform of higher education in the Republic of Uzbekistan, raises the process of training highly qualified personnel with modern knowledge and high moral qualities, modernization of higher education, development of social and economic sectors based on advanced educational technologies. At least 10 higher education institutions in the country are included in the list of the top 1000 higher education institutions in the ranking of internationally recognized organizations (Quacquarelli Symonds World University Rankings, Times Higher Education or Academic Ranking of World University), including the National University of Uzbekistan and Samarkand State University. inclusion in the list of higher education institutions for the first 500 places;

- gradual transition of the educational process in higher education institutions to the credit-module system;

- introduction of advanced standards of higher education based on international experience, including the gradual transition from an education system focused on the acquisition of theoretical knowledge in the curriculum to the formation of practical skills;

- it is important and urgent to raise the content of higher education to a qualitatively new level, to establish a system of training highly qualified personnel who can make a worthy contribution to the sustainable development of the social sphere and the economy, to find a place in the labor market.

Also, the introduction of a new form of vocational education in our country, the harmonization of vocational education programs with the levels of the International Standard Classification of Education (ISCO) adopted by UNESCO, the full introduction of the National Qualifications Framework in the educational process. Establishment of educational institutions for the training of primary school graduates for social support of graduates, establishment of educational institutions for secondary vocational education on the basis of educational programs corresponding to the 4th level of the International Classification, higher education programs on the basis of educational programs for the 5th level of the International Classification urgent tasks have been identified, such as the establishment of educational institutions operating at higher education institutions, which train personnel at the stage of secondary special vocational education integrated with the education system.

Results and discussion

There is a need to form and develop a system of necessary competencies of teachers in the implementation of the above tasks. At present, the State Educational Standards of Higher Vocational Education are being introduced, and innovations are being widely introduced in the content and technology of education aimed at improving the quality of training of future vocational education teachers.

According to N.A. Muslimov and Q.M. Abdullaeva, competence is the level of independent and creative application of the acquired set of theoretical knowledge, skills and abilities in practice, which is formed in the internship and postgraduate activities of the student.

The concept of competence is defined as the ability to use knowledge, skills, personal qualities, and practical experience to operate successfully in a particular field.

The most complete psychological forms of professional development of the individual in the process of professional self-management in modern socio-economic conditions, the developmental features of professional competence were studied by E.F.Zeer. He assesses professional competence as one of the key components of the structure of professional activity, as well as the orientation of the individual, important qualities of professional significance and psychophysiological characteristics.

In the research of T.M. Sorokina, the professional competence of the teacher is interpreted as a unit of theoretical and practical training for the implementation of pedagogical activities. His teaching competence is one of the stages of professionalism that is the basis of a teacher's pedagogical activity.

Competence refers to the ability of a prospective teacher to acquire the knowledge, skills, and competencies necessary to carry out professional activities of personal and social significance and to apply them in professional activities. At this point, the essence of the concept of "competence" is fully revealed, which is manifested in the following two ways:

- competence - a set of personal qualities of the specialist;

- in the form of the basic requirements of the professional field [O.Kuysinov, diss. Page 20].

G.M. Kodjaspirova believes that "a teacher must have certain pedagogical competencies to become a qualified teacher." "Competence is a general ability based on knowledge, experience, values and intentions acquired through education. Does not fall into competent knowledge or skills; Competence does not mean being a scientist or an educated person".

Ability is a descriptive trait that can be learned from the observation of action, competence, behavior in a particular situation.

The system of competencies in the field of education consists of: basic, ie metasubject and interdisciplinary competence. It is defined as a person's ability to perform complex multifunctional activities and solve problems effectively.

Competence is a requirement for the training of a specialist necessary for effective work in a particular field.

Competence is the acquisition by a person of competencies related to the subject of activity.

Based on the above, we have given our own working definition of competence. Competence is the inclusion and possession of interrelated characteristics of an individual by a person, including a personal relationship and a subject of activity.

The analysis of the research shows that among the pedagogical scientists of the republic on the problems of improving the training of teachers of vocational education R.H. Juraev, A.R. Khodjaboev, N.A. Muslimov, K.T. Olimov, Sh.E. Kurbanov, Z.K.Ismailova, E.Ruziev, E.T.Choriev, N.S.Sayidaxmedov, A.A.Abdukodirov, Sh.S.Sharipov, O.A.Qo'ysinov, Sh.Qodirov, Q.Abdullaeva, D.O. Khimmataliev, J.Khamidov, SAUsmanov, M.Kh.Baybaeva, D.F.Jalalova, Sh.Kulieva, M.Toshov and many other scientists.

By reviewing the scientific literature and research findings, we made a comparative analysis of the main differences between traditional vocational education and competency-based vocational education (Table 1).

Table 1.

The main differences between traditional vocational education and competencybased vocational education

Key features	Competency-based	Traditional vocational
	vocational education	education
Standards (main content)	Orientation to the needs of the	Requirements of the
	labor sector	education system (number
		of hours)
Curriculum	Modules. Built flexibly in the	An integrated program /
	form of a set of horizontal or	direction of study by
	vertical modules based on	profession. It is built as a set
	previous work experience or	of theoretical and practical
	based on theoretical training in	disciplines focused on

	a specific field, according to	general approaches and
	the requirements of students	methods in professional
		activity
Teaching methods	Active. Learning-oriented,	Lectures, exhibitions,
	based on independent activity	stories, explanations. The
	and project work. The teacher	teacher is the translator of
	will be the organizer of the	the knowledge and reflects
	learning process and a	the information provided by
	consultant throughout the	the textbooks. The teacher
	student work. He is interested	has no incentive to update
	in observing trends within the	the curriculum and improve
	subject	their skills
Evaluation	Assessment of the acquired	
	competencies can be done by	
	external experts or in the	
	workplace. Allows you to	
	identify competencies	
	(insufficient skills) that are not	
	appropriate for the module	
	tasks in a particular field	
Duration of the	A flexible approach based on	The duration of a rigorously
curriculum	the specific needs of the	established training course
	student	
Implementation of	Variety of methods and areas	Mainly on the basis of an
education	of possession	educational institution

Based on the analysis, it can be said that competency-based vocational education is focused on the needs of the labor sector, with the main focus on training based on the requirements of the employer and the labor market.

Valuable-meaningful competence - this competence describes the student's worldview associated with value ideas, his ability to see and understand the world around us, to be aware of their role and goals, to choose purposeful and meaningful knowledge for their behavior, to make decisions.

General cultural competence is the range of issues that a student should be well aware of, knowledge and experience in their field. These are the characteristics of national and universal culture, the spiritual and moral foundations of human life and humanity, the role of science and religion in human life, their impact on the world, competencies in daily and cultural recreation, for example, effective ways of organizing leisure.

During the learning process, students' ability to engage in independent creative activity increases and the teacher's need to transfer knowledge decreases sharply.

One of the promising ways to solve this problem is problem-solving and role-playing games, which focus on the development of creative abilities, creative ability and creative-cognitive activity. Games stimulate students 'cognitive activity, critical and analytical thinking skills, rational and responsible discussions, developing communication skills, and the ability to defend their position.

In completing game-type tasks, students review what they have learned, test their abilities, analyze, summarize, and draw conclusions from the accumulated experience.

Information Competence - Independently search, analyze and select the necessary information using real objects (television, telephone, fax, computer, printer, modem, photocopy) and information technology (audio and video recordings, e-mail, media, Internet) storage and transmission skills are formed.

Communicative competence includes knowledge of required languages, ways of communicating with others, distant people and events, teamwork skills, possession of various social roles in the team. Students can present themselves, write letters, fill out questionnaires, forms, ask questions, hold discussions, etc.

Socio-labor competence - in the field of social and labor (consumer, buyer, customer, producer), civil society (acting as a citizen, observer, voter, representative), family relations and responsibilities, economics and law, professional means to have knowledge and experience in determining one's destiny. This competence includes, for example, the analysis of the situation in the labor market, acting in accordance with personal and public interests, and having ethics in labor and civil relations. Students will acquire social activism and functional literacy skills that are minimal necessary for life in modern society.

Self-improvement competence is focused on exploring ways of physical, mental, and intellectual self-development, emotional management, and self-support. This implies the continuous development of their knowledge, personal qualities necessary for a modern person, psychological literacy, culture of thinking and behavior. This competence includes the rules of personal hygiene, personal medical care, sexual literacy, internal environmental culture. This also includes other features related to the basics of life activity safety.

Didactic competence - includes the organization of independent work of the student on the basis of didactic training of the teacher in the organization of the educational process, the formation and development of didactic knowledge, skills in the process of independent work. In this process, students must independently organize the work process and implement an innovative approach, and so on.

Currently, in connection with the transition to new educational standards in educational institutions, the issue of training highly qualified personnel is one of the most pressing issues. In modern educational institutions, a number of requirements are placed on the personality of the teacher, but in the process of our research we have focused on the formation of didactic competence.

In studying the essence and components of the content of this competence, we analyzed the content of didactics, which is an independent branch of pedagogy.

Didactics is a Greek word, "didasco" - teaching, "didaskol" -

derived from the word teacher.

The literal translation of "didactics" refers to the theory of education.

This term was coined by the German pedagogue V. Ratke (1571-1635) introduced science.

Didactics is a scientific science that studies the theoretical and methodological foundations. The fundamental scientific foundations of didactics were first developed by Ya. A. Developed by Comenius (1592 - 1670).

Didactics seeks answers to pedagogical questions such as "Why teach", "What to teach", "How to teach", "How much to teach", "Who to teach", "Where to teach", "What to teach". .

General didactics, in turn, is very closely linked to the methods of some disciplines, reveals the general laws of teaching based on their knowledge, and at the same time serves as a common basis for the methods of teaching each subject.

Didactics sets itself the task of learning the general laws of teaching that meet the goals of comprehensive education of students.

Didactics covers the general issues of the organization of education, the essence of the teaching process, the content of education, the laws of teaching, the principles, methods of teaching, its organizational forms.

The teaching process includes the pedagogical activity of the teacher and the specially organized cognitive activity of the learners. Let us now turn our attention to the analysis of these processes. The managerial role of the teacher in education is based on the social foundations of his profession and requires the rich experience of his ancestors, the achievements of mankind over the centuries in the process of knowledge, labor, communication, public relations, aesthetics and ethics.

Didactics and methodology are closely intertwined and interdependent. Didactics studies the general laws of teaching. The specifics of teaching a particular subject are developed in specific methodologies.

Private didactics - one of the main areas of the series of pedagogical disciplines is the methodological sciences that teach the laws, methods, tools, forms and ways of teaching certain subjects. It develops on the basis of general didactic achievements and improves only on the basis of its theoretical generalizations. Didactic laws applied to a particular subject legitimize the general aspects of that subject, and they reflect the universal aspects of teaching.

The principles of education reflect certain objective laws of education.

Didactic principles are the principles of teaching that determine the laws, content and methods of the educational process. Therefore, the essence of the didactic principles applied in the educational process is a set of rules that ensure the achievement of the set goal, standardizing the pedagogical skills of the teacher and the learning activities of the student.

Objectives, content, methods, forms of organization, teaching aids and methods in the theoretical and practical teaching of didactic principles; labor and educational activities; different stages of education and pedagogical and labor processes; reflects the links between the collective development of learners and the individual development of each.

Didactic tools and handouts are the equipment, computer tools, models and mock-ups, exhibitions and technical aids, tools and products needed to teach science. They are also handouts used by the teacher in the teaching process. These are cards, questionnaires, instructions, interesting questions and assignments, technological maps for the organization of practical work, etc.

It is noted in the creative work of Professor B. Ziyomuhammadov that didactic materials are prepared by the teacher for each lesson, serve to fully express the content of the lesson and students' understanding of the content of the lesson. These include a variety of visual aids, devices that create a variety of problem situations, games, and more. Didactic materials are also created in accordance with the principles of didactics. The course process is

carried out only through methods and techniques and is an integral part of the course. Just as it is impossible to pass a lesson without a teacher and a student, and without a curriculum and plan, it is impossible to carry out a lesson without pedagogical methods and techniques.

Educational tools have a special role in the effective organization of the process of professional formation of future vocational education teachers. As the well-known pedagogical scientist AR Khodjaboev noted, "... machines, aggregates, equipment, machines and mechanisms used in the educational process of higher education institutions, schools and vocational schools are not only means of production, but, first of all, education. tools, through which students have the opportunity to develop and strengthen their professional skills and competencies".

At a certain stage in the development of human society, the essence of biological evolution changed and new types of important vital activities began to emerge, making it impossible to pass on existing knowledge biologically. There was a need for a new mechanism in this regard. This need has been met on the basis of training and educating the younger generation. However, the socio-genetic concept does not adequately explain the characteristics of a person's upbringing.

The cultural-genetic approach to the emergence of education and upbringing, as N.F. Talyzina said, is based on the theory that the cultural-historical concept of the individual and the psychological characteristics of his activities.

In analyzing and understanding the problems of the emergence of education and upbringing, the prerequisite for the emergence of pedagogical activity is the preparation of tools, as well as activities for their use.

Since the time of primitive civilization, the interdependence of technology and pedagogy has manifested itself in the following areas: subject-matter, technology and technology as a "set of objects and objects" today serves as a pedagogical tool and allows it to be used for educational purposes.

The interrelationships between engineering and pedagogical activities contribute to the decision-making of the technological approach. Technology is a set of methods that serve to change raw materials, materials, semi-finished products, their processing, as well as their condition, shape and properties.

Simple production technologies have existed since ancient times and have found their reflection in the content of pedagogical activity. Since technological knowledge, skills and abilities are not transmitted to the younger generation in a biogenetic way, man has mastered it only in the process of focusing on the necessary training.

In the context of modernization of socio-economic processes and new technological order in the country, there should be necessary changes in preparing students for this process, which will change the paradigm of vocational education: the transition from the traditional paradigm to the paradigm of "ready knowledge".

The implementation of the ideas of the competency-based approach in the field of vocational education implies the practical aspects of training in technical higher education institutions, increasing the role of independent work of students, their involvement in design and research.

It should be noted that modern vocational education is multifunctional, based on innovative high technologies, computer design, the use of modern visualization tools, the requirements of the specialist, his culture, the culture of team interaction, didactic competence in learning and independent work, information and interaction in the team. provides solutions to multidimensional research and production tasks aimed at solving complex problems.

The teacher of vocational education in the direction of "5111000-Vocational education" is a confident, self-confident specialist who is ready to successfully and actively work independently, effectively use didactic materials, form independently, make socially responsible decisions on production and life tasks.

Didactic competencies are based on the assessment of a modern vocational education teacher as a professional quality that enables him to communicate qualitatively and effectively, to succeed in professional activities, to have a professional communication position, to form his own opinions and to claim them.

One of the important aspects of the teaching process is the readiness of the teacher to effectively organize the learning process (didactic process). The main purpose is to determine the role of didactic competence in the structure of professional and pedagogical competence of the teacher, to define the concept of "didactic competence" and to conduct a theoretical analysis of the current study of this issue.

H. V. Kuzmina recognizes that there are five elements or types of competence in professional and pedagogical competencies: specific pedagogical, methodological, sociopsychological, differential psychological, autopsychological. Methodological competence covers the field of methods of formation of knowledge and skills of students.

In his works, K. Angelovsky emphasizes the structure of professional competence of a teacher through pedagogical skills. This pedagogical skill can be divided into four groups:

I. The ability to "translate" the content of the objective educational process into specific pedagogical tasks: to study the individual and the team to determine their readiness to actively acquire new knowledge and, on this basis, to develop the team and individual students; distinguishing a set of educational, pedagogical and developmental tasks, defining them and setting priorities.

2. Ability to build and operate a logically complete pedagogical system: integrated planning of learning tasks; rational choice of forms, methods and means of its organization.

3. The ability to identify and establish the relationship between the components and factors of education, their implementation: the creation of the necessary conditions (material, spiritual, psychological, organizational, etc.); activation of the student's personality, development of his activity; et al.

4. Ability to record and evaluate the results of pedagogical activity: acquaintance and analysis of the learning process and the results of the teacher's activity; identification of a new set of dominant and subordinate functions.

When studying the scientific work on the formation of didactic competence of a practice teacher, we found that this problem has not yet been sufficiently studied. This problem is the research work of S.N, Gorycheva, M.P. Endzin, Y.V. Makhova, V.V. Serikov, E.V. Khramova devoted to the development of didactic competence of teachers of higher education institutions.

By analyzing the scientific literature, we find that many scholars who study the problem of teacher competence either combine the term "professional competence," the term "pedagogical competence," or both terms, and sometimes these terms.

We relied on the following definition of pedagogical competencies.

Thus, pedagogical competence is a systemic phenomenon, the essence of which is a systematic unit of pedagogical knowledge, experience, features and qualities of the teacher, which implies the effective implementation of pedagogical activities, targeted organization of pedagogical communication and personal development and improvement of the teacher.

The problem of our research is focused on didactic competence, which is an integral part of a teacher's professional and pedagogical competence. The main component of the concept of "professional-pedagogical competence" of the future teacher is the didactic competence.

General didactic competencies can be noted in various classifications, for example, in Khutorsky they are an integral part of learning and cognitive competencies (goal setting, planning, analysis, reflection, self-assessment of teaching and learning activities). I.A.Zimnyaya in distinguishing these types of competencies, the competencies of activity: play, teaching, work; means and methods of activity: planning, design, modeling, forecasting, research activities, focusing on different types of activities.

Conclusions

Based on the analysis, we define the concept of "didactic competence" as follows: Didactic competence is an integral part of a teacher's professional and pedagogical competence, pre-planning of teaching materials, visual aids and tools, clear, expressive and consistent presentation of teaching materials, interest in learning and consists of a set of skills to stimulate spiritual, emotional desires, increase learning, activation.

According to N.V. Kuzmina, didactic competence is included in the structure of methodical competencies on methods of formation of knowledge, abilities of students, which are at the same time an element of professional and pedagogical competence.

The number of scientific sources on the relevance of the study of the didactic competence of the teacher indicates that this problem is not sufficiently developed in pedagogy.

In short, the didactic competence of the teacher is an important part of professional and pedagogical competence as a generalized complex characteristic of the level of professionalism, which manifests itself in the nature of the subjectivity of the teacher in the organization of the didactic process.

References

- Muslimov NA, Usmanbaeva M., Mirsolieva M. Educational-methodical complex on the module "Innovative educational technologies and pedagogical competence" - T: -2016. – 147 p.
- Professional pedagogy: category, ponyature, definitsii [Text]: sb. nauch. tr Vyp. 4 / Feder. agentstvo po obrazovanyiyu; Ros. gos. Prof. Ped. un-t; Ros. acad. obrazovaniya, Ur. otdnie, 2006. - 571 p.
- Muslimov NA, Abdullaeva Q. Some issues of developing the professional competence of future vocational college teachers. / Materials of the Republican scientific-practical conference "Theory and practice of professional development of pedagogical and administrative personnel of higher education institutions". - Tashkent: TSPU, 2012. pp. 26-28.
- Vvedensky V.N. Modeling Professional Professionals Pedagogy [Text] / V.N. Vvedensky // Pedagogy. - 2003. - No. 10. - p. 51-55.
- 5. SorokinaT.M. Развитие государственные спецции будущего учителя средствами integratedirovannogo учебного старержания [Text] / T.M. Sorokina// Начальная школа. 2004. No. 2. р. 110-114.

- Alimov A. A., Olimov K. T., Gaffarov A. K. Preparing Future Teachers of Vocational Education for Innovative Activity in Uzbekistan //Eastern European Scientific Journal. – 2018. – №. 2.
- Ismailova, Z., Choriev, R., Ibragimova, G., Abdurakhmanova, S., & Abdiev, N. (2020). Competent model of Practice-oriented education of students of the construction profile. Journal of Critical Reviews. Innovare Academics Sciences Pvt. Ltd. https://doi.org/10.31838/jcr.07.04.85
- Karabaevna, I. Z., Omonovich, K. D., Abduqunduzovna, B. G., Farmonovna, B. Z., & Raxmatullaevna, R. L. (2020). Content of development of students educational activity in the context of mobilization of education. Journal of Critical Reviews. Innovare Academics Sciences Pvt. Ltd. https://doi.org/10.31838/jcr.07.05.77
- Karabaevna, I. Z., Omonovich, K. D., Murodillaevich, K. N., Normuminovna, S. U., & Mahmatqulovich, A. O. (2020). Formation of a system of methods of technical thinking future engineers. Journal of Critical Reviews. Innovare Academics Sciences Pvt. Ltd. https://doi.org/10.31838/jcr.07.05.161
- 10. Ismailova, Z. K., Khimmataliev, D. O., Khashimova, M. K., Baybaeva, M. K., & Ergashev, B. B. (**2020**). Integrative approach to designing the content of secondary specialized vocational education. Opcion, 36(91), 25–41.
- Ismailova, Z., Choriev, R., Musurmanova, A., & Aripjanova, M. (2020). Methods of training of teachers of university on advanced training courses. Journal of Critical Reviews. Innovare Academics Sciences Pvt. Ltd. https://doi.org/10.31838/jcr.07.05.85
- Karabaevna, I. Z., Riskulova, K., Ubaydullaevich, A. M., Turaevna, I. Y., & Ravshanovna, P. N. (2020). The role of electronic pedagogical tools in higher education. Journal of Critical Reviews. Innovare Academics Sciences Pvt. Ltd. https://doi.org/10.31838/jcr.07.05.80
- Ismailova, Z., Choriev, R., Salomova, R., & Jumanazarova, Z. (2020). Use of economic and geographical methods of agricultural development. Journal of Critical Reviews. Innovare Academics Sciences Pvt. Ltd. https://doi.org/10.31838/jcr.07.05.84
- Ismailova, Z., Khimmataliev, D., Khashimova, M., Fayzullaev, R., & Sadikova, F. (2019). The role of modern women in society and family. Opcion, 35(Special Issue 21), 734–751
- 15. Kenjabaev S., Frede H.G., Begmatov I., Isaev S., Matyakubov B. "Determination of actual crop evapotranspiration (ETC) and dual crop coefficients (KC) for cotton, wheat and maize in Fergana Valley: Integration of the FAO-56 approach and budget" // Journal of Critical Reviews, ISSN- 2394-5125 Volume 7, Issue 5, 2020, - p. 340 - 349.
- Matyakubov B., Isabaev K., Yulchiyev D., Azizov S. "Recommendations for improving the reliability of hydraulic structures in the on-farm network" // Journal of Critical Reviews, ISSN- 2394-5125, Volume 7, Issue 5, 2020, - p. 376 - 379.
- 17. Olimov K. T. et al. Interdisciplinary integration-the basis for diagnosis of preparation for professional activity //Solid State Technology. 2020. P. 246-257.
- 18. Olimov K. T. et al. Competent training of future specialists on the basis of acmelogical approach //Journal of Critical Reviews. 2020. T. 7. №. 15. P. 2476-2483.

- Olimov K. T et al..Introduction of dual training in the system of continuous professional education. European Journal of Research and Reflection in Educational Sciences// -2020. Volume 7 Number 12, 2019 Part VI. P. 509-512
- 20. Olimov K. T. et al. Teaching Special Subjects for Students with Disabilities in Preparation for the Profession by Using Innovative Educational Technologies //International Journal of Innovative Technology and Exploring Engineering (IJITEE). – 2019. – T. 9. – C. 425-429.
- 21. Olimov K. T. et al. Integration of Special Subjects, Opportunities and Solutions//Eastenr European Scientific Journal. 2019. №. 2. P. 67-70
- 22. Olimov K. T. et al. Scientific researches for development// Scientific researches for development future. -2019. Volume1 P. 38-39
- 21. Khutorskoye, A.V. Keywords like a component lichnostno-orientirovannoy paradigmy [Text] / A.V. Хуторской // Народное образование. 2003. No. 2. S. 58-64.
- 22. Khamidov J.A. Technology of creation and application of modern didactic means of teaching in the training of future teachers of vocational education: Abstract of the doctoral dissertation (DSc) on pedagogical sciences. -Tashkent, 2017.
- 23. Khimmataliev D., Khakimov J., Daminov O., Rakhmatova F. Criteria and indicators for assessing the level of professional training of future teachers of vocational training at a training module // Journal of critical reviews. ISSN - 2394-5125. Vol 7, Issue 5, 2020 - p. 428-431. doi:10.31838/jcr.07.05.89
- 24. Khimmataliev D.O. Integration of pedagogical and technical knowledge in the diagnosis of preparation for professional activity. Monograph. Tashkent, Uzbekistan, 2018 168 p.
- 25. Khimmataliev D.O. Integration of pedagogical and technical knowledge in the diagnosis of professional training: Doctorate in Pedagogical Sciences (DSc) diss. avtoref. T .: 2018. -70 b 120
- 26. Khimmataliev D.O., Baybaeva M.X. Use of modular training opportunities. Monograph. -T.: Uzbekistan, 2017. - 132 p.
- 27. Khimmataliev D.O. Integration of scientific knowledge in preparation for the professional activities of future teachers of vocational education // School of the future. Moscow, 2016. No. 6. -S. 50-54.
- 28. Fakhriddin Abdikarimov, Kuralbay Navruzov. Mathematical method of calculating the volume of the cavities of the heart ventricles according to echocardiography. European Journal of Molecular & Clinical Medicine, 2020, Volume 7, Issue 8, pp. 1427-1431.
- 29. Fakhriddin Abdikarimov, Kuralbay Navruzov. Mathematic modeling of pulsation movement of blood in large arteries. European Journal of Molecular & Clinical Medicine, 2020, Volume 7, Issue 8, pp.1438-1444.
- 30. Fakhriddin Abdikarimov, Kuralbay Navruzov. Determining hydraulic resistance of stationary flow of blood in vessels with permeable walls. Annals of the Romanian Society for Cell Biology, 2021, 25(3), pp. 7316–7322.
- Fakhriddin Abdikarimov, Kuralbay Navruzov. Modern Biomechanical Research in the Field of Cardiology. Annals of the Romanian Society for Cell Biology, 2021, 25(1), pp. 6674–6681.
- 32. Fakhriddin Abdikarimov, Fotima Abdikarimova, Temur Khasanov, Madamin Abdirimov,

Azamat Rajabov. Investigation Pulsation Motion of the Liquid in the Flat Channels. International Journal of Science and Qualitative Analysis. Volume 4, Issue 3, September 2018, pp. 69-73.

- 33. Faxriddin Abdikarimov Baxromovich, Kuralbay Navruzov Navruzovich. Noninvasive Method Calculating of Volume of Cavities of the Heart According to the Echocardiography. Biomedical Sciences. Volume 3, Issue 1, January 2017, pp. 1-5.
- 34. Abdikarimov F.B., Navruzov K.N., Razhabov S.X., Shukurov Z.K. Impendant method for determining the reduction of hydraulic resistance in large arterial vessels with permeable walls. Journal of Applied Biotechnology & Bioengineering, Volume 5 Issue 2 - 2018, pp. 79-82.
- 35. F.B Abdikarimov, Q.N Navruzov, N.J Khujatov. New way scoping of a cavity of the left ventricle of heart according to an echocardiography. European Science review,–Vienna, pp. 44-46.
- 36. Abdikarimov F. B., Navruzov K. N., Khujatov N. J., Babajanova Y. I. Ultrasonic methods determining volume of cavities of ventricles of heart. The European Journal of Biomedical and Life Sciences, Issue 2, 2015, pp. 3-7.