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METHODOLOGY FOR PREPARING FUTURE SPECIALISTS FOR INNOVATIVE ACTIVITIES IN AN INFORMED EDUCATIONAL ENVIRONMENT

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ANNOTATION

As you know, the development of our country and its future also depend on qualitative changes in the field of education and high efficiency, their compatibility with the requirements of world education and to what extent they find their place in practical life. Qualitative changes in the direction of education and high efficiency are determined by the promising innovations being made to the field under consideration, and it itself is considered an innovative process. Therefore, the need to prepare future specialists for intellectualized professional activities, taking into account the dynamic growth of the development of society, is also put on the agenda. And the preparation of future specialists for such professional activities is successfully carried out on the basis of an informed educational environment, through which an optimal solution is also found to the problem of preparing future specialists for innovative activities.

This article will also be devoted to the research of optimal solutions to problems in this direction.

Key words: Information Education Environment, Information Resources, Information Technology, Information Systems, creative information, didactic portfolio, innovative ideas, innovation process, innovation method, Innovation Center, innovation activity, innovation-integrative education, quality of education, professional activity, pedagogical innovation, educational-cognitive activity, interactive methods.

(Introduction)

In the world-wide informed educational environment, significant work is being carried out in preparing future teachers of vocational education for innovative activities, that is, taking into account the requirements and needs of the current period of globalization, the existing education system is being radically reformed. Particular importance in this is attached to the widespread use of effective pedagogical and information technologies in improving the quality and effectiveness of education, innovation and revival of teaching on the basis of intellectualizations of the content of Education. In particular, innovative methods and technologies are being created for the training of modern specialists in the forms of optimization of education and methodological support of them. Therefore, the need for the bar to prepare future specialists for intellectual and professional activities, taking into account the dynamic growth of the development of society, is also put on the agenda.

Such an innovative approach to the preparation of future specialists for professional activities on the basis of an informed educational environment also determines the relevance of the topic of our article and the social necessity of this research by increasing the quality of training future teachers of vocational education and allowing to create appropriate scientific and methodological support for it.

(Literature review)

It is known that in an informed society, not only production, but also the entire lifestyle and even the system of values bare intellektual, since in this society intelligence, knowledge are produced and introduced into consumption. Ultimately, conditions are created for the emergence of an environment that is regularly involved in the creativity of intellectualization of society. This leads to the fact that most handlers create an environment that is associated with the creation, formation and processing of knowledge on the basis of information and the implementation of work on their transfer to the necessary resources. The development of work in this area is directly related to the creative work of scientists and specialists in innovative educational and scientific and pedagogical institutions. These cannot be imagined without innovative educational technologies, including information ones. It follows from this that the solution of the problem of informatization and exclusion in these processes is an urgent problem. For this reason, informatization is now becoming the driving force of the "age towards an informed society". The following source on informatization is valuable:"informatization is an organizational, socio - economic and scientific-technical process of creating conditions using information resources, information technologies and information systems to meet the needs of legal entities and individuals for information."

The problem of preparing future specialists for intellectualized activities in the subject of informed education in Uzbekistan, in particular, the general issues of vocational guidance on the basis of their preparation for innovative activities, the transfer of students to innovative development as individuals Р.Ҳ. Жўраев, А.А.Абдуқодиров, У.Ш. Бегимкулов, А.Р. Ҳоджабоев, Н.А. Муслимов, Қ.Т.Олимов, Х.Ф. Рашидов, Ж.А.Ҳамидов, А.А.Алимов, И.Б.Асқаров and another [1,2,5,6,8,9].

Also, I.X.Nasriddinov and A.R.Khodjaboevs express the concept of information technolo-Giyas as follows: "the concept of Information Technology has a broad meaning, which, in addition to computer technology, is also considered to be very diverse technical innovations and artificial intelligence" [4].

Definitions given to Information Technology in Doctor of Pedagogical Sciences. To "the definition of O.Turakulov is more significant, that is, more practical, and it is expressed as follows:" information technology is understood as the processes of collecting, storing, processing and transmitting information in all aspects of a person's life. Extensive computerization of information processing processes constitutes the content of modern information technologies. Therefore, the computer and its periphery are at the heart of all modern information technologies and organize their technical support [2].

With the problem of innovation in education in foreign countries, initially K.Angelowski [10], Nikitina Scientists such as [11] were engaged. On the general theory of innovation yu.Research by vooglide [12] and others is much more popular.

The most complete definition, which reveals the essence of innovations and is taken as a basis, is given in the work "new values of Education" [13]. Innovations are systemic and self-organizing innovations of urgent importance that remain promising for educational evolution and have a positive impact on its development, as well as arise on the basis of a variety of positive initiatives and innovations for the wider development of the educational sphere.

N.I.Lapin [14] argues that innovation is a complex process of creating, disseminating and using new practical experience to bloodalize the needs of a person changing under the influence of the legal development of society, as well as changes associated with this innovation in the social and material environment. According to the authors, depending on the subject content, technical (productive, technological and socio-economic, organizational, cultural, educational) innovations are distinguished.

From the above points of view, innovation is considered as the content and implementation of a novelty, while an introduced innovation – it is understood only as the development of a novelty. From this we came to the conclusion that innovation or innovation in education is the core of innovation.

(Research Methodology)

Currently, the training of competitive, innovatively developed specialists is becoming increasingly relevant. In this regard, the effective solution of the problem of preparing future vocational education teachers (FCET)for innovative activities is extremely important, in which wide opportunities are created for the development of innovative methods and technologies using CTE in the preparation of future specialists for professional activities. Also, the role of the CTE in the preparation of modern specialists for professional activities is also invaluable, and with the help of them to guarantee optimal options for preparing Bkto for innovative activities
it is possible.

The results of our research in this field show that such a problem can be solved by improving the technologies of preparing Btkto for innovative activities at the CTE. Therefore, in this part of our research, we first began to scientifically substantiate the content of education in the preparation of Btkto for innovative activities at the CTE and the methodology for its implementation in practice, as well as the complex of tools used in them, and prepared it in the following sequence:

content development of updated educational content;

designing the updated educational content and the expected results of its implementation in practical activities;

the use of updated educational content in the preparation of for innovative activities;

scientific and methodological substantiation of the role and role of the prepared educational content in the preparation for innovative activities at the CTE;

justification of the need to develop an innovative methodology in accordance with the content of the prepared Education;

In the CTE, it is used in the preparation for innovative activities-the preparation of a complex of digan means, etc.

Improving the professional training of future specialists-in the development of innovative methods and educational technologies related to research, the aforementioned "didactic portfolio"is used, which makes it possible to carry out the preparation of for innovative activities at the CTE. These will expand the didactic possibility of improving the technologies of preparing Btkto for innovative activities at the CTE, and therefore, as a didactic basis, the "didactic portfolio" will be able to become a reliable assistant in realizing a number of educational advantages.

Hence, with the help of the updated educational content, the vision of the process of preparing Bkto for innovative activities is sealed in the memory of the educator, since in the activities carried out on the updated educational content on the basis of the "didactic portfolio", they will have both hearing and vision capabilities, and even the educational person himself will be directly involved.

1 - расм. An overview of the design of the formation of educational content and the formation of expected results from it, which are prepared in the CTE for the preparation of FTVE for innovative activities.

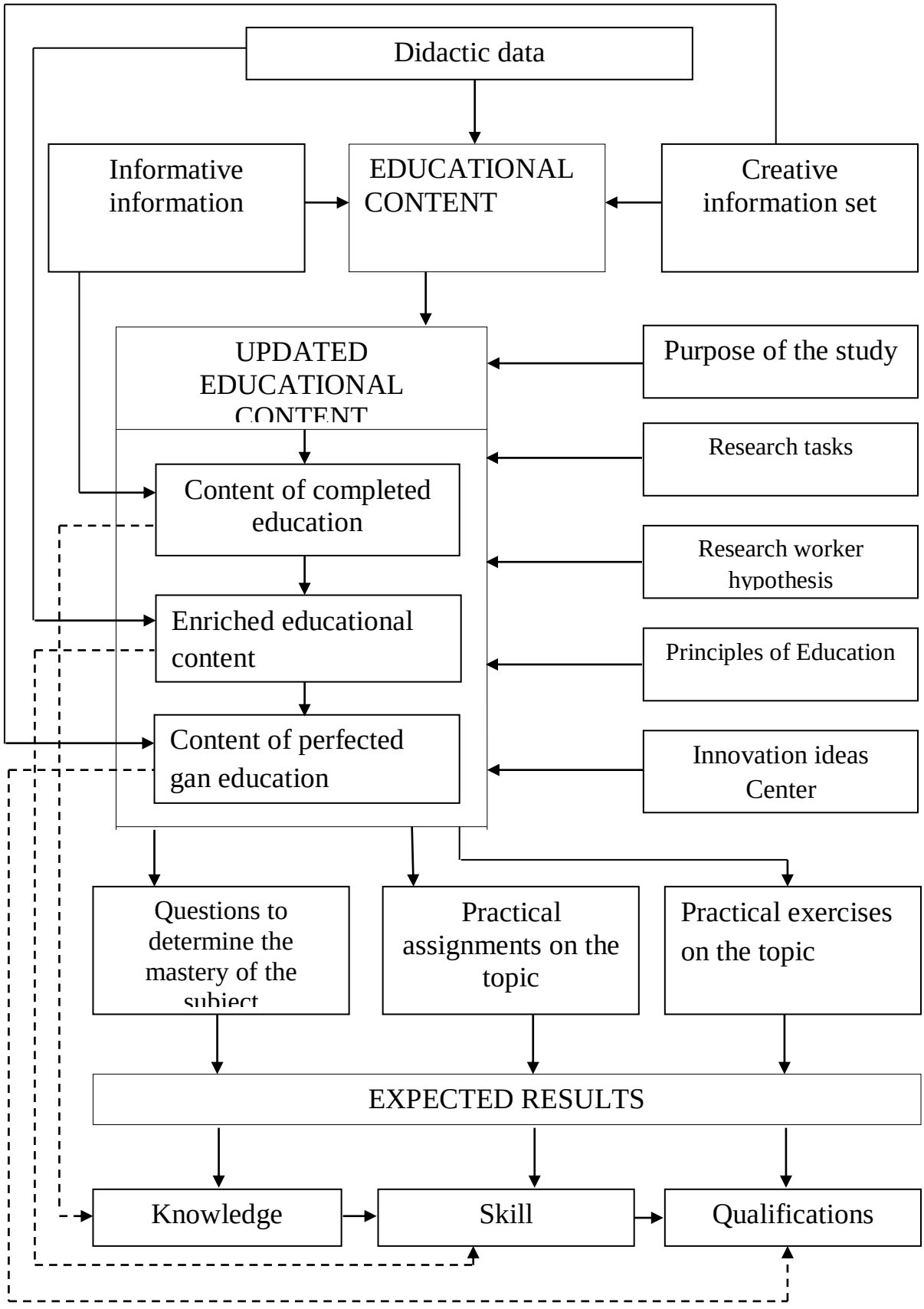


Figure 1 consists of a general view of the formation of educational content and the design of the formation of expected results from it, which are prepared in the CTE for the preparation of **FTVE** for innovative activities. As can be seen from the picture, it will be necessary to effectively carry out creative and logical operations such as integrating information that meets the requirements of optimizing the preparation of **FTVE** for innovative activities in the CTE into the content of traditional education, taking into account certain grounds for the formation of the updated educational content (the purpose of the study, This is due to the fact that during our research, a special organizational basis for the study of the updated educational content was developed.

So now we can think about achieving the expected results shown in Figure 1. As usual, we have designed the expected result to be the ultimate result of the study of a particular topic-the appearance of knowledge, skills and abilities. In our study, they are presented with the same content as below:

- the knowledge of the subject to be studied is taught in the content of the completed education, which is formed on the basis of the logical sequence of its statement and the answers given by the learners to the questions prepared in accordance with the definition of mastering the subject corresponding to it;
- skills related to the topic to be studied are taught in the content of enriched education and are formed based on the results of the implementation of materials related to solid memorization on the topic and practical assignments on the topic by students on the topic;
- the qualification on the subject to be studied will be formed based on the results of the implementation by the learners of the materials and exercises on the subject, which will be taught on the content of the perfected education and will be firmly remembered on the topic.

We planned to prepare the development of this innovative methodology for conducting on the basis of interactive training. The reason for this is the need to realize the peculiarities of the educational and cognitive activity between the main CTE and territorial CTE in the preparation of **FTVE** for innovative activities. The educational content prepared for these processes should also be suitable for the implementation of the following educational actions in the **FTVE**:

- initially, an analytical example of the content of traditional education is established, from which the organizational structure of the study of the topic in the formation of the updated educational content is formed;
- on the basis of the formed structure, and didactic information and materials from the creative Information complex are designed, which are integrated into the content of traditional education;
- the process of innovative-integrative education (educational-software, software - Didactic, Educational-methodical) will be designed for their use in educational-cognitive activities of educational students;
-in order to use the innovation-integrative educational process in practice, it will be necessary to prepare a complex of communicative working programs.
- design and implementation of organizational and control work based on the activities of various control work in the field of educational methodological support related to timely identification and evaluation of the results of educational and cognitive activities of educators on the content of updated education, etc.

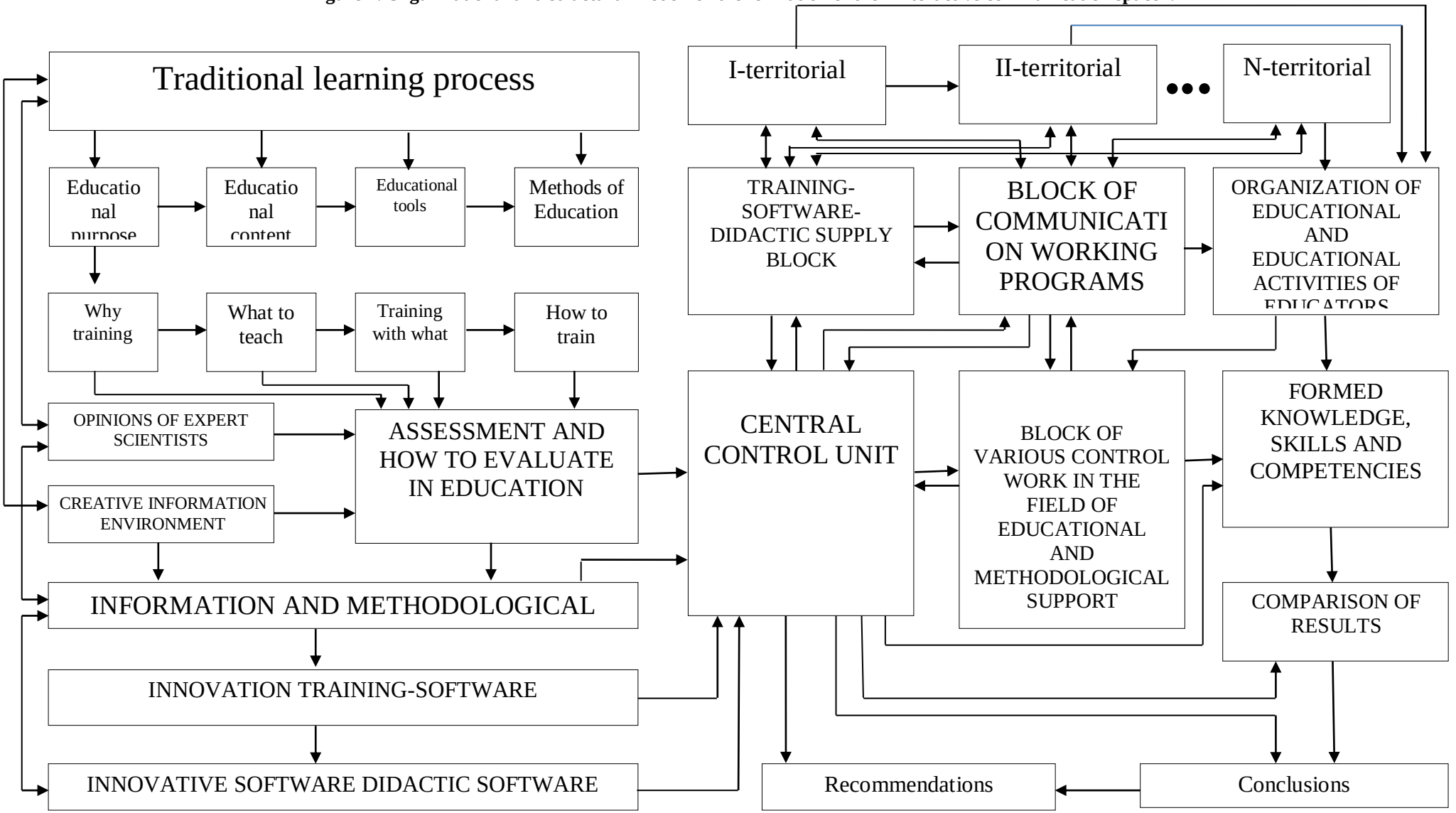
Now it will be possible to develop an innovative program and appropriate innovative educational software based on the results of an analytical study of the mentioned traditional educational process, the environment of creative Information, advanced opinions of specialist scientists and the information and methodological support underlying them. In this innovative application development, the following were used as a didactic basis:

- determination of indicators on the effectiveness of the work of information and methodological support;
-analysis of the results of the work of innovative educational-software and innovative software-didactic products and making adjustments to the structure of the software-methodical system when it is found on their basis;
-familiarization of professors and teachers in higher educational institutions with the system of education on the basis of the CTE and with the working - Communication Programs of the computer system created on this basis, etc.

On the basis of this innovative program, the development of innovative educational software for the preparation of FTVE for innovative activities was achieved. Its introduction into practice is carried out as follows:

-use of educational software (preliminary examination);
- analysis of the results of the practical application of educational software;
- transfer of educational and software to practical use;
- preparation of guidance, methodological recommendation, etc. on the introduction of educational software into practice.

Figure 2. Organizational and structural model for the formation of the "interactive communication space".



In the development of innovative software-didactic software in the preparation of FTVE for innovative activities, we have identified innovative software-didactic software in the research work "scientific and methodological support for the training of small specialists in an informed educational environment" [20].

So, we have prepared didactic bases related to the central CTE control unit, as shown in the organizational and structural model of the formation of the"interactive communication space" (See Figure 2).

We will carry out the next part of our research work in this area on the basis of an interactive training complex. This is due to the fact that the interactive training complex can become a solid didactic basis in the implementation of the main functional tasks of the "central CTE control unit", and this means that it will also be possible to achieve optimal management of education using the "interactive communication space" technology. Another component of the formation of the"interactive field of communication "is the"block of various control work in the field of educational and methodological support." The main functional tasks of this block are as follows:

- control questions suitable for determining the study of the content of theoretical material;
- questions regarding the management of the choice of the procedure for conducting activities;
- questions to control the performance of training assignments;
- questions regarding the verification of the answers entered by the educational recipients (consumers - users on the periphery, participants in the territorial CTE);
- questions related to the assessment of the results of the educational activities of the educator, etc.

Based on the results of our research in this area, we found it appropriate to formulate it in the sequence below:

1. Complex of universal resources. In this case, the visible resources in the sheep correspond to the throne: educational standards; electronic educational literature; questionnaire questions; test questions; instructions and instructions for working with computers; video projectors and instructions for working with them; interactive whiteboard and instructions for working with them; working programs of the teacher-manager; expert and educational programs; advisory programs; teaching staff of the; information resources vs;

2. An environment of professional communication. In this case, it is necessary to prepare the ergonomic system for the use of components related to the formation and operation of the structure: the first part of the preparation of the FTVE for innovative activities on the basis of interactive training complexes is the preparation of the "intellectualization - didactic foundations of studied education"; the functional task of the chief catalog at the; generalization; professional teleconferencing; thematic (on a specific topic) Chat; Electronic Library;" didactic portfolio", etc;

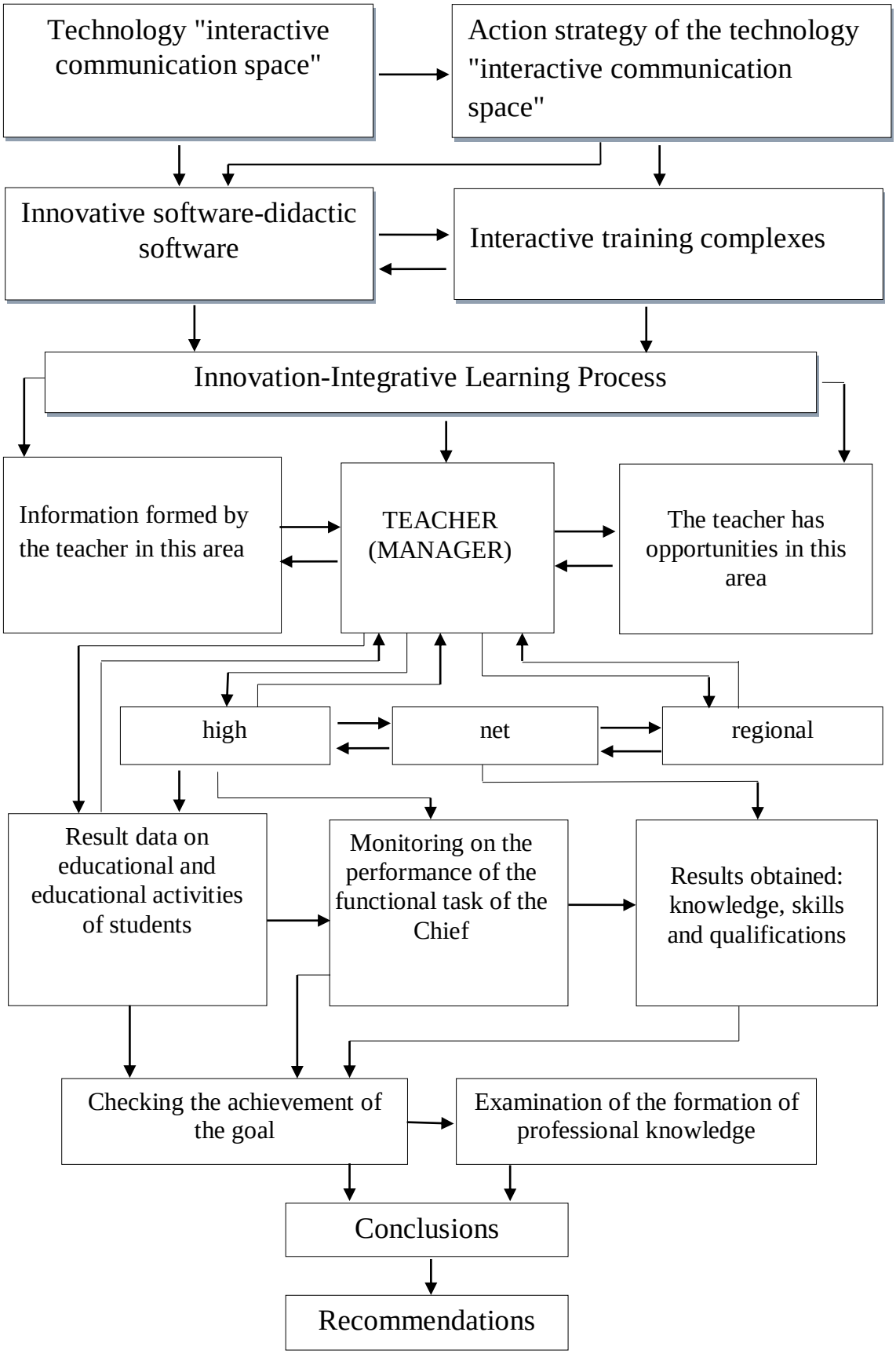
3. Information technology environment of the educational process. In this case, part-systems are prepared for use in practice: intellek-tualized training systems; methods, methods and technologies of the technological approach related to interactive training complexes; developments related to interactive training; educational and methodological support; database related to information management; law, rule, criterion, principle and control work on the software educational and didactic complex, etc.

4. Intelligent interface and adaptability of intellectualized learning. In this case, it will be necessary to fully provide the practical capabilities of the components of the ergonomical system related to the optimization of its practical activities: the informative part of the internet and its software; opportunities for the implementation of correct and reverse communications; opportunities for the implementation of TV conferences and teleconferences (also at territorial CTE at the same time as the

5. Educational-software-didactic supply environment. In this case, more attention is paid to the educational-software-management activities of this research, and the components below are made convenient for use in practice: special educational-didactic software; multimedia educational technologies; automated training systems; software of immersion models; educational-software didactic complex, etc.

6. Information management system. In this case, it is necessary to pay strong attention to the components contained in the sheep: the control unit; the technology named" interactive communication space " and the strategy of actions to introduce it into practice; criteria and requests for the required data; the results of processing the initial information system for making the necessary decision; educational-software-didactic complex; various control work; functional characteristics of the main CTE or territorial CTE; systemic resources of territorial CTE, etc.;

3 - figure. Innovative activity of teachers of future vocational education an overview of the ergonomic system developed for training.



- "Didactic portfolio" in the preparation of bkto for innovative professional activities (spravochnik data, didactic materials, a collection of creative axbo - rots) and data systems related to the completed, enriched and perfected Educational Complex;

- The technology of" interactive communication space " and the strategy of actions to introduce it into practice, as well as the process of processing information at the moment of fulfilling the functional tasks of interactive learning complexes, etc.

Hence the conclusion follows that the formation of ergonomic systems for the preparation of Bkto for innovative activities and their widespread use in practice guarantee the optimization of our activities in this area. That is why we began to develop an ergonomic system for solving this problem and set its course as in Figure 3. The ergonomic system noted in Figure 3 shows that the preparation of the Bkto for innovative activities should be related (related) to the process of functioning of the control system and its part - systems (elements as well), as well as the functioning of the part systems in an inextricable way of interaction between the teacher (controller) and the educational ones.

Analysis and results

In this part of our study, in conclusion, we can note that the preparation of future specialists of any type, depending on which, can be a reliable fundamental basis for obtaining optimal options for work for professional activities. Therefore, we will use the activities of the system work, which are based on the development of the methodology for the organization of experimental and test work (ETW) of our research work and the analysis of their results.

It is known that TSI is carried out in several stages, depen

ding on the nature of the study and the stages of its implementation. In our dissertation pedagogical study, we defined them as consisting of four stages. This is due to the fact that at the CTE we have developed the research process carried out in the organizational-structural-bluish model of preparing innovative activities on the basis of four stages.

In this part of our research, we will talk about them.

I. The first is the founding stage (2010-2012.y.) based on the problem of preparing didactic foundations for improving the preparation of Bkto for innovative activities at theCTE, the following work was carried out:

- At the CTE, the directions of preparation for innovative activities are determined, goals and objectives are determined;

- Theoretical studies on the preparation of future specialists for professional activities at the CTE, studied in depth from their practical point of view;

- At the CTE, a sufficient presence of didactic foundations for the preparation for innovative activities was studied;

- The availability and adequacy of State Legal and regulatory documents that provide the quality of traditional educational process and education related to the preparation of CTE for innovative activities were studied at the CTE;

-At the CTE, the latest achievements of Science and technology-technologies related to the development of innovative activities of Bkto, the formation of a "didactic portfolio"compiled from spravochnik and didactic data and creative information complexes were analyzed;

-On the basis of the" didactic portfolio", the opportunities of the"Center for innovative ideas" were studied;

- The conditions for the exchange of information between the main CTE and the regional CTE were studied;

-The didactic foundations and conditions necessary for the organization of TSI have been created;

-Recommendations and instructions are prepared for professors and teachers participating in the TSI process, and they are understood by the goals and objectives of the TSI.

Also at this stage, the circumstances associated with the subject of the TSI were analyzed. Questionnaires and test questions were compiled to study the processes in the solution of the problem under consideration. With the help of them, through conversations and test questions with students, their coverage of thinking about innovative processes was determined. They made it possible to record the results as follows::

- As a result of conversations with those who entered a higher educational institution (I-course I semester), it was possible to find out that 12.4% of them have an understanding of innovative activities, and 14.8% have an understanding of innovative processes;

- when we studied the knowledge of the concepts and indicators of innovative activity of educators by drawing up a questionnaire, their knowledge of the penetration of the innovative process in them was extremely low, which means that they gave a result of 14.2% in this process;

- the ability of educators to perform actions on information (collection, processing, correction, etc.) was 12.8%, and knowledge of data processing using computers was 4.8 %;

- Is it possible to organize innovative activities in the educational process at the CTE? - to the question (during the answer to the question, it is also required that the educator express his opinion on his answer), the pupils gave positive answers in certain quantities. You can cite them by courses: I courses gave positive answers of 10.2%, II courses of 24.5%, III courses of 38.8% and IV courses of 61.1% ;

- The volume of knowledge about the role and role of the CTE in the development of their intellectual potential and innovation in the occupation of the through questionnaire questions drawn up from 1-4 course students, the following (by courses) results were noted in our answers: 34.8% in I courses, 44.4% in II courses, 56.2% in III courses and 88.2%.

Conclusion

Based on the results of the conducted computational work, it can be noted that a statistical analysis of the results of TSI in all three higher educational institutions once again proved that the proposed innovative-integrative education is effective.

The organization of the TSI as a whole and various analyzes of its results made it possible to draw the same conclusions as below:

- the results achieved confirmed the study worker hypothesis;

- The scientific and methodological support developed in the ATM to prepare Bkto for innovative activities has become a solid didactic basis for optimizing the educational and cognitive activities of future specialists;

- The technology of "interactive communication space" and "interactive training complexes", developed to improve the preparation of future specialists for innovative activities, have become a reliable support for the smooth functioning of Bkto in the ATM, and they also guaranteed the optimal option of information exchange between the main ATM and regional ATMs.

- Ergonomic systems that promote the penetration of bkto into innovative activities have provided ample opportunities for the introduction of developments in this area into practice;

-The educational-software-didactic support in preparing Bkto for innovative activities at the ATM was able to be a solid reference didactic basis in the orientation of disciplines belonging to the block of specialized disciplines in the duck, and they also became a reliable criterion in assessing the innovative development of future specialists.

References

1. Туракулов О.Х., Ахмедов Ж.Р. Ахборотлаштирилган таълим муҳитида бўлажак касб таълими ўқитувчиларини инновацион фаолиятга тайёрлашни такомиллаштириш// Монография. - Т. : «Fan va texnologiya», 2019, 198 bet.
2. Тўракулов О.Х. Ахборотлаштирилган таълим муҳитида кичик мутахассислар тайёрлашниниг илмий-методик таъминотни такомиллаштириш. Пед. фанлари бўйича докторлик (DSc) ... дисс. автор. -Т.: 2017. -64 б.
3. Ахмедов Ж.Р. Бўлажак мутахассисларни инновацион фаолиятга тайёрлаш учун “Интерфаол мулоқотлар майдони” технологиясини ишлаб чиқиш// “ILIM ha`m JA`MIYET” ilmiy-uslubiy jurnal. 2019. №4. Б. 13-14.
4. Насриддинов И.Х., Хаджабоев А.Р. Новая информационная технология // Ўрта махсус, касб-ҳунар таълими тизимининг раҳбар, педагог ва мухандис-педагог кадрларини малакасини оширишнинг илмий-педагогик муаммолари: Республика илмий-амалий конференцияси материаллари. -Т.: ОЎМКҲТТКМО ва ЎҚТИ, 2003. -Б. 142-144.
5. Askarov I. B. Basic Stages of Training for Future Professional Education Teachers // Eastern European Scientific Journal. - 2017. - No. 5.
6. Аскаров И. Б. Управление и планирование процессом формирования исследовательских умений и навыков будущих преподавателей профессионального образования //Школа будущего. – 2017. – №. 2. – С. 10-15.
7. Hamidov J.A. Main Components of information Culture in Professional Teacher education in Informatization of Society// Eastern European Scientific Journal /Auris – Verlag.de 2016.- №1. C.102- 105.
8. Ҳамидов Ж.А., Бўлажак касб таълими ўқитувчиларини тайёрлашда ўқитишнинг замонавий дидактик воситаларини яратиш ва қўллаш технологияси // педагогика фанлари бўйича фан доктори (DSc) дисс... Т.: 2017.-339 б.
9. Алимов А.А., Ходжабаев А.Р. Малака ошириш тизимида масофавий таълимни жорий этиш муаммолари // Касб – ҳунар таълими. -Тошкент, 2017. – №1, – Б. 27-33.
10. Ангеловски К. Учителя и инновации: Кн. для учителя /К. Ангеловски: пер. с макед. - М. : Просвещение, 1991. -159 с.
11. Никитина Е.А. Педагогические условия формирования профессиональной мобильности будущего педагога: Дисс...кандидата пед. наук: 13.00.01 / Е.А.Никитина. - Иркутск, 2006. - 199 с.
12. Вооглайд Ю. Методологические проблемы классифицирования и структурирования инноваций / Ю. Вооглайд // Проблемы инноватики и экспериментатики: Тезисы семинара «Инновации и эксперимент». — Таллин, 1981.-С.9-25.
13. Новые ценности образования: тезаурус / под ред. Н.Б.Крыловой. Вып.1. М.: Инноватор, ИЛИ РАО, 1995. – 113 с.
14. Лапин Н.И. Системно-деятельностная концепция исследованияновведений / Н.И. Лапин // Диалектика и системный анализ / Под ред. Д.М.Гвишиани. - М., 1986. – 335 с.

15. Савурбаев А., Тошпулатов М., Тавбоев С.А., Ахмедов Ж.Р. К вопросу построения системы интеллектуальной поддержки принятия решений в системных исследованиях // Ежемесячный научный журнал “Молодой учёный”. -№3 (38), февраль 2012 год, РФ, г. Чита. С. 75-79.
16. Савурбоев А., Тўрақулов О.Х., Ахмедов Ж.Р. Поэтапное формирование теоретико-методологических основ образовательной среды // Научный прогресс. Научно-практический журнал. -№5 (май). 2018. - С. 10-11.
17. Tavboyev S.A.,Yusupov R.M., Axmedov J.R. Linguistic modeling of the theory of indistinct sets as the basis of the estimation of quality of formation. The jornal “Young scientist USA”, USA, Lueu, 2014, 22-27 pages.
18. Ахмедов Ж.Р. Бўлажак ўқитувчиларни инновацион фаолиятга тайёрлашнинг узлуксиз тизими// Uzluksiz ta`lim. ilmiy-uslubiy jurnal. –T. 2019. - №6. Б. 18-22.
19. Тўрақулов О.Х., Ахмедов Ж.Р., Хамзаев Х.Қ. Texnology of organizing “Interactive Communication Platform”. Eastrn European Scientific Jurnal, Ausgabe 3-2018, P. 297-304.
20. Тўрақулов О.Х. Ахборотлаштирилган таълим муҳитида таълимни бошқариш. Ўқув-методик қўлланма. - Т.: Fan va texnologiya, 2010. – Б. 156.
21. Хасанбоев Ж., Тўрақулов Х.А., Хайдаров М., Хасанбоева О., Усмонов Н.Ў. Педагогика фанидан изоҳли луғат. - Т.: Fan va texnologiya, 2009. – Б. 672.