Scholar's Digest- Journal of Multidisciplinary Studies
Volume 01, Issue 03, December, 2022
ISSN (E): 2949-8856
Scholarsdigest.org

ASSESS THE COMPETENCE OF STUDENTS INDIVIDUAL METHODS OF DEVELOPMENT BASED ON PRACTICAL WORK IN THE SCIENCE OF THE INTERACTION OF RADIATION WITH MATTER IN HIGHER MEDICAL EDUCATION INSTITUTIONS

B. Z. Polvonov 1,
E. Kh. Bozorov 2
B. S. Ruzimatova 3
M. Z. Khudoyberdieva 4
1- Professor of Fergana Branch of TUIT named after Muhammad al- Khorazmi
bakhtiyorp@mail.ru ,
2- Professor of Nuclear Physics Institute of AScRUz
3- Researcher of FerPI ,
4- Researcher of FerSU.

Abstract:
This in the article student's competence from physics practical exercises based on information important was one how much pedagogical technology and them application methods. This is provided in the article in this subject education process interactive technologies, virtual laboratories and other innovative approaches based on organization to grow methodology analysis is made. Also, in the article approaches based on students practical-processual competence development efficiency discussion will be done.

Keywords: Problem-based learning, microscope, blood, erythrocyte, interference, biological sample, medical physics, medical technology, pedagogical activities, creative thinking, radiation safety.

Introduction.

The Concept of Development of the Higher Education System of the Republic of Uzbekistan until 2030 sets out such tasks as qualitatively updating the content of the continuous education system, improving teaching methods, focusing on in-depth study of basic subjects, and developing criteria for evaluating pedagogical activity based on the competencies provided for in the state educational standards. This justifies the need to clarify the content of education and the composition of the necessary base and subject-specific competencies in the development of student competence, based on the improvement of teaching methods in these

subjects, and to improve the models and methods of developing student competence based on general competency approaches to the basic and physical sciences [1].

One of the important requirements for the organization of modern education is to achieve high results in a short time without spending excessive mental and physical effort. Delivering certain theoretical knowledge to students in a short time, forming skills and qualifications in them for a specific activity, as well as monitoring the activities of students, assessing the level of knowledge, skills, and qualifications acquired by them, requires high pedagogical skills and a new approach to the educational process from the teacher.

Pedagogical technology is inherently subjective, that is, each teacher must creatively organize the educational and upbringing process based on his own capabilities and professional skills. Regardless of the form, methods and means used, pedagogical technologies:

-increasing the effectiveness of pedagogical activities;

-cooperation between teachers and students
to decide;

-students' thorough study of academic subjects
ensuring the acquisition of knowledge;

- independent, free and creative thinking in students
develop skills;

- creating the necessary conditions for students to realize their potential;

Research Methodology

The "Intellectual Attack" method serves to ensure the activity of students in completing exercises, to free them from monotonous thinking and encourage them to think freely, to collect various ideas on a selected topic, as well as to teach them to overcome ideas that arise at the initial stage of the process of solving creative tasks in education.

The science of radiation interaction with matter is aimed at studying the fundamentals of radiation physics and biology in medicine. The science includes the following topics:

-types of radiation and their properties;

-interaction of electromagnetic radiation with matter;

-biological effects of ionizing radiation;

-radiation safety and its medical significance.

This knowledge allows medical professionals to safely and effectively use radiation technologies in diagnostic and treatment processes.

Innovative technologies used in the educational process include: a) virtual laboratories allow students to simulate working with radiation in a safe environment and interactively demonstrate live laboratory experiments. Similarly, b) AR/VR technologies allow students to visually observe the interaction of radiation with substances, helping them better understand the topic, and c) gamification is a process that increases interest in the learning process and increases student engagement.

There are exercises in the form of games to solve radiation safety issues, which are divided into the following types:

1) Distance learning platforms allow students to access learning materials from anywhere.

2) Using online seminars and tests.
3) Multimedia materials, which include explaining complex topics using video lessons, graphic animations, and interactive materials.

Methodological Approaches

The “Intellectual Attack” method was recommended by A.F. Osborne, and its main principle and condition is to completely prohibit criticism of the ideas expressed by each student participating in the exercise on the topic, as well as to encourage various jokes and jokes based on the topic. The intended goal is to ensure the free participation of students in the exercise process. The effective and successful use of this method in the educational process depends on the pedagogical skills and breadth of the teacher’s thinking. When training students using the “Intellectual Attack” method, it is advisable not to exceed 15 students. A session based on this method can last up to one hour [1,2].

The "General Brainstorming" method was developed by J. Donald Phillips and can be used in groups of a few dozen students.

The method serves to create conditions for students to come up with new ideas. Several groups of 5 or 6 students are given various tasks or creative tasks that must be solved positively within 15 minutes. When the tasks and creative tasks are solved positively within the specified time, one of the group members reports on this.

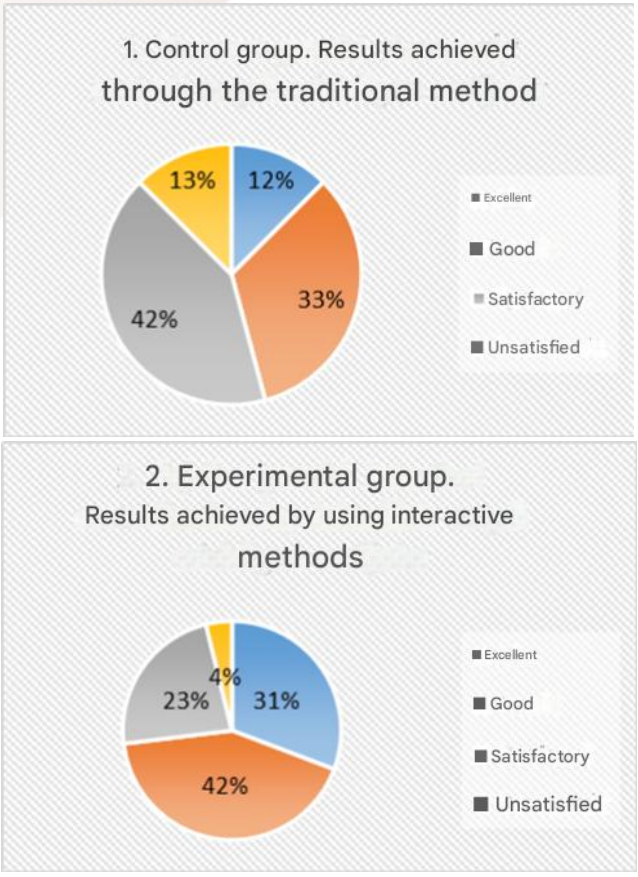
The information provided by the group is shared with the teacher and discussed by members of other groups and is assessed. At the end of the session, the teacher announces the best and most original answers among the solutions to the given task or creative tasks. During the session, the activities of all group members are assessed according to the level of their participation[3,4].

Analysis and Results

To implement a competency-based approach in the educational process, the student will need skills (competences) that are completely different from the methods used in teaching academic subjects. Most importantly, it will be necessary to develop a new attitude towards the student. Interactive methods with work students by read information systematic, holistic without to master opportunity creates. In addition, interactive methods using students read information with at work knowledge analysis to make, to synthesize , to important concepts systematization, object, process, activity, event general essence clear expression such as competencies to master achieves.

KhomidjonovJ.I., Avezov A.X, and A.Mavlyanovs stating that interactive methods medicine supreme education institutions of students active, free and independent idea to conduct to develop is based on . Of them when using knowledge to take interesting to practice becomes independent work experience and qualifications they will acquire knowledge scientific research, investigation, experimentation to pass based on They are being assimilated. This is being assimilated. knowledge efficiency increases . Below medicine supreme education institutions of student’s readiness in formation important methods statement [2,4].

Mental attack method: ideas generation to do method. Students united without problem they try to solve: solve for personal ideas previously they drive. Their duty small groups using brand new ideas from creating this method consists of problem solution doing students fantastic ideas to create encourages. Ideas the more the better good is considered. At least one to the goal to be in accordance with possible.



T-chart method: a universal organizer of comparative concepts (yes/no or agree/disagree), which facilitates the visual and concise representation of differing opinions. For example, after reading a text about traditional and non-traditional forms of education, the first group draws a T-chart and shows the advantages of traditional education on the left side for a given amount of time. Then they show the opinions that oppose this idea, that is, the disadvantages of traditional education. The second group analyzes the advantages and disadvantages of non-traditional education in the same scheme. The drawings of the groups are compared, a T-chart is drawn up and discussed with the group.

Modeling method: includes a device or situation designed to recreate real life. The teacher reinforces the topic through a model that students draw in their notebooks to understand the phenomena and events that the teacher describes. For example, an internal combustion engine. The topic of a steam turbine can be shown. Before going through this topic, the teacher gives the group a model of an internal combustion engine and explains it. The following questions are explained depending on the engine model: What kind of engine is called an internal combustion engine? It is called an internal combustion engine because the fuel burns directly inside the engine, in its cylinder.

What are the main parts of an internal combustion engine? The engine consists of a cylinder, inside which a piston moves, which is attached to the crankshaft by a connecting rod. A weighted wheel is mounted on the shaft to ensure smooth rotation of the shaft. There are two valves in the upper part of the cylinder, which open and close automatically when the engine is running. The combustible mixture enters the cylinder through the first valve and is ignited by a spark plug. The gases formed during combustion are discharged through the second valve. All this is shown through the model.

Working in small groups: the complexity of the pedagogical work is the ability to create conditions for the development of the group's capabilities. The most important thing is to awaken the need to perceive their own identity, their life, and in order for them to succeed in their hard work on the path to knowledge, the pedagogical teacher must believe in the capabilities of each of them. Success on this path depends on the determination of the pedagogical teacher and his ability to provide timely assistance. They should be divided into 4 groups. Then they should be given names. For example, atom, molecule, force, work, etc. It would be very appropriate to name them with important words from the topic being discussed [4,5].

The practical method is considered the most important in the formation of practical and procedural competencies. This method involves the organization of exercises. During the exercise, the student repeats practical and mental actions several times. They are offered tasks, they work independently with handouts. Both collective and individual forms of performing exercises are used. In addition to mastering and consolidating knowledge, collective exercises can also be used for control. Individual exercises serve to direct students to collective activities, performing the same function.

Problem-based learning method. Activation of students' cognitive activity and high use of their intellectual potential in the educational process depend on the following general factors: creating a system of problem questions on the topic being studied; teaching thematic materials explained through the conversation method based on the system of problem questions posed and revealing its fundamental essence; setting research-based learning tasks based on the problem question. Problematic situations solution to do based on harvest made lesson process problematic education It is called . Problematic in education teacher activity from that is that it is necessary in cases the most complicated concepts content explain go being studied topic material with students between regular accordingly problematic situations to the body is brought, students from facts aware does, as a result students this the facts analysis to do based on independent accordingly conclusion they release and they generalize.

So as problem no how It is not done directly, without preparation. It is not done directly. as the main issue in the training statement It is done. of problems complexity naturally, students to the level to be suitable Need to introduce. materials not complicated The material, especially the issue and assignments students themselves solution do only if they get it, their problems solution to do potential increases.

Conclusion

Physics science teacher by read training to the process current attainable every how pedagogical technology, its components training content, curriculum, textbook or teacher

activity through from the tongue strict look, student free and creative activity to develop It is required to be focused. Conclusion as this highlight maybe, from the “Biomedicine engineering, computer science and of the Department of Biophysics of Tashkent Medical Academy two in the group experience test works when conducted, students " Intellectual " and Gross intellectual " attack " method through passed lesson, traditional to the method relatively that the efficiency is 14% showed.

REFERENCES:

1. Remizov AN Medical and biological physics. Uzbekistan national Encyclopedia . – T.:2005, - 590 p.
2. Khomidjonov J.I., Bozorov E.Kh., Sulaymanov Kh.M., Akhmadjonov M.F., Nematov Kh.M. "Teaching methodology of infrared light absorption in living tissues". NeuroQuantology DOI: 10.14704/NQ.2022.20. 12. NQ 77317
3. Avezov A.X., Amrullayeva A.N., Namozova M.M. “Mental attack " and "case study" methods using the function product the topic study Scientific progress Volume 2 | ISSUE 6 | 2021 ISSN: 2181-1601.
4.Khomidjonov J.I. Interdisciplinary integration is a necessary condition of modern education. Current research journal of pedagogics, (Issn –2767-3278), Volume 04 Issue 01 Pages: 08-18, Sjif Impact Factor (2021: 5. 714) (2022: 6. 013), Published Date: January 13, 2023 Crossref doi: https://doi.org/10.37547/pedagogics-crjp-04-01-02
5.Alimnazarov O.M. Students independent education organization in the process of electronic education from resources use methodology. International scientific-methodological electronic journal "Foreign Languages in Uzbekistan", 2023, No. 1 (48), 104-118 https://journal.fledu.uz.