CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 03 ISSUE 06 Pages: 01-06
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013)
OCLC – 1242041055 METADATA IF – 8.145
Publisher: Master Journals

Journal Website: https://masterjournals.com/index.php/crjp

Research Article

IMPROVING THE METHODOLOGY OF USING INTERACTIVE TEACHING METHODS IN TEACHING THE BONE FISH CLASS IN ZOOLOGY

Submission Date: May 21, 2022, **Accepted Date:** June 01, 2022,
Published Date: June 12, 2022
Crossref doi: https://doi.org/10.37547/pedagogics-crjp-03-06-01

Mamlakat T. Khonnazarova
Lecturer at the Department of Zoology and Anatomy, Tashkent state pedagogical university named after Nizami, Uzbekistan

ABSTRACT

The education system is an area that requires continuous reform. In the process of reforming the education system, the continuous improvement of students' knowledge, skills and abilities, as well as the introduction of modern innovative technologies in the educational process have gained new meaning.

KEYWORDS

Zoology, bony fishes, interactive teaching methods, improvement.

INTRODUCTION

A number of reforms are being carried out in the country to further improve the education system, including the introduction of modern innovative technologies. In particular, the Resolution of the President of the Republic of Uzbekistan dated February 27, 2020 "On measures to further develop the field of pedagogical education" No PP-4623- Methods of education and training, information and communication technologies and foreign Improving the quality of education through the training of professional teachers who have a thorough knowledge of languages, the ability to use modern pedagogical

CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 03 ISSUE 06 Pages: 01-06
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013)
OCLC – 1242041055 METADATA IF – 8.145
Publisher: Master Journals

technologies in the educational process, ensuring the harmony of education, science and industry in the field, competitive Training, effective organization of scientific and innovative activities are identified as one of the priorities in the development of pedagogical education. The development and improvement of the education system in our country has risen to the level of state policy.

THE MAIN RESULTS AND FINDINGS

There is a growing interest in the use of modern pedagogical and innovative technologies, interactive methods in the educational process. In particular, the organization of zoological education in higher education institutions, which can meet modern requirements, using the most advanced innovative technologies, is aimed at increasing students' natural literacy, their correct attitude to the elements of Mother Nature and their intellectual development. operations: promotes the formation of positive qualities such as thirst for knowledge, perseverance, patience, overcoming difficulties, ability to get out of difficult situations, drawing conclusions, mobilizing their knowledge and strength to achieve future goals.

It is no secret that in today's zoology classes, science teachers are limited to textual information and textbooks. According to zoologists S. Dadaev and K. Saparov, "Zoology is of great importance in human life and activity."

Interactive methods acquire new content in the effective organization of zoology lessons. It helps students develop natural literacy, collaboration, mutual respect, and interest in zoology.

Here are some examples of interactive methods that are recommended for use in modern zoology classes (Bone Fish Class).

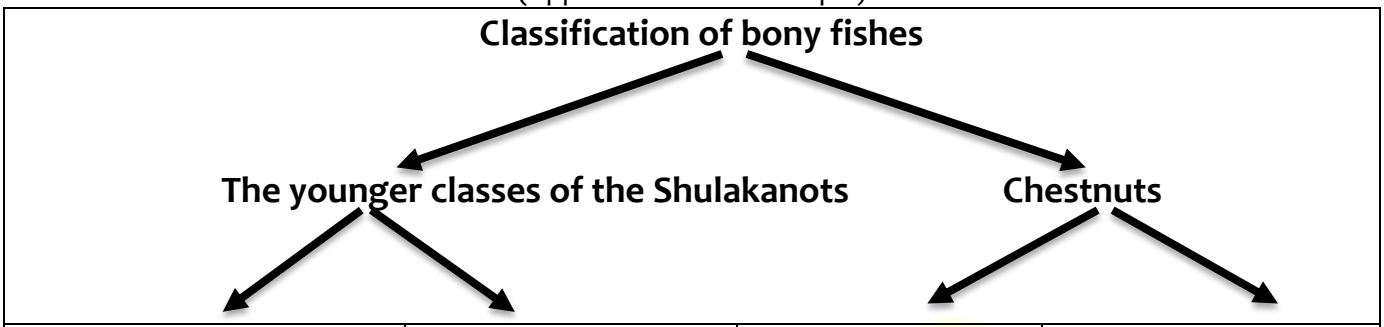
Classification table is an interactive method that demonstrates the importance of properties and relationships. Provides aggregation of data based on isolated symptoms. Positive opportunities are created, such as systematic thinking and data structuring. Learners perform the following tasks in sequence: a) Get acquainted with the rules of creating a category commentary. b) After reviewing the study material, look for categories that allow you to combine the data sheets obtained in small groups. c) classify the categories in tabular form. (c) Ideas and information are categorized. Some category names may change during the course.

Students complete this table by identifying their specific characteristics for each class of bony fish, and in the process of teaching this topic, scientists come to a conclusion about the current system of class of bony fish. most scholars argue that it should be studied in 2 junior classes.

CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 03 ISSUE 06 Pages: 01-06
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013)
OCLC – 1242041055 METADATA IF – 8.145
Publisher: Master Journals

On the example of the taxonomy of the class of bony fishes

(Appendix 1. As an example)



Gonoids. (Canoidomorpha) large series	Bony fish (Teleostei) large series	A large group of two different respirators (Dipnoi)	A large group of clawed birds (Crossopterygii).
The gonoid is one of the oldest fish in the world, with a small number of fish species and a simple structure. They look like fish with a number of features. Most species are shark-like in shape.	There are more than 20,000 species of bony fishes, which is about 97% of the class of bony fishes. They are very common and can be found in all oceans and seas. Many species live in freshwater, such as rivers, lakes, and ponds. The Shulakans live in a variety of conditions.	The two types of respirators differ from other bony fishes in that they have a number of simple structural features. In particular, the chord of the bullet skeleton, the presence of an arterial cone and spiral valves in the intestine, and the absence of a swimming bladder bring them closer to mountain fish.	Panjakanot is an ancient group of fish that was widespread in the Paleozoic Devonian and Coal Age, and is now almost extinct. The fin fins are mostly seret with a skeleton inside. Panjakanots are thought to be descended from a single common ancestor, along with two different respirators.

"Problem" technology - to teach students to find the right solution to various problems or situations arising from the topic, to develop skills in determining the nature of the problem, to acquaint them with some methods of problem solving and to develop appropriate methods of problem solving. Recommended.

CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 03 ISSUE 06 Pages: 01-06
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013)
OCLC – 1242041055 METADATA IF – 8.145
Publisher: Master Journals

In the example of the economic importance of fish

(Appendix 2. As an example)

The problem type	The problem came reasons for withdrawal	Problem solving ways and your actions
Extinction of some species due to improper use of fish	The importance of fish in human life is enormous. Fish accounts for 17% to 83% of the animal protein consumed by humans in different countries, with an average of 40%. They are hunted as a valuable food product. In addition to food, fish contains vitamins, fish meal, fish oil and other products.	To raise people's awareness of the environment and ecology, to hold events and campaigns in this area. Develop a broad understanding of the rational use of natural resources.

3. "Decision tree" strategy ("Decision-making technology") - a method of mastering complex topics in zoology, to draw certain conclusions on them on the basis of a comprehensive, thorough analysis of certain issues, between several conclusions about a problem is the most optimal and correct method.

For example, keeping fish in the wild and increasing their numbers

(Appendix 3. As an example)

PROBLEM: Conserving and catching fish in the wild		
IDEA 1	**IDEA 2**	**IDEA 3**
- Protect fish spawning grounds and prohibit fishing during the breeding season. - Clean ponds of excess waste and aquatic plants.	- Protection of rivers, lakes and ponds from toxic effluents and oil spills from industrial enterprises; - Climateization of valuable fish.	-Protection of endangered species and species listed in the Red Data Book of Uzbekistan.
RESOLUTION: HUMANITY must work exemplary in the rational and economical use of the world's water resources, their protection, restoration and improvement of ecological conditions.		

CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 03 ISSUE 06 Pages: 01-06
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013)
OCLC – 1242041055 METADATA IF – 8.145
Publisher: Master Journals

4. FSMU technology is used to resolve controversial issues in the field of zoology, to hold discussions or at the end of the lesson (in order to find out the views of students on the lessons and some topics in the topics and sections, problems) or o ' can be applied after studying any section based on the chart. Because this technology enables students to defend their opinions, think freely and communicate their ideas to others, to debate openly, as well as to analyze and assess the level of knowledge acquired by students in the learning process, and to instill in students a culture of debate. teaches.

DUTIES. SHARE YOUR THOUGHTS ON THE IMPORTANCE OF FISH IN HUMAN LIFE! (APPENDIX 4. AS AN EXAMPLE)

F – More than 90% of the fish caught are caught in the seas and oceans.

S – Fish is caught in 56% of the waters of the North, 33% of the waters of the Tropics and only 11% of the waters of the South..

M – The oceans, which cover 8% of the world's oceans, account for 85% of the world's fish catch. 5% of the continents and 10% of the deepest parts of the oceans are fished.

U – They are hunted as a valuable food product. In addition to food, fish contains vitamins, fish meal, fish oil and other products. About 40% of fish are caught in the Pacific Ocean, 45% in the Atlantic Ocean, 10% in the Indian Ocean and 5% in the Arctic Ocean..

5.«Rezyume» technology - it is recommended to use this technology in the study of complex, multidisciplinary, as far as possible problematic topics in science. The essence of the technology is that it provides information on different areas of the subject at once. At the moment, each of them is discussed from separate points. For example, the pros and cons, advantages and disadvantages, advantages and disadvantages are identified.

In the example of the subject of fish nutrition
(Appendix 3. As an example)

Feeding of Fish					
Feeding on herbivorous fish		Animal feed		Feeding of wild fish	
Advantage	Disadvantage	Advantage	Disadvantage	Advantage	Disadvantage
Conclusion::					

In conclusion, the use of interactive methods in the teaching of science has its own characteristics. Careful study and application of each interactive method used in educational practice will broaden students' thinking and have a positive impact on finding the right solution to the problem. Increases student creativity and activism. When various theoretical and practical problems are analyzed through interactive methods,

CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 03 ISSUE 06 Pages: 01-06
SJIF IMPACT FACTOR (2021: 5. 714) (2022: 6. 013)
OCLC – 1242041055 METADATA IF – 8.145
Publisher: Master Journals

students' knowledge, skills, and abilities are expanded and deepened. After all, the future of any society is determined by the level of development of the education system, which is an integral part of it and a vital necessity.

REFERENCES

1. Decree of the President of the Republic of Uzbekistan No. PF-60 of January 28, 2022 "On the Development Strategy of the New Uzbekistan for 2022-2026".
2. Decree of the President of the Republic of Uzbekistan No. PF-4947 of February 7, 2017 "On the Strategy for further development of the Republic of Uzbekistan" // Collection of Legislation of the Republic of Uzbekistan, 2017 , No. 6, Article 70, No. 20, Article 354, No. 23, Article 448.
3. Resolution of the President of the Republic of Uzbekistan dated February 27, 2020 No PP-4623 "On measures to further develop the field of pedagogical education."
4. Ishmuhamedov R., Abdukodirov A., Pardaev A., Innovative technologies in education (practical recommendations for teachers of educational institutions) .- T .: Istedod, 2008.
5. Dadaev S., Saparov K. Zoology (chordals) Textbook for high school students. "Turon-iqbol", T. 2018.
6. Dadaev S. Zoology of vertebrates. Text of lectures. TDPU Publishing House named after Nizami. Tashkent .: 2000, 129 p.
7. Dadaev S., Toychiev S., Haydarova P. Laboratory classes on vertebrate zoology. A textbook for university biology students. Publishing House of the National Society of Philosophers of Uzbekistan. T .: 2006, 224 p.
8. Dadaev S., Tashmanov N. Multi-choice test tasks in vertebrate zoology. Methodical manual. TDPU Publishing House named after Nizami. Tashkent.: 2008, 44 p.
9. Laxanov J.L. Vertebrate zoology. A textbook for university students. T .: 2005, 280 p.
10. Muratov D.M. Practicum in vertebrate zoology. A textbook for students of biology at pedagogical institutes. T .: The Teacher, 1980, 112 p.
11. Azizkhojaeva N.N. Pedagogical technologies and pedagogical skills. T .: 2006.
12. Tolipov U., Usmonbaeva M. Pedagogical technology: basics of theory and practice.- T., 2005.
13. Toshmanov N.J. "Development and use of effective teaching aids in laboratory studies in zoology (on the example of higher education institutions). Abstract of the Doctor of Philosophy (PhD) dissertation in pedagogical sciences. Bukhara-2012.
14. Qoraxonova L.M. Abstract of the dissertation "Doctor of Philosophy (PhD) in Pedagogical Sciences" "Improving the use of electronic educational resources in teaching biology (on the example of 7th grade)." Tashkent-2020.
15. Dadayev S. "Laboratory exercises in vertebrate zoology" Bookmany print Tashkent-2022.
16. Dadayev S. "Practical training in vertebrate zoology" Bookmany print Tashkent-2022.