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THE TEACHER'S FACTOR IN THE FORMATION OF LIFE SKILLS (IN THE PROCESS OF TEACHING BIOLOGY)

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Abstract. In the educational program (curriculum) for the subject of biology, the issues of development of logical thinking of students, life skills related to the subject, integration, development from simple to complex, organization of interaction of content and activity, implementation of new technologies in the teaching of the subject are provided. In the new curriculum for biology, the content is presented taking into account the development of life skills, which ensures the socialization of students by encouraging them to various social activities, reveals their creativity and effective scientific communication abilities. In the teaching process, the teacher plays the role of the main factor in the formation of national and human values by developing the students' vital skills based on cognitive, communication and psychomotor activities. In the organization of teaching biology, teachers should first of all start work by forming logical, critical and creative thinking in students. The teacher should organize training and education work with students in such a way that within the framework of that system, students' outlook, cognition and independent habits are formed. as established. In general, pedagogical thinking considers it appropriate to surprise students. The development of students' thinking largely depends on the organization of lessons. A teacher who wants the quality of education to be high should always be able to approach each student individually. Developing students' life skills during the teaching of all subjects is one of the main tasks. In addition to scientific people in our society,

Keywords: teacher, teaching, life skills, training

INTRODUCTION

The countries of the modern world, including all developed countries, declare that education is a strategically superior field, that the future development of their countries depends on the level of the education system, that the main goal in the education of the young generation is the maximum development of the natural abilities of the personality admits.

Personality development is considered to be a relevant issue for all eras. Considering that each age period has its own characteristics, we can also mention the uniqueness of personality development. The role of the environment and upbringing is undeniable, just like the role of hereditary characteristics in the development of personality. From this point of view, the school period - general education stage is of special importance in personality development.

The Cabinet of Ministers of the Republic of Azerbaijan approved in 2020 "In the Republic of Azerbaijan ü"state standards of public education" document contains a number of requirements for the content of general education, which include Ensuring that the content of education is suitable for the age, physiological and psychological characteristics of the students, their mental, physical, spiritual, aesthetic development, preparation for independent work and educational life, formation as an active and proactive member of society, aimed at the formation of the personality of the students along with the necessary theoretical and practical knowledge prioritizing skills acquisition, etc. belongs to. (4)

The content of all subjects taught at the general education level, as well as the subject of biology as one of the natural sciences, is of special importance in the implementation of the requirements set for the content of general education. In contrast to the traditional subject-oriented biology program, which covers the field of science and its perfect system of concepts in terms of content, and is directly aimed at mastering these concepts, today the modern personality-oriented biology subject program, which includes the following features, is applied in the general education schools of the republic:

- *Immediate life skills and habits are preferred;*
- *The practical skills and habits that will be needed in a person's future life activities are covered, the formation of his abilities related to mental activity is brought to the fore;*
- *The amount of minimum knowledge that enables the formation of the required skills and habits is determined, and that knowledge is considered as a means to achieve the minimum training goals;*
- *It stands out for its integrative content, etc.*

As mentioned formation of life skills and habits biology is one of the main features of the subject program. What is a vital skill, what vital skills are intended to be formed in the modern biology program applied in Azerbaijan, what is the current situation regarding the formation of these skills, what are the advantages and the problems we face, and the steps taken in the direction of solving these problems.

The World Health Organization (WHO) has defined life skills as follows: "Life skills enable people to make informed decisions, solve problems, think critically and creatively, create effective communication, build healthy relationships, empathize with others, and deal with their own lives. and a set of psychosocial competencies and interpersonal skills that help you manage your life in a healthy and productive way. Life skills can be directed to personal or other-related activities, as well as to activities aimed at improving the environment that ensures human health." (2)

UNICEF focuses on decision-making, problem-solving, stress management, critical and creative thinking, sense-making, decision-making, goal-setting, and more. shows as life skills. In fact, the full list of these skills can change over time. The list of skills may increase or decrease according to the requirements of the time, society, and individual. In order to acquire these skills, it is necessary for students studying in secondary schools to acquire certain knowledge and skills in separate subjects, and in the end, to establish a connection and a network between all the acquired knowledge and skills. He should evaluate any situation or event he will encounter in life from various aspects, make the right decisions, and solve the problem. We can give such a simple

explanation to the matter that a person is lost in the forest. he he must decide how he can get out of here, he must be fed and protected from danger during this time. For this, he must find answers to the questions of what can I eat, what dangers can I encounter in the forest, and how can I protect myself from danger.

AIM AND TASKS

The purpose of the study is to investigate the theoretical problems of the teacher factor in the formation of life skills in the process of teaching biology - its placement in the scientific and pedagogical literature, to summarize the existing school experience, to determine the possibilities and ways of forming biological knowledge and skills, the characteristics of the organization of individual work in the teaching of knowledge and skills, the place of using ICT, revealing biological knowledge and skills.

The tasks of the research are as follows:

- to examine the scientific-pedagogical literature in terms of the problem;
- comparing the biology curriculum with traditional science programs;
- study the school experience related to the problem;
- to determine opportunities and ways of forming life skills;
- to determine the characteristics of the organization of individual work in the process of forming life skills;
- to reveal the role of the teacher factor in the formation of life skills;
- to confirm the effectiveness of the developed methodology by conducting an experiment.

THE THEORETICAL BACKGROUNDS/

The biology program was analyzed in order to determine which life skills are intended to be formed in the content of the subject of biology, and according to the results of the analysis, it was determined that the following life skills should be formed in students:

- distinguishing different living specimens according to their morphological structure and characteristics and using them for their purpose
 - to use simple laboratory equipment according to its purpose during the study of living things
 - To take care of the living things around by knowing the various life processes in living things such as metabolism (nutrition, respiration and excretion), irritation, reproduction, growth and development, movement
 - avoiding harmful habits, following hygiene rules
 - providing first aid in cases of poisoning and injuries
 - to follow the rules of protection of ecological balance
 - protection and increase of plant and animal species useful for humans
 - recognize and treat the creatures you encounter
 - protection from diseases caused by various organisms in humans
 - to determine the symptoms and causes of various diseases, to choose protection methods.

The formation of these skills leads to the formation of macrocognitive skills. For example, skills such as providing first aid in case of poisoning and injuries, protecting and increasing plant and animal species useful for humans, dealing with animals encountered in daily life, identifying the symptoms and causes of various diseases, and choosing protection methods lead to the formation of problem solving skills.

Observations, questionnaires conducted with teachers, students and parents suggest that the formation of the above-mentioned skills in general education institutions is organized in the following forms: (5)

- Lecture
- Question and answer

- Discussion
- Laboratory work
- Through various training methods
- By preparing projects
- By solving various problems
- Excursions
- On the model
- On the table
- By planning
- Using ICT, etc

It is possible to extend the range of these teaching methods. However, we must not forget that the effectiveness of the teaching process is measured by the teacher's professionalism. In this process, not only the theoretical knowledge of the teacher, but also his methodology, creativity, and pedagogical abilities are brought to the fore.

In modern times, the teacher's pedagogical abilities are considered to be: (4)

1. Organizational abilities
2. Training abilities
3. Perceptive abilities
4. Communicative abilities
5. Suggestive abilities
6. Research ability
7. Cognitive abilities (4)

Among these abilities, training and organizational abilities play a leading role. It is this learning ability to choose teaching material, resources, convey the material in an age-appropriate, comprehensible, expressive and convincing way, to increase teaching-cognitive activity, etc. including skills such as So teachersthanks to the abilities listed abovewith the studentin r theoretical knowledgeincrease independently, to develop the ability to research, to apply what they have learned in life - to turn them into vital skills. (3)

During the realization of the skills envisaged in the content standards, various visual aids, natural plants and herbariums, animals in the living corner, various mock-ups and paintings, microscope, magnifying glass, etc. the necessity of using it is emphasized in the biology subject curriculum. FThe teaching of the subject is aimed at developing the student's research skills, summarizing, conducting experiments, the achievements of modern scientific fields, the role of a healthy lifestyle in building a healthy family, researching global and regional environmental problems, observing the living world in the natural environment, growing plants, feeding animals, protecting human health and etc. emphasizes the development of such skills as a task.

Analysis

The teacher instructs the students to follow the rules of protecting the ecological balance, which are the main components of the formation of life skills,organizes the following learning process for studying environmental problems:

An example of a summary of the topic "Diversity and importance of reptiles" was prepared and presented during a pedagogical experiment from the topics given in the VII grade Biology textbook to inculcate the skills of dealing with creatures encountered in everyday life.

Topic: Diversity and importance of reptiles Class: VII

Standard: 1.1.4. It distinguishes the systematic categories of living things.

4.2.1. It interprets considerations based on observations on the protection of living things in local conditions.

Purpose: Distinguishes animals belonging to groups of reptiles.

He interprets his judgments based on observations on the protection of reptiles in local conditions.

Integration: Life knowledge- 1.2.1; Chemistry- 4.2.1; Azerbaijani language - 1.2.1; 1.2.2.

Form of work: collective work, group work, individual work.

Method of work: brainstorming, discussion.

Resources: textbook, blackboard, pencil, computer, pictures of reptiles, colored paper, worksheets.

Stages of the lesson

1. Motivation:At this stage, the teacher shows the students pictures of representatives of the reptile class and asks: Can you tell a few characteristics of the creatures you see in the picture? What are their common characteristics?

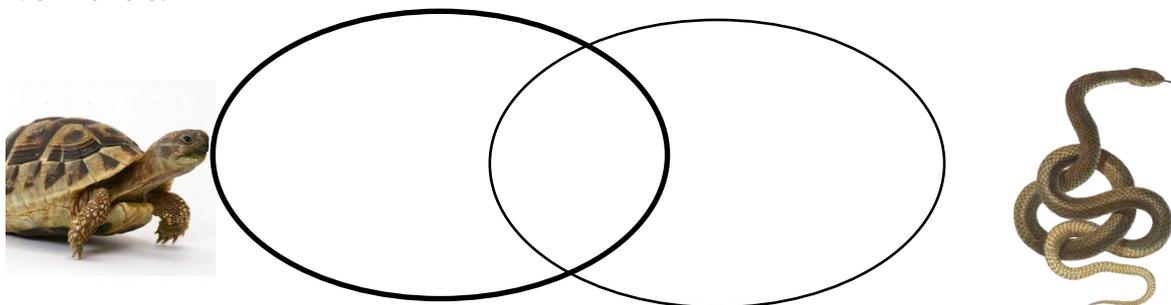


Research question:What are the characteristics of groups belonging to the class of reptiles?

2. Conducting research:The class is divided into 4 groups. Each group is given two pictures together with worksheets. Those pictures belong to representatives of groups belonging to the reptile class. One of the tasks assigned to the groups is to note the characteristics that distinguish those representatives from each other.

Worksheet 1.

1. Mark the different and similar characteristics of the creatures in the given pictures on the Euler-Venn circle.



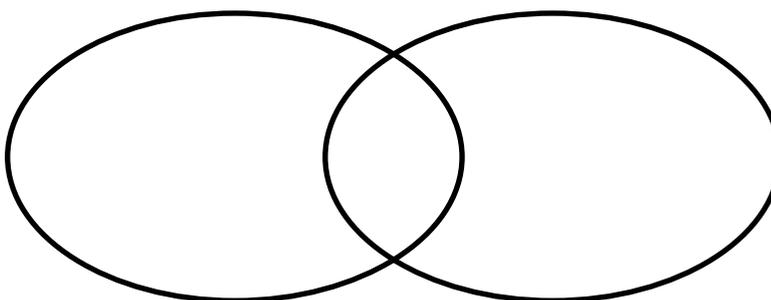
2. Record the given ideas in the appropriate cells in the table.

- a) Dinosaurs had a small head, a thick and long neck and they were animals with big tails.
- b) In flying squirrels, the salivary glands have changed their function and turned into poison glands and secreted poison.
- c) Crocodiles are herbivores.
- d) Division into incisors, canines, and molars occurred for the first time in the group of theriodonts, which is considered one of the ancient reptiles.
- e) Ichthyosaurs were aquatic representatives of reptiles.

True	Wrong

Worksheet 2.

1. You are given two pictures. Identify the animals in these pictures with the Euler-Venn circle.

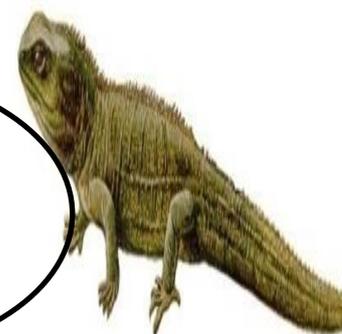
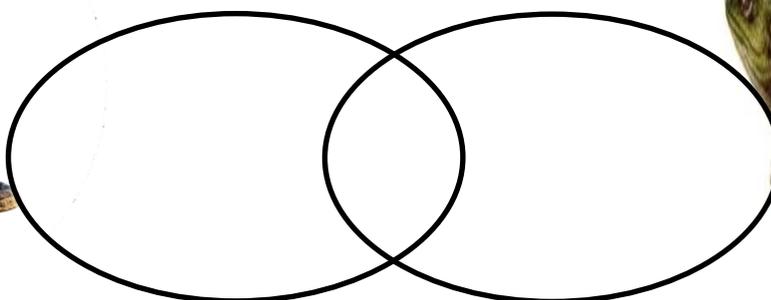


2. Fill in the table.

Reptiles	Features
Crocodiles	
Snakes	
Turtles	

Worksheet 3.

1. Distinguish the animals in the pictures given next to your worksheets with the help of the Euler-Venn circle.

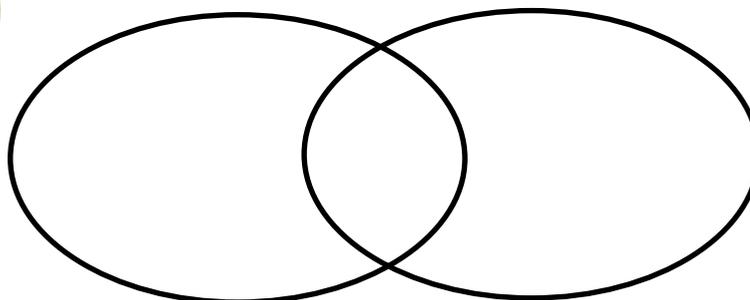


2. Determine compatibility.

- 1) Predatory and herbivorous A) Pterosaur forms existed at the time of their existence.
- 2) Elongated fingers on their forelimbs B) Dinosaurs had membranes of skin between their bodies
- 3) They breathed through the lungs and gave birth to live babies. C) Flying bunnies
- 4) Unlike other reptiles, they had legs D) Theriodonts were located on the underside of the body.

Worksheet 4.

1. You are given some pictures. Try to distinguish those pictures in the Euler-Venn circle.



2. Fill in the following table about the group of scales.

Signs	A bunch of moneylenders
Habitats	
Body coverings	
The type of surroundings	
Nutrition	
Where it can be found	

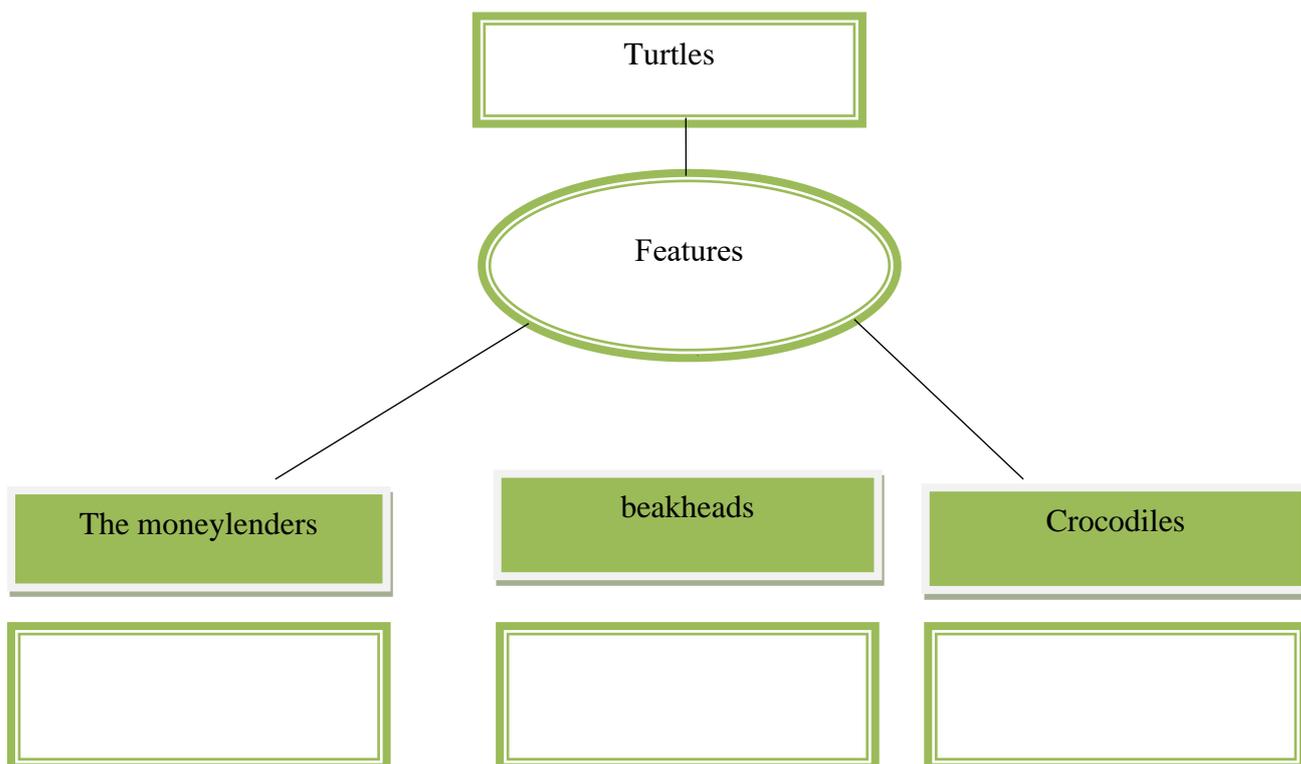
3. Information exchange: Students in the class present their assignments together with their answers.

4. Discussion and organization of information: The teacher presents discussion questions to the class and discussions are held:

- What groups of reptiles are there?
- What characteristics do they differ from each other?
- What are the oldest species of reptiles?
- What is the importance of snakes for other creatures?
- What is the role of reptiles in the food chain?
- What should be done to protect yourself from the poisonous representatives of snakes?
- What measures can be taken to protect reptile species included in the "Red Book" of Azerbaijan?

- How would you react if one of the reptilian representatives appeared before you?

5. Conclusion and summary: The teacher fills in the table given on the board based on what they have learned together with the students.



6. Creative application: Students are instructed to conduct research on the place of reptiles in the fauna of Karabakh.

7. Evaluation: Group evaluation is based on the following criteria.

Criteria Groups	Development	Presentati on	Active Don't listen	Cooperatio n	Active in discussion	Overall result
I group						
Group II						
Group III						
IV group						

Individual formative assessment of students is conducted on the criteria of differentiation and interpretation on the topic "Diversity and importance of reptiles".

I level	Level II	Level III	Level IV
Difficulty distinguishing.	Differentiates with the help of the teacher.	He can partially distinguish.	It differentiates properly.
He barely interprets the reasoning.	He can interpret with the help of the teacher.	He can mainly interpret the reasoning.	Interprets opinions correctly.

At the end of the lesson, the students were asked their opinions about the lesson and their suggestions were taken into account.

Organization and generalization of pedagogical experiment

The pedagogical experiment was carried out in 3 stages in 3 schools. In the first stage, the current situation was studied through questionnaires and discussion methods. Verbal and written

answers were received from VI-VII classes with the mentioned discussion questions. Based on the answers received, it was learned that the situation is not very satisfactory.

In the 2nd stage of the experiment, the general situation was studied by analyzing the textbooks and methodological tools used in the observed classes. The methodology was developed taking into account the possibilities of textbooks and methodical materials and the age level of VI-VII grade students. Several examples of lessons were prepared on the formation of students' ability to recognize and deal with living creatures.

In the 3rd and last stage of the experiment, the prepared methodology was presented in selected schools and classes. The reason for this was to compare the results of the developed methodology and to reveal a good result as a result of the comparison.

The first experiment was conducted on VI classes. VIB was chosen as the experimental class and VIc as the control class. The topic is "Support system in plants". The purpose of choosing this topic is to make the student recognize plants with erect and spreading stems, distinguish between trees, shrubs, and herbs, and provide a logical explanation of their location in tiers. In the control class, the topic was conducted according to the established methodology. The methodology developed for the experimental class was first discussed and clarified. It was then introduced to the experimental class. In this class, the topic was conducted according to the presented methodology.

In the end, the mastery rates for both classes were checked and prepared in the form of a table. The table is mentioned below:

Table 1. Classes Success indicators by classes

Class	Students Number	Prices				Success percent %	Quality percentage %
		excell ent	Good	Eno ugh	insufficien t		
Control VI c	25	8	6	6	5	80%	56%
Experim ental VI B	26	10	7	6	3	88.5%	65.3%

Later, the 3rd stage of the pedagogical experiment was organized in another school for classes VIIA and VIIB. Here, VIIA was the experimental class, and VIIB was the control class. The topic presented is "The Diversity and Importance of Reptiles". The subject was held on the basis of the previously mentioned methodology for class VIIB. As for class VIIA, the developed methodology was discussed and specified, and the topic was held based on the methodology presented in this class.

At the end, the mastery rates for both classes were checked and tabulated. The table is in the following form:

Table 2. Success indicators by classes

Class	Students Number	Prices				Success percent %	Quality percent age %
		excel lent	Good	Eno ugh	insuff icient		
Control VII B	24	7	6	7	4	83.3%	54.1 %
Experi mental VII A	23	8	7	5	3	86.9%	65.1 %

The 3rd stage of the pedagogical experiment was organized in another school for VI classes. Control and experimental classes were selected in this school, as in other schools. In the control class, the topic was conducted based on the established methodology, while in the experimental class, the topic was conducted based on the developed, discussed and refined methodology. VIB was defined as control and VID class as experimental class. In this school, a more different topic was assigned the topic "Interaction of organisms with the environment".

Success rates for both classes were calculated and listed in the table below.

Table 3. Success indicators by classes

Class	Students Number	Prices				Success percent %	Quality percent age %
		excellent	Good	Enough	insufficient		
Control VI B	24	7	7	6	4	83.3%	58.2%
Experimental VID	23	9	6	5	3	86.9%	65.1 %

Later, the 3rd stage of the pedagogical experiment was organized for classes VIIA and VIIB. The topic was chosen as "Reptile Diversity and Importance". VIIA was defined as the experimental class, VIIB as the control class. In the control class, the topic was conducted on the basis of a predetermined methodology, and in the experimental class, the topic was prepared, discussed, and clarified for teaching.

The results for both classes were determined and tabulated. The schedule is as follows.

Table 4. Success indicators by classes

Class	Students Number	Prices				Success percentage	Quality percent age %
		excellent	Good	Enough	insufficient		
Control VII B	21	7	5	5	4	80.9%	57.1 %
Experimental VII A	22	9	6	4	3	86.3%	68.1 %

The next and last school where the 3rd stage of the pedagogical experiment was held was Tofiq Abbasov secondary school No. 1 in Shabran city. Here, HIV was defined as control and VID as experimental class. The topic "Unicellular and multicellular organisms" was set. The teaching process was organized online. In the control class, the topic was conducted based on the teacher's own methods and methods, while in the experimental class, it was conducted based on the developed and refined methodology.

The results for both classes were tabulated. The table is mentioned below:

Table 5. Success indicators by classes

Class	Students Number	Prices				Success percentage	Quality percent age %
		excellent	Good	Enough	insufficient		
Control VI Ch	15	4	4	4	3	80%	53.3%

Experimental VI D	15	6	4	4	1	93.3%	66.6%
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The 3rd stage of the pedagogical experiment was held online for classes VIIA and VIIB. Class VIIA was defined as control, class VIIB as experimental class. The theme to be held was "Diversity and Importance of Reptiles". In the control class, the topic was conducted according to the methods and methods determined by the teacher himself. In the experimental class, the topic was held based on the methodology developed and clarified as a result of the discussion.

In the end, the success indicators were calculated by the formula and noted on the table. The table is in the following form.

Table 6. Success indicators by classes

Class	Students Number	Prices				Success percentage	Quality percentage %
		excellent	Good	Enough	insufficient		
Control VII A	15	4	4	5	2	86.6%	53.3%
Experimental VII B	14	5	4	4	1	92.8%	64.2%

The following formula was used to calculate the success indicators for classes included in the tables:

$$\mu = \alpha - b/\alpha \cdot 100$$

Here, α is the total number of students, b is the number of non-responders.

Example: If the number of students in the class is $\alpha=22$, and the number of non-answers is $b=5$, the total result is calculated in the form given below. $\mu= 25-5/25 \cdot 100= 80\%$

Based on the results of the pedagogical experiment, it can be said that the topics for imparting environmental knowledge and skills to students are not so effective. In order to achieve a better result, attention should be paid to intra-school and extra-school processes, and the natural and social environment should be approached from a multifaceted aspect.

CONCLUSIONS AND PROSPECTS FOR FURTHER RESEARCH

1. There is a need for the teacher to use appropriate tasks and situational issues in the teaching process, referring to the content of the textbook and additional distribution materials, in order to develop the students' life skills in a more efficient way.

2. In order to develop students' life skills, the teacher should pay attention to teaching integrative, practical lessons and choosing the right techniques.

All that is said in the article, that is, the scientific provisions, opinions, comparative judgments, as well as generalizations and conclusions, are considered to be the novelty of the article. It can be effective to use the results of the research in improving the biology teaching methodology, biology textbook sets, and the content and strategy of the subject curriculum, in the preparation of textbooks and teaching aids, distribution materials, and in the improvement of teacher training programs. The results of the study are also very useful for practicing teachers.

Prospects for further research. Creating a system of work on the formation of life skills will help to enrich the pedagogical theory with new ideas and provisions.

REFERENCES/ LIST OF USED SOURCES

1. Textbook for the 7th grade on the subject "Biology", Baku, Elm, 2018
2. Possibilities of applying thematic presentations using multimedia technologies in biology lessons // Pedagogical University News, 2013, No. 1, p. 427-431

3. Relationship of "Management of emotions" in the teaching of the biology course with the educational course based on life skills // Pedagogical University News, 2010, No. 1, p. 243-248
21
4. Teacher training models, policy and application / Materials of the international conference "Teacher training policy and problems" dedicated to the 84th anniversary of the birth of the national leader of the Azerbaijani people H. Aliyev. Baku, May 12-14, 2007, p. 748-751
5. A modern view of the issue of teacher training // International Teacher Training Policies and Issues Symposium II, Proceedings book. Ankara, 2010, pp. 558-565
6. Independent diagnosis of knowledge and skills in secondary school biology teaching // Pedagogical University News, 2014, No. 2, p.439-44
7. The place of knowledge and skills in the new education system // Pedagogical University News, 2009, No. 1, p. 300-305
8. Hakkarainen, K. Progressive inquiry in a computer-supported biology class. JRST 2019, 40, 1072–1088. [CrossRef]
9. Whitto, A.; Juuti, K.; Lavonen, J.; Meisalo, V. Students' interest in biology and their out-of-school experiences. JBE 2019, 40, 124–129. [CrossRef]