

# The use of national values in forming the ecological world view of students

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**Abstract.** The article analyzes the problems of formation of the worldview of students, establishment of relations between man and nature, rational use of natural resources in the process of education. Moreover, it is devoted to implementation of issues of constructive duties regarding students' learning to maintain and protect the environment, the attitude towards natural resources, which is one of the global problems in the world, the rational use of the universal resources of water, plants and animals, the development of students' ecological outlook, environmental awareness. Forming the content of the ecological worldview through the integration of subjects in school, developing a system of invariant and variable tasks, creating methodologies, supporting them in practice, developing a system of continuity and coherence, organizing a pedagogical experiment and testing, and the results of effectiveness are illustrated.

## 1 Introduction

Man interacts with nature based on certain laws. Failure to comply with these regulations creates environmental problems. Having been taken into account how high the problems and risks in ecology by the entire Central Asian region, as an insurmountable dilemma, it demands to pay more attention to the issues of those are that the government and the state must protect the environment, "protection of ecology and the environment, improvement the ecological condition in cities and districts, implementation of the nationwide project "Green Space" (Decree of the President of the Republic of Uzbekistan "On the development strategy of the new Uzbekistan for 2022-2026" No. DP-60, Tashkent, 22 January 2022), rational use of reserves. Cleanliness and protection of the environment is one of the world's global problems, and now underground and surface resources, water, flora and fauna are considered universal wealth, and their rational use is the responsibility of every nation and people of the world. It requires the implementation of tasks aimed at forming the socio-political and cultural level, ecological consciousness and outlook of the population, and increasing civil responsibility.

In educational institutions, the models of formation of students' ecological culture and ecological worldview are applied to the educational process. In the "Incheon Declaration" adopted at the International Education Forum held in South Korea until 2030, "improving

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the quality of education, putting into practice the mechanisms that allow to determine the achieved results” (Incheon declaration. Education 2030: Towards inclusive and equitable quality education and lifelong learning for all (Word Education Forum, 19-22 May 2015, Incheon, Republic of Korea, p. 48) modernizing the mechanisms of forming a healthy lifestyle, growing special attention is paid to the development of practical recommendations for the expansion of pedagogical opportunities for the formation of knowledge and skills for the formation of a healthy lifestyle in the educational process of the next generation, and systematic jobs on the development of students’ ecological worldview, environmental awareness, thinking and attitude systematic work on formation are being carried out.

In order to form an ecological worldview in students, it is necessary to study the content of the ecological worldview through the integration of subjects at school, analyze the current situation, and determine the theoretical aspects of providing interdisciplinary environmental education to students of secondary education. Development of forms and methods that develop an ecological outlook for students through integration, identification of pedagogical conditions, elimination of problems, use of didactic requirements and principles, development of a system of invariant and variable tasks, creation of methodologies, support in practice, continuity and shows the need to develop a system of coherence, organize a pedagogical experiment, develop methodological resources and practical recommendations based on the results of scientific research, and implement them into practice.

Decree No. DP-60 of the President of the Republic of Uzbekistan of January 28, 2022 “On the development strategy of the new Uzbekistan for 2022-2026”, Decree of the President of the Republic of Uzbekistan No. DP-5712 of 2019 “Uzbekistan Decree No. DP-5863 dated October 30, 2019 “On approval of the concept of development of the public education system of the Republic of Uzbekistan until 2030” “On the concept of environmental protection of the Republic of Uzbekistan until 2030 on approval”, Decree No. DP-6108 of November 6, 2020 “On measures to develop the fields of education and science in the period of new development of Uzbekistan”, 2021 -in the decisions of the Cabinet of Ministers of the Republic of Uzbekistan dated May 27, 2019 “On measures to organize the activities of state bodies in the field of environmental protection and environmental control”, No. DP- 434 “On approval of the concept of development of ecological education in the Republic of Uzbekistan”, No. 1059 of December 31, 2019 “On approval of the concept of continuous spiritual education and measures for its implementation” - serves to ensure the execution of tasks specified in the decisions and other regulatory legal documents related to this activity.

Ecological control, prevention of violation of legal requirements in the field of environmental protection, rational use of natural resources, its detection and putting an end to it, discussion of problems related to increasing the efficiency of nature protection activities, making opinions serve to form the ecological outlook of students.

## **2 Literature review**

If we look at the development of issues of ecological worldview formation in young generation, there are simple ways. Initially, it can be expressed in legends, narratives, myths, fairy tales, parables, songs, epics and other examples of folklore. Later, they were relatively systematized in the historical written source “Avesta”. Also, the divine teaching and beliefs in the sources of the Islamic religion, the Holy Qur’an and the Hadith Sharif, constitute the spiritual roots and sources of the ecological worldview research.

Famous Central Asian thinkers and statesmen approached these issues in their own way. For example, it is also reflected in the scientific heritage of Abu Nasr Farabi, Abu Rayhan Beruni, Ibn Sina, Yusuf Khos Hajib, Ismail Al-Bukhari, Amir Temur, Alisher Navai,

Zahiriddin Muhammad Babur, Sufi Olloyar, Ahmed Donish and others, and later modern enlighteners.

Among the world scientists, K. Jung, D. Feydimen, G. Frager analyzed the issues of the connection of the nature of the human personality with the environment, the connection of the social activity of the person with natural and ecological processes, V. Frankl, E. Erikson studied the factors about the influence of the natural environment on the content of human life. Issues of environmental science and nature protection were researched by Ferreira., A.C. Caires, R. Pitarma, Monica Green, D. Meadows, T. Miller, E. Odum, A. Peccei, R. Whittaker, M. Green and other scientists in the educational system.

Issues such as the influence of the ecological environment on human lifestyle and health, and its social consequences were studied by I.L. Andreyev, L.N. Gumilyov, L.N. Kogan, N. Moiseyev, N.I. Kukova, T.A. Akimov, V.V. Hoskin, I.T. Suravegin, A.A. Melkumova, P.I. Lubarskiy, B.A. Afanosev and A.V. Yablokov among the scientists of the CIS. V. Chub, Y.S. Karlov, T.M. Bondarenko, S.N. Nikolayeva, N.A. Rijova, A.I. Ivanova, M.A. Kondrashova, L. Pavlova, G.P. Tugusheva, A. Ye. Chistyakova, Z.F. Aksyonova, L.G. Gorkova, L.I. Yegorenkov, L.V. Kovinko, A.A. Lopatina, N.N. Lopatina, S.N. Nikolayeva carried out research on pedagogical and methodical problems of environmental education in the primary education system. I. Zverev on new approaches of environmental education, A. Zakhlebny on the purpose, tasks, principles of environmental education, I. Suravagina on the interdisciplinary process of forming a responsible attitude to nature and V. Mironov studied the issues of ensuring that they have the skills of environmental education in the preparation of teachers.

The role of socio-political factors in the formation and development of the ecological outlook, the connection of ecological attitudes and consciousness with socio-historical processes, their socio-philosophical problems were researched by Z.Abdullayev, S.Mamashokirov, H.Y.Salomova, A.Q.Berdimurodova, E.Koshimova, H.Isamuhamedov, A. Ahmedov and other scientists.

The impact on the formation of ecological consciousness as a component of the personal worldview, the structure and functions of the concept of ecological culture were carried out in detail in the scientific research of Sh.L.Maxmudova, V.O.Levinskaya, U.G.Saidova, N.SH.Bozorova, E.J.Ikromov, A.A.Xotamov, S.X.Xudoynazarov, M.Aliyev, R.Mamatqulov.

Issues of influence of natural environment and ecological processes on production, people's living conditions, the formation of healthy lifestyle were studied in detail by Y.Shodimetov, A.Choriyev, M.Eshmatov, S.Mustafoev, S.Orokov, R.Suvonov, A. Ergashev and T.Ergashev, N.Niyozova, A.Rafikov, N.Abirqulov and A.Khojimatov.

The impact of a healthy family lifestyle on a person's ecological worldview, character, social and spiritual image, the aspects of valeology related to national values when introducing a healthy lifestyle into a person's daily life were analyzed in the scientific research papers of B.Ziyomammedov, B.Ochilova, M. Kholmatova, Kh. Shaikhova.

For the above-mentioned studies, certain aspects of the impact of ecological existence on human health, raising a healthy, physically strong generation, and the formation of a healthy lifestyle were studied, and undoubtedly it is necessary to study the characteristics and possibilities of improving the ecological outlook of a person in the conditions of today's globalization. Article 49 of the Constitution of the Republic of Uzbekistan states that "Everyone shall have the right to a favorable environment, reliable information about its condition. The state shall create conditions for the implementation of public control in the field of urban planning activities in order to ensure the environmental rights of citizens and prevention of harmful environmental impact. The state, under the principle of sustainable development, shall implement measures to improve, restore and protect the environment, maintain ecological balance. The state shall take measures to protect and

restore the ecological system, social and economic development of the Aral Sea region” (Constitution of the Republic of Uzbekistan, Publishing House of Uzbekistan, Tashkent, p. 8. 1.05.2023) [1]. However, the reality of the present time demands that serious scientific research be conducted on the fundamental research of the role and importance of national values in the formation of the ecological outlook of a person.

3 Discussion

Looking at the progress of the formation of the ecological worldview, the health of the ecological condition that has arisen today requires the analysis of the social-historical foundations of the ecological worldview, the connection with the spiritual life of the individual, national and universal values, and the laws of gradual development. The problem of environmental education is always considered an important issue in the formation of a student’s personality. It is necessary to research the characteristics of forming an ecological worldview in students based on national values and the concepts of forming an ecological worldview in students based on national values, the concept of ecology, ecological consciousness, ecological culture, ecological education, ecological upbringing and their classification. There are a number of concepts dedicated to ecological education. However, the definitions given for the concept have a general description and do not always give a good opportunity to understand the essence of the problem. It should be noted that the main goal of the ecological worldview is to understand the problems of “nature+man+society” and to form a conscious attitude towards it, to form a worldview based on national and universal values.

The history of ecology is inextricably linked with the stages of development of the natural sciences. The first definition of the term ecology was introduced by the famous German biologist Ernest Haeckel in his scientific works such as “The General Morphology of Organisms” (1866) and “The Natural History of the Creation of the Universe” (1868) (P. S. Sultanov “Fundamentals of ecology and environmental protection”, “Music” publishing house, Tashkent, 2007, p. 16). The word “Ecology” (from the Greek oikos - home, place of residence, abode, logos - science) means “the science of home, one’s place of residence” according to its content. In a more general sense, ecology is a science that studies the interaction of organisms with their environment (H. S.Yuldashev, Sh. M.Avazov, “Basics of Ecology and Nature Protection” textbook, Tashkent, Labor publishing house. 2003, p. 223).

Education and environmental education are important in the formation of an ecological worldview, and they are formed as a result of the system of knowledge that represents the relationship between nature and man. The ecological worldview is a product of ecological education, it is a process of nature protection and effective use of its resources. There are several definitions of ecological worldview. For instance (Table 1),

Table 1. The content of the term ecological worldview.

|                    |   |
|--------------------|---|
| Ecological outlook | Awareness of the superiority of nature over man, responsibility for the fate of the entire socio-natural system, the survival of our planet.  |
|                    | the place of man in nature, the worldview formed on the basis of knowledge in the “man-nature” system and its manifestation in activity   |
|                    | a product of students’ consciousness, together with their ecological knowledge, they further strengthen their ecological culture and attitude to the environment based on ethical criteria. |

The system of ecological relations includes careful treatment of ecologically used natural resources (for example, reducing energy consumption, water or natural raw

materials), as well as reducing the amount of waste produced (waste processing, use of biodegradable materials, etc.). The goal of creating an ecological worldview is to generalize education, enlightenment and ecological culture, to form a careful attitude to nature, to strengthen the culture of preserving a comfortable environment, biological diversity and natural resources [2].

As part of the ecological worldview of the students, “advancing cooperation by adding a new level in the field of ecology, environmental pollution prevention and nature protection in Central Asia” (Decree of the President of the Republic of Uzbekistan “On the development strategy of the new Uzbekistan for 2022-2026” No. DP-60. Tashkent, 28 January 2022) [3], preserving, enriching and preserving our spiritual and cultural heritage for future generations, the nation’s ancient past, ethnic value, moreover, the rich spiritual and cultural heritage forms the character of attitude, careful conveying of nature to present and future generations, education, as well as perfection.

The Avesta book is an ancient written source about the peoples of Central Asia in the formation of students' ecological outlook. “Avesto” forms ecological culture, worldview and, most importantly, attitude to nature in students through tasks such as the purity of nature, cleanliness of the environment, planting trees, making household items, tilling the land. The practical importance of Zoroastrian ideas is that they provide information on ways to prevent various diseases and ensure environmental cleanliness. Students are taught to keep the environment clean in the following ways:

- 1) cover garbage, bury contaminated areas with soil, stone or ash;
- 2) destruction of microbes using fire, hot or cold air;
- 3) infectious diseases were eradicated by chemical methods (using ash, vinegar, wine, various herbs - sandalwood and incense, aloe, onion, garlic, red pepper, etc.).

In “Avesta”, the human factor and the issue of ensuring his health are described separately. It is known from the information about nature and environmental protection described in “Avesta” that the average life of ancient people was 80–90 years, and some people lived 140 years, depending on their living conditions and environment. “Avesta” philosophy is a comprehensive expression of ideas about the universe and man, man and society, and the relationship between them. It is a source of power that encourages students to think and has a strong influence on their emotional and mental world. Accordingly, it is a set of views that harmonizes the relationship between nature, society and man through spiritual, spiritual and ethical criteria, invites the world surrounding man to study the factors of its development, to understand the meaning of life. The doctrine of nature and man was further advanced during the period of the Eastern Renaissance as the development of science.

Today, only a certain investigation of the mythological worldview remains, and people’s minds are occupied by social, philosophical, and religious worldviews. The two hundred and fiftieth ayat of the Holy Koran, which mentions nature and its preservation, shows that Islamic religion pays great attention to this issue. We all know that God created the universe with great precision and interdependence. The Holy Koran has blessed us in this way in ayat 49 of Surah Qamar: “Indeed, We have created everything with a measure”. Therefore, everything in it: water, land, mountains, animals and plants are related to each other by a precise measurement. If this connection is broken, serious problems arise. Therefore, every person should try to preserve the world and nature. In the Holy Koran, Allah explained in detail how to treat all things on earth, including the animal world. Many ayats explain to Muslims God’s purpose in creating the animal world. He encourages them to protect and study the animal world. Such sources should be considered as a tool for the further development of the ecological worldview of our youth, about the rational attitude to nature, the effective use of its blessings, and the careful attitude to everything has size.

Being kind and fair to the environment and nature, teaching and learning will not bring

much benefit. Of course, having knowledge and upbringing should be applied and demonstrated by us adults. According to the Islamic religious rules, teaching nature protection is the duty of the older members of society. Adults must always set an example to young people in protecting the environment. They need to teach the younger generations the protectors of the flora and fauna. Muhammad Musa al-Khorazmi, Abu Nasr Farabi, Abu Rayhan Beruni, Abu Ali Ibn Sina, among the Eastern scholars who lived and worked in the Middle Ages, made a great contribution to the development of natural sciences. Scientists who lived and created in Central Asia, in the period before the term ecology was born, expressed their valuable scientific ideas about nature and its balance, flora and fauna, respect for nature in their works, and we should use them in the process. The followings serve as a tool for educating to protect the environment:

- affects the minds of students;
- changes their outlook;
- increases ecological culture;
- changes one's attitude towards nature and the environment.

To reform education in schools, organize the educational process meaningfully, application of educational methods in harmony with the modern tools, improvement of creativity the competence of young people, strengthening of national ideology, education in the spirit of national values are implemented. The use of educational methods based on the content of subjects, taking into account the age and individual characteristics of the learner, increases efficiency in the educational process.

It is effective to organize classes based on non-traditional methods in order to form an ecological worldview, get acquainted with nature, and be regularly aware of various environmental events. In addition to non-traditional classes, small competitions such as "Protect Mother Nature", "One Place, One Family", "My Mother Nature", spiritual ceremonies, and organization of discussions on the topic "Environmental problem and its solution" are also held and they give its positive effect. Because such classes or activities which are organized in an unconventional way, help students to expand their worldview and develop their attitude towards nature.

Interactive methods are used during the lesson in order to increase the quality and content of the lessons, for example, educational games such as "Find a friend!", "Hot potato", "Gardener", crossword, rebus, "Brainstorming", "Lily Flower", "Venn Diagram", "T Scheme", "Assessment", "Fish Skeleton", "How?", "Street of Justice" and graphic organizer and problem methods can be appropriate.

The impact of human activity on nature, the need to protect nature, is reflected in the development of human society. A person must change his attitude towards nature, the surrounding environment, know and study the laws of nature and develop his life based on them. It is necessary to develop ways of life that correspond to the laws of nature (Figure 1). Otherwise, people and society will cause major natural disasters.

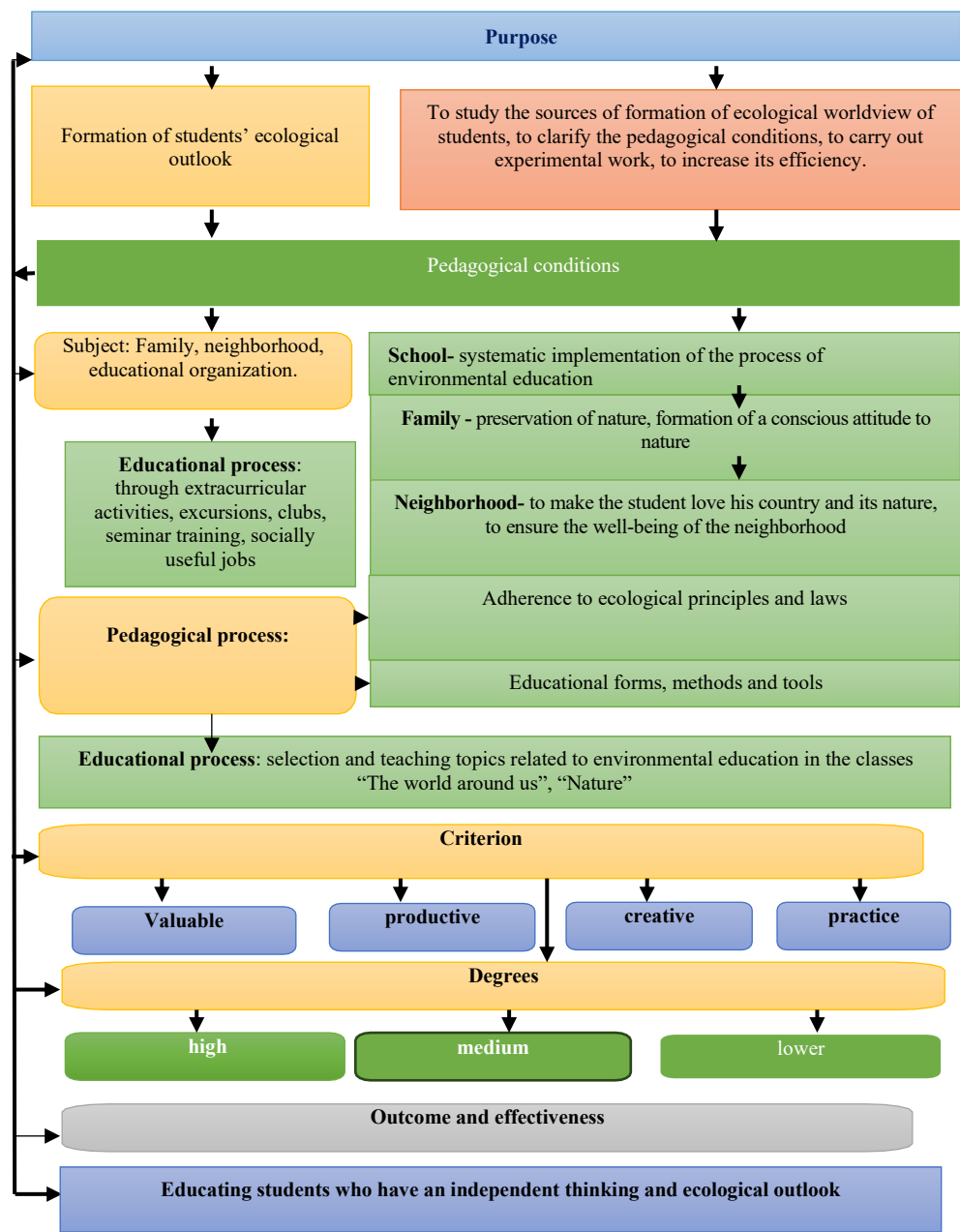


Fig. 1. A model for educating students who have an ecological outlook.

4 Results

In order to determine the effectiveness of forming an ecological worldview in students, the criteria of ecological education of students based on national values, and to determine whether they have formed an ecological worldview by carrying out experiments and tests were analyzed.

Experiments on the formation of students' ecological outlook were carried out in three

stages. The first is a defining stage, the second is a formative stage, and the third is a generalizing stage.

A total of 925 respondents-students were involved in the experimental test work, of which 458 students make up the experimental group and 467 students make up the control group.

Mechanisms implementing scientific-pedagogical and methodical support were developed on the basis of ecological education technologies such as ecological culture, ecological knowledge, ecological literacy, eco-pedagogy, which provide cultural behavior and manners aimed at the development of ecological outlook of students during the experiments ( Table 2).

**Table 2.** Mechanisms implementing scientific-pedagogical and methodical support on the basis of ecological education technologies.

| Forms of methods             | Passive methods                                | Active methods  | Interactive methods  |
|------------------------------|--|---|--|
| Methods of oral presentation | Lecture, explanation, story, conversation      | “Muzyorar”<br>Brainstorming, answering the questions, debate                          | Debate, vebinar,Insert, FSMU, Sinkveyn   |
| Visual methods               |  | Demonstration poster, booklet, video, didactic tools                                  | Graphic organizers, electronic Software games, multimedia tools                                      |
| Practical methods            | Preparation of herbariums and doing exercises. | Audio, video training sessions, selection of pictures and posters, live nature corner | Keys-study technology,Person oriented educational technologies, problematic educational technologies |

Group 1: Active methods (answering the questions, discussions, visual methods and tools) serve to enable students to find out knowledge based on nature and apply it in practice, and to develop ecological awareness and create ecological culture in it.

Group 2: Interactive methods (Debate, Webinar, Insert, FSMU, Sinkway, graphic organizers) encourage students to think independently and to be creative, to be able to consciously show their attitude to the surrounding realities.

Group 3: Active and interactive methods (all methods used in the course of traditional and non-traditional classes) form students' national and general cultural competence, socially active civic competence and increase activity in the process of application in practical activities.

Criteria were developed for determining the levels of students' formation of ecological outlook (Table 3).



**Table 3.** Criteria of students' ecological outlook.

| Levels of students' ecological outlook | Criteria of formation of ecological outlook  |
|--|--|
| high                                   | To have a high level of understanding of the meaning of ecological culture, material and spiritual heritage, the scientific heritage of our ancestors and the attitude to Mother Nature in the folklore of our ancestors, and the ability to know and apply information about the environment. |
| medium                                 | To have ecological knowledge about nature, think about it, but not all information is provided with practical actions. An ecological worldview is relatively formed, not at a high level, but vital conclusions are formed.  |
| lower                                  | To have knowledge and skills. There is no information on the ecological outlook. There is no knowledge about the preservation of nature and its rational use, there is no systematic knowledge, and the attitude towards nature is not positive.   |
| unsatisfactory                         | There is no idea about the ecological worldview, lack of knowledge to understand the concept of nature conservation. The relationship between nature and society is not instilled in the minds of students, environmental education is not consciously formed, it exists at a very low level.  |

The methods developed on the basis of theoretical and practical research of the selected problem in our topic for the formation of the ecological worldview of students gave their effectiveness in the process of organizing experimental work.

The technologies for protecting nature and forming a conscious attitude towards it were carried out in several stages.

During the pedagogical trial period, methods of teaching students materials related to environmental education were tested in class and during extracurricular activities.

The effective aspects of the methods that gave positive results were studied within the scope of the topic.

The quantitative and qualitative indicators of the level of formation of the environmental outlook among students were determined before the experimental work (Table 4).

**Table 4.** Indicators for determining quantitative and qualitative changes in levels of ecological outlook before the experiment.

|                    | Number of students | Levels of learning and competence |        |     |
|--------------------|--------------------|-----------------------------------|--------|-----|
|                    |                    | high                              | medium | low |
| Experimental group | 458                | 133                               | 168    | 157 |
| Control group      | 467                | 101                               | 188    | 178 |

We use a formula to take these indicators into account in our evaluations. Data about learning rate of students are calibrated into percentages and the result is found by the formula

$$k = \frac{J}{Q} = 100$$

Here::  
J – the number of correct answers given in the questionnaire;  
Q –total numer of students (Table 5).

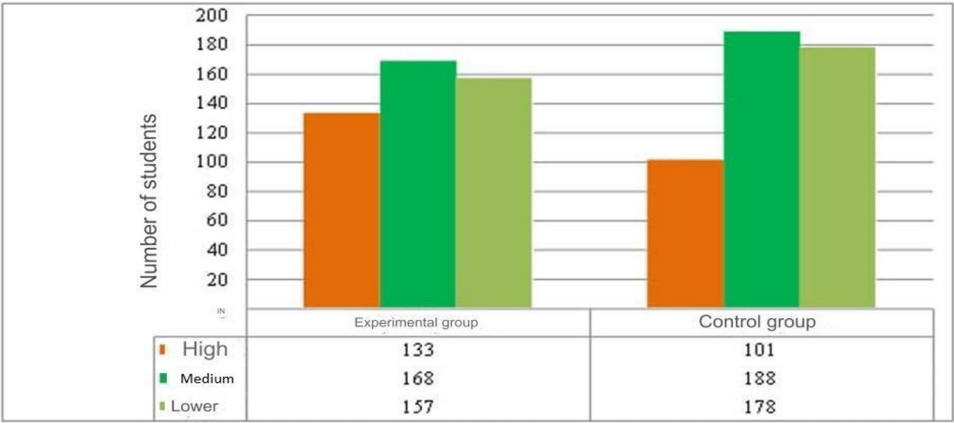
**Table 5.** Data about learning rate of students.

|   | students<br>levels | Experimental group                       | Control group                                  |
|---|--------------------|--|--|
| 1 | High               | $K_1 = \frac{133}{458} 100\% = 29.2\%$   | $K_1 = \frac{100}{467} 100\% \approx 21.6\%$   |
| 2 | Medium             | $K_1 = \frac{168}{458} = 100\% = 36.6\%$ | $K_1 = \frac{188}{467} = 100\% \approx 40.2\%$ |
| 3 | Lower              | $K_1 = \frac{157}{458} = 100\% = 34.2\%$ | $K_1 = \frac{178}{467} = 100\% = 38.2\%$       |

We present the worldview of students in the form of a diagram (Figure 2).  
It is clearly understood from the graphs recorded in the diagram that the selection model measurements for the experimental and control classes are relatively different  $M_t = 5$  and  $M_n = 3$ , to clarify, there is enough difference between them,  $M_t > M_n$  . It is clearly shown that the conditions for suitable measurements  $X > Y$  for these samples are satisfied.

$$\bar{x} = \frac{1}{n} \sum n_i x_i = \frac{1}{458} (133 \cdot 5 + 168 \cdot 4 + 157 \cdot 3) = \frac{1}{458} (665 + 672 + 471) = \frac{1808}{458} = 3,94$$

$$\bar{x} = \frac{1}{n} \sum n_i x_i = \frac{1}{467} (101 \cdot 5 + 188 \cdot 4 + 178 \cdot 3) = \frac{1}{467} (505 + 752 + 534) = \frac{1791}{467} = 3,8$$



**Fig. 2.** To determine the quantitative and qualitative changes in the level of environmental education of elementary school students based on national values at the end of the experiment.

So, the average learning in the experimental class was greater than the average learning in the control class. That is: the average learning in the experimental group was greater than in the control class.:  $X > Y$ ;

$$\bar{x} = 3,94 \quad \bar{y} = 3,84_m = 0,05 \Delta_n = 0,03 \text{ ( final result )}.$$

Quality indicators:

$$k_{ycb} = \frac{\bar{x} - \Delta_n}{y + \Delta_m} = \frac{3.94 + 0.05}{3.8 + 0.03} = \frac{3.89}{3.83} = 1.01 > 1$$

$$\begin{aligned} K_{bdb} &:= (\bar{x} - \Delta_m) - (Y - \Delta_H) \\ &= (3.94 - 0.05) - (3.8 - 0.03) - (3.89 - 0.77) - 3.89 - 377 = 0.12 \\ &> 0 \end{aligned}$$

From the obtained results, it can be vividly seen that the criterion for evaluating the effectiveness of learning is greater than one, and the criterion for evaluating the level of knowledge is greater than zero. It is known that learning in the experimental class is higher than the competence in the control class. So, the effectiveness of the experimental work on determining the quantitative and qualitative changes in the level of formation of the students' ecological worldview was proven after the experiment.

## 5 Conclusion

Clarification of the effective forms, methods, tools and principles of environmental education in the formation of the ecological worldview of students, improvement of the content of studying the situation in school practice, organization of classes using technological approaches to the teaching process of "Natural Sciences" will give effective results. Furthermore, the creative spiritual heritage left by Eastern thinkers, the materials related to public pedagogy, the use of national values, customs and traditions in the process of ecological education and upbringing, "ecology and nature protection, rational use of water resources use, further development of transport and communication infrastructures" (Decree of the President of the Republic of Uzbekistan No. DP-158 "On the strategy of Uzbekistan – 2030", 11.09.2023) [4] increases efficiency to form the ecological worldview of students. The precision of using the principles of ecological education for the formation of an ecological worldview in students has been scientifically substantiated [5-12].

Interactive technologies (describing, hearing aids, multimedia tools, independent creative activities, graphic organizers, virtual laboratory and practical training, virtual travel) were improved and found to be effective in the lessons to form an ecological worldview in students.

Students of secondary schools have great opportunities to form an ecological outlook. In particular, organization and holding of environmental week-parties ("If you plant a tree, you will be blessed", "Water is the source of life", "The world of plants", "Travel to the animal world", "Birds are our friends"), "Travel to nature", "Seasons - the meaning of our life", "The importance of a morning walk", "Respect Nature", "Young naturalists' clubs", "Playing in nature" among students, "Protect Nature", etc., it will be highly effective to integrate the drafts of scenarios of ecological activities into the content of the science of "Natural Sciences" and to apply them in practice.

Experiments were organized to determine the level of formation of ecological outlook among students, its goals, tasks, criteria for evaluating expected results (efficiency) were developed, indicators were analyzed mathematically and statistically, and the methodology of the conducted research was verified. As a recommendation, it can be said that the role of national values is extremely important in the formation of students' ecological outlook, if the digital system of ecological resources is analyzed and widely used in practice, interactive technologies (describing, hearing aids, multimedia tools, independent creative activities, graphic organizers), virtual laboratory and practical training, virtual travel) will be effective in creating a new generation of textbooks and training manuals on environmental education based on national values.

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