

Forming The Ecological Culture Of Younger Schoolchildren With The Use Of Innovative Technologies In The Educational Process

Talgat Abubakirovich Daniyarov, Bakhytzhan Kalzhanovich Mukhamedzhanov, Perizat Bayteshovna Ceytkazy, Mariyam Botaevna Zhazdykbaeva, Shakhizada Ismailovna Isakhova, Elmira Zhakhanovna Khalilaeva, Zhakypbek Aydarbekovich Kasymbekov, Alina Kuandykovna Bimaganbetova

Ahmet Yasawi International Kazakh-Turkish University, 29 B. Sattarkhanov Avenue, 161200 Turkistan, Kazakhstan.

bimaganbetova-alina@mail.ru, science@iktu.kz

Abstract. The article deals with the theoretical justification, development and experimental checking the system of forming the ecological culture of younger schoolchildren with the use of innovative technologies in the educational process. The authors determined the pedagogical conditions of efficiency of forming the ecological culture of the younger schoolchildren on the basis of use of innovative technologies providing integrity and continuity of the process developing and stimulating creative, informative-search activity and interests of children to ecology taking into account age, social, ethno-religious and nature-climate factors.

[Talgat Abubakirovich Daniyarov, Bakhytzhan Kalzhanovich Mukhamedzhanov, Perizat Bayteshovna Ceytkazy, Mariyam Botaevna Zhazdykbaeva, Shakhizada Ismailovna Isakhova, Elmira Zhakhanovna Khalilaeva, Zhakypbek Aydarbekovich Kasymbekov, Alina Kuandykovna Bimaganbetova. **Forming The Ecological Culture Of Younger Schoolchildren With The Use Of Innovative Technologies In The Educational Process.** *Life Sci J* 2014;11(5s):393-399] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 79

Key words: ecological culture, innovative technologies, ecocontent, the educational process, collective interaction, intercreation.

Introduction.

Despite the increased attention to questions of ecological education in the modern world, the problem of search of effective ways of ecological culture education of the schoolchildren is especially actual. Approaching ecological crisis shows an aggravation of a problem of interaction of the person, society and nature, occurred for the last decades. Today the world community comes to understanding of that one of the main reasons of crisis's emergence is low level of culture of people, including ecological. The mankind gradually realizes that education of ecological culture of the person acts as means of preservation of the nature and civilization [1].

The problem of education of ecological culture of schoolchildren in our republic is especially actual in connection with processes of regionalization and education ecologization. In Kazakhstan republican, regional, author's textbooks and programs are created, in protection of the nature have appeared youth ecological movements: "Semey - Nevada", "In Aral's protection" and others. Experience of ecological education of schoolchildren is put in educational-upbringing programs: "Heritage of fathers" ("Ata mura"), "Earth of ancestors" (Atameken), "A pure spring" ("Kausar bulak"), etc. Cultivating ecological culture of schoolchildren, teachers face a number of difficulties of problems – a superficial knowledge on ecology at many pupils, absence of aspiration to be engaged in ecological creative activity, relation to an environmental problem doesn't become personal and significant for schoolchildren and isn't a part of moral belief. The younger school age is chosen for our research owing to several reasons: this age is very emotional, favorable for assimilation of ethical standards, curiosity turns into inquisitiveness, and demand in new impression gives a rise to informative activity, understanding of essence of the nature and comprehension of its

phenomena, sympathy, and empathy to it in the period of natural cataclysms. So, relevance of search of effective ways of formation of ecological culture of younger schoolchildren is caused by demands of education's practice and the changes happening in the system of Kazakhstan education and upbringing, directed on its regionalization and ecologization.

Real practice of use of innovative technologies in the upbringing process of the elementary school shows that at rather high efficiency of this type of work the teachers feel a need in scientific-founded recommendations about application of innovative technologies for formation of ecological culture of younger schoolchildren. Thus, analysis of the scientific literature on the problem of forming the ecological culture of younger schoolchildren and the real practice allowed revealing contradiction between necessity to use innovative technologies in forming of ecological culture of younger schoolchildren in the educational process of elementary school and a lack of scientific-founded methodical material for their realization. The allocated contradiction allows formulating a problem of the research: what pedagogical conditions providing efficiency of application of innovative technologies in forming of ecological culture of younger schoolchildren in the educational process of elementary school. The solution of this problem hasn't received a due lighting in the pedagogical science. The research objective consists in theoretical justification, development and experimental check of the system of forming of ecological culture of younger schoolchildren with use of innovative technologies in the educational process. Object of research: the educational process in an elementary school [2].

Leading idea: system-complex use of innovative technologies in combination with traditional approach to ecologization of the educational process of elementary school provides efficiency of

forming the ecological culture of younger schoolchildren.

Methodological basis of the research includes the theoretical thesis revealing the essence of concepts "culture", "ecological culture", "innovative technologies", as well as studying, comprehension and generalization of conceptual opinions, views and theories of the scientists considering the problems of forming of ecological culture in philosophical, sociological, psychological and pedagogical aspects; philosophical doctrine about unity of the nature and society, the knowledge theory, the theory of the personality development, system-structural, activity approaches, the theory of humanization and ecologization of education, the psychological-pedagogical researches in the area of innovative pedagogical technologies (M.V. Klarin, Yu. S. Kurganov, N.K. Akhmetov), the ideas of continuous ecological education (I.N.Ponomareva, I.N. Nugumanov, M.N. Sarybekov, L. Beysenova, B.I. Mukanova).

Research sources: fundamental works of philosophers, psychologists, teachers on a problem of forming of ecological culture of the personality; normative documents on protection of the ecological environment, on ecology, ecological education and upbringing; the official documents concerning improvement of the educational work in the elementary school; curriculums and educational plans of schools, training programs for the elementary school, methodical recommendations, the advanced experience of elementary school teachers [3].

In order to solve objectives we used the following research methods: analysis, comparison, correlation, generalization of philosophical, sociological, psychological-pedagogical literature on the research problem, conversation, questioning, the analysis of educational and methodical documentation (curricula, programs, planned schedules, registers), studying and generalization of the advanced pedagogical experience of teachers, pedagogical staff of comprehensive schools, the organization and carrying out pedagogical experiment, statistical processing and generalization of the received results.

Main part. In modern conditions when problems of environmental protection have gained a global character, forming at a growing-up generation of ecological culture, caring and careful attitude to the native nature, familiarizing of schoolchildren from the earliest age to active and independent environmental activity - all of this is the major task for pedagogical science, on the successful decision of which depends confidence of people in the future, health and wellbeing of the present and future generations. In this regard the objective requirement and necessary condition of a sustainable development of the modern Kazakhstan society is a search of pedagogical conditions and development of effective ways of harmonization of the relations between the person and the environment which essence is defined by ecological culture of the personality and society as a whole.

Much effort is spent by mankind in order to learn not just exist in the environment, but also to interact with it. Ideal in terms of ecology can be called our ancestors relationship with nature. For centuries the people of Kazakhstan created a complex culture in which all (from proverbs and sayings to religious-ritual holidays) was connected with the features of nature – climatic conditions. Passing from generation to generation love and respect for the native land, inculcating in the

children from the earliest age of rules and regulations of reasonable and careful nature management ("Native Land - the gold cradle", "Cut down a tree - plant ten"), Kazakhs never sought rise above the nature, to subdue it, manifesting respect and giving a divine power to the forces of nature. In the children's folk games, folklore and various genres of the native art, superstitions and beliefs it was kept and transmitted a set of rules of harmonious nature management, the violation of which could lead to a breach of ecological balance, "Do not destroy nests of birds and ants, otherwise the same fate may befall your home", "If you ruin sparrow's nest, smash passerine eggs - be your face freckled", "If you unnecessarily graze grass ruining green spaces – you will fade in his youth". Even in the process of hunting people exercised restraint and did not kill for pleasure or momentary benefit certain types of animals. "When shooting eagles or golden eagles misfortune may befall you", "Do not kill the owl and bat – you foredoom yourself to suffering" - says the popular wisdom. Such expression of respect and caring attitude towards the world can be called eco-friendly and age-old traditions of education of children, a system of spiritual-moral values created by a national culture of Kazakhs, keep their relevance and significance in the context of environmental education of today's children. Valuable ideas about the need to nurture children in a spirit of respect for the natural environment embodied in the works of Kazakh scholars, teachers, community leaders, educated on the folk traditions, Sh.Ualihanov, Y. Altynsarin, A.Kunanbaev, A.Bukeyhanov, M.Zhumabayev, I. Zhansugurov, S.Seifullin, A.Kasymov and etc. In particular, Ybray Altynsarin in his stories included in "Kyrgyz Anthology", repeatedly emphasizes influence of the nature on spiritual-moral formation of the personality. Connection and interconditionality of the person with the nature world is distinctly presented in fine poems of Abay, devoted to seasons: "Spring", "Summer", "Fall", "November - a threshold of winter", "Winter" and others. In them the Kazakh steppe appears in the greatness and suffering, in light and gloomy tones. Here the natural phenomena, harmony of natural factors the poet considers in the internal unity with human life, human reaction to these natural phenomena. The Kazakh educators, teachers - classics attached exclusively great value of the nature role in forming of the person identity, formation of such qualities, as moral, patriotism, sensitive, careful and respective attitude to the native environment. Their ideas about integrity of the nature and person represent a great value for younger generation education today.

Modern conditions in many respects differ from in what our ancestors lived and worked. Understanding of need and importance of environmental education of children is in many respects caused not by an attentive and sensitive attitude to the nature, but a catastrophic condition of environment, level of its pollution, premonition of response to the pernicious attitude towards it's from the person. All this is aggravated also with that today the adult generation, urged to train and bring up children, has no proper experience on environment protection since this aspect of the educational work was long decades considered in number of the minor tasks and had a formal character. In this regard there is a sharp need in updating of the ecological contents, forms and methods of the educational work, in studying and generalizing of valuable experience of interaction with the world around of the nature, reflected in a cultural heritage of the past in the context of actual pedagogical concepts to help modern younger

generation to realize all value, power and beauty of the nature, to bring up creative, instead of the consumer attitude towards it, to create a strong conviction in need of environment protection [4].

The carried-out theoretical analysis of scientific works of Glazachev, M.N. Kmelyipova, I.T. Suravegina, G.S. Sarybekov, M.N. Sarybekov, A.B. Beysenova, Z.K. Konurova, Sh.I. Dzhanzakova, B. Sh. Aliyeva, and other scholars aimed to research various approaches of scientists to definition of essence of ecological culture showed that the given concept the majority of scientists refer, first, to the phenomena, directly connected with scientific-ecological development of public and individual consciousness that allows to consider this concept in total of personal and public positions; secondly, the ecological culture is considered as a part of the general culture. Considering these theoretical thesis and assuming as a basis of the definition of essence of the studied concept, brought in scientific researches of Sh.I. Dzhanzakova, S.A. Karpeev, B. Sh. Aliyeva, as ecological culture we understand a part of the person's general culture that represents the existence of its certain qualities, provided ecologically reasonable interaction of the person with the environment - natural and social. Thus, the ecological culture is characterized by deep and general understanding as a part of environment and as a subject responsible before himself, before living and following generations. The ecological culture includes ecological motives on the basis of which are formed ecologically significant qualities, valuable orientations causing a status role and image, social aims having a certain ecological expressiveness and directionality. However this definition demands specification taking into account an age category of the younger school age which specific is caused by existence of:

- Inquisitiveness of schoolchildren and thirst of knowledge is combined with still insufficient knowledge and abilities;
- the increased emotionality of pupils at this age, emotional actions prevail over the intellectual;
- beliefs in authority of parents and teachers;
- visual-figurative thinking which dominates over abstract-logical one;
- at schoolchildren of this age it is observed considerable interest to game activity, aspiration to create a game situation;
- the world around is perceived mainly completely, but it is necessary to study it in separate subjects and phenomena.

Formation of ecological culture at younger schoolchildren — a polyhedral and difficult process which proceeds not always on the direct ascending line because interests, motives, aspirations, aims and other qualities of the identity of younger schoolchildren are very mobile and unstable. Exactly during this period of development and formation of the personality take place considerable "reevaluation of values", development of "the individual style" behavior, and relationship to nature, to environment. Considering age features of development of younger schoolchildren, we defined such qualities, as susceptibility, dependence on opinion of adults, features memories, thinking, sensory perception, allow to characterize younger school age as the most favorable to form cultural values, develop steady views and belief, to form norms and rules of ecological behavior [5].

Considering these age features of younger schoolchildren, and also relying on the above-stated definition of the studied concept, it is possible to claim that ecological culture of the younger schoolchildren - *integrated social education which is shown in*

internally coordinated ways of ecological thinking, estimates and relations, feelings and actions caused both by the identity of the younger schoolchildren, and specifics of ecological-pedagogical activity. On the basis of this definition it is obviously possible to allocate structural components of ecological culture of the younger schoolchildren: ecological knowledge (substantial component), ecological feelings (valuable component), ecological thinking (motivational component), and ecological activity (activity component). On the basis of these components, and also taking into account criteria, indicators and levels of full formation it is possible to objectively estimate the being included degree of a child to values of ecological culture [6].

Considering these theoretical thesis, it is possible to formulate main tasks on forming the ecological culture of younger schoolchildren:

- it is necessary to create the whole interconnected system of purposes, tasks, contents, forms, methods of training at this age;
- at the heart of system there has to be a development of informative, valuable, standard, practically effective parties of the responsible attitude to the natural and social environment;
- it is necessary to create positive emotional relation to the environment on the basis of unity of sensual and rational knowledge of the environment by the person;
- instilling of skills of the correct behavior in the environment, to form ability to predict consequences of the actions in the nature;
- formation of idea of behavior standards of the person in the certain ecological situations, the intolerant relation to anti-ecological actions has to be based on moral, esthetic, ethno-pedagogical criteria.

Effective achievement of these tasks possibly, in our opinion, by means of creation of a complete system of familiarizing younger schoolchildren to values of the ecological culture covering all components of the educational process at elementary school. Special value in modern conditions of reforming of a domestic education system in RK is allocated for realization of educational and upbringing opportunities of innovative pedagogical technologies in the course of formation of ecological culture of younger schoolchildren [7].

Studying of theoretic-methodological bases of this problem allowed stating that for the present day in the pedagogical science there is a set of various approaches to treatment of the concept "innovative pedagogical technologies". So, some scholars note that an innovation in all its views with the individuals' activity, differing psychological features and guided by will to self-affirmation, victory and proof of the superiority that forms a special type of behavior. The innovation assumes incipience, development the new inside already the available, functioning. Innovation designates an origin, development, diversification of innovations arising, first of all, owing to developments and achievements of an optimum level of interaction of the educational process subjects. The changes taking place in the modern society objectively cause a specificity of innovative approaches in all its spheres, including in the system of ecological education and upbringing. Today the concept "pedagogical innovations" reflects the purposes, values of democratization, education, cooperation along all participants of the educational process of improvement of the atmosphere and psychological climate in school.

Each innovation has two parties: technological, connected with specificity of its use, and personal, allowing the head by manifestation of the individual traits to influence on efficiency of its assimilation. Therefore, the innovation is changes in different areas of activity, as well as in consciousness of the person (the internal nature of innovations proceeds from that fact that they as a new knowledge, original and business information, etc. is a direct product of human mind and activity of intelligence) [8].

Among the main signs of innovative pedagogical technologies in aspect of the studied problem it is necessary to call the following:

1. conceptuality: to each of innovative pedagogical technologies has to be supported by a certain scientific ecologic-pedagogical concept;

2. systemacy: the innovative pedagogical technology in a context of tasks of effective ecologization of the educational process has to own all signs of a system: logic of process, interrelation of all its parts, integrity;

3. diagnostic goal formation and productivity: assuming the guaranteed achievement of the objectives, efficiency and productivity in respect of the solution of tasks of forming of ecological culture of younger schoolchildren in the educational process;

4. algorithmability, projectability, controllability: reflect the various parties of the idea of reproducibility of pedagogical technologies;

5. profitability: provides an optimality of use of reserves of school hours, work of the teacher, and achievement of the planned results in aspect of problems of formation of ecological culture of younger schoolchildren within the educational process in the squeezed periods.

In view of this definition, and also considering specifics of problems of formation of ecological culture of younger schoolchildren, we have conducted researches a result of which we defined a complex the innovative pedagogical technologies, educational and upbringing possibilities of which promote the most effective decision of investigated problem in the educational process of elementary school. Also on the basis of studying and synthesis of the best pedagogical practices of teachers, the comprehensive schools pedagogical staff on realization of elements of innovations in the course of ecological education and education of younger schoolchildren we revealed possibilities of innovative technologies in aspect of the tasks' decision of formation of ecological culture of younger schoolchildren in the educational process which essence is presented in table 1.

The table I. Role and value of innovative pedagogical technologies in a realization of tasks of forming ecological culture of younger schoolchildren.

| Essence of innovative technologies | Realization of tasks of ecological culture forming | | |
|--|--|-------------|------------|
| | Upbringing | Educational | Developing |
| Technologies of bringing-up training - inclusion of a material of the ecological orientation in the contexts of academic disciplines (problematic methods, reflection methods) | ** | * | * |
| Technologies of design of the pedagogical process - definition of the main ways of realization of tasks of ecological education of schoolchildren on the basis of design and algorithmization of the educational process | * | ** | * |
| Technologies of the problem training - statement of problem questions, creation of problem situations on ecology in different types of educational and extracurricular activities of schoolchildren | * | * | ** |
| Ethno-pedagogical technologies - inclusion of a material of the ethno-ecological contents, presented in different types of rational creativity, in the content of the educational work with schoolchildren | ** | * | * |
| Game technologies - inclusion of game elements in various forms of ecological education of schoolchildren | * | * | |
| Communicative technologies, technologies of the collective interaction - use of interactive methods of ecological training and upbringing of children | * | ** | * |
| Technologies of the developing training - assume a presentation of ecological problems of the defined level of complexity for independent search by children of ways of its decision | * | * | ** |

* - support function

** - fundamental function

Realization of opportunities of innovative pedagogical technologies for effective formation of ecological culture of younger schoolchildren requires justification and definition of pedagogical conditions. The carried-out analysis of books, programs where are presented separate aspects of realization of innovations elements in ecological education and upbringing of younger schoolchildren, and also the best practices of creatively working teachers, pedagogical staff of comprehensive schools actively working in this direction, we defined a number of the conditions considerably promoting efficiency of forming of ecological culture of younger schoolchildren with use of innovative technologies [9].

First of all we referred to number of conditions a need of

accounting of the age factors assuming realization of elements of innovative technologies according to age features of psychophysiological development of younger school age children, given by us earlier. The accounting of social factors (features of a social environment of the child, psychological climate in a family, in a class, features of a communicative interaction, etc.), largely causing efficiency of familiarizing of children to ecological values, is also important. It is necessary to especially emphasize the necessity to account ethnocultural and climatic factors assuming design of the educational process on the basis of innovative technologies taking into account of features and original culture of the Kazakh people which means contain a lot of useful information that is clear and interesting for children, rendering

both upbringing and educational and developing impact on younger schoolchildren [10].

Along with the given factors, the effective solution of the studied problem is obviously possible in availability of the sufficient level of innovative readiness of teachers to an innovative embodiment of problems of forming ecological culture of younger schoolchildren. This condition assumes awareness of teachers on the environment; formation of ecological knowledge; ability to use various innovative forms, methods, means in the course of organization of academic and extracurricular educational work; psychological readiness and desire to carry out ecological education and upbringing of schoolchildren; love to the nature; ability to apply an ecological material at the lessons; to carry out control of the process of forming of ecological culture of schoolchildren; ability to design ecological extracurricular educational work with pupils taking into account their age; use of various innovative forms of the educational work: ecological information, games, olympiads, conservation staffs, patrols, conferences, etc.; systematicity of innovative embodiments of problems of forming of ecological culture of younger pupils; involvement of schoolchildren into ecological socially useful work; creating conditions for stimulation and working activity of younger schoolchildren: material, moral, psychological.

The made stating experiment allowed revealing a real condition of the studied problem. During use of diagnosing techniques we found out that the work which is carried out by teachers in this direction on the basis of traditional system, doesn't render a desirable impact on forming ecological culture of younger schoolchildren. Most at children it is presented the high level of forming indicators of substantial (I 1,0%) and activity (19%) components. Thus, natural-science knowledge considerably prevails over the ethno-ecological: only 8,0% of younger schoolchildren are in the necessary degree familiar with the elements of national pedagogics in which the ecological component is included. The generalized indicators of forming ecological culture are mainly presented by average (48,0%) and low (40,0%) levels. The number of the younger schoolchildren possessing high level of forming the studied quality makes only 12%. These data considerably define the need to improve the pedagogical work carried out by elementary school teachers on the given problem. Characterizing the degree of readiness of elementary school teachers to use of innovative technologies in forming ecological culture of younger schoolchildren, it is necessary to note that 88% of the interrogated teachers do not use innovative technologies, and 12% of teachers irregularly use separate elements of innovations in the solution of problems of ecological education of children. Among the main reasons specified by teachers, 92% of respondents noted a lack of necessary scientific-methodical literature on this problem that substantially complicates the embodiment of problems of forming ecological culture of younger schoolchildren with use of the innovative technologies.

The revealed perspective of the studied issue allowed planning the main objectives of the forming stage of the experimental work: - to prove and develop the system of forming ecological culture of younger schoolchildren with use of innovative technologies;

- to develop a course of facultative lessons for younger schoolchildren with use of innovative technologies in which national and modern ecological knowledge is systematically presented;

- to define the degree of efficiency of introduction in practice of work of elementary grade teachers of experimental schools of the developed system in the complex with the revealed pedagogical conditions of the successful formation of ecological culture of younger schoolchildren in the studied aspect.

Following these tasks, we developed the system of forming ecological culture of younger schoolchildren with use of innovative technologies in the educational process, justification which was based taking into account the basic provisions and conclusions received during the theoretical modeling of this process. Realization of the purpose and problems of forming ecological culture of younger schoolchildren was carried out by teachers in accordance with the basic elements of this system which efficiency of embodiment is in practice defined by a complex application of innovative technologies. In particular, being guided by basic provisions of design technology of the educational process, it is obviously possible to determine the main ways of embodiment of tasks forming ecological culture of younger schoolchildren as which we allocated: training process, process of out-of-class activity of younger schoolchildren, joint school and family works in the solution of this problem. Opportunities of innovative ethno-pedagogical technologies caused the necessity of inclusion in the above-mentioned components of the educational process of the ethno-ecological material which contents reveals the features of creative relationship of the person and the nature, reflected in the different types of national creativity of the Kazakh people - games, proverbs, sayings, traditions and ceremonies, work, holidays, in elements of musical, arts and crafts, dancing art. In order to systematically assimilate this knowledge by schoolchildren, we also developed and introduced the program of facultative lessons for younger schoolchildren with use of the innovative technologies "Magic World of the Nature". The contents of the program material are realized by means of use of facilities of innovative technologies: problem, game, communicative, developing, technologies of the collective interaction and mutual creativity.

Use of basic elements of the system allowed teachers purposefully and systematically to project ecological education of schoolchildren, using for this purpose innovative technologies, and also options of organizing-methodical ensuring this process.

In the course of training the ecological contents was used in a complex with the training material of various disciplines (for example, in the form of tasks at lessons of mathematics, material for literary reading, tasks on writing, etc.) that on the basis of innovative technologies of bringing-up training allowed to actively use of possibility of interdisciplinary communication. During conducting lessons the technologies of problem training were applied, in particular the issues of ecological character were independently analyzed by schoolchildren at a lesson, and the children consciously made a right choice in favor of careful attitude to environment. Innovations' elements in the course of training were realized in the form of nonconventional lessons which were conducted on the discipline «World knowledge" in the form of theatrical performances, competitions, quizzes. The problems of activization of search - informative, creative activity of pupils were carried out at such lessons especially successfully as schoolchildren prepared for them, independently collected the necessary material, for example, selected the Kazakh national proverbs and sayings about seasons, about the

behavior rules in environment, prepared visual aids (in the form of butterflies, leaves, flowers, etc. of color paper) to decorate an office.

Ecological-upbringing work wasn't limited by forming the responsible relation of children to the nature only in the course of upbringing teaching. During research the close attention was paid to the organization of concrete types of the collective activity in the extracurricular time with using innovative technologies of the collective interaction, developing communicative technologies. It was developed the theme of out-of-class naturalists actions for younger schoolchildren which included the world of plants, animals, inanimate nature. When conducting them, in accordance with ethno-pedagogical technologies, we relied on various genres of oral poetic creation of the Kazakh people, games, songs, children's folklore, holidays, etc. For enrichment of ecological knowledge and development of the moral-esthetic attitude to nature it was widely used frontal types of work with younger schoolchildren on the basis of

technologies of the developing teaching. With the purpose of familiarizing children with carrying out supervision, active-creative labour in the nature individual and group kinds of activity were more applied. To this kind of activity of children parents of younger schoolchildren were actively attracted who not only helped in conducting a tour, holidays, demonstrative lessons, but also took an active part in them.

Carrying out the comparative analysis of results of the initial and final stage of the forming experiment, we drew a conclusion that the pedagogical work which has been carried out to check the efficiency of the worked out system of forming ecological culture of younger schoolchildren with use of innovative technologies, resulted positively. The high-quality growth by all criteria and indicators of formation of the studied quality at the experimental classes' younger schoolchildren (table 2) is obvious.

Table 2. Levels of formation of the ecological culture of younger schoolchildren with use of innovative technologies according to data of the final stage of the forming experiment (in %)

| Levels Criteria | High | | Middle | | Low | |
|---|--------------------|---------------|--------------------|---------------|--------------------|---------------|
| | Experimental group | Control group | Experimental group | Control group | Experimental group | Control group |
| 1. Availability of ethno-pedagogical and natural-science ecolknowledge, integrity of ideas about the norms and rules of interaction with the nature world | 27,0 | 13,0 | 54,0 | 51,0 | 19,0 | 36,0 |
| 2. Development of ecological, moral, esthetic qualities, patriotic feelings, emotional-valuable relation to the Nature | 25,0 | 10,0 | 53,0 | 42,0 | 22,0 | 48,0 |
| 3. Interest to the natural environment, ecological problems. | 29,0 | 11,0 | 47,0 | 54,0 | 24,0 | 35,0 |
| 4. Skills of use of ecological knowledge in nature protection activity. | 31,0 | 19,0 | 46,0 | 41,0 | 23,0 | 40,0 |

Analyzing the obtained data, it should be noted a considerable gain of indicators of an activity component of the ecological culture which is expressed in increase in number of the younger schoolchildren possessing a high level of formation of these skills, from 22% at the initial stage to 31% at the finishing. The number of children who have been conditionally carried to the low level of formation of indicators of this component, decreased from 38,0% to 23%. The similar changes are also noted in development of levels of other criteria which set allows speaking about positive changes in development of levels of formation of the ecological culture at experimental classes pupils in the studied aspect. Thus the application of special diagnostic techniques allowed to state that in the experimental classes increased the number of schoolchildren possessing the sufficient level of knowledge of national ways of interaction with nature world around. This result, in our opinion, directly tied with the use of ethno-pedagogical technologies that in many respects promoted to develop the interest in children to ecology and stimulated formation of the careful and responsible attitude of schoolchildren to the nature on the basis of innovative familiarizing with the values of national culture of Kazakhs. Results of the comparative analysis of the data

obtained in the experimental and the control groups testify to significant effect of the system use of the innovative technologies in aspect of the solvable problem. In the control groups in which the studied process was carried out on the basis of the traditional approach, the notable positive changes in formation of the levels of the ecological culture of pupils was not practically noticed: the middle (41%) and low (40%) levels remained prevailing.

Thus, results of the experimental -pedagogical work confirm efficiency of the developed by us system of forming ecological culture of younger schoolchildren with the use of innovative technologies in the educational process. It allows drawing a conclusion that the present problem and put tasks are solved during the research

Conclusion.

On the basis of the developed provisions and the data obtained during the experimental -pedagogical work, we drew the following conclusions and recommendations:

1. Relevance, practical importance and insufficient scrutiny of the researched by us problem stipulated the necessity to develop the system of formation of ecological culture of younger schoolchildren with the use of innovative technologies in the educational process.

2. Analysis of the literature, empirical material on the researched problem through the prism of modern problems of younger schoolchildren upbringing allowed revealing educational-

upbringing, developing opportunities of the innovative technologies in aspect of forming ecological culture of children.

3. Innovative technologies have significant opportunities in forming ecological culture, the system-complex use of which in the educational process of elementary school is an important condition of efficiency of forming the studied quality at the younger schoolchildren.

4. Efficiency and stability of forming ecological culture of younger schoolchildren in the educational process on the basis of the developed system is provided by complying with the following pedagogical conditions: - taking into account the age, social, ethno-regional and natural climatic factors causing forming ecological culture of younger schoolchildren;

- readiness of elementary school teachers to solve and innovatively realize the problems of forming ecological culture of younger schoolchildren in all spheres of the educational and extracurricular pedagogical work with pupils;

- system-complex use of opportunities of the innovative technologies, which essence is expressed in the innovative ways of integration of the ethno-pedagogical and natural-science ecocontents in different types of educational and extracurricular activities of younger schoolchildren, and also in provision of development and stimulation of creative, informative-search activity and interests of children in relation to the native nature, ecology, ecological problems, national and universal values, etc.;

- integrity, regulatory, sequence and continuity in the process of familiarizing of children with ecological culture values that is provided by introduction of the developed by us system, and also on the basis of the program realization of optional classes for younger schoolchildren with the use of innovative technologies "Magic World of the Nature";

- school and family interaction and solution of questions of forming the ecological culture of younger schoolchildren.

5. the experimental work organized for the purpose of development of the system of forming the ecological culture of younger schoolchildren with the use of innovative technologies in the educational process, is a confirmation of the model, its criteria and indicators, the proof of reality of existence of levels of ecological culture formation of pupils.

6. The system of forming the ecological culture of younger schoolchildren with the use of innovative technologies in the educational process should be carried out from the first grade that to the 4th grade to achieve high levels of the ecological culture of the researched aspect and therefore the distinctive signs of this system of forming the ecological culture of younger schoolchildren is integrity and continuity of influence from 1 to 4 grades.

7. The offered system of forming the ecological culture of younger children with the use of innovative technologies in the educational process can be realized in practice of work of the Republic of Kazakhstan comprehensive schools to improve the researched process. The developed program of optional lessons for younger schoolchildren with the use of innovative technologies "

Magic World of the Nature".

This research doesn't apply for the exhaustive solution of all problems, connected with the use of innovative technologies in forming the ecological culture of younger schoolchildren. The multidimensionality of this problem opens the prospects of further work in the direction of researching questions of forming the ecological culture at children of various age groups, use of innovative technologies in the organization of collaboration of school, family and public to form ecological culture of younger schoolchildren, forming the readiness of pedagogical specialties students to form the ecological culture of pupils with the use of innovative technologies.

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