

Ethno-Cultural Education as the Basis of Forming Schoolchildren's Ecological Competence

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Abstract

The article is devoted to the vital problem of the formation students' ecological competence. Ethno-cultural education based on the use of people's traditions is necessary nowadays in order to overcome consumer attitude towards the nature, moral and bioethical education of the younger generation. The article gives the theoretical basis of environmental competence and ethno-cultural education, various approaches to the concept of "ethno-cultural awareness." The selected and worked out research methods gave an opportunity to determine the level of development of students' environmental competence and ethno-cultural awareness. The majority of the students of middle and senior grades according to most parameters of environmental awareness and ethno-cultural competence belong to the low level group and only a small number belong to the medium-level group. The results of the diagnostics of environmental awareness and ethno-cultural competence contributed to the development of the fields of work aimed at the the formation and development of students' environmental competence on the basis of ethno-cultural education, which presupposes the teacher's use of the ethnic and cultural heritage of the local people of the Mari El Republic - the Mari. Specially organized purposeful educational activities contribute to successful development of students' environmental awareness and ethno-cultural competence. Ethno-cultural education helps to develop respect for the local ethnic group, to the study of the customs and traditions of the people of the Republic of Mari El.

Keywords: ecological competence, ethnical culture, ethno-cultural awareness, ethno tourism

1. Introduction

The National Doctrine of Education of the Russian Federation states that "the educational system is designed to provide historical continuity of generations and the development of national culture, education of respect for the historical and cultural heritage of Russia" (Raven, 1999). Reconsidering the values of humanity the society renews its appeal to the cultural heritage of every nation, which in its turn leads to the necessity of reviving ethno-pedagogical culture, spiritual and moral values, customs and traditions of the nation.

Ethno-cultural education is carried out by various educational institutions of types, among which a special place is occupied by schools, gymnasiums, lyceums providing spiritual and moral formation of the child's personality, his/ her social and cultural identity. Here children get acquainted with the culture and traditions of separate nations, their understanding and tolerance to the ethnical world are formed, i.e. their ethno-cultural awareness increases and on the whole they acquire cultural heritage of the nation.

This is very important as the means of traditional culture due to high educational potential develop the ability of living not only in harmony with each other but in harmony with the nature in which, as noted by G.N. Volkov, "... everything is connected, none of the factors of public education exist separately, in isolation from one another. Nature is praised by poets. It is an essential part of everyday life, games and holidays, it revives the tradition, it is also an example to follow, its ideal image lives in the ethnic consciousness of the nation recorded in the works of folk art" (Volkov, 2004).

It is very important for a child to use the elements of ethnic culture that is the reflection of historical events, epic stories, rituals, mythological ideas of the nation, territorial unity, culture and socio-economic development. Due to the children's psycho-physiological characteristics they are particularly perceptive to folklore possessing entertaining fabulous games and creative activities. The humanistic attitude to nature is found primarily in the child's activities, in developing his

/her ability of designing something and in organizing environmentally friendly out-of-door activities. Ecological education and training based on national traditions can become a powerful tool in the formation of such attitude to nature. In this case the teachers' task is to look for, to order and select ethno-cultural means and skillfully introduce them into the educational process to enhance students' ethnic and cultural awareness and at the same time to improve their environmental competence.

The aim of the study was theoretical and experimental investigation of the role of ethno-cultural education in the formation of students' environmental competence in the Republic of Mari El.

The main aim of the formation of environmental competence is to create the conditions for bringing up a person who is willing to act as a holistic subject of the self-developing system "man - nature" using in its development both the general principles of the nature and the nature of the human being. In the person-centered subject-subject educational paradigm this aim is specified in the aims of the agents' of the educational process that were formulated by D.S. Ermakov as follows:

- for the local community and the society on the whole: to improve the quality of living and the environment; to bring up environmentally educated and competent citizens ;
- for teachers: to create the conditions for acquiring experience in environmental activities which are necessary for solving environmental problems and improving the environment;
- for students: to develop skills, readiness and experience in environmental activities, to develop one's own competence in identifying and solving environmental problems from the level of unconscious incompetence to the level of conscious competence (Ermakov, 2009).

Some authors (I.A. Winter, A.V. Khutorskoy, G. Raven, V.A. Slastenina, O.E. Lebedev, V.A. Bolotov and others) believe that environmental competence is not marked among educational competences, so it's necessary to find out different approaches to this issue.

D. Raven believes that the most similar in content to the ecological competence are the tendency to think about the future; exploration of the environment to identify its capabilities and resources (both material and human); the ability to make decisions; personal responsibility (Raven, 1999).

According to A.N Zakhlebny, environmental competence presupposes the ability to design and organize one's own learning activities taking into account the following factors: space-object and time conditions; the relationships between objects of education; the requirements of the State standards and educational paradigms; the trainee's individual resources; workload at school and its influence on the students' health and environmental safety (Zakhlebny, 2008).

V.A Alekseev believes (Alexeev, 2013) that the environmental competence is an integrative quality of a person determining the person's ability to act in the system "man - society - nature" in accordance with his / her knowledge of the environment, skills, beliefs, motives, value concepts, environmentally significant qualities and experience of ecological activities. The competence is characterized by the ability to solve different problems arising in everyday situations on the basis of the motive values, educational and life experience, individual abilities.

D. Ermakov defines environmental competence as the person's meaningful capacity, potential and experience in implementing complex ecological kinds of actions, and environmental competence as regulation compliance requirement to the contents of this ability, potential, experience. In the technology of forming ecological competence he identified five key components: target, contents, process, organization, diagnosis (Ermakov, 2009).

Another important component of our research, the problem of ethno-cultural awareness, scientific works is studied in the works by domestic and foreign educators and psychologists: G.N. Volkov, L.V. Kuznetsova, S.N. Fyodorova, A.R. Georgyan, K.S. Pisarenko, L.B. Zubareva, G.E. Potorochina, T.V. Poshtarea, V.G. Roshupkina, T.G. Stefanenko, J. Berry, R. Pedersen, D.W. Sue, T. Cross and others.

A.R. Georgyan defines ethno-cultural awareness as a complex personal quality characterized "on the one hand by the formation of positive ethnoidentity, and on the other hand by the successful inclusion of the person into the general cultural processes of the multi-ethnic society". (Gergyan, 2015). K.S. Pisarenko also understands ethno-cultural awareness as a multifaceted concept: on the one hand, it is the knowledge of the culture and traditions both of one's own nation and other nations living in one geohistorical space; on the other hand it is the knowledge of ethno- integrating and ethno-differentiating features of their ethnic group with related and other cultures, understanding of the existence and development of the ethnic diversity of the world and the formation of a positive attitude to it (Pisarenko, 2015).

B.S. Bolbas associate ethno- cultural awareness with the person's ethnic culture, which he understands as a complex system made up of the intellectual component (ethnic, ethno-cultural knowledge, ideas, skills), the emotion-valuable component (ethnic identification, ethnic feelings, ethnic identity), and the action component (ethnic self-education, ethnic socialization, ethnic activities). A representative of each ethnic culture is characterized by some formed ethnic stereotypes, ethnic identity, the life style of the community, rules of behaviour and etiquette norms typical of the

ethnic group and adapted to the specific natural and socio-cultural environment of their habitat (Bolbas, 2010).

Ethnic culture and ethno-cultural awareness as its component are formed in the process of ethno-cultural education providing spiritual and moral growth of the person, the formation of ethno-cultural identification that includes positive feelings in relation to the history and traditions of one's own nation, helping students to build the right social and socio-natural relations.

2. Materials and Methods

Organization of the research: the research work was carried out at schools of Yoshkar-Ola and rural schools of the Republic of Mari El. The participants of the pedagogical experiment were school children aged 8 to 16. They represented students of different age groups: primary school students, students of secondary school. The total number was 199 people. The methods of the research were: studying and analyzing literature on psychology and education; pedagogical experiment, survey, qualitative and quantitative analysis of the data, methods of mathematical data processing.

To assess the ecological competence some techniques were used (V.A. Yasvin): finding out the attitudes towards the nature – the technique "Naturafil"; identifying motivational component - the technique "Alternative"; diagnosing assessment-activity component - the technique of "Ecological traffic lights" (I.V. Tsvetkova), cognitive component - testing; value component - the technique "Dominant" (Yasvin, 2000).

Diagnostics of the ethno-cultural awareness was based on testing, besides meaningful, emotion-value and moral-citizenship components were taken into account.

3. Results

The empirical study included diagnosing the students' ecological competence and ethno-cultural awareness. In the process of diagnosing ecological competence of the third graders it was found out that the highest were the points concerning the emotional component of the environmental competence (64%) manifesting in love for nature and negative attitude to the bad behavior of others; then comes the estimation-activity component (44%), i.e. the ability to evaluate the results of the interaction of children with nature and acquiring different kinds of environmental activities; the lowest points belong to the cognitive component (38%), t.e. knowing the ideas of modern scientific (environmental) picture of the world, showing ecological thinking.

While interacting with nature students mainly have practical type of motivation (53%), i.e. they see it as the place of their work, the place of acquiring practical skills. Pragmatic type is typical of 40% of students, esthetic type (attitude to nature as to the source of beauty and inspiration) and cognitive type (desire to receive, seek and process information about objects of the nature) have about 30 % of points. The results of diagnostics of motivational components are shown in Figure 1.

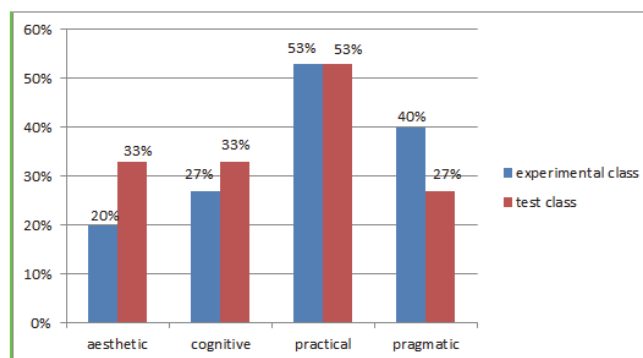


Figure 1. The diagnostics results of the formation of the motivation component of students' ecological competence in the test and experimental classes.

In order to determine the competence in the part of the value component the children were asked to distribute 12 values – material values, nature and animals, friends, parents, relationships between boys and girls, school, work, morality, art, I myself - in the ranking number. The value "nature and animals" was given the seventh place, and the first positions were

taken by the values "I myself", "friends", "parents".

The ranking showed that among younger schoolchildren there are a lot of students with low environmental competence (87%), they have a negative attitude to the nature, the wrong assessment of the situation, do not realize the consequences of the man's wrong attitude to the nature, have poor command of ecological concepts. Students with an average level (up to 13%) belong to the minor group, they have a neutral attitude to the nature, they don't always assess the situation correctly, have some difficulty in understanding the consequences of the man's wrong attitude to the nature, but on the whole they are familiar with environmental concepts.

While diagnosing schoolchildren's ethno-cultural awareness the following components were taken into account: meaningful, emotional-valuable, moral and patriotic. The meaningful component included the amount of knowledge about the native land: the landscape features of the nation's places of residence; the education system and upbringing, housing customs; historical events; healthy traditions; peculiarities of religion, rituals and ceremonies, applied art, folklore, music, fine arts, etc.

Test tasks for primary school children included the following questions: to give the name of the largest forest animal of the Mari Land, of the deepest lake, of the hero of the Mari Land and others. More complex tasks were offered to mid-level schoolchildren: name the form of the relief, the ancient musical instrument of the Mari, Mari national park and others. The questions for older students presupposed integration of the knowledge of history, nature and culture: to give the name of the river in the Mari El Republic near which the ancient site of primitive people was found; of the tree under which E.I. Pugachev stopped in the night of 15-16 July, to point the place where this tree grows; to give the name of the settlement in the Republic of Mari El coinciding with that of a medicinal plant.

To identify the level of formation of emotional-valuable and moral-patriotic components the students were asked to answer the following questions: "What is our region rich in? What is your attitude to the nature and historical heritage of the Mari Land?", "What attractions do you like visiting with their parents?", "Do you like reading Mari fairy tales? Enumerate the names of the heroes of the fairy tales reflecting the nature of our land? Why do they appeal to you?", "How is the man's attitude to nature is reflected in the tales?", "What Mari proverbs about the nature of do you know? ", etc.

Summing up the overall results was carried according to the following scale: 85% - 100% correct answers correspond to the high level; 60% - 84% correspond to the average level; below 60% is the low level.

18.75% of primary school children had a high level of awareness of the meaningful component; 75% of children had an average level and 6.25% of students had a low level. As for secondary school children the results are a bit worse: the average level was shown by a little more than half of the students (50.8%), the lowest level was demonstrated by 49.2%, the children with a high level of ethno-cultural awareness have not been identified. Among high school students the group of students with a low level (61.5%) dominated, the high level was identified a small group of students (2%) had a high level and 36.5% of students had an average level.

The diagnostic results of the ethno-cultural awareness formation in the part of the emotional-cultural and moral-patriotic components among primary school children are significantly worse than in the previous component: 36.7% of the children have an average level, 60% of the students have a low level; the children with a high level of showing a positive emotional attitude to all mentioned values make up 3.3%. Among the students of the middle grades two groups were found: a group with an average level (24.5%) and a group with low level (75.5%). Among high school students the situation is similar 20% of boys and girls had an average level and 80% had a low level (Fedorova and others, 2014)

Thus, the majority of the students of middle and senior grades are among those with a low level and only a small proportion has a medium level in most of the parameters of environmental competence and ethno-cultural awareness.

The task of teachers is to build educational process on the basis of efficient approaches of modern pedagogical theory and practice to form national identity, developing the child's system of universal values, understanding the role of the nation, their ethnic group in the world historical process. This, in our opinion, should be the tool to improve the environmental competence .

4. Discussions

The results of diagnosing the environmental competence and ethno-cultural awareness enabled to work out the directions of forming and developing environmental competence of students on the basis of ethno-cultural education, consisting in teacher using ethno-cultural heritage of the native people of the Republic of Mari El - the Mari.

The new modern trends in education and upbringing are based on the a system-activity approach, so teaching and educational work was formed on the basis of environmental and ethnically oriented activities of students. The success of this work greatly depended both on the environmental and ethno-cultural competence of the teachers themselves, their

understanding and ability to reveal the environmental part in the process of students' ethno-cultural education (Mukhina, Maltseva, 2015).

Let's consider some of these approaches.

1. Teaching the subjects satisfying linguistic rights and ethno-cultural needs of students, in accordance with the curriculum of secondary school: "The History of Culture of the Republic of Mari El," "The Mari language and literature", "Mari (state) language.
2. Working out education and methodological support to make the educational process successful, the process is aimed at the formation of ethno-cultural awareness of students. This includes writing programs of academic disciplines, elective courses, training and teaching aids, guidelines, creating tests and Olympiad tasks on the history and culture of the Mari.
3. Including the materials aimed at developing ethno-cultural awareness into the courses that are not directly related to the study of the culture history of the Republic of Mari El. The most effective is the use of legends, myths, fairy tales, and customs of the Mari people. Since ancient times the Maris, like other nations have been carefully watching the surrounding nature to predict some nature phenomena of nature and, accordingly, to direct their activities. The observation resulted in many folk signs. The physical basis of rational people signs of the Mari are different, but the largest group is based on the reflection of characteristics of biological objects (53.8%), there are many folk signs about weather and harvest.

In the period of observing the nature the students were given the task to check up the local folk signs related to the weather forecasting for the near future (Kitikov, 1989).

- Before the rain wagtails bathe in water.
- Before the rain swallows sit on the telegraph wires.
- If birds sit on the north side of the tree, and the wind blows from the south, it will rain.
- If sparrows chirp loudly, we can expect warm weather.
- If snowstorm starts after the bitter frost, it will get warmer.
- In winter, if the water goes out from ice-hole, we can expect mild weather

Later they tried to make long-term forecasts for the winter on the basis of the signs of autumn.

- If apple trees and bird-cherry trees are in bloom in autumn, the winter will be mild.
- If cabbages crack in autumn, the winter will be frosty.
- If bullfinches have started singing, winter will come soon.

Doing the tasks helped the students to realize that nature signs allow people to predict nature phenomena, they serve as a guide, helping people to plan their work in the garden, in the fields, in the woods in advance.

- Elm leaves start to turn yellow, it's time to sow rye.
- While bird cherry trees are in bloom, one should sow wheat.
- When frogs started to croak in chorus, it's time to plant potatoes.

From the educational point of view the signs of environment-orientated character, correcting the man's activities in nature, reflecting the impact of the adverse attitude towards can be regarded as especially valuable ones.

- Neither there nor here – meadows can't to be plowed anywhere.
- Will find last year's hay - raking in piles
- If you spoil the top layer of the soil before your grandchildren grow up, you will starve.
- One can regard a swamp as land, and a thorny bush as a wood, and a swine as an animal.

These signs were a kind of warning, their discussion was followed by discussing the facts confirming the truth of folk wisdom, urging the students to obey the instructions. Younger students are interested in Mari puzzles (riddles), they develop their imagination, logics, cause them watch carefully, notice amazing things. It's interesting that in the riddles concerning everyday objects, clothes one can find objects of nature as the basis for comparison: "On the field with three sides a hundred different birds sing" (harp); "In the middle of the lake you can see a rainbow - arch" (podkogyl, a Mari national dish); "On one side there is meadow, on the other there is a fir wood" (a fur coat); "Cow swallows lamb" (glove); "It Will lay down like a dog, it will rise like a horse" (canopy).

One can't but admire the way people speak about the nature, one feels with what love and tenderness in their words, they compare it with the closest and dearest things: "My sister has sweet tears" (a birch tree); "A fairy maiden is enjoying herself in the marsh bed" (cranberry); "My little sister is embroidering day and night" (a bee), "Little dolls are bumping on my shoulders" (ears of the horse). "In the middle there's the gold, all around there's silver" (an egg).

The environment-orientated features are incorporated in the tradition of the Mari. Until now they preserve the sacred groves of birch trees and devotion trees that were considered inviolable (неприкосновенный), people perform various religious ceremonies there. People believe in the bioenergetic power of trees, their ability to help people in their healing, giving strength and confidence in the future. Studying the taboo of the Mari, their rites, amulets made the students understand the value of age-old traditions of people concerning the nature, their ability to protect and preserve it.

It should be noted that this material should be used systematically. For example, one of the stages of the lesson can be named "Minute of knowledge about the native land." It contributes to remembering the information about the native land, to forming the environment-centered consciousness of younger schoolchildren. At mathematics lessons in primary and secondary schools students can be offered tasks containing ethno-cultural components (Maltseva, 2010). The textbook "150 math tasks about the national park "Bolshays Kokshaga" has a great practical value in the republic. It is a collection of mathematical tasks on the basis of the unique material about the national park "Bolshaya Kokshaga" of the Mari El Republic. The material about the environment, the information about the history and the geography of the region makes it possible to perform a variety of mathematical tasks in an interesting way and to give students an opportunity to learn more about the flora and fauna of the Republic of Mari El, and to widen their horizons. An sample of tasks: "In the national Park "Bolshaya Kokshaga" there are birds of different species. Among them there are 12 passerine species, 6 species of woodpeckers, 3 gallinaceous species, 7 species of waterfowl, 4 species of nocturnal predators. Arrange the brackets and the signs of action «+», «-», «·» between the numerals 12 6 3 7 4 so that to obtain the total number of 32 species" (Mukhina, 2006).

The folklore of the Mari is a unique example of careful preservation of the age-old "intangible" heritage, traditional spiritual culture of their ancestors. The use of the Mari tales, proverbs and riddles helps in the formation of students' knowledge of the Mari culture, national heroes, in developing love for their native land. Folklore is an important part of the traditional environmental culture of any region.

4. The use of modern educational technologies in which self-research activities of students predominate. For example, the technology of co-operative training can be used while studying the theme "The animal world of the Mari region." The students are divided into some groups, each group of the participants is given a card with some information about the animal and its habitat, its feeding habits, with some Mari legends, proverbs, stories and riddles about the animal. After studying this information, the experts of all groups share the acquired information with the other experts. Then the experts return to their groups and tell the members of the group what they have learned about the animal from the other groups. After that each student is tested with the help of test questions and practical tasks, in order to determine the degree of assimilation of the acquired information. Another technique used at the lessons of Natural Science is creating projects dealing with local history and ethnic components, their name is "The pearl of the Mari land". The purposes of the project: 1) to form ethnic and country-study knowledge of the natural objects of the Republic of Mari El; 2) to promote students' environmental education and the formation of the consciousness of environment-centered type; 3) to cultivate love for the native land and its nature. Each group represented a project about one of the natural objects of the region (the lake "Sea Eye", the lake "Churkan", the lake "Glukhoye", "Pugachev's Oak Tree", "Green Kluch (Spring)", "Maryan Pamash") (Maltseva, 2010).
5. Organizing students' extracurricular activities aimed at the formation of ethnic and regional history knowledge, cultivating love for the native land. These activities include out-of-town excursions, ethnic hiking tours, visiting national and regional museums, national parks and natural monuments, developing ethno-tourism for children and youth. When organizing ethno-tourist trips, children can be told about the ethnic traditions of different regions of the republic. The unity of the Mari with nature is reflected in the Mari songs: "The dense forest is my father, the green meadow is my mother, the blue sky and the bright summer lightning are my dear friends."
6. Creating different types of digital educational resources and their use at the lesson of Culture History of the Republic of Mari El at secondary school, which enable students to remember the material by applying students' polysensor activities, increasing the degree of visualization and putting the principle of clarity in learning activities into practice. Digital learning resources have a unique opportunity of getting acquainted with the culture, traditions and style of life of the local nations, which includes visiting ethnographic museums, participating in folk festivals, getting to know local crafts and applied art. Organizing hiking tours within ethnographic tourism offers students a unique opportunity to learn about the natural and cultural values of the native land.
7. Organization of educational work aimed at meeting the ethno-cultural needs of students should presuppose

involving students in the good deeds system based on the traditional national values (creating environmental groups, community service, taking care of the elderly, and others.), developing good habits. School environment plays an important role in ethno-cultural education of students. It includes the formation of appropriate psychological and moral school atmosphere, the active role of the school museum, understanding the importance of ethno-cultural education in the family, out-of-school environment with its numerous attitudes and relationships, the design of the school interior associated with the ethnic culture (Bolbas, 2010).

8. Active cooperation with the family, non-governmental organizations and departments in the field of ethnic and cultural education of schoolchildren. To a greater extent schoolchildren acquire knowledge about the culture of their nation, their traditions and customs, the values of the native land in their family. Therefore, it's important to involve parents in various classroom and extracurricular activities with children (round tables, parties, clubs, excursions, trips, etc.).

5. Conclusion

Thus, specially organized educational activities in the above mentioned fields will greatly contribute to the successful development of students' environmental competence and ethno-cultural awareness. The process of students' familiarizing with the cultural traditions and values of the Mari people can be optimized through forming ethno-cultural concepts, involving students in ethno-cultural activities, and using a variety of educational technologies. Teachers should organize their activities in the field of ethno-cultural education taking into account students' age and their individual traits of character, so that the ethnic material should be easy to understand and excite students' imagination and memory. At present it's necessary to use ethnic material in order to overcome consumer attitude towards the nature, and promote moral and of bioethics education of the younger generation. In this case, ethno-cultural education contributes to developing students' respect for the local ethnic group, to studying the customs and traditions of the people of the Republic of Mari El.

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