FORMATION ENVIRONMENTAL COMPETENCE OF KAZAKHSTAN STUDENTS

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Abstract

The authors analyse the level of environmental competence of students and their role in solving ecological problems, as there is a threat of environmental hazard in many regions of Kazakhstan and worldwide.

Respondents are aware of environmental problems, however, they do not have a sufficient level of environmental competence and perceive ecological issues as scientific concepts and absolutely sure that their personal opinion has no effect on the solution of environmental problems, that it's beyond their control.

As a result, we specified that the most active part of society is young people at the age of 17 - 19 years old, directed to participate in environmental activities. The total analysis of all received questionnaire data enables to ascertain various levels of environmental competence among students.

Keywords: Environmental competence, environmental problems, students, environmental education, environmental activities.

Introduction

Ecological situation is gradually becoming a more significant development factor in all political and economical sectors of the country. Current environmental problems of the Republic of Kazakhstan are geographically complicated and diverse. Almost all current ecological problems of the country have cross-border features. The years of independence in Kazakhstan have become the setting up period for a new governmental system which would provide ecological safety, control environment protection and carefully monitor exploitation of natural resources. This has enabled the government to pursue a new policy of environmental protection and natural resources utilization.

However, during many decades, an extremely environmentally-stressful raw method of natural resources exploitation has been evolved in Kazakhstan. Thus, no visible improvement in the ecological situation and degradation of natural systems may lead to environmental abuse, which can affect the society. The Ministry of Environmental Conservation and Water Resources of the Republic of Kazakhstan states that approximately ¾ territory, i.e. 70% of total country area (2,7 million square km) is more or less vulnerable to desertification.

The main role in solving the above-stated issues belongs to future graduates who have to obtain specific environmental competence. One of the strategic goals of higher education is to develop a socially responsible and environmentally friendly personality, who could easily adapt to fast changes and sustain a further social growth by ecologically competent activities.

Using questionnaire authors revealed the actual state of environmental competence of students.

Methods used for the research comprise a literature review, theoretical analysis, supervision, conversation, synthesis of pedagogical experience, testing, questioning, pedagogical experiment, methods of complex research, methods of mathematical statistics, analysis of educational documentation, and analysis of creative works of pupils. The literature review clarifies the major concepts and issues relating to the identification of ecological competences. The European systems education consider that the acquisition of competences is a decisive factor contributing to the well-being of individual citizens as well as to social cohesion and to the development of the economy. This study confirms the importance of the development of ecological competences in the education systems of the county. We used the experience and survey research of the foreign and Kazakhstan scientists related to ecological education problems.

Environmental education can mean concepts in ecology, outdoor education, environmental science or instruction about issues (Ramsey, Hungerford & Volk, 1992). A primary goal of environmental education, though, is the development of responsible environmental behavior in citizens, both as individuals and societal groups (Ramsey & Hungerford, 1989). [7]

The United Nations designated the decade 2005-2014 as the 'UN Decade of Education for Sustainable Development' (ESD). Practices of environmental education (EE) are facing this changing policy discourse and practice and are challenged to find new ways to relate to it. [8]

Main Text

In the last decade, with implementation of Bologna process in higher education system Kazakhstan has been refocusing ecological education, switching from academic knowledge and skills transfer to the ecological competence and professional integrity of future graduates. Competence means the ability to apply knowledge, know-how and skills in a stable/recurring or changing situation. Two elements are crucial: applying what one knows and can do to a specific task or problem and being able to transfer this ability between different situations. A skill, however, she defines as the ability, usually learned, and acquired through training to perform actions that achieve a desired outcome.

Due to the current ecological education development, the meaning of individual ecological competence is coming to the fore. Nevertheless, the recent research on problems of key competencies has revealed low importance attitude towards the ecological component which is considered as less significant when selecting the educational content [1]. Moreover, current social and economical strategy is a sustainable development concept, which is adopted by a number of states including Kazakhstan, and emphasizes the importance of changing mind and lifestyle, in accordance with the ecological limitations.

Competent and effective students' responsibility requires the adequate knowledge, availability of practical experience including research skills and assessment of ecological issues, focusing on activity programming, cooperation with authorities, mass media, different social groups, introduction to the legal competence, etc. [6]

The students' active position towards any problem, their beliefs and concerns define the future. It is impossible to overestimate the importance of university students' role. Underestimation is likely to result in intensification of the problem. This has become a critical question for everyone and especially those who work in educational establishments. [2]

A university student is known for a higher involvement in tackling environmental problems by quick respond to guidelines to drive the process; students tend to be more ecocentric than the "Grown-ups". It is the youth who can help the "Grown-ups" today to make the world a better place to live.

Evidently, ecological competence could and should be considered from the following perspectives:
as a key "global" level competence (ability to maintain the human survival in general and develop ecological culture and ecocentric mind); as a comprehensive education competence, necessary for both general education graduates and for professional education graduates (including, but not limited by ecological education), aiming to develop ecologically intelligent person with an environmentally friendly culture, and able to change lifestyle.
as a specific competence within a special ecological educational course which prepares the future graduates for professional activities in ecology and natural resources exploitation.

The most ecologically active group is represented by the young people aged 16-21 with a number of specific contradictory tendencies. On one side, there is a variety of negative aspects including

- lower interest in the nature;
- pragmatic attitude to the nature;
- increase in ecological violations and nihilism.

On the other side, this age group is distinguished by several positive features:

- Interest in the root analysis of the explored phenomena;
-Widened scope of activities;
-Intention to participate in significant events;
-Growth in decision-making independence

It should be mentioned that in the nearest future these young people are going to define the community attitude, work at all authority levels, make decisions and influence on sustainability of society development.

Our questionnaire has shown the current state of young people's environmental responsibility. Finally, we intended to identify the influence of educational process on young people's ecological responsibility.

Young people's ecological responsibility was evaluated by following components:

1.Environmental self-awareness (personal involvement in practical solving of ecological problems)

2.Self-awareness of qualities which enable to solve environmental problems.

Academic knowledge and skills

Role of social responsibility

3.The education influence on motivation to solve environmental problems.

4.Experience in problem solving

Environmental self-awareness.

The respondents have shown a very high level of awareness. Thus, 81% of respondents were confident that practical involvement in solving environmental problems concerns them. At the same time, a little more interest was shown by female students.

It is known that people would rather agree with a positive decision than a negative one, that's the reason why all statements were duplicated and contained both positive and negative opinions. We compared the answers received which let us get a better idea on the opinions of younger generation. Though each 8 out of 10 surveyed realize the importance of personal involvement in solving environmental problems, only half of them shows coherence.

Self-awareness of qualities which enable to solve environmental problems.

Academic knowledge and skills

More than a half of responders (55%) believe that they have enough knowledge and skills to improve environment conditions. There was no difference in men's and women's answers (55%)

But at the same time, each six out of ten do not believe in their own power and almost three of them have a strong belief in that. In our opinion, they are the most significant and

numerous young people. However, to change the current situation it is ultimately important to consider those goals and methods, which teachers choose in developing ecological motivation.

Role of social responsibility

Only 1 out of 10 responders does not doubt that their words can be heard. 45% of responders believe that the current social situation let them impact on ecological problem solving i.e. they are socially active in solving ecological problem. Almost each fourth respondent is absolutely sure that their personal opinion has no effect in solving environmental problems, i.e. that it is beyond their control. The fact that 8 out of 10 respondents believe that ecological problem solving is of their direct concern means that teachers should work to involve students in the real process of actual ecology problems solving, which is vitally important on regional level. In educational process it is also necessary to create problem cases, where students could get more opportunities not only to share their opinion, research and simulate real-life situation, but also participate in execution of the decisions made.

The education influence on motivation to solve environmental problems.

The majority (74%) of responders believe that education received at school and university will help them to participate in practical solving of environmental problems. Also young ladies (76%) were more confident in crucial role of education, than boys (71%).

The results prove that students are mostly positive and realize the significant influence of education on forming their motivation to participate in solving environmental problems; it also could be understood as an appropriate condition for ecological activities.

A rather high percentage (69%) believes that their studying in university encouraged them to strengthen motivation to participate in practical solving of environmental problems. Also each 6 out of 10 respondents showed that since they started studying environmental problems at the university, their motivation to take part in their practical solving has increased dramatically. As a result, education has encouraged their interest in solving environmental problems with teachers having a positive impact on this process.

Finally, we have to specify that only 35% of respondents have experience in practical solving of environmental problems, 54% do not have that experience, 11% respondents found it hard to appraise their participation in ecological activities. Obtained results show quite low rate of those who have practical experience in solving environmental problems. There were slight educational, gender, and location differences of no more than 1%-2%. These results let us state that ecological education at schools and universities focuses more on transferring the set of knowledge. Only few teachers apply active approach techniques. Theoretical components prevail, while involvement of students in the process is not treated with enough attention. Knowledge is too “theoretical” and does not aim to develop skills to solve environmental problems. Moreover, 90% of students surveyed believe that during studying they should participate in practical solving of environmental problems. The most optimistic answers were the following: among all students the female students (92%) outnumbered men (88%) in their positive attitude to practicing environmental problem solving during their education. Obtained data confirm the necessity to orient ecological education on active involvement of students in environmental problem solving. Teachers should select and implement those pedagogical techniques which combine theoretical study of environmental problems with practice.

The total analysis of all the answers enables us to identify various levels of environmental competence among students. The questionnaire results show that more than a half of students surveyed (55,5%) have high or a rather high level of ecological responsibility with the following features:

- Environmental self-awareness and necessity to participate in solving problems (If not me, who?);

- specific qualification, knowledge, skills and motivation to participate in process of natural resources exploitation, advanced critical thinking;

- an opinion which is heard (they realize that their ideas will be taken into consideration);

- extensive personal experience in environmental problem solving.

Environmentally competent students account for less than a third of respondents (29.1%). They understand their personal significance and are ready to participate in practical solving of environmental problems. But they do not always have sufficient knowledge and skills to deal with them and believe that their personal opinion has no effect on solving environmental problems, the practical experience of environmental activities is low.

At the same time almost every sixth participant of the survey can be characterized by a low level of environmental responsibility or a lack of it. They are the spiritless students without initiative, who deny necessity of personal participation in practical solving of environmental problems, and do not have enough knowledge and skills. They believe that their opinion makes no difference in environmental problems solving i.e. nothing depends on their opinion, they do not have ecological activity experience.

The obtained results demonstrate us the significant role of educational process in encouraging students to solve environmental problems. A large part of respondents (69%) believe that the university has encouraged them to participate in solving environmental problems. Moreover, they are outnumbered by those 74% who believe that education has a leading role in developing their will to participate in environmental problem solving.

Taking into account a rather low number of respondents (35%) who have practical experience in environmental problems solving during educational process, 90% of respondents consider that they should practice problem-solving in educational process.

The results indicate the necessity to enhance teaching methods in environmental education in order to mobilize ecological activity and form significant environmentally friendly personal qualities which could contribute to ecological competence of the younger generation [3].

Conclusion

The analysis results indicate to the necessity of enhancement of the teachers' methodical work in environmental education in order to mobilize ecological activity and development major ecologically significant individual qualities, contributing to the development of ecological competence of youth. [4]

It is necessary to reconsider the process of ecological education, distribution of theoretical and practical components in favor of the latter. It will contribute to the development of motivation ofenvironmental activities. This conclusion is confirmed by the opinion of some scientists. [5]

Therefore, it is necessary student's awareness to create healthy, clean, safe and socially comfortable human environment on the whole territory of our country.

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