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National Policy and the Media in the Formation of Environmental Awareness among Students of Kazakhstan

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Abstract
The relevance of the study is determined by the question as to in which version the environmental consciousness of a person should be considered. The novelty of the study is determined by the possibility of not only forming ecological awareness but also imparting environmental education in their professional and everyday living environments. The authors consider the aspect of structuring the teaching of ecological knowledge of students as the most active layer of the population. It is shown that the possibility of forming environmental awareness depends on the critical role of the media and public policy. The practical significance of the study lies in the possibility of development and structural determination of the direction of the formation of the influence of environmental competence among students for use in everyday activities.

Keywords: Ecological environment, media, student training, education, knowledge, awareness, Kazakhstan

Introduction
Digital technologies are doing rounds in Kazakhstan. Digital proliferation, like blogging, has become a culture in the domain of newer media discourse. The technological culture is getting accepted in the public sphere and the professional environment (Bulatova, Kungurova, & Shtukina, 2019). Such kind of technological developments has kept on influencing the media policies worldwide. It also found that media discourse is connected with language and diverse socio-cultural practices in a given society (Bolander & Locher, 2020). Moreover, social media has changed the nuance of communication in family structure, which has invited numerous deliberations and studies (Gjylbegaj & Abdi, 2019).

Modern youth perceives the world through the lens of digital technology, actively uses different devices up to 4-5 hours per day, uses social networks, has “friends” on different continents, which is important from the standpoint of their temporal self-identification. To date, in Kazakhstan, according to official figures, the number of young people exceeds 4 million, of which 2 million 3 hundred thousand live in cities, 1 million 7 hundred thousand in rural areas. The young generation of Kazakhstanis, being the most active part of the population, is an important factor in increasing national competitiveness.

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The issues of ensuring the social rights of youth, the development of creative potential, and the creation of conditions for its successful socialization have been remaining in the focus of state attention. A legal and institutional framework has been formed to promote the interests of youth. Five hundred forty-nine youth organizations are effectively operating in Kazakhstan, ten of which have nationwide status (Concept of National Youth..., 2020).

Today the youth movement of Kazakhstan has, on the one hand, a solid regulatory framework, and on the other, the opportunity to participate in the work of various organizations and associations dealing with the widest range of issues in society. Kazakhstan youth acquired good opportunities for obtaining quality education, self-development, and study of foreign languages. Among the achievements, eight Kazakhstan universities were ranked in 2017 among the best universities in the world, according to World University Rankings, a unique educational center – Nazarbayev University, which became the prototype of Kazakhstan higher school of the 21st century. In March 2018 Five Social Initiatives, mostly aimed at improving the social status of youth, were announced. The allocation of an additional 20 thousand educational grants simplifies access to higher education (Lopes et al., 2018).

Due to the prevailing objective and subjective factors of a socio-economic and political nature, modern Kazakhstan has become a country of "continuous environmental risk", an unfavorable environmental situation that has developed over almost the entire territory of the republic. In the system of comprehensive measures to remedy the environmental crisis, an important role is played by the formation of an ecological culture among the younger generation (Prophet, Kow, & Hurry, 2018). The current environmental situation sharply raised the question of revising the socio-cultural attitudes, values, goals, and the degree of reasonableness of our attitude towards nature (Salleh et al., 2016). The contradictions in the system "man-society-nature" reached the culmination by the turn of the third millennium (Bairaktarova & Woodcock, 2017).

The way out of the crisis largely depends on how high the level of environmental awareness of people will be (Sarti & St. John, 2019). This means that in solving one of the most difficult tasks of our time, a special role belongs to pedagogical science and practice (Karahan & Roehrig, 2015). It is no accident that environmental education has become one of the priority areas for reforming the national secondary and higher schools (Zeiss, 2018). To eliminate environmental issues, the country needs competent, educated specialists (Constitution of the Republic of Kazakhstan, 1995). In this regard, the training of bachelors, specialists, and masters of ecology is being performed at universities in Kazakhstan, the environmental component of biological, chemical and geographical education has been significantly strengthened (Lopes et al., 2018). But a contradiction inevitably arises: issues are created collectively, but only a small group of specially trained people solves them (Concept of national youth..., 2020). Currently, the situation in the ecology of our country is such that to change something, it is necessary to accumulate all possible resources. In this regard, it is crucial to educate a new generation with a developed ecological worldview, which involves understanding the inextricable links of man and nature, their attitude to nature as an element of culture (Message of the President..., 2014; Message of N.A. Nazarbayev..., 2014; The Nation Plan..., 2015; Social Modernization of Kazakhstan..., 2012).

The historical discourse of Kazakhstan youth's consciousness covers the entire period of the twentieth century (Law of the Republic of Kazakhstan..., 2015). Starting with the events of the civil war and the uprising of 1916 in the Kazakh steppe, famine, and repression of the 30s, the creation of the Kazakh SSR, the Great Patriotic War, Perestroika and creation of the independent state – Kazakhstan. The work carried out was accompanied

by analysis, identification of the reasons that facilitate or prevent the achievement of a given result, identification of the sources of their occurrence. So, the purpose of the article is to study the influence of the national policy and the media as a factor in the formation of environmental awareness among students of the Republic of Kazakhstan.

Literature Review

Environmental culture is considered by us as an essential part of the pedagogical culture (Williams, 2005). According to modern scientific ideas, it includes several components: axiological, technological, heuristic, personal (Sensoy & Tanisman, 2018). This model allows to identify the level characteristics of the ecological culture of a university student (Hudson & Miller, 2005):

- Axiological level: the formation of a personal ecological and pedagogical position; a system of ecological and pedagogical beliefs; an understanding of the external nature and nature of the child as an absolute moral value; a conviction of the need for environmental education of schoolchildren; activity and independence in making environmentally sound decisions (Nyyazbekova, 2012);
- Technological level: mastery of knowledge about nature; the laws of its development; a set of skills necessary for the implementation of the environmental education system using one's subject and extracurricular activities; understanding the dependence of the content of environmental education, its methods and technologies on the age peculiarities of the child (Nurtazina, 2007);
- Heuristic level: creative attitude to solving the issues of environmental education of schoolchildren; a steady need for professional growth; the ability to act in non-standard, life-oriented environmental situations;
- Personal level: the presence of such important personal qualities as caring for nature; the ability to feel its beauty, love, and respect for the child, teaching tact.

Thus, the ecological culture of the future teacher is an organic unity of ecologically developed consciousness, emotional and mental states, and practical activities (Hashimoto-Martell et al., 2012). The modern concept of higher education is based on the recognition of the important part of students' independent work (Singh, 2013). In this regard, the significance of student research is increasing (Johnson, 2000). The applied and qualification functions of university science are greatly enhanced by the inclusion of environmental and ecological-pedagogical issues in it (Bedein, 1973). Involving students in the process of scientific research of environmental issues, factoring in the specifics of teacher education, develops a creative attitude towards the profession, contributes to the improvement of environmental culture (Ivanisova & Kurinskaya, 2019). The student not only masters various methods of scientific activity, but also acquires experience of independent resolution of theoretical issues, sees the connection of academic knowledge with life (Brenner, Hamilton, Drake, & Jordan, 2013).

Practice-oriented, easily feasible environmental projects aimed at achieving small measurable positive changes in the state of the environment, can also become an instrument for the effective formation of the ecological culture in students of pedagogical universities (Schleicher, 1989). Students should be given the opportunity to feel that most environmental issues can be resolved and prevented by them (Gerard et al., 2018). They will subsequently pass this awareness on to their students (Ari & Yilmaz, 2017).

Methodology

In order to determine the practical state of students' readiness for environmental education in the 2018-2019 academic year, an ascertaining stage of the pedagogical experiment was held at the L.N. Gumilyov Eurasian National University. Before the pedagogical experiment began, 4th-year students studied the basic professional disciplines – biological, pedagogical, psychological, life safety, environmental, passed propaedeutic pedagogical practice at school. 5th-year students, in addition to the above, also had field (pedagogical) experience.

At the ascertaining stage of the experiment, students were surveyed. The purpose of the survey was to identify interest in environmental issues and the state of the environment; familiarity with modern environmental issues; ecological activities conducted with students and for what purpose; methods applied in work; intentions for further work in this direction and a desire to increase the level of knowledge and skills in ecological activities. Also, self-assessment was used to determine the level of well-formedness of environmental activity skills. Two hundred eighty-one respondents were involved in experimental activities.

Results and Discussion

One way to solve the issue of creating an information space in Kazakhstan is mastering of the Kazakh language by 60% to 95% of the country's inhabitants. Already, the percentage of published newspapers and magazines in the Kazakh language began to prevail in the information preferences of young people, as well as the percentage of television and radio programs in Kazakh and Russian. Over the past five to ten years, the share of Kazakh-language content on the Internet has increased dramatically, many newspaper editions in the Kazakh language have switched from a paper version to online. This allows us to combine the presentation of materials with photographs, videos, and text, work on an attractive design, use infographics, date journalism, long-reads. Experts began to note that advertising had already begun to prevail, not on television, but the Internet. Content in the Kazakh language, previously descriptive and peaceful, has become analytical and assertive.

Social networks have acquired influencers who, along with conventional media, such as newspapers, television, and radio, have also become a kind of informal "media", transmitting information in both Kazakh and Russian. The most popular social networks among young people are My World@Mail.Ru, VK, as well as Facebook, Instagram, Twitter, and others. Preferences of Kazakhstanis (about 1500 people were surveyed) to use information from the Internet, the data from the study "Media Preferences of Kazakhstani" also confirm this. As of July 1, 2019, twenty-seven sixty-three active media were registered in the Republic of Kazakhstan. The overwhelming majority in the general structure (86%) are printed media, 11% are electronic media, 3% are news agencies. A powerful Kazakhstan information space has been created in the country, which has a significant impact on the historical consciousness of the new Kazakhstan generation.

About preparation for environmental education, 13.2% of students consider themselves fully prepared for organizing ecological activities, 21.9% consider them to be rather prepared than unprepared, 62.8% are more unprepared than prepared, and 2.1% – completely unprepared. A persistent willingness to increase the level of knowledge and skills in organizing ecological activities is found in 68.3% of respondents, impersistent willingness accounts for 28.8%, impersistent unwillingness (1.8%), and persistent

unwillingness (1.1%). Students also assessed the level of skills in organizing environmental education. According to the results of the study, the reproductive level prevails in the well-formedness of cognitive, projective, constructive, evaluative and reflexive, and research skills. An innovative level prevails in organizational, communicative skills and in skills of observing the rules of behavior in nature. The most well-formed are the skills of observing the rules of behavior in nature (81.8%), the least formed are constructive (29.5%), and research (31.3%) skills. Table 1 shows the well-formedness of environmental education skills among students.

Table 1. Well-formedness of skills of students' environmental education

	Elementary	Reproductively productive	Innovation
Rules of behaviour in nature	4.3	13.9	81.8
Creative	9.3	48	42.7
Research	14.6	54.1	31.3
Evaluative and reflexive	9.3	48.4	42.3
Constructive	9.6	60.9	29.5
Communicative	4.6	37	58.4
Organizational	7.1	39.5	53.4
Projective	7.1	54.5	38.4
Cognitive	3.6	60.1	36.3

To study the cognitive interest of students in academic disciplines, the "Organize a schedule for the week" methodology was used. The results of the study indicated that 1-2 times a week in terms of the number of choices, students gave preference to such disciplines – general ecology, biology teaching methods, plant ecology. Among those who want to study 3-6 times a week – general ecology (12 choices), biology teaching methods (9 choices), nature conservation (4 choices), plant and animal ecology (2 choices), ecology teaching methods (1 choice).

The disciplines proposed by students are interesting – human influence on nature and the environment, ecological culture, environmental workshop, environmental research, ecology of nature, environmental protection, training of environmental activists, sustainable technologies. Twenty-eight respondents did not answer the question (8.9% of the respondents). The presence of cognitive interest among students in the implementation of environmental education was revealed through surveys, proceeding from the results of which the coefficient of interest was determined. It was established that the coefficient of interest in environmental problematics is +0.51, the coefficient of interest in improving the environment is +0.42, and the coefficient of interest in participating in environmental activities is +0.49. The results of the well-formedness of cognitive interest in environmental education are displayed in Table 2.

Table 2. Well-formedness of cognitive interest in environmental education among students at the ascertaining stage of the pedagogical experiment

	Persistent positive	Impersistent positive	Impersistent negatie	Persistent negative	No opinion
Interest in participating in ecological activies	27.9	56.3	10.8	4.2	5.9
Interest in improving the environment	24.1	55.3	16.5	12.0	9.2
Interest in environmental issues	32.4	52.1	10.8	2.2	5.5

At an ascertaining stage, students are dominated by an impersistent positive interest in environmental problematics, in improving the state of the environment and in participating in ecological activities. About the sources of information on environmental issues, 49% of the respondents indicated one source, the remaining 51% – a few. From the list of the suggested sources, the Internet is in the first place, the press and television in the second, the information received during training at the university is in the third place, and in the fourth place (additional literature), which is tackled in the library. Other sources include teachers and friends. Also, 1% of respondents believe that the knowledge they gained at school is sufficient. About 1% of respondents are indifferent to ecological information.

Students chose motives for participation in environmental activities from the suggested options. In the first place is the desire to improve the environmental situation, in the second – the desire to realize the personal potential in the process of environmental education, in the third – to get a positive assessment. In the fourth – to keep up with friends, in the fifth – the pleasure of the process and the result of work, in the sixth – to satisfy personal preferences; in the last place is the desire to receive any kind of reward. Therefore, a conclusion can be made on the prevalence of worldview motives, innovative self-realization, and the motive of prestige.

Among the suggested activities to participate in, each respondent, as a rule, chose several. By the number of choices in descending order – campaigns for garbage collection in their community, on the territory of the educational institution (160 choices); help for an animal shelter (119 choices); campaigns ("Let's Preserve Primroses", etc.) (112 choices); environmental Olympiad (99 choices); an environmental poster contest (92 choices); a student research group or a task force (84 choices); a contest for student research papers covering the environmental subject (48 choices); a rally of a public environmental organization (35 choices). Of those suggested by the students themselves are photo contests, seminars, and training. 78.1% of respondents noted their intentions to conduct ecological activities during their professional activities at school, 9.8% did not have such intentions, and 12.1% did not have a straight answer.

In response to the question, "Is your theoretical environmental knowledge that you receive during your studies at the university sufficient for your future activity?" 57.6% of respondents answered that it was partially sufficient, for 29.6%, it was completely sufficient, for 11.4% it was insufficient, and 1.4% failed to decide. About the sufficiency or insufficiency of methodological knowledge on organizing environmental education, 55.9% of respondents deemed to have partially sufficient knowledge, for 14.2% it is entirely sufficient, for 28.9% it is definitely insufficient, and 1% failed to decide. Willingness to improve their level of methodological knowledge and skills in organizing environmental education was found in 48.9% of respondents, partial willingness in 41.6% (more willing than not), 7.6% did not have such a desire, and 1.9% did not have a straight answer.

Among the responses to the question "How do you think it is possible to increase the level of environmental awareness and culture in wider public?", the first place was taken by "pay attention to their formation from school years", in the second – "pay attention to these issues in the press and television", in the third – "actively participate in improving the environment." In response to the question "What methodological knowledge and skills in organizing environmental education would you like to expand or obtain?", the respondents answered as follows: on the organization of educational activities and ecological activities, on the organization of environmental activities, information processing; to improve the level of environmental activity skills through practice; on the ways of motivation and

interest of children of different age groups with environmental activities; on local public environmental organizations; skills of holding discussions; on methods of individual work with students; behavior in various environmental situations. Students are also interested in attending seminars and training, specialized courses of an environmental orientation, participation in environmental campaigns and projects, deepening theoretical ecological knowledge in the following areas: ecology and society, landscaping, regional and local environmental issues, plant and animal ecology, ways to solve the issue of stray animals in the city. Thus, based on the results of the survey of students, it can be argued that there is a cognitive interest in environmental problematics in general, in the increase of the level of methodological knowledge in organizing environmental activities.

The leading type of motivation for interacting with natural objects at this stage of pedagogical research was determined through the alternative methodology. Where four types of attitudes in relation to nature are identified: aesthetic – a person perceives nature as an object of beauty; cognitive – nature is perceived as an object of study; pragmatic – nature as a value of mankind, in particular of future generations, as an object of protection; and practical – nature as an object of use, a source of satisfying needs (Nagra, 2010). The results of studying the types of motivation for interaction with natural objects are Pragmatic 22%, Aesthetic 24%, Practical 25%, and Cognitive 29%.

Thus, the leading motives of the respondents in interaction with natural objects are the cognitive value of nature (cognitive type), its practical use, and obtaining benefits from nature (a practical type of motivation). However, the survey does not provide objective quantitative results. To assess and self-assess the formation of the value-based component, an observation map was developed. Among the list of values for the research, we chose – attitude towards the living, attitude towards oneself, attitude towards life as the highest value, self-development and self-improvement, preservation of the environment, science and art, nature as a source of aesthetic pleasure, and nature as a source of material wealth.

The evaluation criteria were as follows. A score of "0" was given to students for whom nature, its protection, and preservation, aesthetic pleasure from its beauty are secondary, and is perceived as the only source of material wealth. A score of "1" was awarded to students for whom such values as nature, its protection, and preservation, aesthetic enjoyment of its beauty are important, but not decisive. A score of "2" was given to students for whom the values associated with nature, its protection and conservation, aesthetic enjoyment of its beauty, occupy a leading position.

The maximum possible sum of N_C points that a student could get from these indicators was 16 points (NC = 8x2). The minimum number of N_{Cmin} points that students scored was 3 points and the maximum N_{Cmax} – 13 points. Proceeding from these indicators, the coefficient of the students' well-formedness of the value-based component of readiness for environmental and educational activities K_C is determined. Its minimum K = 0.19 value and maximum K = 0.81 value are fixed. Therefore, the coefficient of the well-formedness of the value-based component of students' readiness for environmental education ranges from 0.19 to 0.81 points.

The limits of K_{Ci} fluctuations for each of the levels (elementary, reproductive, innovative) are 0.62, and the $\triangle K_C$ value, by which the K_C coefficient of each of the levels of well-formedness of readiness changes, is 0.20. The fluctuation limit values K_{Ci} for elementary, reproductive, and creative levels of the value-based component of students' readiness for environmental education are displayed in Table 3. Corresponding calculations $K_{C(c)i}$ were performed proceeding from the results of students' self-assessment (Table 3).

Table 3. Students' readiness for environmental education activity at the university

Levels of the value-based component of readiness	Fluctuation levels of the coefficient K_{Ci}	
	Assessment K_{Ci}	Self-assessment $K_{C(c)i}$
Beginner (elementary)	0.19 – 0.39	0.19 – 0.39
Medium (reproductive)	0.40 – 0.60	0.40 – 0.60
High (innovative)	0.61 – 0.81	0.61 – 0.81

According to the results of the students' survey, a choice of student behavior strategies in different situations was established according to the criteria – intensive ecological activity, negative ecological activity, passivity and indifference to ecological activity. The assessment of ecological activity found Negative ecological activities 15%, Passivity, in difference to ecological activities 25%, and Proactive ecological activity 60%. Survey results prove a significant predominance of the proportion of students with intensive ecological activity. The determination of the levels of well-formedness of the motivational, value-based, activity, and emotional and volitional components of students' readiness for environmental education was performed on a rank scale. The obtained results are presented in Table 4.

Table 4. Students' readiness for environmental education

	Elementary	Reproductive	Creative
Emotional and volitional	42.5	45.7	11.8
Actvity	28.9	53.3	17.8
Local	23.8	64.8	11.4
Value-based	43.8	41	15.2
Motivational	30.2	52.7	17.1

The results of the ascertaining stage of the experiment convincingly illustrate that the conventional practice of preparing students for environmental education does not meet modern requirements. Therefore, there is a necessity for the improvement of the professional training of students for this type of professional activity by developing and implementing a methodological system for preparing students for environmental education. The analysis performed is a good prerequisite for the implementation of work to improve the level of environmental and pedagogical training of students. Therefore, it allows us to conclude that the organization of the environmental education of students is necessary.

So, the most important component of the environmental policy of the Republic of Kazakhstan is the training of specialists capable of solving environmental problems of various scales. The leading role in solving this goal is assigned to the higher education system. A high level of competence and skill of students, future teachers, will improve the quality of environmental education organizations and the upbringing of students in general educational institutions. After all, the state of the environment and the general ecological education of the population depend on the ecological and professional preparedness of students.

Conclusion

To determine the content of preparing students for environmental education activities, a search stage of the pedagogical experiment was conducted in the 2018-2019 academic year. At this stage, the content, forms, and methods of preparing students for environmental activities were substantiated. Another aim was to test the methodological system of preparing students for the specified activity. The search stage of the experimental research

revealed the following tendencies. Firstly, students have a sufficient level of motivation. However, their theoretical knowledge is insufficient. Secondly, students have a sufficiently developed cognitive interest in organizing and participating in ecological activities. At the ascertaining stage of the experiment, according to the results of studying the students' attitude to the environment, significant differences were revealed in the degree of interest in the activities of public environmental organizations.

New media for many young Kazakhstanis is not just a means of communication, but also a means of obtaining information on the country's history, historical figures, traditions, political and economic life. It has become commonplace for news to be broadcast by Russian or Korean speakers in the Kazakh language, the emergence of youth musical groups of European appearance, performing modern Kazakh songs. Consequently, new media, along with conventional media, play a significant part in identifying Kazakhstanis as representatives of one country.

The historical discourse of analyzing the responses of young people indicates that many progressive ideas embodied in modern Kazakhstan were actualized back at the beginning of the 20th century, but were realized only now, due to gaining the independence status. The prospects of the study are to continue studying the experience of developed countries in the field of environmental education at all levels of education.

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