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Trends in the development of scientific research in the field of environmental education

Abstract. *The principles of relevant interaction between society and the environment should be laid down by citizens from preschool childhood and continuously formed throughout the entire period of study, up to higher education courses. In addition to the professionally-oriented training of ecologists, the basics of this problem should be present in the training of other specialties of all industries – eco-knowledge will help preserve the world for future generations in an acceptable state. This education policy is relevant in every state, including the Republic of Kazakhstan. The recognition of the necessity and importance of environmental education in Kazakh educational institutions and the study of this issue from a scientific perspective through the prism of pedagogy will optimize and speed up reorientation reorganization, including the environmental culture of all stages of education.*

Keywords: *ecology, eco-education, ecological culture, ecological literacy, ecologization of education, Republic of Kazakhstan, dissertation research.*

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Introduction

Environmental degradation has reached an alarming level in the era of globalization and modernization worldwide, even where almost no people live (for example, the continent of Antarctica). Technological progress has allowed us to ignore many aspects of nature conservation, including plant and animal resources that should be preserved and multiplied [13, p. 1547]. The main reasons for the virulence of the environment in the period of rapid scientific and technological progress are population growth, industrialization, harmful production, and poverty. The ecology of Kazakhstan also suffers significantly in the areas where nuclear test sites are located and connected with the operation of the «Baikonur»

rocket and space complex. Ecological knowledge can be defined as an individual understanding of the functioning of the environment, human interaction with the environment, the origin of environmental problems, and ways to overcome them [13, p. 1548].

Environmental education aims to form an ecological attitude, consciousness, and a more rational and responsible attitude to nature among young people [14].

The research problem: the «crisis state of ecology determines the expediency of studying the topic of ecological education and writing research on environmental education in the Republic of Kazakhstan in Kazakhstan and environmental education as part of this problem» [10, p.120].

Purpose determines trends in the development of dissertation research on environmental education in the Republic of Kazakhstan.

History: the implementation of the concept of the formation of ecological culture and literacy in Kazakhstan is carried out mainly in non-governmental educational organizations (NGOs), which number more than 300 objects, for example, NGO «Youth for Ecology and the Future» (Kostanay), «Center for Environmental Education Support» (Taraz), «Reflection» (Temirtau), «Ecocenter» (Karaganda), etc. [5, p. 76], however, in educational institutions (preschool institutions, general education, and higher schools), the introduction of environmentally oriented education of the younger generation is not considered an integral factor in the continuous educational process, as a result of which the number of scientific studies on this issue is minimal.

According to the research of G.K. Dlimbetova (2019), among the studied works of Kazakh scientists from the 1960s to the 2000s, only «two or three works are devoted ... to extracurricular environmental work, the creation of special and optional environmental courses, the preparation and publication of educational and methodological and visual aids on ecology, intersubject relations of environmental content» [14, p.145].

Research methods: the article uses such methods as theoretical, descriptive, continuous sampling, statistical (summary and grouping of data, and dynamics series), and mathematical methods.

Results/discussion:

This article monitors Ph.D. and doctoral dissertations and monographs on trends in the development of scientific research on environmental education in the Republic of

Figure 1 – Dynamics of written scientific research on environmental education (1991-2020)

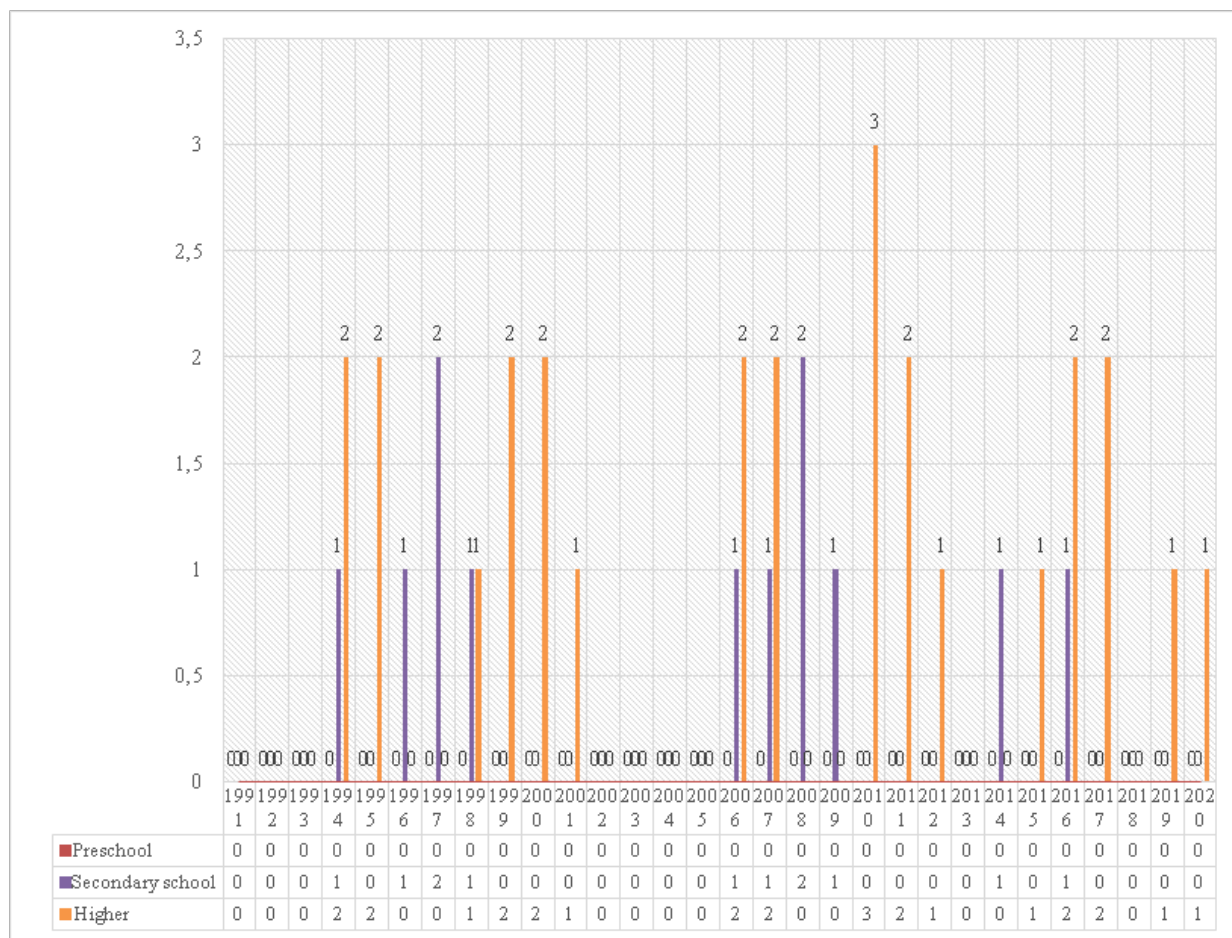


Table 1-Research on environmental education (1991-2021)

Stages	Year	Monograph/ dissertation – research topic		
		Preschool education	Secondary education	Higher education
1 stage	1991	–	–	–
	1992	–	–	–
	1993	–	–	–
	1994	–	Kokkozeva, KulcharyaShamilyevna. Formation of the moral attitude of adolescents to nature through fiction: dis. ...Candidateofpedagogicalsciences: 13.00.01. - Almaty, 1994. - 26 p. (Pedagogy)	1. Moroz, Svetlana Pavlovna. The right to a subsoil concession in the Republic of Kazakhstan: dis. ... CandidateofLegalSciences: 12.00.06. - Almaty, 1994. - 29 p. (Jurisprudence) 2. Kudiyarova, Anna Mergebayevna. PedagogicalviewsofShakerimKudaiberdy-Uly: dis. ... candidate of pedagogical sciences: 13.00.01. - Almaty, 1994. - 23 p. (the study is made with an emphasis on environmental education, promoted by Kazakh scientist and poet ShakerimKudaiberdy-Uly) (Pedagogy)
	1995	–		1. Bisenov, Zhanabil Aldabergenovich. Land management of rice farms in ecological disaster areas: on the materials of the lower reaches of the Syrdarya River of the Kyzyl-Orda region of the Republic of Kazakhstan: dis. ... Candidate of Economic Sciences: 08.00.27 / State University of Land Management. - Moscow, 1995. - 18 p. (Agriculture) 2. Tukeyev, Almasbek Zhakhangerovich. The right of state ownership of water in the Republic of Kazakhstan: abstract of the Candidate of Legal Sciences dissertation: 12.00.06. - Almaty, 1995. - 23 p. (Jurisprudence)
2 stage	1996	–	Esnazarova, UlzhalgasAmzeyevna. Ecological education of students in the process of teaching geography of the Republic of Kazakhstan: dis. ... Candidateofpedagogicalsciences: 13.00.02. - Almaty, 1996. - 22 p. (Pedagogy)	–
	1997	–	1. Tulegenova, RatkulTulegenovna. Ways of development of students' ecological skills in studying the course of physical geography: dis. ... candidate of pedagogical sciences: 13.00.02. - Almaty, 1997. - 25 p. (Pedagogy) 2. Fomin, Viktor Pavlovich. Tourist and local history expedition as a form of ecological education of a high school student: dis. ... candidate of pedagogical sciences 13.00.06. - Moscow, 1997. - 178 p. (based on the West Kazakhstan Regional Center for Children's and Youth Tourism and excursions, Uralsk, Republic of Kazakhstan) (Pedagogy)	–

Stages	Year	Monograph/ dissertation – research topic		
		Preschool education	Secondary education	Higher education
	1998	–	Dzhanzakova, SholpanIsagaliyevna. Ethnopedagogization of environmental education of younger students in the Kazakh school: dis. ... candidate of pedagogical sciences: 13.00.01. - Moscow, 1998. - 195 p. (Pedagogy)	Utarbayeva, ZhamilyaBazarbaevna. Socio-political factors of formation of ecological consciousness in the Republic of Kazakhstan: dissertation of the Candidate of Political Sciences: 23.00.01. - Almaty, 1998. - 27 p. (Political Science)
	1999	–	–	1. Novikova, Elena Vladimirovna. Theoretical problems of the development of environmental legislation in the Republic of Kazakhstan: dis. ... doctor of Law: 12.00.06. - Moscow, 1999 – 395 p. (Jurisprudence) 2. Chuikova, Natalia Alexandrovna. Methodological bases of ecologization of physical and colloidal chemistry in teaching medical university students: dis. ... candidate of pedagogical sciences: 13.00.02. - Almaty, 1999. - 132 p. (Medicine)
	2000	–	–	1. Kolesnikova, Olga Nikolaevna. Formation of the system of social protection of the population in the region of ecological distress in the 1990s: Comparative analysis of the Altai Territory and the East Kazakhstan region: dissertation of the Candidate of sociological sciences: 22.00.04. - Barnaul, 2000. - 205 p. (Sociology)
3 stage	2001	–	–	Sviridenko, Boris Fedorovich. Ecological and dynamic organization of vegetation cover of reservoirs of Northern Kazakhstan: dis. ... doctor of Biological Sciences: 03.00.05, 03.00.16. - Novosibirsk, 2001 – 335 p. (Biology)
	2002	–	–	Dlimbetova, G. K. Didactic bases of ecologization of the process of teaching students: dis. ... doctor of pedagogical Sciences / DlimbetovaGainiKarekeevna; - Almaty, 2002. -331 p. (Pedagogy)
	2003	–	–	–
	2004	–	–	Belonog, A. A. Hygienic principles of Public Health Management in the zones of environmental risk: dis. ... doctor of Medical Sciences: 14.00.07/ Belonog Anatoly Aleksandrovich; [place of protection: state institution «Scientific Research Institute of Human Ecology and hygiene of environment»]. Moscow, 2004. - 307 p.
	2005	–	–	Mankesh, A. E. Scientific and theoretical foundations of environmental continuity in the educational process: (in the family, kindergarten and primary school): dissertation for Doctor of Pedagogical Sciences. A. E. Mankesh; AbaiKazakh National Pedagogical University. Almaty, 2005. - 41, [5] p. (Pedagogy)

Stages	Year	Monograph/ dissertation – research topic		
		Preschool education	Secondary education	Higher education
4 stage	2006	–	Chernyavskaya Olga Mikhailovna. Formation of ecological responsibility of schoolchildren through an ecological-oriented educational environment: dis. ... candidate of pedagogical sciences: 13.00.01. - Chelyabinsk, 2006. - 193 p. (Pedagogy)	1. Konvisareva, Lyubov Petrovna. Volunteer movement as a factor in the development of the social activity of young people: dis. ... Candidate of Pedagogical Sciences: 13.00.02 /N.A. Nekrasov Kostroma State University. - Kostroma, 2006. -211 p. (the control group in the study – members of the public association «Scientific and Educational Environmental Center» Young Generation for Environmental Safety and Sustainable Development» Rep. Kazakhstan). (Pedagogy) 2. Kushnareva, Anzhelika Pavlovna. Network ecological projects as a means of developing creative activity of adolescents: dis. ... Candidate of Pedagogical Sciences: 13.00.01 / A. P. Kushnareva; [Place of protection: Buryat State University]. - Ulan-Ude, 2006. -189 p. (Pedagogy)
	2007	–	Barinov, I. M. Analysis of the content of school geographical education in the CIS countries: on the example of Russia, Belarus and Kazakhstan: dis. ... Candidate of Pedagogical Sciences: 13.00.02 / Barinov Ivan Mikhailovich; [Place of protection: Russian State Pedagogical University. A. I. Herzen Univ.] - Moscow, 2007 –195 p. (Pedagogy)	1. Geldymamedova, Elsa Annamuradovna. Heavy metals in soils and vegetable crops of the city of Pavlodar of the Republic of Kazakhstan: dis. ... Candidate of Biological Sciences: 03.00.16. - Pavlodar, 2007. - 141 p. (Ecology) 2. Azhaev, G. S. Assessment of the ecological state of Pavlodar according to the data of the geochemical study of liquid and dust atmospheric precipitation: dis. ... Candidate of geological and mineralogical sciences: 25.00.36 / Azhaev Galymbek Sovetovich; [Place of protection: Vol. state architecture-builds. un-t]. - Tomsk, 2007. - 25 p. (Geoecology)
	2008	–	1. Saitkasimkhanova, D. M. Pedagogical conditions of natural-like education of students through folk pedagogy: on the material of the Republic of Kazakhstan: dis. ... candidate of pedagogical sciences: 13.00.01 / Saitkasimkhanova Durdon Mukhametalinov [Place of protection: Ped. Akad. Postgraduate course education]. - Moscow, 2008 – - 191 p. (Pedagogy) 2. Ripacheva, E. A. Integration of domestic and foreign experience in the formation of ecological culture of students: dis. ... Candidate of pedagogical Sciences: 13.00.01 / Ripacheva Elena Anatolyevna; [Place of protection: St. Petersburg Academy of Sciences. Postgraduate. ped. education]. - Saint-Petersburg, 2008. - 271 p. (Pedagogy)	–

Stages	Year	Monograph/ dissertation – research topic		
		Preschool education	Secondary education	Higher education
	2009	–	Pashevich, N. L. Development of ecological culture of junior schoolchildren in the conditions of additional education: dis. ... Candidate of pedagogical Sciences: 13.00.01 / Pashevich Natalia Leonidovna; [Place of protection: South-Ur. state University]. - Chelyabinsk, 2009. -201 p. (the study is devoted to the formation of environmental knowledge and culture of Kazakhstan and Russian citizens) (Pedagogy)	–
	2010	–	–	1. Yermienko, A.V. Influence of the activity of the electrolysis plant on the ecological situation of the Pavlodar region: Republic of Kazakhstan: dis. ... Candidate of Biological Sciences: 03.02.08/ Yermienko Alyona Viktorovna; [Place of protection: Omsk State Pedagogical Institute. un-t]. - Omsk, 2010. -174 p. (Ecology) 2. Wolf, L. A. Ecological features of the gill-legged crustacean (Artemiaparthenogenetica Barigozzi, 1974) in salty reservoirs of Northern Kazakhstan: Republic of Kazakhstan: dis. ... candidate of Biological Sciences: 03.02.08 / Wolf Lyudmila Aleksandrovna; [Place of protection: Omsk State Pedagogical Institute. un-t]. - Pavlodar, 2010 – 157 p. (Ecology) 3. Doskenova, B. B. Ecological assessment of aero - technogenic pollution by heavy metals of the North-Kazakhstan region: Republic of Kazakhstan: dis. ... Candidate of Biological Sciences: 03.02.08 / Doskenova Banu Beisenovna; [Place of protection: Omsk State Pedagogical Institute. un-t]. - Omsk, 2010. - 148 p. (Ecology) 4. Bakirova, K. S. Theoretical and methodological foundations of the formation of ecological culture of pedagogical university students: dissertation for the degree of Doctor of Pedagogical Sciences / K. S. Bakirova; Kazakh National Pedagogical University named after Abai. - Almaty: 2010. - 38, [7] p. (Pedagogy)
5 stage	2011	–	–	1. Dimeeva, L. A. Dynamics of vegetation in the deserts of the Aral Sea and the Caspian Sea: dis. ... doctor of Biological Sciences: 03.02.08 / Dimeeva Lilia Aminovna; [Place of protection: Botanical Institute of the Russian Academy of Sciences]. – St.Petersburg, 2011. - 295 p. (Ecology) 2. Wolf, L. A. Ecological features of the gill-legged crustacean (Artemiaparthenogenetica Barigozzi, 1974) in salty reservoirs of Northern Kazakhstan: Republic of

Stages	Year	Monograph/ dissertation – research topic		
		Preschool education	Secondary education	Higher education
				Kazakhstan: dis. ... Candidate of biological Sciences: 03.02.08 / Wolf Lyudmila Aleksandrovna; [Place of protection: Omsk State Pedagogical Institute. un-t]. - Pavlodar, 2011. - 165 p. (Ecology)
	2012	–	–	Kobetaeva, N. K. Monitoring of the hydro - ecosystem on the example of the Ishim River of the Republic of Kazakhstan: dis. ... Candidate of Biological Sciences: 03.02.08 / KobetaevaNaziraKulumbetovna; [Place of protection: Krasnoyar State Agrarian University. un-t]. - Krasnoyarsk, 2012. - 153 p. (Biology)
	2013	–	–	
	2014	–	Salish, S. S. Pedagogical assistance to the spiritual and moral formation of the personality of a junior school student in extracurricular activities: dis. ... Candidate of Pedagogical Sciences: 13.00.01 / SalishSaltanatSalishevna; [Place of protection: Tver State University]. - Tver, 2014 – 196 p. (Pedagogy) (The study was conducted based on secondary schools of Kazakhstan in Aktobe and is devoted to the spiritual and moral education of students through environmental raids) [7, p. 188]	–
	2015	–	–	Adilbekov, YerzhanBoranbayevich. Epidemiological assessment of malignant neoplasms of the central nervous system in the ecological zones of Kazakhstan: abstract of the dissertation of the Candidate of Medical Sciences: [specialty] 14.01.12 Oncology / AdilbekovYerzhanBoranbayevich; [work performed: National Center of Neurosurgery; place of protection: National Center of Oncology of the Ministry of Health of the Kyrgyz Republic]. - Bishkek, 2015. - 25 p. (Medicine)
6 stage	2016	–	Urekeshova, Larisa. Formation of ecological self-consciousness of teenagers at geography lessons (on the example of the Republic of Kazakhstan) [Text]: monograph / L. Urekeshova, V. Sitarov; Moscow Humanitarian University. - Moscow: Publishing house of the Moscow Humanitarian University, 2016. - 129 p. (Pedagogy)	1. Bekzhanov, ZhambulLesbekovich. Organizational-legal and scientific-methodological support of forensic-ecological expert activity in the Republic of Kazakhstan: dis. ... candidate of Legal Sciences: 12.00.12 / BekzhanovZhambulLesbekovich; [Place of protection: Russian State University of Justice]. - Moscow, 2016. - 176 p. (Jurisprudence) 2. Orynbasarov, SerikOrynbasarovich. Unfavorable environmental factors and perinatal pathology: on the example of the Aral Sea region of the Republic of Kazakhstan [Text]: [monograph] / S. O. Orynbasarov, A. P. Nadeev,

Stages	Year	Monograph/ dissertation – research topic		
		Preschool education	Secondary education	Higher education
	2016	–	Urekeshova, Larisa. Formation of ecological self-consciousness of teenagers at geography lessons (on the example of the Republic of Kazakhstan) [Text]: monograph / L. Urekeshova, V. Sitarov; Moscow Humanitarian University. - Moscow: Publishing house of the Moscow Humanitarian University, 2016. - 129 p. (Pedagogy)	S. V. Zalavina; Ministry of Health of the Russian Federation, Novosibirsk State Medical University. - Novosibirsk: Nauka, 2016. - 154 p. (Medicine)
	2016	–	–	Alieva A.A., Formation of ecological competence among future specialists in modern higher education: dissertation for Doctor of Philosophy (Ph.D.) / Alieva Ayman Yahiyayevna; [Place of protection: L. N. Gumilyov ENU] - Astana, 2016. - 149 p. (Pedagogy)
	2017	–	–	1. Iskakova, M. O. Formation of ecological competence of future primary school teachers: on the example of universities in Kazakhstan: dis. ... Candidate of pedagogical Sciences: 13.00.08 / IskakovaMarzhanaOrazgalievna; [Place of protection: Moscow State Pedagogical University]. - Moscow, 2017. - 253 p. (Pedagogy) 2. Modern actual problems of energy and environmental law of Kazakhstan in the EAEU and the EU [Text]: monograph (based on the results of a fundamental scientific study conducted on grant funding of the Ministry of Education and Science of the Republic of Kazakhstan) // Contemporary actual problems of energy-environmental law of Kazakhstan, EAEU and EU / Ed. by M. A. Sarsembayev. - Astana: Ministry of Education and Science of the Republic of Kazakhstan: Bolashak, 2017 – 294 p. (Economy)
	2018	–	–	–
	2019	–	–	Dlimbetova, G. K. Ecologization of education – the way of modernization of spiritual consciousness: monograph/ Dlimbetova G.K.-Nur-Sultan: Master of ZHSHS, 2019. - 246 p. (Pedagogy. Psychology)
	2020	–	–	1. Dzhabaildaeva, G. T. Legal protection of land in the Republic of Kazakhstan: dis. ... Candidate of Legal Sciences: specialty 12.00.06 Land law; natural resource law; environmental law; agrarian law / DzhabaildaevaGulnarToksanbaevna; Belarusian State University. - Minsk, 2020 – 29 p. (Jurisprudence) 2. Abenova, S. U. Psychological and pedagogical conditions for the development of environmental volunteerism of future specialists: dissertation for the degree of Doctor of Philosophy (Ph.D.) / AbenovaSauletUrazbekovna; [Place of protection: L. N. Gumilyov ENU] - Nur-Sultan, 2020. - 149 p. (Pedagogy. Psychology)

Kazakhstan in the period from 1991 to 2020 inclusive. A selection of works is presented in Table 1.

So, the periodization is divided into six stages that characterize the degree of scientific interest in pedagogy, psychology, biology, ecology, law, economics, medicine, and environmental well-being as mutually correlating disciplines. The selection of works was made from publicly available electronic resources in the capital of the Russian State Library(RSL). More than 40 dissertation studies and monographs were found, exploring ecology and eco-education in the Republic of Kazakhstan.

The table shows a list of scientific works in such specialties as biology and ecology, including the ecology of education, geoecology, sociology, agriculture, law (formation of environmental and legal knowledge), political science; however, attention is focused mainly on the pedagogy-a total of 8 areas. Trends in the development of dissertation research from 1991 to 2021 are divided into six stages and three levels of education: preschool, school, and higher. Figure 1 shows the dynamics of written dissertation research by year (Figure 1).

The first stage (from 1991 to 1995 inclusive). According to the monitoring of dissertation and monographic studies of the development of eco-education in Kazakhstan, after Kazakhstan gained independence, namely, at the first stage (from 1991 to 1995 inclusive), environmental issues can be traced in 5 scientific works dealing with the problem of environmental education in school (1 dissertation) and higher education (4 dissertations), 2 of which are devoted directly to pedagogy.

The second stage (from 1996 to 2000 inclusive). At the first and second stages, ecology in higher schools was touched upon by scientists mainly through the prism of an interdisciplinary approach, for example, in literature lessons-through the formation of the moral attitude of adolescents to nature in connection with the aggravating environmental problems of the planet or the state[3; 2], or in-depth study of such professionally-oriented issues as, for example, the state legal policy of

Kazakhstan in the field of ecology [4; 8], the role of ecology in land management and agriculture [1] or environmental policy and security of the Republic of Kazakhstan [9].

When teaching students in public education institutions, the issues of environmental education were studied in correlation with related disciplines: geography, tourism, extracurricular activities, etc., and not as a separate subject.

Within the framework of pre-school educational activities, the problems of environmental education at the first and second stages were not touched upon in the dissertation research.

This stage focuses mainly on the environmental literacy and eco-culture of the individual.

The third stage (from 2001 to 2005 inclusive) contains only two dissertations on the environmental situation in Kazakhstan, the results of which can be used in higher education departments.

The fourth stage (from 2006 to 2010 inclusive) contains a total of 13 works, 5 of which are devoted to secondary and 7 to higher«eco-education», including the issues of nature-based education [6]. At the same time, seven works are devoted directly to the pedagogical aspects of environmental literacy and the population's culture.

The fifth stage (from 2011 to 2015 inclusive) is characterized by dissertation research devoted to the issues of ecology in the same direction (3), medicine (1), and biology (1); at the same time, the works are focused mainly on higher education, except for the dissertation on promoting the spiritual and moral development of the personality of a younger student in extracurricular activities through environmental raids[7, p.188].

The sixth stage (from 2016 to 2020 inclusive) focuses on research within the framework of higher education (7), 2 of which are pedagogical, two pieces are law, one is economics, one is medicine, and one is the ecology of education (biology).

Figure 2 shows the dynamics of writing dissertation research by stage (see Figure 2).

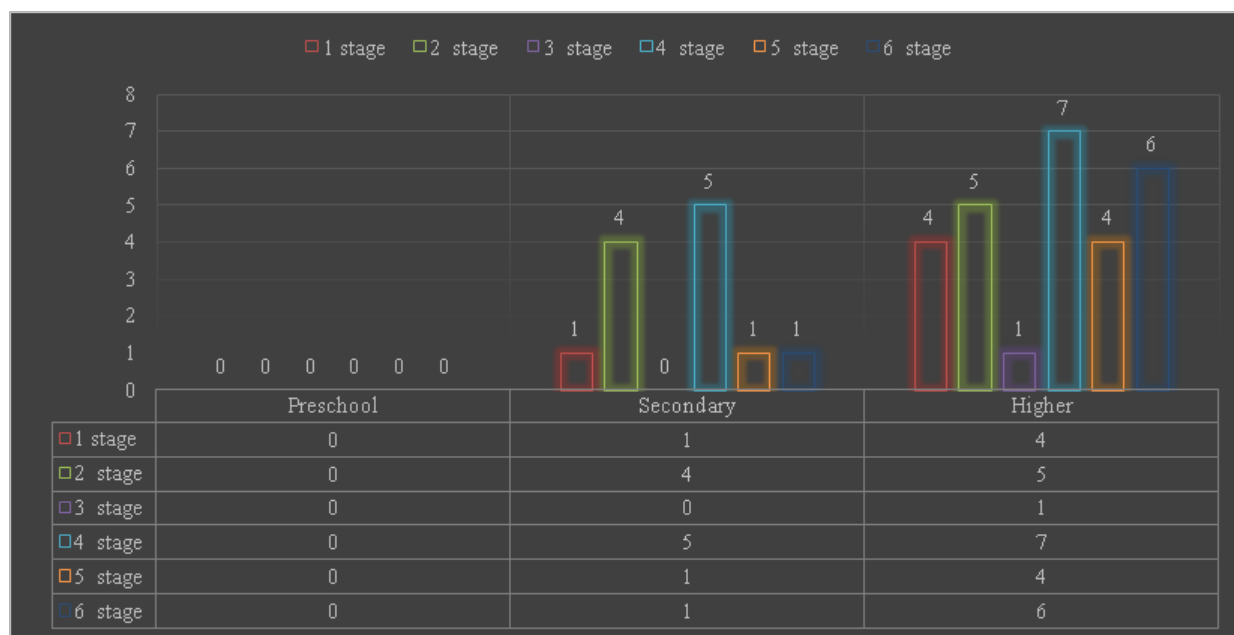


Figure 2 – Dynamics of writing scientific research on environmental education (1991-2020)

According to the data obtained, there are no scientific studies on the environmental education of preschool children in Kazakhstan. The growth of publications of dissertations on the expediency of environmental education in general education schools and higher educational institutions reached its maximum value at the 4th stage (from 2006 to 2010): 5 works (secondary education) and seven works (higher education). The minimum value at all levels of education is typical for the third stage (from 2001 to 2005) when scientific interest in environmental problems in the country decreased to a critical level.

Figure 3 shows the growth of the defense of dissertation research on environmental problems in pedagogy and other sciences by stages (Figure 3).

The presented histogram demonstrates the active interest of scientists in environmental problems, mainly in other disciplines, putting pedagogy in the background. However, the results of the dissertation research can become a good foundation for interdisciplinary research on the formation of the ecological culture of students, for example, in the process of teaching the disciplines of the natural science cycle, since it is the interdisciplinary competence of students in modern pedagogy that is most relevant.»

Culture is an integral property of the graduate's personality, which arose as an integral mental phenomenon as a result of the formation of competencies that make up ecological culture». [11, p. 18].

The modern scientific curriculum provides superficial environmental knowledge. Educational institutions are more likely to find a place for environmental education if linked to existing subjects in the curriculum rather than as a new subject.[12; 13, p. 1552].

Conclusion/implications

The foundation of competent interaction between man and nature is environmental education, which motivates students to preserve and protect the nature around them, starting from preschool childhood, which will not only form a responsible civil position but will also contribute to the growth of the spiritual and moral culture of the modern «depersonalized» and increasingly unhealthy physically society. The scientific substantiation of pedagogical goals and objectives of environmental education is concentrated in scientific monographic and dissertation research. The active manifestation of scientific interest in this issue on the territory of

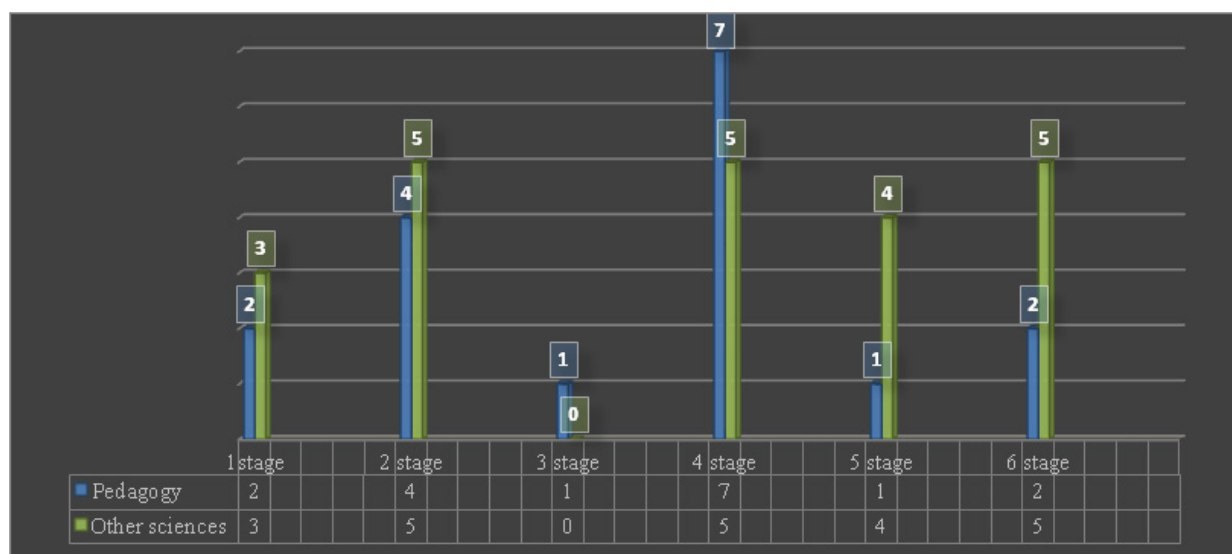


Figure 3 – Dynamics of writing scientific research on environmental education in pedagogical and other fields (1991-2020)

Kazakhstan will allow us to come to reasonable and evidence-based solutions to overcome the environmental crisis in the country, and an interdisciplinary approach will contribute to the improvement of the Kazakh population and the environment of the Republic.

The results of this article on the dynamics of writing scientific research on environmental education can become a motivational component for Kazakh scientists to pay attention to environmental education to educate students

at all levels of the educational system of an environmentally responsible attitude to nature and environmentally intelligent behavior. The successful integration of environmental education into the school curriculum will depend on the specific conditions, educational objectives, and socio-economic structure of a particular country. The presented article does not exhaust the research potential on this problem and will find its logical continuation in the author's subsequent works.

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Экологиялық білім беру саласындағы ғылыми зерттеулердің даму тенденциялары

Аннотация. Қоғам мен қоршаған ортаның өзара әрекеттесуінің принциптерін азаматтарға мектепке дейінгі балалық шақтан бастап, бүкіл оқу кезеңінде, тіпті жоғары мектептің соңғы курстарына дейін үздіксіз қалыптастыру қажет. Экологтарды кәсіби бағдарланған оқытудан басқа, осы проблеманың негіздері барлық салалардың барлық басқа мамандықтары бойынша оқыту кезінде қатысуы керек – экологиялар кейінгі ұрпақ үшін әлемді қолайлы жағдайда сақтауға мүмкіндік береді. Бұл білім беру саясаты әрбір мемлекетте, оның ішінде Қазақстан Республикасында да өзекті. Қазақ оқу орындарында экологиялық білім берудің қажеттілігі мен маңыздылығын тану және осы мәселені ғылыми тұрғыдан педагогика призмасы арқылы зерделеу білім берудің барлық сатыларына экологиялық мәдениетті енгізе отырып, оқытуды қайта бағдарлау және қайта ұйымдастыру процесін оңтайландыруға және жеделдетуге мүмкіндік береді.

Түйін сөздер: экология, экоқұрылым, экологиялық мәдениет, экологиялық сауаттылық, білім беруді экологияландыру, Қазақстан Республикасы, диссертациялық зерттеулер.

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Аннотация. Принципы релевантного взаимодействия социума и окружающей среды необходимо закладывать гражданам с дошкольного детства и непрерывно формировать на протяжении всего периода обучения, вплоть до последних курсов высшей школы. Основы данной проблематики должны лежать не только в профессионально ориентированном обучении экологов, они должны присутствовать при обучении по всем другим специальностям всех отраслей – экоднание позволит сохранить мир для последующих поколений в приемлемом состоянии. Данная политика образования актуальна в каждом государстве, включая Республику Казахстан. Признание необходимости и важности экологического образования в казахстанских учебных заведениях и изучение данного вопроса с научной точки зрения сквозь призму педагогики позволит оптимизировать и ускорить процесс переориентации и реорганизации обучения, включив во все ступени образования экологическую культуру.

Ключевые слова: экология, экообразование, экологическая культура, экологическая грамотность, экологизация образования, Республика Казахстан, диссертационные исследования.

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