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FORMATION DIAGNOSTICS OF EDUCATIONAL ACHIEVEMENTS AND ROLE OF THE SYSTEM-ACTIVITY APPROACH IN IMPROVING THE QUALITY OF GEOGRAPHICAL KNOWLEDGE OF STUDENTS

Abstract

The article discusses the role and methodology of diagnostics of previously formed educational achievements of students, which are necessary for further coordination of educational activities to achieve the educational goals. On the example of the 8th and 9th grade's geography material content, the experience of conducting experimental work with students on the diagnosis of acquired knowledge and the formation of new educational results is shown.

Modernization of Kazakhstan's school education has undergone significant transformations in recent years. The adoption of new educational standards of teaching by educational institutions and its understanding by the teaching staff is aimed at solving a number of tasks, the main task of which is the formation of a new Kazakh personality of a student who will be able to independently organize his/her further trajectory and will navigate in the modern information environment without difficulty.

Therefore, the most important aspect of the students' activities of general education institutions is their functional literacy, information, and communication competence. It is important to note that in the formation of these competencies, and in solving problems in the formation of skills and organization of independent work, which is aimed at obtaining various information, for the qualitative solution of educational tasks, clear criteria and methods of measuring educational achievements are needed.

In our opinion, one of the most effective pedagogical and didactic technologies of knowledge formation is the system-activity approach.

In this aspect, sections of geography such as physical geography, social and economic geography have versatile and most successful opportunities for activating educational activities.

The modern strategy of Kazakhstan education focuses teachers on the formation of students' subject competencies, which are based on comprehensive knowledge; practical skills and abilities; creative and activity approach; and personal responsibility.

The main emphasis in the school education system of the XXI century is directed on the intellectual and moral development of the individual, which implies the need for the formation of critical thinking, the ability to navigate in the modern information space.

Keywords: system-activity approach, problem-based learning, non-standard tasks, creative approach, personality-oriented approach, cognitive activity.

Introduction. Geography teaching is the content of which reflects the fundamentals of geographical science; it differs from other subjects by an integrated approach to the study of nature, society and the subject of their interaction; it has significant potential to achieve the goals of environmental education and education of students at all levels of school education [1]. In geography, sustainable development of territories, countries and world, global problems of mankind are considered. A significant role should be given to its methodology as a subject forming students' holistic view of the world and the processes taking place in it.

According to the time duration, diagnostic work can be long-term and short-term. The students' number in the experiment can be from 2-3 people, up to several dozens. The participants' number in the experiment depends on the goal set, the stated hypothesis and the objectives of the study [2].

Methods/Methodology. Diagnostic work carried out among students of general education institutions takes a long period and consists of a number of methods, such as observation, sampling, diagnosis, etc.

Let's look at the stages of experimental work.

In the theoretical part of the work, there is a general introduction with the pedagogical problem, the issues, that need to be clarified, are determined, their relevance for this period is displayed. The explanation of relevance involves the identification of contradictions related to a specific educational problem, which acts as a practical, or theoretical issue that requires resolution. The object and subject of the study are determined.

The methodological part of the work involves the selection of existing concepts, theoretical positions, plans, and various thoughts on the essence of the existing problem. Next, the hypothesis (assumption) of the study is determined, which in the course of the work will need to be proved or overturned. In the process of experimental diagnostic work, the most acceptable research methods are selected and the experimental work is given.

To confirm the hypothesis of the study, verifying and forming experiments are carried out, they are alternately performed. The task of the verifying experience is to determine the initial state of the pedagogical problem [3]. Previously acquired knowledge, skills and abilities of students are revealed.

At the final analytical stage, a detailed analysis of the conducted research is given. The results obtained are interpreted. On the basis of all the work being done and the results obtained, the final provisions are derived. The results of pedagogical research are given in a generalized form, and the recommendations are of a practical nature [4].

The formation and diagnosis of knowledge and skills of students is very productively car-

ried out with a system-activity approach, which makes it possible to form a creative personality of a student with an active life position, student, who is able to independently find the answer to the asked questions. It is a common fact that, the system-activity approach is based on the activation of the cognitive interest of the student's personality [5].

Let's consider an experimental work on planning and organizing work with secondary school students in the framework of studying the course "Geography of Kazakhstan" in the 9th grade. So, at the first stage, initial monitoring was carried out, which was aimed at identifying the quality of students' knowledge on the subject, the level of competence formation, and also revealed their cognitive interest.

A plan of action stages was drawn up for the experimental work. At the first stage of the experimental work, a group of students was identified. Their level of knowledge, skills and abilities were determined; control methods for conducting the experiment were selected.

At the second stage, the measuring instruments were identified, which made it possible to assess the progress of knowledge, skills, and abilities, before and after the application of the system-activity approach in the study of the course "Geography of Kazakhstan".

At the third stage, group practical work was carried out using methodological and didactic capabilities of a geographical map, etc.

At the final fourth stage, an analysis of the diagnostic results was made. Appropriate conclusions and practical recommendations were made.

Results. The experimental work was carried out during 1,5 years of study, exactly during the 8th grade and the first half of the 9th grade, the experiment took place at MSI "secondary school №20 named after Akhmet Baitursynov" of the Department of Education in the city of Ust-Kamenogorsk of the Department of Education of the East Kazakhstan region. There were 20 students in the experimental class. The academic performance was 100%, the quality of knowledge was 66%. The survey showed that the majority of students strive to acquire new

knowledge. A significant part is able to perform non-standard and creative tasks.

At the first stage of the study, knowledge and skills were monitored using geographical maps, with standard forms of control. At the beginning of the experimental work, an introductory control of knowledge on the geographical nomenclature of Kazakhstan and the tectonic structure of the territory was carried out. Tests were also used to identify theoretical knowledge of students [6;7]. The purpose of the test was to determine the level of learning by the passed

material. The test was scheduled for 7 minutes, but it took 10-12 minutes to complete. This is due to the organizational moment (the time to distribute the test and collect the results), with the peculiarities of the students (each student performed the tasks at a different speed), there were attempts to copy the answers from other students.

The test consisted of 10 questions related to the geographic map. Consider the test results (Figure 1,2).

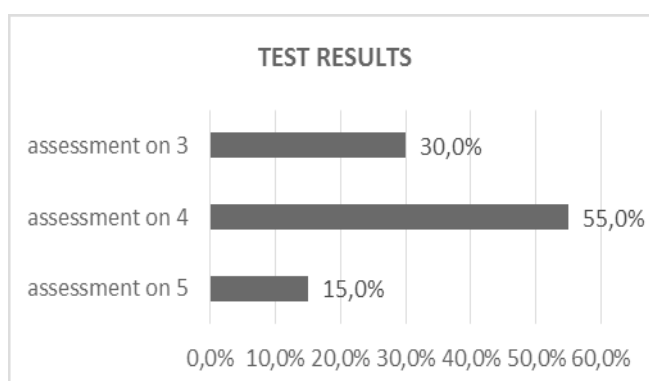


Figure 1. Test result No.1 “The revision of the 7th grade material”

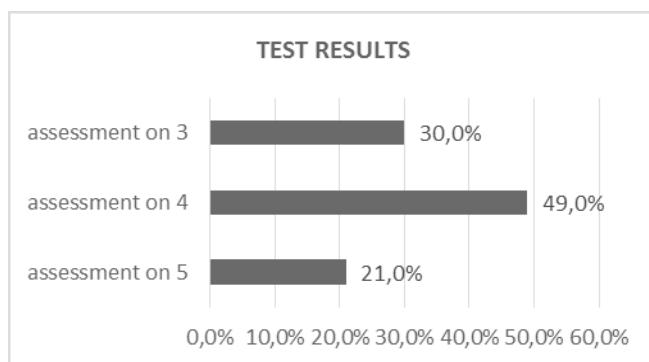


Figure 2. The test result No.2 “Checking knowledge after repeating the material for the 7th grade”

As can be seen from diagrams 1 and 2, the quality of knowledge according to the results of the test is relatively high. Basically, the rating “good” prevails. However, there are more students who received a “satisfactory” rating than those who received an “excellent” mark. This result can be explained by individual gaps in students’ knowledge or weak teaching methods when studying the topic.

Having studied the results of incoming

diagnostics, we assumed that it is necessary to use the methods of a system-activity approach on the lessons of “Geography of Kazakhstan”.

The purpose of the conducted experimental work was to create conditions for intensification of cognitive activity of students of classes 8 and 9 by introducing on the lessons such elements of the system-activity approach, as project activity, problem training, and organization of practical work [8;9;10].

To achieve this goal, a number of tasks were set, such as:

- development of lessons in accordance with the set educational goal;
- using elements of problem-based learning technology;
- application of the technology of project activity and practical work as final and intermediate works;
- creating a friendly environment that promotes the activation of cognitive activity and cognitive interest of students;
- monitor external indicators.

The implementation of the tasks set forms the students:

- interest in performing non-standard tasks;
- finding a creative approach to work;
- independently work with various sources of information;
- argumentatively prove your point of view, analyze specific situations:
- responsibility for learning;
- the need to work in a group in the process of performing creative, educational, research, problem activities.

As a result of training based on a system-activity approach, students will have the opportunity to learn:

- to carry out elementary practical research in the conditions of regular and extracurricular activities;
- apply methods of analyzing the obtained results;
- independently identify, highlight the problem, suggest ways to solve it;
- translate text information into the language of mathematics (make tables, graphs, diagrams, etc.);
- process the results in computer programs;
- create abstracts, mini-projects, presentations;
- present the results in front of classmates, a wider audience.

At the third stage of our experimental work we developed a system of lessons using the system-activity approach. These lessons correspond to the objectives of the educational system and are aimed at accelerating the education of students and developing their knowledge, skills and abilities [11].

Intermediate test tasks were also conducted using geographical maps on the topic “Geographical position of Kazakhstan”, “Features of the relief of Kazakhstan”, “Mineral resources”, “Climate of Kazakhstan. Climate-forming factors”, “Final control. Kazakhstan on the world map, relief and climate”, “Internal waters of Kazakhstan”, “Soils of Kazakhstan”, “Flora and fauna”, “Natural complexes of Kazakhstan”, “Natural resources and problems of their rational use”.

Special attention was paid to the compilation of mental maps. This skill in geography lessons includes a set of educational knowledge; visual ways of presenting them; visual and technical means of transmitting information and a set of psychological techniques for using and developing visual thinking in the learning process. This teaching was based on the principles of concentration and generalization of knowledge; algorithmization of educational and cognitive actions; humanism; a personality-oriented approach; the study of material in large blocks; the use of an indicative basis of actions, and the allocation of the main [12]. At each lesson, students had a memo before them on creating a mental map, which briefly outlined the principles and rules for its compilation. Working with the memo saved time at the lesson and made it possible to correct the error during the time.

For example, one of the works began with drawing a general scheme of the river from its source to its mouth. All types of sources were depicted on the same level: a spring, a lake, a swamp, a mountain glacier were schematically sketched. Left and right tributaries of the first and second order were noted. The types of river regime, their nutrition, and meaning were briefly recorded on the mental map. A large volume of educational material, including new terms and concepts on the mental map scheme made it possible to quickly memorize, and establish cause-and-effect relationships between such concepts as “river fall”, “river slope”, “water flow”, “river flow”, “flow of rivers”.

Google Earth [13] and Spiders [14] applications were used in the construction of the mental map in the economic geography

of Kazakhstan (9th grade, «Economy»). Individual students demonstrated their skills in the use of computer applications and found their wide application in their teaching activities in geography lessons from the perspective of a systems-action approach.

Discussion. At the lessons were used a variety of methods and techniques of diagnostics of learning achievements, as well as elements of the system-activity approach in the formation of new knowledge and skills. It was revealed that each child has his own individual mental and learning abilities, temperament, character, will, motivation, cognitive organization, experience, and desire to work.

An important factor in the implementation of the system-activity approach is the use of

new technical training tools [15]. They provide ample opportunities to improve the quality of education and mental development of students. The extensive functionality of electronic maps and electronic technologies allowed us to activate the cognitive activity of students in the classroom, apply various forms and methodological techniques of working with a geographical map, forming the most important cartographic skills and abilities. The use of all these techniques made it possible to prepare students for a more successful summative assessment for the section and quarter.

According to the results of the 8th grade and the first half of the 9th grade, the final work was carried out. The training results for the analyzed period are shown in Figure 3.

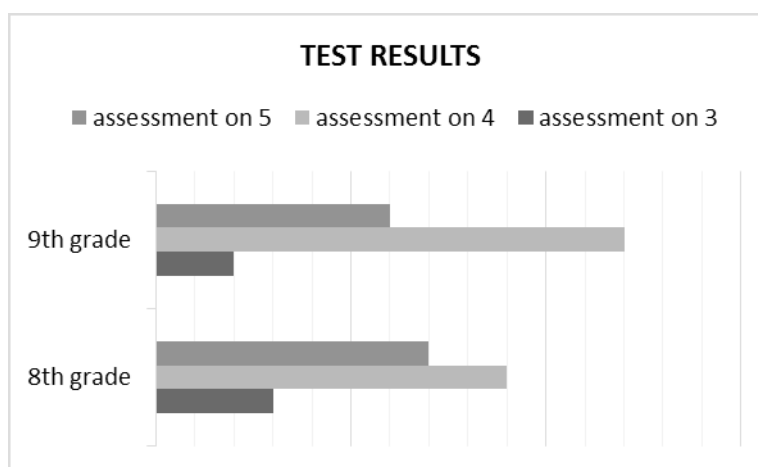


Figure 3. The results of the final control for the 8th grade and the first half of the 9th grade

The analysis of the results of training for the 8th grade and the first half of the 9th grade showed positive dynamics. Students wrote the work more successfully for the 9th grade. The number of C marks have decreased.

Conclusion. The results obtained during the experimental work allowed us to conclude about the role and expediency of using a system-activity approach when working with geographical

maps, which significantly increased the quality of students' knowledge. The use of practice-oriented practical works, problematic issues and mini-projects in the course of educational activities enabled most of the students to rise to a higher level of cognitive activity, which in turn had an impact on improving the quality of knowledge and academic performance of the class as a whole.

References

- [1] Svitnitskaya E. P. Innovatsionnoe obuchenie v prepodavanii geografii i biologii //vysshaya shkola: nauchnye issledovaniya. – 2021. – S. 21-25.
- [2] Botirova, M., & Seytaliyeva, I. (2021). Formation of the Ability of Primary School Students to Evaluate and Diagnose the Future Professional Activity of the Child. European Journal of Research Development and Sustainability, 2(4), 68-70.

[3] Michurina E.S. Bol'shanina I.v. monitoring kak metod diagnostiki konstatiruyushchego eksperimenta po formirovaniyu opyta kommunikativnogo povedeniya studentov pedagogicheskogo vuza //Naukosfera. – 2021. – №. 5-1. – S. 54-57.

[4] Molokova A. V. i dr. Peredovoi pedagogicheskii opyt proektirovaniya obrazovatel'nogo protsessa v nachal'noi shkole //Sibirskii uchitel'. – 2021. – №. 1. – S. 5-12.

[5] Gaisin I. T., Kumarbekuly S. Izuchenie toplivnoi promyshlennosti privolzhskogo federal'nogo okruga v kurse ekonomicheskoi geografii v shkole i vuze //fiziko-matematicheskoe i estestvennonauchnoe obrazovanie: nauka i shkola. – 2021. – S. 105-109.

[6] Kalkashev S.G., Abdimanapov B. Sh. Metodicheskie osnovy kriterial'nogo otsenivaniya znaniy uchashchikhsya v kurse shkol'noi geografii //Aktual'nye nauchnye issledovaniya v sovremennom mire. – 2020. – №. 8-4. – S. 65-70. DOI: 10.34670/AR.2020.66.78.080

[7] Makarova E.A., Stepanova E. S. Testirovanie kak sredstvo otsenki sformirovannosti ekologicheskoi kompetentnosti studentov pedagogicheskogo vuza //Samarskii nauchnyi vestnik. – 2020. – T. 8. – №. 1 (30). – S. 254-259.

[8] Kumarbekuly S.I. dr. Sushchnost' sistemno-deyatelnostnogo podkhoda i kriticheskogo myshleniya v obrazovatel'nom protsesse //Pedagogika i psikhologiya. – 2021. – T. 49. – №. 4. – S. 211-218.

[9] Petrov A. Yu. Sistemno-deyatelnostnyi podkhod v professional'noi deyatelnosti obshcheobrazovatel'nykh shkol i uchrezhdenii srednego professional'nogo obrazovaniya v predmetnoi oblasti «geografiya» //Mir nauki, kul'tury, obrazovaniya. – 2021. – №. 2 (87). – S. 290-292.

[10] Vinokurova N. F., Cheburkov D. F., Kraeva Yu. R. Formirovanie issledovatel'skikh kompetentsii u uchashchikhsya v kontekste idei ustoichivogo razvitiya sredstvami geografo-kraevedcheskogo kruzhka // Problemy sovremennogo pedagogicheskogo obrazovaniya. – 2019. – №. 63-1. – S. 61-64.

[11] Abdusalomovna K. S. Formation of practical competencies of schoolchildren in geography //International journal of discourse on innovation, integration and education. – 2020. – T. 1. – №. 5. – C. 384-387.

[12] Nortoshevich A. G. et al. Improving the methodology of basis of pedagogical conditions that help the formation of cartographic competence in students //ACADEMICIA: An International Multidisciplinary Research Journal. – 2021. – T. 11. – №. 3. – C. 545-551.

[13] Patrick Hagge. (2021) Student Perceptions of Semester-Long In-Class Virtual Reality: Effectively Using “Google Earth VR” in a Higher Education Classroom. Journal of Geography in Higher Education 45:3, pages 342-360.

[14] Chugh A. et al. Spider monkey crow optimization algorithm with deep learning for sentiment classification and information retrieval //IEEE Access. – 2021. – T. 9. – C. 24249-24262.

[15] Sanat, K., Nurbol, U., Bakhadurkhan, A., Anargul, S., Zukhra, D., & Gulfa, K. (2022). Teachers' opinions about technological pedagogical content knowledge used in geography lessons. World Journal on Educational Technology: Current Issues. 14(4), 1217-1224. <https://doi.org/10.18844/wjet.v14i4.7731>

Білім алушылардың географиялық білім сапасын арттыруда оқу жетістіктерінің қалыптасу диагностикасы және жүйелік іс-әрекеттік тәсілдің рөлі

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Аңдатпа

Мақалада білім беру мақсаттарына қол жеткізу үшін білім беру қызметін одан әрі үйлестіру үшін қажет білім алушылардың бұрын қалыптасқан оқу жетістіктерін диагностикалаудың рөлі мен әдістемесі қарастырылған. 8 және 9-сынып географиясы бойынша материал мазмұнының мысалында білім алушылармен алған білімдерін диагностикалау және жаңа оқу нәтижелерін қалыптастыру бойынша эксперименттік жұмыс жүргізу тәжірибесі көрсетілген.

Қазақстандық мектептегі білім беруді жаңғырту соңғы жылдары елеулі өзгерістерге ұшырады. Білім беру мекемелерінің оқытудың жаңа білім беру стандарттарын қабылдауы және оны педагогикалық ұжымның дұрыс түсінуі бірқатар міндеттерді шешуге бағытталған, оның басты міндеті-өзінің болашақ траекториясын өз бетінше ұйымдастыра алатын және заманауи ақпараттық ортада қиындықсыз еркін бағдарлай алатын жаңа қазақстандық оқушы тұлғасын қалыптастыру.

Сондықтан білім беру мекемелеріндегі білім алушылар қызметінің маңызды аспектісі олардың функционалдық сауаттылығы мен ақпараттық-коммуникативтік құзыреттілігі болып табылады. Осы құзыреттерді қалыптастыру кезінде және әртүрлі ақпарат алуға бағытталған өзіндік жұмысты ұйымдастырудың біліктері мен дағдыларын қалыптастырудағы мәселелерді шешу кезінде оқу міндеттерін сапалы шешу үшін оқу жетістіктерін өлшеудің нақты критерийлері мен әдістері қажет екенін атап өткен жөн.

Біздің пікірімізше, білімді қалыптастырудың ең тиімді педагогикалық және дидактикалық технологияларының бірі жүйелік іс-әрекеттік тәсіл болып табылады.

Бұл аспектіде географияның физикалық география, әлеуметтік және экономикалық география сияқты бөлімдері білім беру қызметін жандандырудың жан-жақты және сәтті мүмкіндіктеріне ие.

Қазақстандық білім берудің заманауи стратегиясы мұғалімдерді оқушылардың жан-жақты білімге, практикалық іскерліктер мен дағдыларға, шығармашылық және әрекеттік тәсілдемеге және жеке жауапкершілікке сүйенетін пәндік құзыреттіліктерін қалыптастыруға бағдарлайды.

XXI ғасырдағы мектептегі білім беру жүйесінде басты назар тұлғаның зияткерлік және адамгершілік дамуына аударылады, бұл сыни ойлауды қалыптастыру қажеттілігін, қазіргі ақпараттық кеңістікте бағдарлай білуді болжайды.

Түйінді сөздер: жүйелік іс-әрекеттік тәсіл, проблемалық оқыту, стандартты емес тапсырмалар, шығармашылық тәсіл, жеке тұлғаға бағытталған тәсіл, танымдық белсенділік.

Диагностика сформированности учебных достижений и роль системно-деятельностного подхода в повышении качества географических знаний обучающихся

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Аннотация

В статье рассматривается роль и методология проведения диагностики ранее сформированных учебных достижений обучающихся, которые необходимы для дальнейшей координации учебной деятельности для достижения поставленных образовательных целей. На примере содержания материала по географии 8 и 9 класса показан опыт проведения экспериментальной работы с обучающимися по диагностике усвоенных знаний и формированию новых учебных результатов.

Модернизация казахстанского школьного образования в последние годы претерпела значительные преобразования. Принятие новых образовательных стандартов обучения образовательными учреждениями и правильное его понимание педагогическим коллективом, направлена на решение ряда задач, главной задачей которого является формирование новой казахстанской личности школьника, который самостоятельно сможет организовать свою дальнейшую траекторию и без затруднений будет свободно ориентироваться в современной информационной среде.

Поэтому, важнейшим аспектом деятельности учащихся общеобразовательных учреждений, является их функциональная грамотность и информационно-коммуникативная компетентность. Важно отметить,

что при формировании этих компетенций, и при решении проблем в формировании умений и навыков организации самостоятельной работы, которая направлена на получение различной информации, для качественного решения учебных задач, необходимы четкие критерии и методы измерения учебных достижений.

По нашему мнению, одним из наиболее эффективных педагогических и дидактических технологий формирования знаний является системно-деятельностный подход.

В данном аспекте, такие разделы географии как физическая география, социальная и экономическая география обладают разносторонними и наиболее удачными возможностями для активизации учебной деятельности.

Современная стратегия казахстанского образования ориентирует педагогов на формирование учащихся предметных компетенций, которые опираются на всесторонние знания, практические умения и навыки, творческий и деятельностный подход и личную ответственность.

Основной акцент в системе школьного образования XXI века делается на интеллектуальное и нравственное развитие личности, что предполагает необходимость формирования критического мышления, умения ориентироваться в современном информационном пространстве.

Ключевые слова: системно-деятельностный подход, проблемное обучение, нестандартные задания, творческий подход, личностно-ориентированный подход, познавательная активность.

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СЫНЫПТАН ТЫС ӨЛКЕТАНУ ЖҰМЫСТАРЫНЫҢ ОҚУШЫЛАРДЫ ТӘРБИЕЛЕУДЕГІ ТИІМДІЛІГІ

Аңдатпа

Мақала жалпы орта білім беретін мектепте сыныптан тыс өлкетану жұмыстарының түрлері мен ұйымдастыру ерекшеліктеріне, оқушыларды тәрбиелеу мәселелеріне негізделіп, тұжырымдалған.

Бүгінгі барлық жалпы орта білім беретін мектептердің алдында тұрған негізгі мақсаттардың қатарына заман ағымына сай жекелеген пәндерді оқытуда инновациялық әдіс - тәсілдерді кеңінен пайдаланумен бірге сыныптан тыс жұмыстарды тиімді ұйымдастыру, соның негізінде оқушыларды тәрбиелеу кезек күттірмес мәселелердің қатарында болып отыр. Қазіргі таңдағы бәсекелестік дәуірі тұлғаның бойында жан - жақты білім, білік, дағдылардың болуын талап етеді. Осы орайда еліміз тәуелсіздік алғаннан кейін - ақ оқу - тәрбие үрдісінде туған жер, өлкетану жөнінде білім берудің қажеттілігіне байланысты мәселелер, мемлекеттік нормативтік құжаттар мен Жолдауларда айтыла бастады. Сондықтан қазіргі жаңартылған білім беру үрдісінде өлкетану жұмыстарын ұйымдастыру, озық іс - тәжірибелерді пайдалану арқылы оқушыларды тәрбиелеу мәселесі жолға қойылып отыр. Осы орайда мақалада жалпы білім беретін орта мектептердегі өлкетанымдық жұмыстарды ұйымдастырудың өзектілігі мен ұстанымдары, сондай - ақ сыныптан тыс өлкетану жұмысының түрлері, оқушыларды тәрбиелеудегі мүмкіндіктері ғылыми талдаулар негізінде тұжырымдалған.

Түйін сөздер: оқу үрдісі, өлкетану, туған жер, тәрбие, білім, мұғалім, оқушылар, сыныптан тыс жұмыс.