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GLOBAL COMPETENCIES IN GEOGRAPHIC EDUCATION FOR SUSTAINABLE DEVELOPMENT

Abstract. Global competencies in Geographic Education for Sustainable Development are a set of key skills and knowledge that are necessary to solve global problems such as climate change, inequality between people, poverty and other challenges of our time. These competencies include geographic thinking, environmental awareness, intercultural communication, global citizenship, and other important skills. Using global competencies for sustainable development in the education system will help prepare students to solve the complex problems they will face in the future. Using global competencies for sustainable development in the education system will help prepare students to solve the complex problems they will face in the future. These competencies should, if possible, be integrated into curricula and teaching methods to ensure complete and effective training. Global competencies training focuses on creating a holistic understanding of the environment, society and the economy in order to improve the achievement of Sustainable Development Goals. According to the analysis of the literature, it is necessary to carry out targeted work to stimulate students' social activity through a system of project activities, organization and implementation of practices. Students can work in groups to solve real problems using their knowledge and skills. This will help them develop critical thinking, social responsibility and other global competencies. Another way to use global competencies is to integrate an interdisciplinary approach into the learning process. Students can study issues such as climate change from a variety of perspectives, including physics, biology and sociology. This will help them understand the complexity of the problem and develop a comprehensive approach to solving it. To better equip students for future challenges and support the development of a stable and equitable society, it is essential to integrate global competencies in sustainable development into every course.

Keywords: Sustainable Development Goals (SDG), Education for Sustainable Development, training future geography teachers, global competencies, project activity.

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Тұрақты даму үшін географиялық білім берудегі жаһандық құзыреттіліктер

Аңдатпа. Тұрақты даму үшін географиялық білім берудегі жаһандық құзыреттіліктер бұл климаттың өзгеруі, теңсіздік, кедейлік және қазіргі уақыттағы басқа да қиындықтар сияқты жаһандық мәселелерді шешуге қажетті негізгі дағдылар мен білімдердің жиынтығы. Бұл құзыреттілікке географиялық ойлау, экологиялық сауаттылық, мәдениетаралық қарым-қатынас, жаһандық азаматтық және басқа да маңызды дағдылар кіреді. Білім беру жүйесінде тұрақты даму үшін жаһандық құзыреттіліктерді пайдалану білім алушыларды болашақта кездесетін күрделі мәселелерді шешуге дайындауға көмектеседі. Жаһандық құзыреттіліктер білім алушылардың толық және тиімді дамуын қамтамасыз ету үшін оқу бағдарламалары мен оқыту әдістеріне мүмкіндігінше біріктірілуі керек. Жаһандық құзыреттіліктерге оқыту білім алушыларды табиғаттың, қоғамның, экономиканың өзара байланысын тұтас түсінуге жетелейді және тұрақты даму мақсаттарын қолдауға бағытталған. Әдебиеттерді талдау жобалық іс-әрекеттер жүйесі, тәжірибелерді ұйымдастыру және енгізу арқылы білім алушылардың әлеуметтік белсенділігін мақсатты түрде ынталандыру қажеттілігін көрсетеді. Білім алушылар өздерінің білімдері мен дағдыларын қолдана отырып, нақты мәселелерді шешу үшін топтарда жұмыс істей алу. Бұл оларға сыни ойлауды, қоғамдық жауапкершілікті және жаһандық құзыреттіліктерді дамытуға көмектеседі. Жаһандық құзыреттіліктерді пайдаланудың тағы бір тәсілі – пәнаралық байланысты оқу процесіне біріктіру. Білім алушылар климаттың өзгеруі сияқты мәселелерді физика, биология және әлеуметтану сияқты әртүрлі көзқарастардан біле алады. Бұл оларға мәселенің күрделілігін түсінуге және оны шешудің кешенді тәсілін жасауға көмектеседі. Тұтастай алғанда, тұрақты даму үшін жаһандық құзыреттіліктер білім беру жүйесінің барлық аспектілеріне біріктірілуі тиіс. Бұл білім алушыларды болашақ қиындықтарға дайындауға және тұрақты және әділ қоғам құруға көмектеседі.

Кілт сөздер: тұрақты даму мақсаттары (ТДМ), тұрақты дамуға арналған білім, болашақ география мұғалімдерін даярлау, жаһандық құзыреттіліктер, жобалық жұмыс

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Глобальные компетенции в географическом образовании для устойчивого развития

Аннотация. Глобальные компетенции в географическом образовании для устойчивого развития это – набор ключевых навыков и знаний, которые необходимы для решения

глобальных проблем, таких как изменение климата, неравенство между людьми, бедность и другие вызовы нашего времени. Эти компетенции включают в себя географическое мышление, экологическую осведомленность, межкультурную коммуникацию, глобальную гражданственность и другие важные навыки. Использование глобальных компетенций для устойчивого развития в системе образования поможет подготовить студентов к решению сложных проблем, с которыми они столкнутся в будущем. Эти компетенции по возможности должны быть интегрированы в учебные программы и методы обучения, чтобы обеспечить полноценное и эффективное обучение. Обучение студентов глобальным компетенциям способствует формированию целостного понимания взаимосвязей между природой, обществом и экономикой, а также направлено на достижение целей устойчивого развития. Изучение литературы подчеркивает значимость стимулирования социальной активности студентов путем внедрения проектной деятельности и организации практических занятий. Студенты могут работать в группах для решения реальных проблем используя свои знания и навыки. Это поможет им развить критическое мышление, общественную ответственность и другие глобальные компетенции. Другим способом использования глобальных компетенций является интеграция междисциплинарного подхода в учебный процесс. Обучающиеся могут изучать глобальные проблемы, такие как изменение климата, с разных точек зрения, включая физику, биологию и социологию. Это поможет им понять сложность проблемы и разработать комплексный подход к ее решению. В целом, глобальные компетенции для устойчивого развития должны быть интегрированы во все аспекты системы образования. Это поможет подготовить студентов к будущим вызовам и создать более устойчивое и справедливое общество.

Ключевые слова: цели устойчивого развития (ЦУР), образование для устойчивого развития, подготовка будущих преподавателей географии, глобальные компетенции, проектная деятельность.

Introduction

Most developed countries have joined the process of education for sustainable development (ESD) using UNESCO recommendations for the formation of sustainable development competencies based on the triad of SDG clusters (economy, ecology, society).

The idea of global competence is that the Earth is common to everyone, and its future development scenario depends on everyone's efforts in the field of sustainable development. Forming such competencies involves establishing the groundwork and outlining the trajectory for developing a worldview where individuals feel connected to the global community and assume responsibility for all its members. This commitment is evident in one's beliefs, attitude towards nature, and behavior in society. This dedication is mirrored in an individual's beliefs, their perspective on nature, and their conduct within society. A person who adopts a global mindset engages deeply and accepts moral responsibility for global events, transcending geographical and cultural divides among people.

Recent world events have underscored the importance of cultivating global competence. Education aimed at preparing the younger generation for life in an interconnected world plays a key role in shaping future generations of citizens who are aware of global problems and can contribute to sustainable development and peace.

In research, D. Dendorf identifies cross-cultural competencies and foreign language communicative competencies as key components of global competencies [1].

J. White and W. Hunter describe a person with global competence as “a broad-minded person who simultaneously seeks to understand the cultural norms and expectations of other people and is

able to use the knowledge gained for successful interaction, communication and effective work in an unusual environment” [2].

The OECD (the Committee of the Asian Center for Global Education and the Organization for Economic Cooperation and Development) defines global competence as the ability, as well as the inclination, to understand and solve problems of global importance [3].

The modern world requires that education systems not only transfer knowledge but also develop students with global competencies. Global competencies include the ability to recognize global and cultural issues, to understand and appreciate different worldviews and perspectives, to respectfully and successfully cooperate with other people, as well as to act for their well-being and sustainable development [4].

We can conclude that global competencies are not a special skill, but a combination of knowledge, skills, and values that are effectively applied when interacting with representatives of different cultures. This is key to solving problems in the world that go beyond national interests and affect the future. These competencies are based on the recognition of the importance of different cultures, nationalities, and their values, as well as on maintaining a thoughtful attitude towards both individuals and the environment. Acquiring the necessary knowledge, skills, attitudes, and values is a lifelong process.

According to the United Nations Sustainable Development Goals in the field of education, closer to 2030, young people should have the skills that will allow them to contribute to sustainable development. The United Nations emphasizes that in the 21st century, the current generation should not only be aware of the problems in the world but also acquire the skills necessary for a prosperous life. Such skills and knowledge, based on a certain value system, are necessary for an effective education system (UN SDGs).

Global competencies is a concept that requires a combination of skills, knowledge, values and attitudes that can be successfully applied to solve global problems and intercultural relations.

Parmigiani argues that global competencies are directly linked to aspects of a teacher's work such as collaboration, inclusion, social participation and multicultural dialogue. [5]. Global problems are problems that affect all people and have future consequences for current generations. An intercultural situation means personal, virtual or indirect contact with a person representing another culture. Global competencies are multidimensional framework and it helps to live harmoniously in multicultural societies [6].

Global competencies in education for Sustainable Development are a set of key skills and knowledge that are needed to solve issues as climate change, inequality, poverty and other actual challenges.

The present article aims to address the following research objectives:

- 1) Define the term, components, and structure of global competencies.
- 2) Assess the applicability of global competencies about the Sustainable Development Goals and Education for Sustainable Development.
- 3) Creating a matrix describing the goals, opportunities, and strategies for implementing global competencies in an educational context.
- 4) Develop a project plan aimed at enhancing the global competencies of future geography teachers.

Through a comprehensive review of both domestic and international scholarly literature, this research seeks to provide valuable insights into the integration of global competencies within educational frameworks, particularly in the context of sustainable development.

Research methods and materials

In order to write this article, a research has been carried out which involves the following several tasks:

- analysis of the prerequisites for the emergence and development of global competencies;
- definition of the term, components and structure of global competencies;
- assessment of how global competencies can be applied to SDGs and ESD;
- create a matrix of goals, opportunities and ways to implement global competencies in the field of education;
- draw up a plan for project activities to develop global competencies of future geographer teachers.

In the process of writing the article, a wide range of methodological approaches were used to provide a comprehensive analysis. The domestic and foreign scientific methodological literature, periodicals, and regulatory documents were analyzed during the article writing process. A case study method was also used, which involved a detailed study of specific examples of the implementation of the principles of sustainable development in educational programs in geographical subjects. In addition, the method of monitoring the educational process was used, which allowed us to obtain data on the practical application of global competencies and sustainable development by teachers, the methods they use, and the reaction of students to this topic. The integrated application of these methodological approaches provided a deep and comprehensive analysis of the process of implementing the Sustainable Development Goals.

The matrix of goals and opportunities of global competencies consists of and includes fundamental ideas (Table 1).

Table 1 – Global Competencies Objectives and Capabilities Matrix for Education for Sustainable Development

The goals of the Global Competencies in the context of the Sustainable Development Goals	Expected results from the formation of global competencies	Examples of topics for possible application in geographical education
To support the Sustainable Development Goals	The ability to study and solve problems in the world that have both global and local	Migration, economic interdependence, inequality, poverty, conflict
To achieve harmony in a multicultural society	The ability to understand and respect different points of view	Different perspectives among ethnic groups
The idea of global citizenship	The capacity to foster positive interactions with individuals from diverse national, ethnic, religious, social, or cultural backgrounds, as well as different genders.	Cultural differences and stereotypes
Education for life in an interconnected world	The ability and inclination to take meaningful action towards sustainable development and well-being.	Environmental risks, environmental solutions

Also, this article presents a project activity algorithm that integrates global competencies and solves current issues in education (Table-2). The project goal is to establish and implement a program for the development of global competencies (for future geography teachers).

Table 2 – Algorithm of project activities for the formation of Global competence

№	Project Steps	Content
1	2	3
1	Problem analysis	It is necessary to analyze the problem to start the project. Therefore, it is required to find out why geography students (researchers) have difficulties in preparing the answers to global questions.

Continuation of Table 2

1	2	3
2	Program development	Based on the results of the analysis of the problem, it is necessary to develop a program for the development of global competencies among geography students. The program should include not only the study of geographical knowledge on the issue, but also the development of communication skills, information analysis, problem solving, etc.
3	Implementation of the program	The implementation of the program should be carried out within the framework of training courses and extracurricular activities. Teachers should use innovative teaching methods, such as project activities, group work, etc. It is also necessary to organize events aimed at developing global competencies, such as conferences, seminars, exhibitions.
4	Performance evaluation	After the implementation of the program, it is necessary to evaluate its effectiveness. To do this, you can use various methods, such as student questionnaires, testing, and monitoring the learning process.

Carrying out project activities contributes to the development of integrated thinking among students, since ESD consider 3 factors: economic, environmental and social. A more balanced approach is taking place information of environmental thinking, and interest is stimulated in an integrated approach. Local initiatives contribute to disseminating information about environmental conditions and promoting solutions to local environmental protection and safety issues.

An establishment and implementation of a program for the development of global competencies among students will solve the problem of insufficient training (and prepare them for life in the global world). The project could be useful in other educational institutions to solve similar issues.

Results and discussion

The PISA international monitoring included the "global competencies" component for the first time as an object of verification. According to 2018 research, global competencies is the ability of students to interact with the world around them: «Global competencies is a multidimensional, life-long learning goal. Local, global and intercultural issues can be studied by people who are able to understand and appreciate different points of view. In addition, they can interact successfully and respectfully with others, and take responsible action toward sustainability and collective well-being» [7].

Researcher Kataeva T.S. considers global competencies - not only skills and knowledge, but also attitudes and values, which have special features. It includes the ability to collaborate, communication skills, research skills, critical thinking, leadership, initiative, flexibility, curiosity, awareness and perseverance. Global competencies also include understanding and acceptance of different beliefs, respect for people. In addition, the competencies consist of prioritizing the achievement of collective well-being, as well as a willingness to study and solve global and intercultural problems [8].

Global competencies in geographical education play an important role in establishing the students' understanding and application of the principles of sustainable development. These competencies help researchers in developing the critical thinking, awareness and responsibility towards global issues such as climate change, natural resource management, poverty, urban ecology and more. Global competencies – which are particularly important in geographic education for sustainable development include cross-cultural competence, geographic thinking, civil liability and environmental awareness (Figure 1).

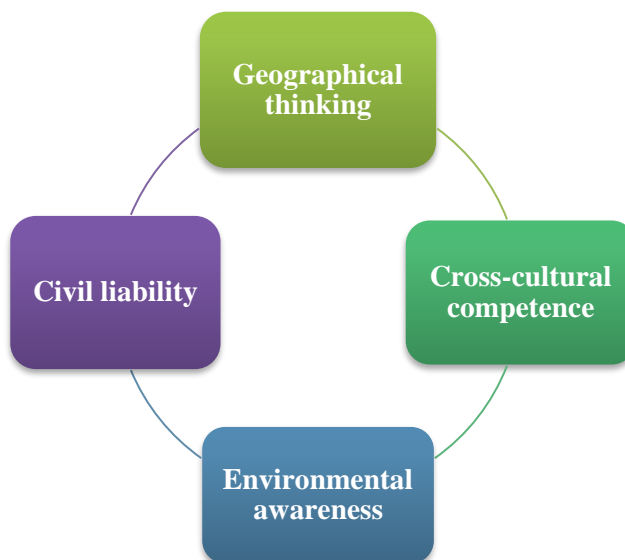


Figure 1 – Global competencies in geographical education

Geographic thinking includes the skills to analyze, interpret and relate spatial data and phenomena. This competency allows students to understand the relationship between various sustainable development and geographical factors, as well as to identify the causes and aftermath of global issues.

To achieve sustainable development, it is vital to consider and apply geographic thinking to identify the relationship between feasible advancement and geological components. Perspectives of geological thinking that are imperative for feasible advancement of incorporate systemic and spatial thinking. Spatial thinking is especially important, which helps to empower students to analyze maps and geographic information, which allows them to better understand their relationship to sustainable development. This invaluable skill allows students to visualize and comprehend the spatial distributions of vital resources, population, land use, and various other factors that significantly affect the sustainability. Systemic approach help to explain the systemic connections and interactions between different components of the environment and social structures. Provided that students have a systematic approach, they can observe how human activity affects the environment and vice versa. They also learn how changes in one area can influence others as well. Thus, geographical thinking helps students understand how human interaction with the environment could lead to sustainability or adverse consequences. They consider the impact of climate, environment, land use planning, infrastructure and cultural factors on sustainable development.

Geographical thinking plays a crucial role in cultivating the knowledge and skills students need for sustainable development. It enables students to understand the broader context and interrelationships among different factors that impact sustainability, empowering them to make informed decisions aimed at achieving a sustainable future.

Cross-cultural competence is important in the field of orientation towards sustainable development (ESD). It enables to develop understanding and respect for other cultures. This competence also promotes cooperation and convenient and constructive interaction with people who relate to different cultures and social groups. There are several ways in which cross-cultural competence affects Education for Sustainable Development (Figure 2) [9].

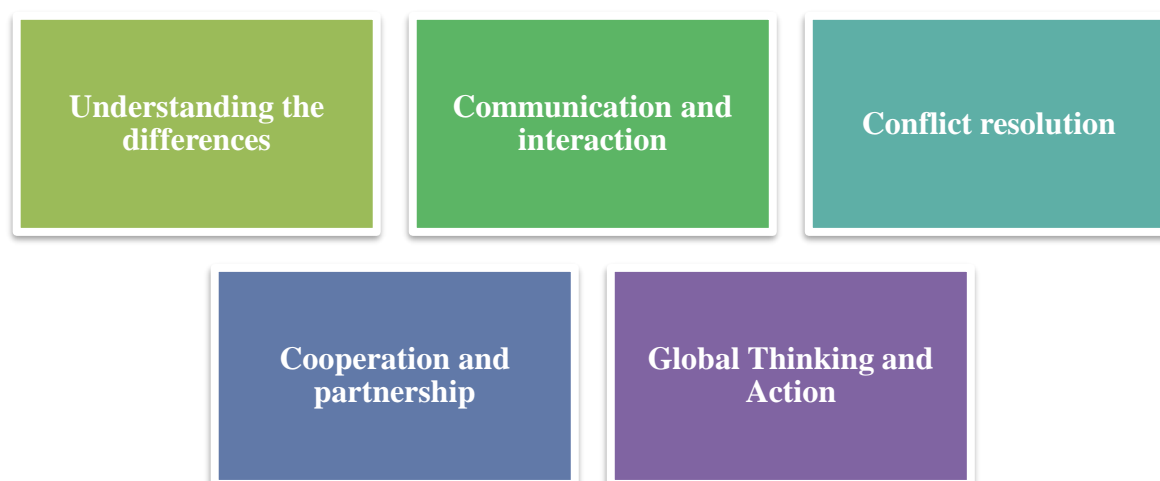


Figure 2 – Ways to influence intercultural competence on Education for Sustainable Development

Cross-cultural competence helps students understand and accept differences in values, beliefs, habits, and ways of thinking across cultures. It allows them to overcome stereotypes and preconceptions and to improve the interaction between people belonging to different cultures.

Students are provided with opportunities to learn how to respect and embrace differences, to be open to understanding and accepting other cultures, and to apply their communication skills in diverse situations. Additionally, they learn to develop effective communication and interaction skills with individuals from various cultural backgrounds.

This competence enables students to resolve cross-cultural conflicts and overcome misunderstandings. They will learn to apply empathy skills, listen, and understand the point of view of others. The students also get knowledge to seek compromises and build a dialogue based on mutual respect.

Students will learn to appreciate the diversity and unique contributions of each culture by developing skills of cooperation and partnership with representatives of different cultures. They will acquire skills in finding joint solutions and building partnerships to achieve sustainable development.

Thinking about global issues helps to realize their role in international sustainable development. Young people are becoming more open to global problems in the world and are ready to cooperate with people of different cultures to unite around common goals and objectives in the field of education and sustainable development.

Consequently, cross-cultural competence is an important aspect of ESD, as sustainable development requires the unification of all cultures and social groups. It helps students become global citizens and be able to overcome differences and cooperate in solving global challenges. Over the past few decades, global educational policies, practices and discourses have been influenced by the global spread of the concept of human capital discourse.

The OECD underscores that human capital comprises the knowledge, skills, competencies, and qualities inherent in individuals, which contribute to personal, social, and economic well-being. On one hand, enhancing human capital through activities such as knowledge acquisition, skills development, and lifelong learning leads to economic growth, improved job opportunities, better health outcomes, and increased community engagement. These factors collectively contribute to the prosperity and well-being of individuals and foster societal growth [10].

Environmental awareness plays an important role in orientation towards sustainable development (ESD). This will help students understand the connection between environmental problems and sustainable development, as well as realize their responsibility for solving environmental problems.

Through awareness of how their own actions and decisions can affect the environment Ensure that they understand that they can contribute to sustainable development or solve environmental problems by using their choices in the fields of consumption, transport, energy, and other areas. In this way, students learn to choose environmentally friendly goods and services, practice waste reduction and energy conservation, and participate in recycling and other practices that promote sustainability.

The trade-off between energy security and other sustainable development goals should lead humanity to: prospects for greater prosperity and well-being; sustainable development and the creation of physical and social infrastructure to manage the natural environment. Scientific progress is driven by the enormous potential to reduce human dependence on the surrounding ecosystem, transform energy, and produce goods and services based on it. At the same time, humanity is destroying the environment, affecting our daily lives and thinking, which leads to the transformation of society [11].

An establishment of this global competence contributes to the development of students' understanding of the interrelationships between environmental problems and sustainable development, as well as the formation of environmental values and readiness for action. It plays a valuable role in ESD, as it contributes to the formation of environmentally literate and responsible citizens. These people is able to make decisions and act in the interests of a sustainable future [12].

One of the global competencies of geographical education as civic responsibility includes awareness of its role and impact on sustainable development and taking an active part in solving globally important issues. There is a growing awareness of the interconnection of systems and increasing complexity. No matter where they arise serious challenges such as climate change, desertification, and poverty affect everyone [13].

Education plays an important role in the process of raising awareness about sustainability issues and how to respond to the challenges. Acquiring the competencies in the field of sustainable development is a way to solve these complex problems. Rieckmann (2012) investigated which key competencies are most important and should be developed in higher education institutions. Based on the Delphi study, the panel agreed that these skills are fundamental for students to understand contemporary social issues and shape a more sustainable world [14].

Students should understand their rights and responsibilities as citizens. They have to strive for environmental, social, and economic initiatives that contribute to sustainable development. Students can join public organizations, participate in discussions and social events, and contribute to decision-making aimed at sustainable development.

Civic responsibility contributes to the formation of civic and social identity, as well as the development of leadership qualities, empathy, and solidarity. It plays an important role in ESD, as it helps students realize their role in society and contribute to achieving sustainable development [15].

In our article, we found that global competencies play a key role in shaping sustainable thinking among students, which is confirmed by the results of the work of the above-mentioned authors, who emphasize the importance of not only skills and knowledge but also attitudes and values. We agree that competencies such as critical thinking and intercultural communication contribute to a deeper understanding of sustainable development. However, unlike the PISA study conducted in 2018, where the focus was on measuring global competencies in the context of a narrower educational framework, our study expands this approach by considering their application in geographic education and sustainable development. We assume that this expansion allows for a more complete account of the complex interrelationships between environmental, social, and

economic factors. In addition, the results of our study revealed that students with a high level of environmental awareness show a more active civic position. This is consistent with the conclusions of Rieckmann, which points to the need to develop civic responsibility as a key component of sustainable education. However, our study emphasizes that insufficient attention to intercultural competence can reduce the effectiveness of learning, which was not so clearly indicated in previous works.

In geographical education, global competencies are essential for understanding and applying the principles of sustainable development. Key global competencies relevant to sustainable development in geographic education include:

- Geographic Thinking: the ability to analyze, interpret, and relate spatial data and phenomena;
- Cross-Cultural Competence: the understanding and respect for different cultures, promoting cooperation and constructive interactions across cultural divides;
- Environmental Awareness: the recognition of the connections between environmental issues and sustainable development.

Geographic thinking supports the identification of relationships between human activities and environmental impacts, aiding students in visualizing spatial distributions of resources. Cross-cultural competence helps students navigate cultural differences. Environmental awareness equips students with the knowledge to make decisions that contribute to sustainability.

Civic responsibility emphasizes the importance of individual roles in addressing global challenges such as climate change and poverty. Education enhances awareness of sustainability issues.

Conclusion

We offer project activities on the following topic: Integration of global competencies into the geographical educational sphere to solve real problems.

Project objective: To create and implement a program aimed at integrating global competencies into geographical education, to solve real-world problems and prepare students to tackle global challenges. The project execution algorithm is shown in Table 3.

Table 3 – Project execution algorithm

1	2
1	Analysing current practice in geography education: Study of programs and study plans in educational institutions with an emphasis on global competencies; Identification of problem areas that require attention and solutions.
2	Defining global competencies: Review and analysis of existing concepts and approaches to global competencies. Highlighting key global competencies.
3	Development of an educational program: Defining the goals and objectives of the program aimed at developing students' global competencies; Creation of training modules focusing on each of the global competencies; Development of methods and tools for assessing the achievement of global competencies.
4	Pilot implementation of the program: Selection of an educational programme for pilot implementation of the programme; Organization of the educational process, conducting lessons and practical exercises within the framework of the program; Collecting feedback from students, teachers and parents to evaluate the effectiveness of the program.

Continuation of Table 2

1	2
5	Evaluation and analysis of results:
	Analysis of the collected data and assessment of the achievement of global competencies; Evaluation of the impact of the program on solving real problems in the educational sphere;
6	Distribution and scaling:
	Development of recommendations and guidelines for the integration of global competencies into educational practice; Organization of seminars and trainings for teachers and teaching staff on the application of the program; Extending the program to other educational institutions and scaling up the project.
7	Expected project results:
	Development and implementation of programs integrating global competencies into the education; It is necessary to develop students' global competencies that are necessary to solve real problems; Students should increase awareness and activity in the field of global issues, sustainable development; To improve the quality of education and prepare students for global challenges in the world.

We propose a project activity that is based on the principles of systemic thinking and the purposeful use of global competencies to solve real problems in education. These global competencies enable future geography teachers to develop the understanding and skills required to engage in sustainable development. It helps them to become active citizens, make informed decisions, and contribute positively to solving global issues.

As a result of the study, we emphasize that global skills are adaptation and negotiation for effective and adequate communication in various situations. In addition, teachers need to develop emotional stability in students, and create places for practice and feeling to comfortably express their opinions instead of teaching specific skills or specific “ways” of building relationships.

Young people should be able to apply various methods, tools, ideas, and languages to solve global problems. It should be noted that the availability of these competencies for students is important not only for geographical education but also for the future as a whole. The formation of global competencies will contribute to self-development, the exchange of ideas, and the analysis of different points of view. This could help to use the accumulated experience, which can be useful for improving the situation in society and on the world stage, as well as in order to ensure sustainable development in the future. That is why global competencies are the main goal of geographic education, which is to prepare graduates for today's realities. They can acquire not only the knowledge they need but also the ability to effectively apply it to solving global problems of varying degrees of complexity. In addition, competence is developing, allowing them to act independently in the face of growing uncertainty in the future.

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REFERENCES

1. Deardorff D. The Identification and Assessment of Intercultural Competence as a Student Outcome of Internationalization at Institutions of Higher Education in the United States // *Journal of Studies in International Education*. – 2006. – Vol. 10. – P. 241–266. <https://doi.org/10.1177/102831530628700>
2. Hunter B., White G., Godbey G. What Does It Mean to Be Globally Competent? // *Journal of Studies in International Education*. – 2006. – Vol. 10. – P. 267–285.

3. The Organization for Economic Cooperation and Development. [Electronic resource]. URL: <http://www.oecd.org> (date of access 12.07.2024)
4. PISA 2018 Global Competence. [Electronic resource]. URL: <https://www.oecd.org/pisa/innovation/global-competence/> (date of access 12.07.2024)
5. Parmigiani D., Jones S-L., Kunnari I., Nicchia E. Global competence and teacher education programmes. A European perspective // *Cogent Education*. – 2022. – T. 9. – №1. <https://doi.org/10.1080/2331186X.2021.2022996>
6. OECD (2018). Preparing our youth for an inclusive and sustainable world. The OECD PISA Global Competence framework. [Electronic resource]. URL: <https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/global-competence/Handbook-PISA-2018-Global-Competence.pdf> (date of access 12.07.2024)
7. OECD. PISA 2018 Assessment and Analytical Framework. – Paris: OECD Publishing, 2019. – 308 p. <https://doi.org/10.1787/b25efab8-en>
8. Kataeva T.S. Formirovanie globalnyh kompetencyi obuchaiushihsia osnovnoi shkoly na urokah obshestvoznania [Formation of global competencies of secondary school students in social studies lessons] // *Molodoi uchenyi*. – 2023. – №25 (472). – S. 330–333. [In Russian]
9. Kioupi V., Voulvoulis N. Education for Sustainable Development: A Systemic Framework for Connecting the SDGs to Educational Outcomes // *Sustainability*. – 2019. – Vol. 11, №21. <https://doi.org/10.3390/su11216104>
10. Morgan C., Volante L. A Review of the Organisation for Economic Cooperation and Development's International Education Surveys: Governance, Human Capital Discourses, and Policy Debates // *Policy Futures in Education*. – 2016. – Vol. 14, №6. – P. 775–792. <https://doi.org/10.1177/1478210316652024>
11. Nerini F., Tomei J., To L., Bisaga I., Parikh P., Black M., Borrion A., Spataru C., Broto V., Anandarajah G., Milligan B., Mulugetta Y. Mapping Synergies and Trade-Offs Between Energy and the Sustainable Development Goals // *Nature Energy*. – 2017. – Vol. 3. – P. 10–15.
12. Iizuka M. Role of Environmental Awareness in Achieving Sustainable Development. 2000. <https://doi.org/10.13140/RG.2.1.3156.6484>. [Electronic resource]. URL: https://biblioteca.cejamerica.org/bitstream/handle/2015/3375/Role_Environmental_Awareness_Achieving_Sustainable_Development.pdf?sequence=1&isAllowed=y (date of access 12.07.2024)
13. Blok V., Wesselink R., Studynka O., Kemp R. Encouraging Sustainability in the Workplace: A Survey on the Pro-Environmental Behaviour of University Employees // *Journal of Cleaner Production*. – 2015. – Vol. 106. – P. 55–67. <https://doi.org/10.1016/j.jclepro.2014.07.063>
14. Rieckmann M. Future-Oriented Higher Education: Which Key Competencies Should Be Fostered Through University Teaching and Learning? // *Futures*. – 2012. – Vol. 44, №2. – P. 127–135.
15. Wilcox K. The Importance of Civic Responsibility // *Education and Urban Society*. – 2010. – Vol. 43. – P. 26–41.