Methodological aspects of the study of modern geoeconomics processes in the school geography course

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Abstract
The purpose of this research; evaluates the methodological aspects of the study of modern geoeconomics processes in the school geography course from the perspective of future biology teachers. This research was designed in the qualitative research method and the data were evaluated in accordance with the qualitative method. 32 future geography teachers studying in geography teaching departments of various universities in Kazakhstan constitute the sample group of the research. A semi-structured interview form was used as a data collection tool in the research. As a result of the research; geography teachers were asked about their perceptions of the concept of geoeconomics. It was determined that they gave the answer to the relationship between geography and economy. The majority of future geography teachers participating in the research; they stated that they partially received geoeconomics training during the teacher training process at the university. The vast majority of teacher candidates; stated that they support the inclusion of modern geoeconomic processes in the school geography course. When future geography teachers were asked for their suggestions on methodological steps in the study of modern geoeconomic processes in a school geography course, the vast majority of prospective teachers; they answered that geography education should be associated with geoeconomics, global economy education should be given and technology education should be given on the basis of economy and geography.

Keywords: Geoeconomics, geography, prospective teachers;

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1. Introduction

Today, the rapidly increasing developments in communication and information technologies require every person to perceive and recognize the world and his country correctly (Bianco, Giaconi, Gison, D'Angelo, & Capellini, 2021; Uzunboylu, Ozcinar, Kolotushkin, Kalugina, & Zulfugarzade, 2019; Yildiz, Alkan, & Cengel, 2020). Therefore, in order to raise modern individuals, geography subjects should be handled correctly in terms of knowledge and method. Good knowledge, assimilation and application of geography issues are also necessary in order to be a good citizen (Ferizat & Kuat, 2021; Nurbol et al., 2022). Because geography contributes to raising sensitive people by revealing the causes and consequences of physical, human, economic and political events that occur in the world (Butt & Lambert, 2014; Wilson, Leydon, & Wincentak, 2017).

1.1. Theoretical and conceptual framework

Geography is a science community consisting of many branches of science, which researches and examines the mutual interactions between humans and the natural environment, by adhering to the principles of relationship, comparison, causality with the activities that develop as a result of these interactions, and by applying various research methods, and presents the results in a synthesis (Bijsterbosch, van der Schée, & Kuiper, 2017; Israel, 2012). Geography is also a science based on applied study and research because it is a science intertwined with nature and the environment (Liu & Zhu, 2008; Schultz & DeMers, 2020). Geography is extremely important for students to understand and interpret the events that occur in nature and the effects of these events on humans and the environment, and to connect what they have learned with their environment (Gryl, 2022; Rempfier & Uphues, 2012; Solem & Boehm, 2018; Zadrożny, McClure, Jinhee, & Injeong, 2016).

This rapid transformation and reshaping in the world have made it necessary for disciplines that direct interstate relations develop new perspectives and methods (Dulama & Ilovan, 2016; Turan, Meral, & Sahin, 2018). The geopolitical approach in international politics has been replaced by geoeconomics as a new discipline that gives more weight to the economy and can guide states and economic entities in this transformation process. Interstate relations have begun to be explained and interpreted with geoeconomic paradigms, and while foreign policy is based on geography, economy and technology, cultural, ideological and political ties between states have become auxiliary and supportive factors in the axis of this set of values (Csurgai, 2018).

The geoeconomic approach guides nation-states to redefine themselves under changing conditions and to struggle for a place in the new order in the economic and political world in the globalisation process. Just as economic relations form the basis of the behaviour of individuals and companies struggling for the highest profit in a free market economy, geoeconomic relations also determine the behaviour structure of states that cannot be considered independently of their geography in the international arena, on the axis of geography-economy-technology. In other words, geoeconomics has been named as a branch of science that studies the effects of geography on the economy (Hartmann, 2022). Geoeconomics, which takes into account the geographical dimension of the economic and political process, is a sub-discipline of geopolitics. The most important feature that distinguishes the concept of geoeconomics from the concept of geopolitics; the concept of geopolitics is more concerned with politics, borders and territory, while the concept of geoeconomics is concerned with new regions emerging through the circulation of capital and goods. The geoeconomic model is used to explain the globalisation process (Domosh, 2013).

Geoeconomics is characterised as the last phase of the field of views aiming to interpret interstate relations and foreign policies after the emergence of nation-states. While giving importance to the economy, technology and geography rather than politics as a method, the vital and structural interests of states are determined on these foundations. In this direction, the fact that political leaderships remain in the background in today’s world has revealed its importance by reducing the concept of the economy to one hand (Sparke, 2007).
In our age, when studies on geoeconomics are increasing day by day and are on the way to be the dominant discipline in directing the domestic and foreign policies of states, it would naturally not be expected that state institutions, universities and institutes would remain indifferent to this discipline. The intensity of these efforts, especially in countries that shape world politics, reveals that geoeconomics is a vital discipline. One of the reasons why geoeconomics is prominent in these countries is that although geopolitics has the meaning of cold, expansionist and conflict, geoeconomics evokes development, cooperation and harmony more (Golley, Barry, Harris, & Lim, 2020).

Besides, another reason is that geopolitics represents the past and geoeconomics represents the future. Considering that today’s national economic and political developments are instantly affected by the developments and changes in the world, it is impossible to analyse the data of the whole world geography, such as production, marketing, energy, population, mines, foreign trade, transportation, independently from each other, within the framework of both national and international economic-political relations (Kallio, 2020).

It is also difficult to achieve national development and welfare without teaching geoeconomics, which facilitates the explanation and interpretation of this holistic functioning of the world economy, to new generations. Developing countries, like many developed countries, have recognised the lack of new disciplines in the education system in order to adapt to this rapid change in world politics and economy and accepted geoeconomics as a compulsory course to be taught to younger generations (Butt, 2011).

1.2. Related research

When the research studies in the field are examined, it is seen that there are various studies that examine the quality of the programs prepared for geography education and the teaching processes (McClurg & Buss, 2007; Paradis & Dexter, 2007). In addition, there are geoeconomic evaluation studies that emphasise the importance of geography in the literature. Dermendzhiev, Simeonov, and Doykov (2016) aimed to reveal the contemporary educational potential of regional development and geoeconomics degrees in Bulgaria. In the research, it was emphasised that today’s education is extremely important for the development of every country. It was stated that the advantages and disadvantages of individual regions should be prepared by experts who can estimate their economic potential on the basis of available resources and give directions for future development. However, it was emphasised that these experts should be well-prepared in different fields, especially in regional development and geoeconomics. In this article, Bulgaria, Veliko The degree of ‘Regional Development and Geoeconomics’ at the University of Tarnovo, its nature and reasons for its promotion are presented.

Power policy by economic means and the application of geoeconomics and foreign policy as an analytical approach (Scholvin & Wigell, 2018). Development in geoeconomics through tourism promotion – international best practices marketing and policymakers for corporate brand managers (Papp-Vary, Szolnoki, & Beres, 2020) research has been done in areas such as.

Inan (2011) presented research findings on geoeconomic studies and geoeconomics teaching in the world and Turkey. Today, new studies are carried out in the field of geoeconomics through institutes, academies and universities in the major countries of the world, and geoeconomics courses are taught in undergraduate and graduate programs at universities, and geoeconomics faculties and departments are established. In this study, geoeconomics teaching in the world and studies in the field are evaluated by defining geoeconomics.

1.3. Purpose of the research

The purpose of this research; evaluates the methodological aspects of the study of modern geoeconomic processes in the school geography course from the perspective of future biology
teachers. For this reason, the following sub-objectives were created in accordance with the purpose of the research.

1. What are pre-service teachers' perceptions of the concept of geoeconomics?
2. Have the prospective teachers received geoeconomics training during the teacher training process at the university?
3. Do pre-service teachers support the inclusion of modern geoeconomic processes in the school geography course?
4. What are the suggestions of the prospective teachers regarding the methodological steps in the examination of modern geoeconomic processes in the school geography course?

2. Methods and materials

This section includes information about the research method, study group, data collection tools, data collection stages and data evaluation.

2.1. Research method

This research was designed in the qualitative research method and the data were evaluated in accordance with the qualitative method. Qualitative research is defined as a method that inquires about the problem it examines, interprets and tries to understand the form of the problem in its natural environment (Malterud, 2001). In this study, the views of future geography teachers were discussed in the qualitative research method.

2.2. Participants

The sample group of this research consists of future geography teachers studying in geography teaching departments at various universities in Kazakhstan. All students are in their final year. 19 female and 13 male teacher candidates participated in the research. The sample group of the researcher consists of 32 geography teacher candidates in total.

2.3. Data collection tools

A semi-structured interview form was used as a data collection tool in the research. In the semi-structured interview form, the aim is to ask questions about the researched subject, and if the question is not clearly expressed, it is more advantageous in terms of making it more clear. In the formation of the questions in the semi-structured interview forms prepared by the researchers, care was taken to ensure that the questions were clear, understandable and simple. Three expert opinions were taken in order to determine how well the prepared interview forms serve the purpose, to be understandable and applicable. The semi-structured interview form prepared to collect the research data is given in Appendix 1.

2.4. Data collection process

Interviews with future geography teachers were conducted face-to-face. Before the questions in the semi-structured interview form, which took its final form, were filled in by the pre-service teachers in writing, a pilot study was conducted with three pre-service teachers. As a result of the application, it was determined that the questions were understandable. Three teacher candidates were not included in the sample group of the study. During the application of the semi-structured interview forms, the researchers were in the application environment. The interviews took approximately 3 weeks to complete.

2.5. Data collection analysis

Validity and reliability study in qualitative research is one of the most important criteria of scientific research. Validity and reliability are the two most important criteria in scientific research. The validity and reliability study conducted in qualitative studies is handled as a difference from
quantitative studies. Silverman (2001) stated that researchers who collect data with qualitative research methods and techniques will increase the value of their research if they conduct validity and reliability studies of the subject they are researching.

In order to increase the validity of the research, the research process and the actions taken in the process are described. Validity was established by taking expert opinions. In order to increase the reliability of the research, all the findings were given directly without comment. In this context, the data obtained from the semi-structured interview forms were first transferred to the Microsoft Excel program by the researcher and were read several times to create coding categories. Then, within the framework of content analysis, coding categories were converted to open coding. In order to determine reliability in content analysis, consistency was calculated between the researcher and a teacher (coder) who had expertise in the field (Miles & Huberman, 1994).

In order to determine the consistency between the coders in the written interview form, the forms of four pre-service teachers were selected and reproduced by neutral assignment. Then, the researcher and the expert independently read the interview form of each selected teacher candidate and created open codes suitable for content analysis. As a result, the researcher and the coder coded separately, and the consistency between the coders was calculated by comparing the coding. After this process, the answers given to the questions in the form of the teacher candidate selected to evaluate the open coding made by the researcher and the expert were examined and markings were made as ‘Agreement’ and ‘Disagreement’. If the researcher and the expert marked the same option in the relevant question, the consensus was accepted, and if they marked different options, disagreement was accepted. In this study, Miles and Huberman’s (1994) percent agreement formula was used to determine the reliability of content analysis. The percentage of agreement is ‘Reliability = Consensus / (Agreement + Disagreement) × 100’. In the study, it was applied to all interview forms prepared using this formula. As a result of the study, the percentage of agreement was found to be 82%. This ratio showed that the study was reliable. The total number of opinions may differ due to the fact that pre-service teachers gave opinions suitable for more than one category. In addition, not all opinions belonging to a category were included in the study, but some prominent opinions were used.

3. Results

This section is the section where the results of the analysis made on the answers of the future geography teachers participating in the research to the semi-structured interview form are given.

3.1. ‘What are the perceptions of prospective teachers about the concept of geoeconomics?’

<table>
<thead>
<tr>
<th>Category</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geography and economy relationship</td>
<td>19</td>
<td>59.3</td>
</tr>
<tr>
<td>A branch of science that studies the economies of countries and makes a</td>
<td>10</td>
<td>31.2</td>
</tr>
<tr>
<td>connection between their geography and economic power.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The effect of geographical features on interstate relations</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>The policy of using natural resources in a region</td>
<td>5</td>
<td>15.6</td>
</tr>
<tr>
<td>The use of geography to be a part of the global economy</td>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>The impact of technology and geography on economic and political</td>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>relations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examining the behaviour of other countries in achieving their economic</td>
<td>2</td>
<td>6.2</td>
</tr>
<tr>
<td>goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The relationship between states’ economy and politics in the international</td>
<td>1</td>
<td>3.1</td>
</tr>
</tbody>
</table>
In Table 1, the perceptions of future geography teachers participating in the research regarding the concept of geoeconomics are given by categorising. 59.3% of the pre-service teachers answered the relationship between geography and economy, 31.2% answered the field of science that examines the economies of countries and establishes a connection between geography and economic power and 25% answered the effect of geographical features in interstate relations. 15.6% of the pre-service teachers answered the policy of using natural resources in a region, 12.5% answered the use of geography in order to be a part of the global economy and 12.5% answered the effect of technology and geography in economic and political relations. 6.2% of the pre-service teachers defined it as examining the behaviour of other countries in reaching the economic goals of the countries, and 3.1% as the relationship between the economy and politics of the states in the international arena.

3.2. ‘Have the pre-service teachers received geoeconomics training during the teacher training process at the university?’

Table 2. The status of pre-service teachers receiving geoeconomics training during the teacher training process at the university

<table>
<thead>
<tr>
<th>Category</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I did not study geoeconomics</td>
<td>7</td>
<td>21.8</td>
</tr>
<tr>
<td>Partially studied geoeconomics</td>
<td>25</td>
<td>78.2</td>
</tr>
<tr>
<td>I studied geoeconomics</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100</td>
</tr>
</tbody>
</table>

In Table 2, the status of the prospective teachers participating in the research who received geoeconomics training during the teacher training process at the university is discussed in the categories of ‘I did not receive geoeconomics training’, ‘I received geoeconomics training partially’ and ‘I received geoeconomics training’. 21.8% of the future geography teachers who participated in the research answered that they did not receive geoeconomics training and 78.1% answered that they received geoeconomics training partially. Among the teacher candidates, there is no teacher candidate who stated that he received geoeconomics training during the teacher training process at the university.

3.3. ‘Do pre-service teachers support the inclusion of modern geoeconomic processes in the school geography course?’

Table 3. Pre-service teachers’ tendencies to support the inclusion of modern geoeconomic processes in the school geography course

<table>
<thead>
<tr>
<th>Category</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I support</td>
<td>29</td>
<td>90.6</td>
</tr>
<tr>
<td>No idea</td>
<td>3</td>
<td>9.4</td>
</tr>
<tr>
<td>I do not support</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100</td>
</tr>
</tbody>
</table>

In Table 3, the tendencies of future geography teachers participating in the research to include modern geoeconomic processes in school geography lessons are discussed in the categories of ‘I support’, ‘I have no idea’ and ‘I do not support’. 90.6% of the pre-service teachers gave the answer ‘I
support’, 9.4% answered ‘I have no idea’. Among the future geography teachers participating in the research, there is no teacher candidate who stated that they do not support the inclusion of modern geoeconomic processes in the school geography course.

3.4. ‘What are the suggestions of the pre-service teachers regarding the methodological steps in the study of modern geoeconomic processes in the school geography course?’

Table 4. Suggestions of pre-service teachers regarding methodological steps in examining modern geoeconomic processes in school geography course

<table>
<thead>
<tr>
<th>Category</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geography education should be associated with geoeconomics</td>
<td>23</td>
<td>71.8</td>
</tr>
<tr>
<td>Global economy education should be given</td>
<td>20</td>
<td>62.5</td>
</tr>
<tr>
<td>Technology education should be given on the basis of economy and geography</td>
<td>16</td>
<td>50</td>
</tr>
<tr>
<td>Applied geoeconomics training should be given</td>
<td>11</td>
<td>34.3</td>
</tr>
<tr>
<td>Geoeconomic studies in the world should be introduced</td>
<td>7</td>
<td>21.8</td>
</tr>
<tr>
<td>Geopolitical education should be given</td>
<td>6</td>
<td>18.7</td>
</tr>
<tr>
<td>Energy policy and management training should be given</td>
<td>3</td>
<td>9.3</td>
</tr>
<tr>
<td>No idea</td>
<td>3</td>
<td>9.3</td>
</tr>
</tbody>
</table>

In Table 4, the suggestions of future geography teachers participating in the research regarding the methodological steps in the examination of modern geoeconomic processes in the school geography lesson are discussed by categorising them. 71.8% of teacher candidates should be associated with geography education and geoeconomics, 62.5% should be given global economics education, 50% should be given technology education on the basis of economy and geography, 34.3% should be given applied geoeconomics education and 21.8%, of them replied that geoeconomic studies in the world should be introduced. 18.7% of teacher candidates answered that geopolitics education should be given, and 9.3% answered that energy policy education should be given. 9.3% of future geography teachers participating in the research; they stated that they had no idea about the methodological steps in the study of modern geoeconomic processes in the school geography course.

4. Discussion

When the future geography teachers participating in the research were asked about their perceptions of the concept of geoeconomics, the majority of the teacher candidates; gave the answer of the relationship between geography and economy. In addition, pre-service teachers use geoeconomics; the branch of science that examines the economies of countries and makes a connection between their geography and economic power, the effect of geographical features in interstate relations, the policy of using natural resources in a region, the use of geography in order to be a part of the global economy, and the effect of technology and geography in economic and political relations. Some pre-service teachers of geoeconomics; they stated that it is the examination of the behaviour of other countries in the achievement of the economic goals of the countries or the relationship between the economy and politics of the states in the international arena. Geoeconomics can be defined as a regional control strategy with economic tools and economic motivations such as investment and trade (Hudson, Ford, Pack, & Giordano, 1991) by some researchers; it is defined as the strategic use of economic power (Luttwak, 1990).

There is no consensus in the scientific world on the definition of the concept of geoeconomics. The concept can also be defined as the effect of economic variables on the national balance of power...
and geopolitics (Baru, 2012). With this concept, the balance of power between countries has begun to be evaluated as economy-geography-technology (Budak, 2013). The majority of future geography teachers participating in the research; they stated that they partially received geoconomics training during the teacher training process at the university. The vast majority of teacher candidates; stated that they support the inclusion of modern geoeconomic processes in the school geography course. Inan (2011) stated in his study that the geoconomics education given in universities is concentrated in the departments of international relations, political science and economics, but also spreads to the fields of geography, regional planning and strategy, and that geoconomics education can expand from the subject of the course to the level of the department and faculty.

When future geography teachers were asked for their suggestions on methodological steps in the study of modern geoeconomic processes in school geography course, the vast majority of prospective teachers; they answered that geography education should be associated with geoconomics, global economy education should be given and technology education should be given on the basis of economy and geography. In addition, the teachers stated that practical geoconomics education should be given, the introduction of geoeconomic studies in the world, geopolitical education and energy policy and management education should be given.

5. Conclusion

Geography is indispensable in the global system, because whatever its definition and scope, there is a geography of the centres of power. Thus, the forces formed according to geographical and human values and the conditions and characteristics arising from the geographical position of these forces determine their strategies, policies and course of action. Geoconomics focuses on the idea of gaining economic and competitive advantages from country-specific elements. For this reason, geoconomics is seen as an indispensable part of geography education in today’s world. Therefore, in this research; the methodological aspects of the study of modern geoeconomic processes in the school geography course were evaluated from the perspective of future biology teachers. As a result of the research; geography teachers were asked about their perceptions of the concept of geoconomics. It was determined that they gave the answer of the relationship between geography and economy. The majority of future geography teachers participating in the research; they stated that they partially received geoconomics training during the teacher training process at the university. The vast majority of teacher candidates; stated that they support the inclusion of modern geoeconomic processes in the school geography course. When future geography teachers were asked for their suggestions on methodological steps in the study of modern geoeconomic processes in school geography course, the vast majority of prospective teachers; they answered that geography education should be associated with geoconomics, global economy education should be given and technology education education should be given on the basis of economy and geography.

6. Recommendations

The results of the research reveal that the education of future geography teachers in the field of geoconomics is insufficient. Geoconomics has a systematic function in explaining today’s national, regional and international political and economic relations and the changing world system. For this reason, the educational content given to future geography teachers in universities should be planned in a way that will enable them to have sufficient knowledge in the field of geoconomics. In addition, more research is needed in the field of geoconomics all over the world and in our country.

References


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