Methods Of Using Statistical Data In The Lessons Of Economic And Social Geography

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ABSTRACT

The article describes the methodology of using statistical data in the lessons of economic and social geography. The issues of developing knowledge and skills of geographical students of higher education institutions in mastering statistical methods are analyzed.

Keywords: Geography, Statistics, Methodology, Teaching Methods, Socio-Economic Process, Statistical Data, Research.

The statistical method serves as a basis both in geographical research and in the teaching of geography. It is a set of methods for collecting, processing, and analyzing quantitative data that characterize different features of regionally natural and socio-economic objects and events. In the process of analyzing statistical data, special attention should be paid to the psychological and pedagogical characteristics of the student, depending on his age. In particular, while in general secondary schools students are taught relatively simple statistical analysis of quantitative and qualitative features of processes and interactions in nature and society, statistical indicators can also be explained to students of higher education institutions using slightly more complex methods. Because students of higher education institutions better understand the essence of the issues presented.

Professor A. Soliev, one of the founders of the Scientific School of Economic and Social Geography in Uzbekistan, also stressed the importance of the statistical method in teaching economic and social geography and conducting research in this area. In his view, this science, by its very nature, always deals with statistics. In addition, in the past, this subject was considered a component of the subject "Statistics". Through the method of statistics helps to develop skills about the most commonly used indicators in economic and social geography: growth, multiplication, percentage, per mille, index, coefficient, grouping, and so on. This method is also useful in determining indicators such as various tables, graphs or charts, population density, demographic capacity, average distance. In this regard, statistics is used in conjunction with the science of mathematics, therefore, this method is sometimes called the statistical-mathematical method [5].

Research has shown that today students and even masters in some cases are not familiar with the rules of creating various tables through the use of statistical sources, systematization of statistical data. In the course of the research, it was found that students are reluctant to study or use statistical data because they face difficulties in identifying, understanding and explaining the laws through statistical data. As a result, students' statistical knowledge and skills are not sufficiently

formed. In turn, geography teachers are also not sufficiently trained in statistics. They do not accept statistics as a way to understand the geographical landscape of the world, they use less statistical description and analysis methods in the course of the lesson. Therefore, in the teaching of economic and social geography, the methodology of statistical analysis, the delivery of statistical information to students can not be considered satisfactory. Today, the low level of preparation of students in mathematics and statistics in the teaching of statistical methods also has an impact [1].

In addition, many students do not have the skills to use relative indicators, i.e., percentages and per mille, in their place. It is known that the percentage represents a certain part of the hundredth, and the promille - one thousandth. Students' understanding and application of these indicators is important for the study of the basic concepts of economic and social geography. Both statistics are usually appropriate when used in the plural. Of course, the promille of them is used in this science to determine the natural movement of the population - birth, death, natural reproduction. For example, the annual birth rate in a city is 16.5 per thousand. If we convert this number to a percentage, it becomes 1.65. In the first case, it means 16.5 people per thousand, and in the second, 1.65 people per hundred people. As can be seen, the first indicator is easier to use and more accurate than the second. It should be noted that for this purpose, some events, for example, specialists with higher education or doctors, the density of urban and rural settlements is also calculated in relation to 10 thousand and 100 thousand units.

Quantitative data vividly depicts geographical objects, processes and events, gives them clarity, allows you to create a complete picture of their size. Without statistics, it is impossible to master the theoretical issues of many geographical phenomena. Statistical methods are one of the traditional methods in geographical research. Therefore, we consider it necessary to use them effectively in teaching students.

The statistical method involves complex and responsible processes such as collecting, summarizing, processing and analyzing all data within the research from different sources. Especially here it is important to create concise and rich, readable statistical tables. Creating tables, reading and analyzing them requires high art and skill. First of all, tabulation should be based on specific criteria. For example, its name should be consistent with the content, not too complicated and rude. A table is created with a specific purpose in mind that requires a preconceived notion or proof. That's why it's not good to fill it with "messy", random numbers, to complicate it too much. In this case, it is impossible to read the tables and draw the expected conclusions in them, just as the map information (load) is overloaded [6].

The tasks of teaching geography include the ability to use statistical materials. The use of statistical data is implied in most sections of the study of geography. Higher education institutions intend to further deepen their knowledge and skills in mastering statistical methods in teaching economic and social geography courses [4]. Mastering statistical methods includes the following skills:

- collection of statistical data;
- grouping of objects and events (classification and typology);
- calculation of generalized indicators - absolute, relative, average values;
- to determine the differences between the units of observation;
- to calculate the indicators of variability;
- identify and measure the relationship between events and processes;
- to study the development trends of events and processes.
- to present the results of statistical data processing in the form of tables, diagrams, cartograms and cartodiagrams [2; 3].

We believe that the integration of methods of working with statistical data into other pedagogical technologies will increase the level of students' mastery of educational material.

When systematizing statistical data, it is important to bring them into tabular form. The main purpose of compiling a table is to prove a particular law or conclusion and to organize the large number of numbers collected for this

purpose, to describe them concisely and to substantiate the arguments with evidence. In economic and social geography, according to the content of statistical tables, content and gradual changes are often representative of dynamic series. In turn, tables with content are divided into tables that provide information about the network and regional content, in accordance with the rules of the system. These include, for example, tables containing information on industrial and agricultural products, modes of transport, areas of domestic services or types of disease, ethnic or age distribution of the population, land fund and its use.

The second type of tables represents the division of this or that reality by regions. Such tables provide information on the distribution of the national product or population by economic regions, provinces and administrative districts of the country, the location of the peoples of the world within different continents or regions. Tables that represent dynamic rows or gradual changes are also rich in content. Such tables can give various realities of different industries, agricultural products, population, its national and age composition, employment in the national economy, the number of criminals or diseases over time, and so on [6]. While tables in this view describe the development of an event, content tables represent their location. Thus, using these two types of tables, we get a complete picture of the development and location of this or that reality, which is important for economic and social geography, and its occurrence at a certain time and place.

It is important to provide students with a comprehensive analysis of the tables in economic and social geography lessons. It is not right to repeat the given numbers or not pay attention to the table at all. The main purpose of the table analysis is to explain to students the laws and rules, the evolutionary processes, their causes and consequences.

In addition to compiling tables and analyzing them, different groupings are also important in teaching statistics. For example, when data on population geography are given, it is advisable to study the population by dividing it into age groups accepted in demography (0-4, 5-9, 10-14, 15-19… .., etc.). Also, the "average" level is often used in the statistical method (average population density, average number of children in a family, average national income per capita, average salinity of lands). So the term "average" is used all the time and everywhere represents, describes, and evaluates the statistical, static state of an event. The statistical method uses not only tables, but also diagrams and graphs of various shapes and contents. Their forms are many and evolving today. In general, statistical tables, graphs, and diagrams represent action and status in the first place.

Thus, the statistical method is very important in the study of economic and social geography. Teaching this subject requires not only an in-depth knowledge of the theoretical and scientific literature, but also a good knowledge of statistics. In order to use statistical data correctly and effectively in the teaching process, it is necessary to have high statistical literacy and develop modern methods of teaching statistical data. Paying serious attention to teaching students statistical knowledge remains one of the most pressing issues of the day.

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