



Gender Differences in Geography Education Extracurricular Activities

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Russian educational tradition is based on the idea that classroom learning should be combined with extracurricular activities. There are different types of such activities which are important for teaching geography at secondary school. All-Russia geography competition is one of them. This year schoolchildren of the vast Krasnoyarsk territory again have had an opportunity to participate in the contest.

In the Russian Federation All-Russia geography competition (officially called the Olympic Games in Geography) has been held for nearly twenty years. The competition is organized annually. It is held in four stages: a school and municipal one, a regional one and a final (nationwide). The qualifying stage winners continue the competition and take part in the following event. Beginning from the 7th grade children can compete at the school and municipal levels. As for the more important regional and national levels only high school students (of the 9th – 11th grades) are allowed to take part. The winners who proceed to the national stage usually get more than 50% of the maximum possible score at the regional stage.

The goal of the Olympiad is not only to identify talented students but mainly to promote the interest in geography and motivate students, to encourage learners' self-education and form the information search competence necessary to answer the questions and solve problems, acquire new knowledge in geography, with all these contributing to the formation of a broad outlook. The participation in the competition can play an important role in choosing a career and some of the competitors may decide to major in this remarkable scientific discipline at University level. This Olympic Games experience also contributes to the development of specific geographical skills that can help in the future adult life: reading different types of maps, finding way in the woods and in the open areas and using geographical instruments, etc.

One of the main stages in the organization of the event is the preliminary work which includes coaching students and preparing the methodologically verified tasks that should include the material that goes far beyond the school program. This is a real challenge for the organizers who find this kind of work rewarding and honorable, on the one hand, and difficult and laborious, on the other. It is not the main requirement for the tasks to be unambiguous. First and foremost, they are to be creative, thought-provoking and exploratory. The participant is not expected to know the answer but to be able to find it through geographical analysis and reasoning.

Another important component of the competition in geography is tests that focus on the knowledge of factual material, geographical objects, maps of different types, geographic phenomena and laws of nature and economy of the territories and regions.

And finally, the last part of any competition is problems of applied character. Such tasks do not necessarily reflect the reality, but are supposed to comply with essential geographical principles and laws. Typically participants analyze maps, identify minerals and describe their practical importance in human life and economy of the region or the country as a whole.

For example, last year the participants were asked to present the analysis of the historical geographical map of the northern part of Siberia of the 18th century, which had the access to the North Arctic Ocean. Using the map the students described the regional industry and spheres of employment, assessed the socio-economic development of the area of that historical time. This year the participants analyzed a virtual topographic map with fictitious settlements, roads, factories, and other geographic features. The participants of the Olympiad are also to prove the ability to work with a variety of devices that define various quantitative and qualitative characteristics of the environment.

Assignments for the school stage are designed by school teachers, and those of the municipal stage are created by committees which consist of University professors and representatives of other educational and public geographical organizations. The regional and nationwide stage assignments are designed by the central committee functioning under the Russian Federation Ministry of Education and Science.

The regional stage assignments include tasks of various complexity, requiring a deep knowledge of geography. Students should have knowledge in the history of the great geographical discoveries, knowledge of political, physical, economic and other maps. To participate in the Olympiad, students must have sufficient competence in such fields of geography as geomorphology, general and historical geology, climatology, economic and social geography of Russia and the world, ethnogeography and geography of religions. Apart from these some tests and analytical tasks can be based on the local lore issues of the region we live in.

The regional competition is carried out in two stages: a test to check the knowledge of facts and an analytical part of applied character. Doing the first part of the test the participants mostly rely on their geographical knowledge and the ability to read maps. The multiple choice part includes 30 questions with at least four options. The analytical part consists of 3-5 advanced level tasks depending on the school grade. This year the competition was attended by 95 students from towns and villages of the Krasnoyarsk territory.

The assignments of the regional stage cover the following fields of geography:

1. geographical discoveries and travels (questions 1,2,3,11,20,22);



2. reading maps, orientation and knowledge of the geographical map (using sources of geographical information) (questions 5,24,30);
3. geological history of Earth, the lithosphere, hydrosphere, atmosphere (Earth's spheres, the basic properties and laws), analysis of the relationship of geographic phenomena and processes in the geosphere;
4. local history, the world's population, natural resources and geo-ecology (questions 4,6,25,29);
5. modern political map of the world, especially its formation, the diversity of countries in the contemporary world and their political systems, their governments, the difference between countries in terms of economic development and natural features (questions 7,8,9,10,16,21,27);
6. physical, economic and social geography of Russia (Questions 12,13,14,15,26);
7. economic, recreational and confessional geography of the world (questions 17,18,19,23,28).

The criteria for evaluation are as follows: understanding the essence of the phenomenon or process, correctness and accuracy of judgments, completeness and depth of analysis.

The maximum possible score at each stage is 100. In comparison to the previous year the gap between the maximum possible score and the best result has substantially reduced. In 2011 the best result was 59.5 points in 2012 - 76.5 points. One may think that this relatively low score reflects a low quality of geographical education at schools but actually it is due to the complexity of the Olympiad tasks that go far beyond the local school programs. Though all questions are based on the state educational standard, the latter can have a broad interpretation. That is why school programs can differ and competition assignments can touch upon some issues that are not taught at school. This fact, however, does not affect the participants' performance as the Olympic tasks are based on a wide range of topics mentioned above.

Chart 1. Gender Analysis of All-Russia Geography Competition Regional Stage Results: Krasnoyarsk Territory (Multiple Choice Tests of 9th-graders, %)

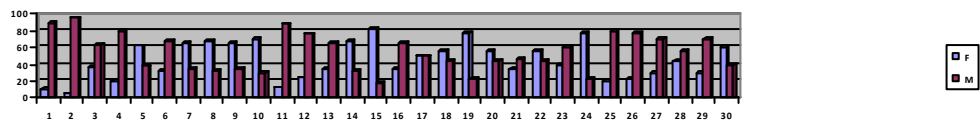


Chart 2. Gender Analysis of All-Russia Geography Competition Regional Stage Results: Krasnoyarsk Territory (Multiple Choice Tests of 10th-graders, %)

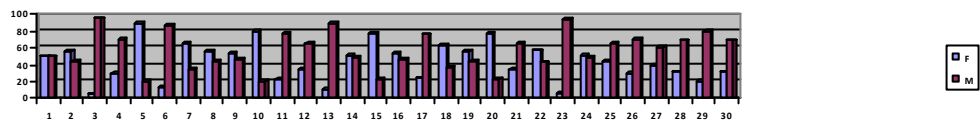
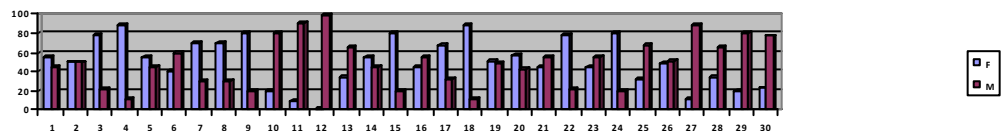


Chart 3. Gender Analysis of All-Russia Geography Competition Regional Stage Results: Krasnoyarsk Territory (Multiple Choice Tests of 11th-graders, %)



The analysis' shows that questions related to the knowledge of the political map are better answered by students of 10th-11th grades, with girls doing a little better than boys. Obviously boys find it easier to deal with the world's political geography facts such as capital cities, locations and other general questions that do not require a deep knowledge of the subject. While girls are better at the questions related to the governmental systems, socio-economic types of countries, which shows a thorough theoretical study of the specific material of textbooks with a greater attention to geographical particulars. This observation is proved by Chart 3 that shows that female 11-graders are able to generalize previously acquired knowledge. In the 10th grade, when this ability is not needed male participants do not lag much behind the girls, but in a year the level of the boys' background knowledge



appears much worse. Surprisingly enough, girls turn out to have difficulties in using the world's political map itself. We can assume that it is connected with the fact that female students are less interested in history and know less about major historical events: wars, colonial conquests, etc., which has a direct relation to political geography. As for the questions related to great geographic discoveries, they are better answered by male participants. After the competition many boys admitted that they used to read books on travelling and dream of becoming great captains, while female dreams were not so "geographical". Unfortunately, both girls and boys have a vague idea of historic epochs, times of discoveries, great travellers' nationalities and travel routes.

According to the school curriculum the economic, political and social geography of Russia and the outside world is studied in the 9th-11th grades, while physical geography is studied in the 6th-8th grade. Thus, it was not unexpected to see that participants of the regional stage cope with the economic geography questions much better than with those connected with physical geography. The results show a low level of residual knowledge obtained at school 3-4 years before. However, boys of all ages are more likely to give correct answers to the questions on physical geography.

The gender characteristics of the participants in general demonstrate boys' greater interest in the subject with 32 female participants and 63 male participants out of 95 competitors. Besides there was only one girl among 6 participants showing the best results in the regional competition. 72 pupils gained at least 50 points out of possible 100. Among them there were 20 girls (out of 32) who appear to have trained hard for the competition. It often happens that if there are no students genuinely interested in the subject a girl is more likely to be chosen to "fill a vacancy" and represent the school. But it is usually a boy who wins at the school or the municipal stage and makes it to the regional or even the nationwide stage. As statistics show, among those participants who become regional winners there are more male than female students, while the average female participant's score is usually higher. Since the girls taking part in the Olympiad are as a rule at the top of the class and prove to be successful in all school subjects, they show good theoretical knowledge of geography as a school subject. Teachers admit that girls take it seriously and willingly revise the textbooks material before the competition, they practise problem solving and thoroughly prepare for the competition. But unfortunately it is not enough to win. The female participants didn't turn out to be interested in geography itself and could not gain high scores. The male participants, on the contrary, had a proper motive to solve practical problems and won easily, though having less profound and stable theoretical knowledge that is seen from their tests.

In conclusion, gender factor should be taken into consideration not only in the course of preparation for the competition but long before, beginning from the first lesson of geography in the 6th grade. The teacher's task is to motivate female students and make them interested in the subject itself and help male students realize the importance of theoretical knowledge for problem-solving. Those goals can be achieved through pupil-oriented extracurricular activities and choice of different topics that can involve both genders in the exciting process of discovering the world of wonders and adventures. The proper motive and the competition can improve the general level of geographical knowledge, increase the number of participants at the school stage and as a result lead to better results in the national stage games.