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PROSPECTS OF STUDYING MATHEMATICS IN ENGLISH

Suleimen Ingkar Bolatkyzy, Serikbay Aybota

ingkar.444@mail.ru, aybotakin@gmail.com

1st year students, Faculty of Mechanics and Mathematics, Department of Algebra and Geometry,
L.N. Gumilyov Eurasian National University, Nur-Sultan, Kazakhstan

Research supervisor – A.G Burkitbayeva, Master of Pedagogical Sciences, Senior Lecturer of
Foreign Languages at Department of Practical English of L.N. Gumilyov Eurasian National
University, Nur-Sultan, Kazakhstan

In the context of increasing globalization and Kazakhstan's entry into the world arena, when English is gaining the status of an official language of communication in the academic world, studying in English is of particular importance. One proof of this in the authors' view is the introduction of multilingualism for the younger generation.

Taking as a basis the words of the first President of the Republic of Kazakhstan N.A. Nazarbayev "In the modern world the youth have to receive knowledge corresponding to the world standards, and also connected with information technologies", education becomes a significant element of the social structure. Despite the fact, that the role of education in the world is increasing, and each country has its own assigned education systems, it should be at the level of practical knowledge and orientation of the peoples of the world. Significant changes are required in the field of education today in the Republic of Kazakhstan, which is a significant matter.

Mathematics is the most widespread and practical tool in the world, as well as a language. Its scope is not limited to communication and interaction. It is a symbol of scientific development, a code for deciphering nature, and an important tool for scrutiny the microcosm. Mathematics plays an irreplaceable role in the development of human history and social life. It is also an indispensable basic tool for investigation and researching of modern science and technology. The knowledge and application of basic mathematics are an indispensable part of individual and group life. As the German mathematician Cantor, founder of set theory, said, the essence of mathematics lies in its freedom. The freedom of mathematics is reflected in all aspects and mathematics is applied in many different fields. Basic mathematics has a wide range of applications in life, and it applies to many things and is even inseparable from other subjects.

English is one of the major international languages in the world today and the most widely used second language in the world. It is one of the official languages of the European Union and many international organizations and Commonwealth countries, as well as one of the working languages of the United Nations. English is now used as a medium of communication in many international occasions. English is also the language most closely related to computers, but most programming languages are associated with American languages, and with the use of the Internet, the use of English has become more popular.

Mathematics is called maths in English words, which is their most direct connection. There are some English abbreviations in mathematics, such as why t is generally used for time, l for long length, etc.

The relationship between English and mathematics is that English has numbers and addition, subtraction, multiplication, and division. English and mathematics are two separate types of tuition, but the relationship between them cannot be explained in one or two sentences. And they are a perfect combination, in many ways, it is a very good choice. Mystery and fun can only be experienced slowly through the process of teaching and assimilation. What is mentioned in the article is just a corner of the relationship between mathematics and English. Because both subjects are broad and profound, they are worthy of study and respect. Therefore, while exploring these two subjects, we should also respect these two subjects, and we must know more about them and how to use them.

English-language mathematics has significant differences from "our" mathematics. Without going into the details of specific programs, we will note one general and most important feature. This peculiarity is related to a fundamental difference in mentalities and manifests itself in the fact that English-language mathematics is much more focused on practical applications. It is not in vain that it is said that the main goal of Western mathematics education is "know how", while Kazakh is "know why". As a result, many of our students, who can transform cumbersome expressions with complex numbers, invert matrices and solve systems of linear equations, turn out to be helpless in simple combinatorial, statistical, or financial calculations, get lost in graphic information, and cannot formalize and solve a problem described in terms of a particular worldly situation. And yet all these things are taught in Western schools from as early as the fourth form.

The advantages of studying this course in English:

1) Students maintain the language skills acquired at school.
2) Students improve their English by reading academic books, completing written work, listening to lecturers and classmates, and speaking during blackboard classes, reports, and presentations.

3) Students are taught with well-developed and effective Western textbooks written by recognized experts in their field. The textbooks are of good quality and have usually survived at least 5-6 reprints. Using a good, well-researched Western textbook [1] offers undeniable advantages. All students could be connected to the innovative interactive learning system VALUE, based on the MOODLE software product. All communication between faculty and students on VALUE will be in English.

4) Students in regular teaching will also be able to obtain more learning materials such as using YouTube or other software which they couldn't previously find in Kazakh. This brings a lot of benefits when a student or pupil does not fully understand or master the subject matter being taught in class. Students can find a method that they can understand, which makes their lives much easier. And this kind of teaching can also bring many possibilities into students' future.

5) Mathematical terms are precise and expressive, conveying the meaning of what is said most closely. One of the purposes of studying mathematics in English is to increase interest in the origin of mathematical concepts, both mathematics and other subjects, to show their connection with life, with other subjects [2].

6) The schools are trying to intensify the already overloaded programmes, but the resistance of "material" shows that in the mass public school, high school students are not able to "digest" this volume of information. High school is already overloaded; its reserves – with the training that students have received by the time they start school – have already been practically exhausted. The system of studying mathematics in English therefore implies the simultaneous use of mathematical terms and their use in English, the free manipulation of them in the process of teaching the subject.

Note that studying in English also has certain disadvantages:

1) It is the devaluation of the Kazakh language. Nowadays, when foreign languages (especially Russian) are becoming more and more important to the younger generation, the Kazakh language is in increasing danger.

2) The next problem is the translation of form into common meaning. It is important that the listener knows at least one, most general meaning of a word or mathematical term that has been said by another.

3) The next thing to consider when studying mathematics in English is that the lexical concept with each lexeme is formed simultaneously with the condition of it. If the lexeme is learned and articulated correctly, it is not yet an indication that the formation of the lexical concept has been completed. The tuition process should take into account that a word is both a sign of reality and a unit of language. Therefore, equivalence-free and background vocabulary needs to be commented and requires special attention from the mathematics teacher. If we compare two national cultures, we can conclude that they are never completely congruent [3]. This follows from the fact, that every language consists of national and international elements, and for each culture the sets of these elements will be different. Since there is a parallelism between language and culture, we should talk about national and international elements not only in cultures, but also in the languages that serve them.

4) In particular, it is more difficult for students to absorb material in a non-native language. The speed of passing through the material in English may be somewhat slower than in the "mother tongue".

Perspectives on teaching this subject in a foreign language:

1) Students become proficient in specialized mathematical vocabulary. This enables them not only to read articles and textbooks in English more confidently, but will also prepare them for further studies, e. g. double degrees, joint master's programmes, as well as overseas business trips and internships in English.

2) Students can prepare much more effectively for SAT (Scholastic Aptitude Test or Scholastic Assessment Test), IELTS (International English Language Testing System), TOEIC (Test of English for International Communication) and TOEFL (Test of English as a Foreign Language), GMAT (Graduate Management Admission Test), GRE (Graduate Record Examination). These tests are usually a prerequisite for further study or work abroad.

3) An opportunity to raise the ranking of our country's mathematical knowledge in the world rankings. According to the annual report [The Global Competitiveness Report](#), the World Economic Forum (WEF) collects different indicators of the world's economies and compares them with each other. One of the parameters that affects the final score of the country in this research is the level of education. In doing so, the report provides data on the quality of mathematics and science education in schools and universities around the world. And so, Kazakhstan ranks 64th out of 137 countries [4].

The authors conclude that studying mathematics in English has both advantages and disadvantages. Most importantly, students have a good opportunity to maintain and improve their English, and explore standard, backed up by effective Western textbooks and problem books, with many practical examples. But this in turn leads to more complicated tasks for students with insufficient English language skills, so that they are not always able to correctly explain the reason or the way the problem is solved.

References

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