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МЕТОДИ ОРГАНІЗАЦІЇ НАВЧАЛЬНОГО ПРОЦЕСУ МАТЕМАТИКИ, ДОСЯГНЕННЯ АКАДЕМІЧНОЇ АДАПТАЦІЇ ІНОЗЕМНИХ СТУДЕНТІВ В УНІВЕРСИТЕТІ

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METHODS OF ORGANIZING THE TRAINING PROCESS ON MATHEMATICS, ACHIEVING THE ACADEMIC ADAPTATION OF FOREIGN STUDENTS AT THE UNIVERSITY.

Abstract. The paper addresses the issue of foreign student's adaptation at university when studying math. We identified the difficulties, which are related to foreign students when they study math, specifically in a group with other students, native speakers. The experience of lectures in the form of presentations, initiated at Tomsk polytechnic university, was described. The results of interviewing, conducted by the authors and de-picked in the paper, showed that the learning presentations sufficiently hold on the quality of "digestion" of the material and in general the rate of academic performance of foreign students. Practically proven that lectures equipped with learning multimedia presentation diminish many difficulties connected with adaptation of foreign students in new university settings.

Keywords: higher education, students studying in a foreign language, personal sites, lecture, learning presentations.

The modern world is very mobile. For various reasons, people are increasingly moving from one country to another. For example, in connection with the exchange of experience in different fields, many countries send their citizens to study in other countries. This leads to the fact that universities become multinational, students from different countries study there. Some students, who come to study, speak the Russian language fluently, while other students study in Russian causes difficulties. For the adaptation of foreign students to study at a Ukrainian University in PSTU, there is a preparatory department. Training will be introduced for one year, during which foreign students are prepared for further studies at the university. A great and fruitful

work is being done here.

One year of training does not allow overcoming the language barrier to the very end and fully adapt to the training in the university. Students study in small groups - 10 people each, and in these groups for all, Russian is not native. When foreign students enter the first year of study, they begin to study together with students for whom the Russian language is native. So, with the total number of the group, 25 students of non-native language students usually do not have more than 2-4 people in the group. Therefore, the pace of teaching discipline, as a rule, is aimed at students studying in their native language.

It turns out that a student studying in a non-native language begins to lag behind in the study of discipline. Thus, when organizing the educational process, it is necessary to plan the classroom time so that it is possible for the teacher to pay more attention to students studying in a non-native language. At Ukrainian universities, traditional types of educational activity are lectures and practical exercises.

The most important component of the educational process in a higher educational institution has been for many years a lecture. Today, in parallel and in addition to the traditional lecture, educational presentations, training videos, interactive tutorials, online courses that allow you to teach information for study are created. Lectures on mathematics contain theoretical material and practical questions. It is especially important at the lectures on mathematics in the technical university to link theoretical materials and practical aspects. The theoretical material presented at the lecture should be adapted for practical application. A foreign student studies the theory from textbooks or online courses. He translates all the text into his native language and only then, he comprehends it. In Russian there are words-bundles of sentences, yet as "however," "notice," "show," which do not carry significant information. However, a foreign student cannot separate them from the main text; it is difficult for them to understand these words in the general text. For these reasons, teaching presentations were used to better understand and remember the theoretical material. Slides contain clear definitions and theorems, without complex grammatical constructions. It is easier for a student to perceive brief information. At the same time, the lecturer has the opportunity to lecture at a slow pace, constantly monitoring his speech, not to be distracted by the recording at the board. All new terms are highlighted in color and font. This contributes to the concentration of the student in the studied object. The lecturer speaks the text, emphasizing how words are written in the form of mathematical symbols. At this point, there is a more intense perception and assimilation of mathematical terminology.

In the first semester, all students study mathematics, which consists of two parts. The first part is "Linear algebra and analytic geometry", the second part is "Differential calculus of a function of one and several variables". These parts are studied consistently. We conducted traditional lectures without the use of multimedia equipment and lectures using educational presentations. To assess their effectiveness in the training of students enrolled in non-native language, a questionnaire was conducted. The survey was conducted for foreign students (16 people) who entered

the Technical University for technical specialties. The students were asked to note the difficulties they encountered in lectures of two kinds.

Questionnaire.

questions	traditional lecture	lecture with presentation
There were no difficulties .	0%	0%
The complexity of introducing a summary because of the rapid pace of speech.	85%	50%
Perception of speech during teacher's monologue.	75%	52%
Lack of conversational practice, which leads to difficulties in communicating with the teacher.	69%	50%
Perception and understanding of mathematical terminology in Russian.	72%	46%
Reading of educational literature in Russian.	85%	85%
Organizational form of conducting lectures.	56%	33%
Lack of knowledge that is necessary for further study of mathematics.	45%	44%
Insufficiently analyzed examples to illustrate the theoretical material.	66%	42%

According to the results of the questionnaire, problems were identified:

- Only a small number of foreign students speak Russian fluently. They can understand simple phrases spoken at a slow pace; ask questions, read any Russian text with an interpreter. They translate the text into their native language, and then they comprehend it.

- The forms and methods of constructing the educational process vary from country to country. In each country, the learning process will be introduced in accordance with its traditions and practices. In many Asian countries, attending college is not necessary. Homemade tasks are not limited in time.

- The difference in the studied topics of school programs in different countries leads to a discrepancy of knowledge, skills and habits.

It can be concluded that students perceive the traditional lecture much worse than using training presentations.

In the process of presenting the lecture material without slides, the student learns most of the information by ear. If a person does not understand the language well, at some point he/she simply ceases to understand the meaning of what has been said, the perception of information ceases. Thus, the availability of educational presentations makes it possible to build a teacher-student relationship in a language that is accessible to foreign students. At the same time, such interaction increases the quality

of mastering the lecture material by students

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ОСОБЛИВОСТІ ВИКЛАДАННЯ ПРЕДМЕТУ «АЛГОРИТМІЗАЦІЯ І ПРОГРАМУВАННЯ» ДЛЯ ІНОЗЕМНИХ СТУДЕНТІВ

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FEATURES OF TEACHING THE SUBJECT "ALGORITHMIZATION AND PROGRAMMING" FOR FOREIGN STUDENTS

Вивчення дисципліни «Алгоритмізація і програмування» має велике значення для підготовки майбутніх висококваліфікованих ІТ-фахівців для України і для багатьох зарубіжних країн (Конго, Єгипет, Зімбабве, Гана, Нігерія, Ліберія тощо). Даний предмет взаємопов'язаний з вивченням таких дисциплін як вища математика, дискретна математика, технологія створення програмних продуктів. Завдання даної дисципліни — передати майбутнім спеціалістам у ІТ галузі систему знань та навичок щодо принципів побудови сучасних і перспективних комп'ютерних систем, формалізації та алгоритмізації обчислювальних процесів, основ прикладних систем програмування, передачі та обробки інформації в умовах нових інформаційних технологій.

Кафедрою інформатики та математичного моделювання забезпечується викладання курсу «Алгоритмізація і програмування» англійською мовою для студентів-іноземців. Перші проведені заняття показали різний ступінь їх базової довузівської освіти. Рівень знань з ІТ технологій студентів-іноземців є нижчим порівняно з українськими. Не всі студенти іноземці володіють практичними навичками користування ПК і його ресурсами. У зв'язку з цим