

Методика бінарного навчання іноземних мов студентів фізико-математичного факультету

Робота з професійно спрямованими текстами викликає інтерес у студентів фізико-математичного факультету. Це пов'язано з тим, що майже всі математичні поняття їм вже знайомі із занять з математики. В зв'язку з тим виникла ідея інтегрувати методичний досвід викладання математики з сучасними технологіями навчання іноземних мов на фізико-математичному факультеті. При підготовці до заняття були використані такі технології з методики викладання математики та психології, як :

- 1) використання геометричної наочності;
- 2) психогеометричні тести;
- 3) методики, спрямовані на розвиток просторового мислення щодо життєвих ситуацій.

Ці технології застосовувалися нами у логічному поєднанні з інтерактивними методами, груповими режимами роботи та ігровою діяльністю, які мають поширення в сучасній методиці викладання іноземних мов.

Для реалізації цього завдання була створена команда викладачів, яка розробила бінарне заняття, план якого пропонується далі.

Topic: “Geometry and the World Around Us”.

Practical Aim : to teach the learners to produce connected utterances on the basis of the topic.

Adjoining Task : to contribute to the development of the learners' group communicative skills.

Cultural Aim : to contribute to the development of the learners' intellect, voluntary and involuntary memory and imagination.

Educational Aim : to contribute to the development of the learners' world outlook on the basis of the topic.

Equipment : pictures, cards, tables, glue-sticks, pencils, an album of modern painters.

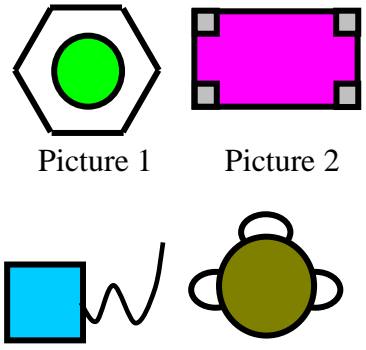
Lesson Structure

1. Warming-up activity – 10 m.
2. Creating a geometric collage – 20 m.
3. Games “Noughts and Crosses”, “Lotto” – 20 m.
4. Psychogeometric test - 20 m.
5. Geometric puzzles – 17 m.
6. Summing up – 3 m.

Lesson Procedure

1. Warming-up activity

Teachers' activities		Students' activities
Teacher 1	Teacher 2	
- Good morning. Today you are welcome to our mathematical lesson with the third-year students of the faculty of Physics and Mathematics. Well, and what are we going to do at our lesson ?		

	- We are going to speak about the world around us. It seems to me that we can speak of it from different points of view.	
- You know, not long ago I have looked through an album of modern painters. Their pictures seemed a bit strange to me. And now I want to show some of the pictures to you. What do they look like? Do they remind you of anything connected with our lesson?		
	- As for me, picture № 1 reminds me of a blanket in the bedroom. And what about you?	
- From my point of view, it looks like a chessboard.		
	- And what about picture № 2? It reminds me of a music plate. And what about you?	
- And I think, it's a saucepan. Let's ask the students and our guests. Probably they have some other ideas.		The students and guests express their ideas.
	- So we see that different people have different associations and sometimes they depend greatly upon the place from which you are looking at them. Look at these pictures. What do you see in them?  Picture 1 Picture 2 Picture 3 Picture 4	The students and guests look at the pictures and say what they see, for example : Picture 1 – a pencil from the end , a nut, a nail from above. Picture 2 – a table from below , a car from below. Picture 3 – a dog behind the door, a TV-set and a cord. Picture 4 – a bald man from above, etc.
- And, by the way, what are these pictures from the geometric point of view?		The students suggest their ideas, for example: Student 1 : It's a hexagon with a circle in the centre of it (Picture 1). Student 2 : It's a rectangle with 4 squares (Picture 2). Student 3 : It's a square with a curved line (Picture 3).

		Student 4 : It's a circle with 3 semicircles (Picture 4).
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2. Creating a geometric collage

Teachers' activities	Students' activities
<p style="text-align: center;"><u>Teacher 2 :</u></p> <p>- And now let's repeat all geometric notions that we have studied. For this purpose we want you to split into 5 groups. Each group will make a collage on a different topic : "Angles", "Triangles", "Quadrilaterals", "Polygons", "Solids".</p>	<p>Each group makes a collage on a given topic and presents it.</p>

3. Games

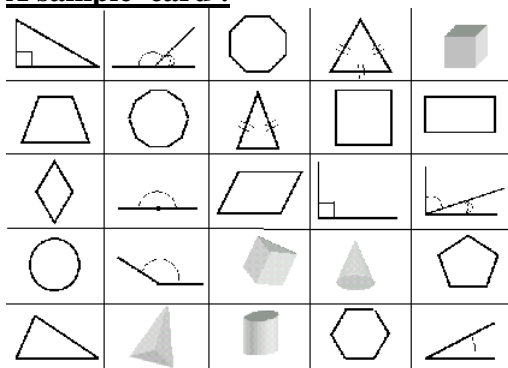
3.1. Game "Noughts and Crosses".

Teachers' activities	Students' activities
<p style="text-align: center;"><u>Teacher 1 :</u></p> <p>- And now let's have more fun with geometric notions. Please, split into 2 teams. One person from each team goes to the blackboard and names the geometric figures drawn in one of the squares. If the student is correct he puts a cross/nought into the square, if not – his/her team loses its turn. The first team to get 3 marks in a row wins.</p>	<p>The students go to the blackboard, name geometric figures and put noughts and crosses into the squares.</p>

3.2. Game "Lotto".

Teachers' activities	Students' activities
<p style="text-align: center;"><u>Teacher 2 :</u></p> <p>- We are going to give each student a card with geometric figures drawn on it. One of our guests will draw out small cards with the names of different geometric figures. Your task is to find this figure on your card and cover it with a piece of paper. The first person who will cover one horizontal line is the winner and he says : "Bingo!" . Let's see who will win in 5 minutes.</p>	<p>One of the guests draws out small cards, other guests and students find these figures on their cards and cover them with a piece of paper.</p>

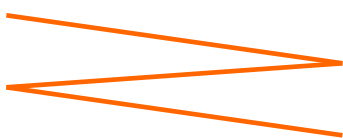
A sample card :



4. Psychogeometric Test

Teachers' activities	Students' activities
<p style="text-align: center;"><u>Teacher 1 :</u></p> <p>- All of you are future teachers of Maths. And it is quite natural that a good teacher must be a good psychologist as well. In this connection let's speak about a new science called PSYCHOGEOMETRY. According to this science we can describe a person's character with the help of different geometric figures. Now we are going to propose you a psychological test. Your task is to draw the following geometric figures : a square, a triangle, a circle, a rectangle and a zigzag. Choose the figure looking at which you may say "It's me". We want you to split into 5 groups according to the figure you have chosen. Here are 5 descriptions of the above-mentioned figures. Choose the figure and read its characteristics. How much do you/your friends agree with it ?</p>	<p style="text-align: center;">The students and guests draw geometric figures, choose the figures which best correspond to their characters, read their characteristics and discuss them.</p>

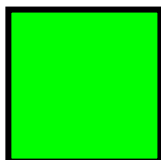
ZIGZAG :



Meaning :

You are the most unique figure.
 You are very emotional and witty.
 But you are unpractical and naive.
 You always have a lot of ideas.
 But when you reach your aim you lose interest in it.

SQUARE :



Meaning :

You are hard-working and patient.
 You are highly-qualified specialists.
 You are very fond of order.
 You are brilliant managers.
 But you are not easy to contact with other people.

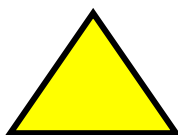
RECTANGLE :



Meaning :

You are not satisfied with your life.
 You try to be better in everything.
 It is important for you to communicate with other people.
 You are brave, curious but very trusting.
 You are easy to be governed.

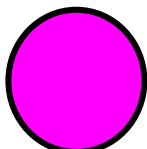
TRIANGLE :



Meaning :

This shape symbolizes the leadership.
 You are energetic and strong.
 You can analyse any situation deeply and strong.
 You want to be the leader in everything.
 You make everybody and everything rotate around you.

CIRCLE :



Meaning :

It is the symbol of harmony.
 You think much of the people.
 You are the best listeners and very friendly.

You try to avoid conflicts.
You are good psychologists.

5. Geometric Puzzles

Teachers' activities	Students' activities
<p>Teacher 2 :</p> <p>- Now, let's do geometric puzzles. Please stay in groups and find as many geometric figures and notions as possible in the picture given. Can you find any geometric figures around yourselves ?</p>	<p>The students and guests find as many geometric figures and notions as possible in the pictures given and around themselves.</p>



6. Summing up

Teacher 1	Teacher 2
<p>- And, now, let's summarize the things we're been doing today; your home-task is to write an essay on the topic : " Geometry and the World Around Us". Choose the shape that fits you for your composition.</p>	
	- Thanks for your work today!

Література :

- 1). Професійно-методична підготовка вчителя іноземних мов у педагогічному університеті : Навч. посібник. /Уклад. Л.В. Калініна, І.В. Самойлюкевич, Л.І. Березенська. – К.: Пед. думка, 2000.
- 2). Рогов Е.И. Настольная книга практического психолога : Учеб. пособие: В 2 кн. - : 2-е изд., перераб. и доп. – М.: Гуманит. изд. центр ВЛАДОС, 1999, -Кн. 2 : Работа психолога со взрослыми. Коррекционные приёмы и упражнения.
- 3). Занимательно о физике и математике / Сост. С.С. Кротов, А.П. Савин. –М.: Наука. Гл. ред. физ.-мат. лит., 1987.
- 4). Gairns, Ruth and Redman, Stuart, Working with Words, Cambridge University Press, 1991.
- 5). Maley, Alan, Duff, Alan and Grellet, Françoise, The Mind's Eye, Cambridge University Press, 1991.
- 6). Wright, Andrew, Betteridge, David and Buckby, Michael, Games for Language Learning , Cambridge University Press, 1991.
- 7). Wright, Andrew and Ur, Penny, Five-Minute Activities, 1992.