

**NECESSITY IS THE MOTHER OF INVENTION (методична розробка уроку англійської мови для 10-11 класів)**

**Objectives.**

**Students will:**

- check up their level of knowledge, abilities and grammatical skills (Conditionals, Wishes);
- make a verbal report on a theme;
- develop students' ability to understand the dialogue and monologue communication;
- give answers the questions according to the text;
- improve their ability to express their own opinion;
- develop the verbal and writing communication;
- develop their capacities for a communication;
- develop students' communicative activity;
- start a conversation, using an initiative remark, react on the remark of the interlocutor correctly and quickly and support a conversation;
- develop an ability to work in groups effectively.

**Equipment:** video about Elon Musk, presentation Power Point, copies of the texts, handouts, coloured markers, Spidegrams.

**Procedure.**

**1. Introduction.**

**1.1. Presentation of the lessons' motto:**

*«The ones who are crazy enough to think that they can change the world, are the ones who do» (Steve Jobs)*

**Teacher.** The 21 century has begun. But our life, however, does not seem to have changed in comparison with the 20 century. We are not living on Mars or exploring new galaxies though many writers of the 20 century predicted that. We are still cooking our meal ourselves instead of using the help of robots and spend hours travelling from one place to another though according to the predictions we were supposed to do this in several seconds. So has our life changed at all? It seems - no. But our life is changing every day. Watching this animated cartoon, try to guess the theme of our lesson.

*Technology and the Family* [8]

**2. Warming up.**

**Teacher.** It is not a secret, Ukraine has always been rich in brilliant people who became well - famous in the world. Do you know their inventions?

Match the scientists to their inventions.

**2.1.** Match the scientists to their inventions:

Igor Sikorsky the founder of rocket and space machinery

Ivan Puliui the scientist in the field of welding and metallurgy

Sergiy Korolyov the author of innovative methods in cardiology

Mykola Amosov one of the inventors of the X-ray

Borys Paton designed and built a helicopter

**2.2. Teacher.** We are all proud of the best modern inventors and their inventions which can change the world. Read the text and mark True or False.

**READING. The Best Modern Ukrainian Inventions Which Could Change The World**

The world nowadays develops very quickly. Almost every week we hear about a new invention, new technology that is ready to change our lives and make it better. When you think about the main technologies that have recently been discovered what countries come to mind? Japan? Korea? America? Very few people think about Ukraine. But in Ukraine, just like in any other country, many inventors work every day on making this world better. In this article you will be able to read more about the main inventions that have recently been made by Ukrainian scientists and entrepreneurs.

**Anton Holovachenko** This young scientist from Kyiv, the capital of Ukraine, is in the process of building and improving his new exoskeleton. In 2015 he was awarded the European Youth Award for his startup UniExo. He started the development of this invention two years ago when his grandmother had her arm paralyzed. He spent 10 months working on his idea to help his grandmother and now this invention can help lots of people in their rehabilitation process. The main advantages of this invention is the cheap cost and ease of use. It can be synchronized with a mobile phone app and all the expensive parts are printed on a 3D printer which significantly reduces the price.

**Olga Brovarets.** Olga Brovarets is the youngest doctor of Sciences in Ukraine. She is only 28 years old and she has already made a discovery that can help in finding a cure for cancer. Her research lies in the structure of DNA and the way of how incorrect pairs of molecules are formed. These pairs are the reason for cancer and until today their nature was remaining a mystery. The reason of their appearance is still unknown. But Olga managed to calculate the regularity in which it happens. The scientists and the main cancer researchers have already noticed Olga and her discovery. Now the specialists are exchanging their information in order to bring better and quicker results in such an important issue as cancer treatment.

**Vitaly Potapchuk.** Vitaly has created a free mobile app that allows deaf people and people with poor hearing to hear the sounds they couldn't hear before. The Bewarned platform united four technical assistants: Sound Monitor, Connect, Emergency Call and Dance. Each assistant is responsible for a certain type of sound. One of them will recognise the dangerous sounds such as sirens, dogs barking or shouting and let the person know something is going on by flashing or vibrating. Connect assistant allows people to communicate by changing the text into speech and vice versa. Emergency Call will call the police or ambulance and will determine the person's location even when the phone is offline. Dance will help the person to understand the music that he can't hear by converting it into vibrations, light flashing and pulsation. These were the main but not the only inventions of young Ukrainians. By cooperating with the scientists from other countries and finding good investors they may make our future easier, better and safer. Hopefully one of the inventions will become one of those things that everybody will be learning about at schools half a century after.

1. In 2015 he was awarded the American Youth Award for his startup UniExo
2. The main advantages of this invention is the expensive cost.
3. Olga's research lies in the structure of DNA and the way of how incorrect pairs of molecules are formed.
4. The reason of the incorrect pairs of molecules appearance is well-known.
5. The Bewarned platform united four technical assistants: Sound Monitor, Connect, Emergency Call and Dance.
6. Sound Monitor will help the person to understand the music.

### **3. Brainstorming.**

**Teacher.** Hope, one day our Ukrainian scientist will invent a time machine

Give the definition of the word «Time machine» and discuss the topic:

*What time and what country would you travel if you had a time machine?*

**4. Creating a portrait of the modern genius.**

**Group work.** Create posters of a successful inventor.

**5. Listening.**

5.1. **Teacher.** Speaking about outstanding inventors we must mention this person too. Who is he? Guess this person using the facts of his life.

1. This person was bullied at school.
2. The annual salary of this person in his company is 1 dollar
3. This person appeared in *The Simpsons* episode.

5.2. Listen to the text *Who is Eton Musk?* and mark sentences True or False [10]

1. Elon Musk was born in South Africa.
2. He is a lead designer of Space X.
3. He is the 53<sup>rd</sup> richest person in America.
4. In 2019 Open AI was founded.
5. Open AI promotes friendly genuine intelligence.
6. Neuralink focuses on developing brain computer interfaces.
7. Musk has a degree in Economics and Physical Education.
8. He lives in Los Angeles, Colorado.

**6. Project work in 2 groups.**

**6.1.** Guess the main idea of the text using useful words.

Brains, a song, an artist, real, sayonara, to sell, greeting hello, to blink, to act in a play, to trick smb.

**6.2. Group 1.** Read the text and prepare 5-7 statements True or False for your opponents. Check their answers.

**Group 2.** Read the text and prepare questions for your opponents. Check their answers.

The Geminoid F is an android robot that is meant to look identical to a Japanese woman. The robot was made in 2010 and is part of a series of Geminoids made by Professor Hiroshi Ishiguro's laboratory at Osaka University in Japan.

Androids are robots that closely resemble people, and some are so realistic that you might mistake them for humans if you don't pay attention!

A Geminoid is a special type, of android that doesn't just broadly resemble a human; it is meant to look like a specific person. The word "Geminoid" comes from the Latin word *geminus*, which means twin-geminoid literally means "like a twin." If you had a Geminoid, it would look just like you.

Although a Geminoid might look like a person, it doesn't yet have the brains to behave like one. Instead, it is controlled remotely, or pre-programmed to display simple behaviors, like greeting hello, or singing a song.

Making a robot look like a person takes the work of an artist. To make the Geminoid F, researchers in Ishiguro's laboratory had to first measure the features of a woman using a 3- D scanner. They then used these measurements to produce a plastic mold of the woman's face, which was then used to cast a silicone face for the robot with near-identical features.

A lot of robots are made of hard materials, but the skin on the Geminoid F's face and body is soft and flexible. Her silicone skin is one of the features that makes the Geminoid F seem so real.

Another feature that helps to make the Geminoid F seem real is the way she moves. The Geminoid F has 12 pneumatic actuators that pump air through little valves all throughout her eyes, face, lips, neck and torso. These actuators are what make the Geminoid F's expressions so very life-like. She blinks, twitches, and smiles almost like a real person.

The Geminoid F can be programmed to act out a simple "routine," or it can be controlled at a distance (remotely) using telepresence. The person controlling the Geminoid F sits in front of a webcam that captures their facial expression, orientation, and speech. This information is then translated to robot commands that are sent to the robot over the Internet.

The Geminoid F was designed to travel so that it could go to science museums, demonstrations and labs around the world. She has been used for entertainment, singing songs, and acting in the first-ever play featuring an android (the name of the play was "Sayonara", which means "goodbye" in Japanese). She's also been used to sell products: the Geminoid F was once installed in a booth in Tokyo to trick passersby into thinking that she was a woman waiting for a friend.

Whether she's used in the lab or in field experiments, the Geminoid F is helping us understand how humans react to her presence and how human operators react to controlling her.

#### **7. Debates / Hot discussion in 2 groups.**

Discuss your statement and try to persuade your opponents in your opinion.

**Group 1. *Modern technologies including an artificial intelligence are making our lives and the whole world better.***

**Group 2. *Modern technologies including an artificial intelligence are making our lives and the whole world worse.***

#### **8. Summary.**

**Teacher.** To sum up let's complete three statements: *During the lesson...*

- 1 .It was hard for me...
- 2.I managed to...
- 3.Now I know that...

**Teacher.** In the very end of our lesson I suggest you relaxing watching a Funny video *The new Mactini [6]*

#### **9. Home assignment.**

Write a short story on the topic *.If I were a famous inventor, I would create...*

#### **10. Conclusion.**

**Teacher.** I hope, there are future outstanding inventors among you who will glorify our Ukraine in the whole world. Everything depends on you! Remember the words of a brilliant scientist Thomas Edison «*Genius is one percent inspiration, ninety-nine percent perspiration.*» Thank you for our cooperation!

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