bilimger.kz
Республикалық білім және ғылым порталы
https://bilimger.kz
ҚР Мәдениет және Ақпарат министрлігі тіркелген — Куәлік нөмірі:
KZ45VPY00102718
2018

БӨЛІМ: ЖАЛПЫ РУБРИКА

Using the clil technique at the physics lesson

ЖАРИЯЛАНДЫ
30.01.2018

СІЛТЕМЕ
https://bilimger.kz/28249/

АННОТАЦИЯ / АҢДАТПА

Алипбекова Жамиля Қожагелдіқызы

CLIL is a competence approach to learning, which is gaining momentum in European education systems. The idea is to teach the subject through a foreign language, that is, to teach the subject «using the language” [1]. CLIL encourages the use of programs that develop interpersonal, intercultural and language skills that are in demand among today’s employers. The purpose of the article is to review the use of CLIL approach at the Physics lesson. This article will, first look at the principles in using CLIL approach and provide the sample of the plan of teaching Physics through CLIL approach.

There are some key principles of CLIL approach that can be regarded as important for teaching Physics. First, on the subject lessons on CLIL lexical approach is more important than grammatical. Secondly, when working with text, it is important to have illustrations for visualization of the read, the texts can be presented schematically, which helps the students to determine the idea of the text and the information presented in. After reading, it is desirable that the students can convey the idea of the text in their own words, at the same time the teacher needs to draw the students’ attention to certain lexical phrases that fit the subject. Also, the teacher should pay attention to special vocabulary, as well as to some universal language units: phrasal verbs, stable expressions, degrees of comparison, which will be useful regardless of the topic of the lesson or subject.

When compiling assignments, the levels of student preparation and training tasks should be taken into account. For example, you can use the following tasks: create or fill a chart, a table, a map, find specific information (date, place, time), arrange the paragraphs in the correct order, determine the order of actions (for example, instructions), fill in the blanks in the text, - response, the term-definition, the part-whole; Tasks to search for specific information; Games in which you need to guess the words, questioning the class, ask 20 questions on the text,

while there is a visual diagram of various kinds of questions, an oral presentation of the work, supported by visual materials. Texts should only be on the subject, only in this case the subject and language competence develops.

From the teacher it is required to systematically plan, teach, monitor and evaluate.

Advantages of CLIL:

- Improves language competence and self-confidence
- Raises the motivation of the teacher and students
- Motivates and encourages independence and own opinion
- Improves the literacy of the first and second language
- Develops training skills, concentration
- Positive attitude to gender issues
- Develops thinking skills
- Develops culture and intercultural knowledge
- Increases the vocabulary of training

In the CLIL lessons, teachers and students should be familiar with the language of instruction. Students must necessarily know the language on which the subject is explained (this is a dictionary, grammatical structures) to be able to understand the subject and explain their ideas, communicate.

Currently, according to updated educational content of the natural orientation of teaching subjects in English is seen as one of the most urgent problems.

2016-2017 academic year, the secondary education institutions of the Republic of Kazakhstan about the features of the organisation of educational process guidelines in the letter «2016-2017 academic year, primary and high school education begin preparatory work on the transition to learning subject in the three languages,» said [1]. In order to implement this work in school science classes, in the direction of the science of physics is taken to the English language. The main goal of the students' understanding the meaning of physical the termsphysical phenomena in three languages is to identify, understand the meaning of the English language reports, and correct them. Accordingly , the course of the program is written.

During the course of the program the students' interests, creative abilities and their knowledge will increase through playing games (in English) on a regular basis. Also, learners can formulate new skills. Scientific research in Physics is one of the means of education and training the development of their thinking and logical outlook. This activity of students will contribute to their education and behaviour [2]. So this year physics students' creative, abstract,theoretical and practical thinking, communication skills, foreign language skills are expected to be improved by CLIL method.

Increasing the competitiveness of knowledge of young generation can be achived through education. The oriented culture of education is also important for students to continue their studies, which is necessary for their professionional preparation and development. They can obtain the physical and mathematical knowledge and skills that require more attention [3]. Therefore, the study of this course, the students can move forward to deepen their knowledge of physics in the English language.

«Applied Physics in English» course load of Natural Sciences Grade 7 — 2 hours per week is 68 hours for the academic year. The program of the course is the practical and methodological basis of special circumstances. Applied course is divided into several sections and chapters. The following program is proposed curriculum and calendar-thematic plan.

Curriculum

1. Matter (12 hours)

States of matter. Measurement. Length and area. Volume. Mass and Density. Time.

2. Force (10 hours)

Measurement of Force. Types of Forces. Combining Forces. Forces Acting in the same direction. Forces Acting in opposite direction. Conditions for equilibrium. Summary. Puzzle. Review questions.

3. Motion (12 hours)

Displacement. Kinds of motion. Linear motion and circular motion. Speed. Velocity. Acceleration. Summary. Puzzle. Review questions.

4. Work (13 hours)

Work and Energy. Types of energy. Potential energy and kinetic energy. Changes of energy. Conservation of energy. Power. Efficiency. Simple machines. Summary. Puzzle. Review questions.

5. Pressure (21 hours)

Pressure in use. Liquid pressure. Water supply System. Transmission of Pressure in Liquids and Pascal`s principle. Gas pressure. Measurement of air pressure. Pumps. Bernoulli`s Principle. Boyle`s Law. Pressure and volume relations in gases. Summary. Puzzle. Review questions. Buoyancy. Archimedes` Principle. Density and Conditions for floating. Balloons. Summary. Puzzle. Review questions. Conclusion.

Calendar plan

Physics in English

2 times per week (68 hours)

№		Themes	Workload per week	Date	Notice
	1. Matter – 12 hours				
1		Matter. States of Matter	2		
2		Measurement.	2		
		Length and area	2		
3		Volume.	2		
4		Mass and Density. Time	2		
5		Summary. Puzzle	1		
6		Review questions	1		
	2. Force – 10 hours				
7		Force. Measurement of Force	2		
8		Types of Forces.	2		
9		Combining Forces. Forces Acting in the same direction. Forces Acting in opposite direction.	2		

10		Conditions for equilibrium	2		
11		Summary. Puzzle	1		
12		Review questions	1		
	3. Motion – 12 hours				
13		Motion. Displacement.	2		
14		Kinds of motion	2		
15		Linear motion and circular motion	2		
16		Speed. Velocity	2		
17		Acceleration	2		
18		Summary. Puzzle	1		
19		Review questions	1		
	4.Work – 13 hours				
20		Work and Energy	2		
21		Types of energy. Potential energy and kinetic energy	2		
22		Changes of energy. Conservation of energy	2		
23		Power. Efficiency	2		
24		Simple machines	2		
25		Summary. Puzzle	2		
26		Review questions	1		
	5.Pressure – 21 hours				
27		Pressure in use	2		
28		Liquid pressure. Water supply System	2		
29		Transmission of Pressure in Liquids and Pascal`s principle	2		
30		Gas pressure.	2		
31		Measurement of air pressure	2		
32		Pumps. Bernoulli`s Principle	2		
33		Boyle`s Law. Pressure and volume relations in gases	2		
34		Buoyancy. Archimedes` Principle	2		
35		Density and Conditions for floating. Balloons	2		
36		Summary. Puzzle	2		
37		conclusion	1		

	total time		**68**		

Finally, a key figure in the development of the work and achievements of the pupils of the school is a teacher. Therefore, the teacher should be, always inclined to search for innovation. English language is a kind of a special place in society. Consequently, in order to be competitive, students should be modern education.

References:

1. 2016-2017 academic year, the secondary education institutions of the Republic of Kazakhstan letter of guidelines about the features of the organization of educational process
2. Melnikova Y. Problematic lesson. Or how the Open knowledge of learners: Manual / E.L.Melnïkova. M., 2002.
3. Moreno R., Mayer R. «Cognitive principles of multimedia learning: The role of modality and contiguity». Journal of Educational Psychology, 91: 1999.