**Primary School No 1 of Władysław Szafer in Brzozów**

**5 Parkowa Street**

**36-200 Brzozów**

Pedagogical innovation: methodical.

Title: **‘I question, examine and reach for answers’**

**Authors:**

Kinga Zajdel, MA - chemistry teacher

Marta Wasylewicz, MA - biology teacher

**INTRODUCTION:**

**SCOPE OF INNOVATION**

The innovation included additional educational classes for selected 6th and 7th grade students. Classes were conducted using the Content and Language Integrated Learning (CLIL) method during which teaching science subjects was carried out in conjunction with learning English.

The great interest of a given group of students in laboratory classes in biology and chemistry, where they could independently carry out experiments and microscopic observations, became the reason for the creation of this innovation. At the same time, these students showed interest and commitment to learning English, and language teachers often had the opportunity to successfully introduce a variety of teaching methods in this group, accepted with enthusiasm by the students and resulting in high learning outcomes. Such a diagnosis of this group of students gave rise to the idea of ​​the purposefulness of combining the linguistic predispositions and natural interests of these students as part of additional educational classes conducted with the use of the CLIL method, in order to further develop both the natural and language interests of this group. It was also a response to the requirements imposed on schools by the state in the field of individualization of teaching methods, in this case addressed to a group of students showing similar interests and predispositions. The implementation of such classes allowed to develop students' passions and interests, and at the same time acquired numerous subject and language skills. We are convinced of the importance of practical classes in acquiring knowledge and skills in subjects such as biology and chemistry. The length of the lesson does not allow for a greater number of experiments, which means that the ability to observe and describe and draw conclusions from the experiment is not at a high level. The presence of various, interesting substances as well as chemical and biological processes in the immediate vicinity of the student and those taking place in the body of each of us arouses interest in science and motivates to acquire knowledge. During the classes we proposed, students could independently plan and carry out biological and chemical experiments, draw conclusions and thus satisfy own curiosity.

The innovation was developed on the basis of the biology curriculum - Puls życia - Anna Zdziennicka - and the chemistry curriculum - Chemistry of the New Era by Teresa Kulawik and Maria Litwin.

It was carried out at school during extracurricular activities.

**PLACE OF IMPLEMENTATION OF INNOVATION:**

Primary School No1of Władysław Szafer in Brzozów

**TIME OF IMPLEMENTATION AND RANGE OF INNOVATION:**

The innovation was addressed to interested students of 6th and 7th in the 2019/2020 school year from October to April, 1 hour a month.

Due to the pandemic situation, part of the activities was not carried out.

**COSTS AND SOURCES OF IMPLEMENTATION:**

Own organization of the laboratory. Using the instruments available at the school. Experiences with the use of easily available items and materials.

**IMPLEMENTATION AND TASKS:**

The innovation was designed for 6th and 7th grade students who took part in additional classes once a month. Those were classes conducted with the use of CLIL method during which teaching English was carried out in conjunction with the content of science.

The classes were conducted by biology and chemistry teachers using their own, original materials, and using:

1. SCIENCE SORT (Learning Resources) educational kit

2. Selected materials for teachers are available at www.havefunteaching.com

3. Ideas for CLIL lessons derived from the following textbooks:

a. English for Polish Schools, A. Littlejohn, D. Hicks, Cambridge.

b. Starland, V. Evans, J. Dooley, Express Publishing.

c. Sky, B. Abbs, I. Freebairn, D. Sapiejewska, Longman.

d. Today !, K.Wakeman, Pearson.

e. Open Doors, N. Whitney, Oxford University Press.

f. English Plus, B.Wetz, D.Pye, Oxford University Press. 2

g. World Explorer, S. Clarke, New Era.

h. Happy Earth, B. Bowler, S.Parminter, Oxford University Press.

as well as other available, selected Internet resources in which students searched for information during some classes.

The following innovation was based on conducting classes by science teachers - a biologist and a chemist, using creative teaching methods, i.e. experimenting, researching, discovering, formulating research questions, formulating hypotheses and drawing conclusions using the English language.

**METHODS OF WORK:**

- experiences,

- experiments,

- macroscopic and microscopic observations.

**GENERAL OBJECTIVES:**

I. Developing students' natural and linguistic interests.

II. Developing students' knowledge and skills in the field of English and selected areas of natural sciences.

**DETAILED OBJECTIVES:**

1. The student develops knowledge and language skills in the field of vocabulary related to selected areas of natural sciences, selected grammatical structures, reading, writing, speaking and listening comprehension.

2. The student consolidates and broadens the knowledge of selected areas of natural sciences.

3. The student develops the majority of the key competences described in the core curriculum, such as: reading, scientific thinking, the ability to communicate in a foreign language, searching and using information using modern technologies, the ability to learn as a way to satisfy the natural curiosity of the world and discover one’s interests and teamwork skills.

**EFFECTS AND BENEFITS OF THE APPLIED INNOVATION:**

- developing the ability to acquire knowledge in biology and chemistry in practice using the English language,

- improvement of knowledge and language skills,

- knowledge of various methods and techniques of work of a biologist and a chemist,

- continuous development of students’ key competences, in particular the competences of communicating in foreign languages,

- increasing motivation to learn foreign languages,

- shaping the attitude of curiosity, openness and tolerance towards other nations,

- developing students' self-esteem and faith in their language skills,

- freeing students' activity aimed at acquiring knowledge beyond the curriculum,

- motivating students to use language in a wider social context outside the classroom, and demonstrate their creativity and imagination,

- continuous improvement of the ability to use ICT in the teaching process and in everyday life.

**EVALUATION:**

Evaluation was to check whether the implementation of the innovation programme was carried out in accordance with the assumptions, and whether the anticipated effects were achieved.

Evaluation tools:

- ongoing feedback from the students participating in the classes,

- portfolio of innovations where the students collected worksheets and their own products,

- surveys regarding the conducted classes,

- individual conversations with the students,

- talking to parents.

On the basis of interviews with the students participating in the classes, parents and surveys conducted among the participants of the classes, it can be concluded that the following innovation met the expectations of the students. Everyone took part in the classes with a great commitment, interest and enthusiasm and prepared their own scenarios and proposals of experiments with the use of English.