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Formation Of Skills For Supporting The Steady Development And Healthy Way Of Living In Chemistry School Club.

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ABSTRACT

The present publication has an aim to present the plan and part of the chemistry school club which we have developed. The participation in it can help forming skills for supporting the steady development and healthy way of living, extending and expanding the knowledge and practical skills of the students, creating and supporting interest in the subject.

Keywords: club activity, steady development, healthy life

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INTRODUCTION

In the working documents of the European Commission for guaranteeing the education quality in XX century it is pointed that the globalization creates new challenges to the European Union. "All citizens must be given a chance to acquire key competences and all levels of education and schooling must be more attractive and effective" [4] The key competences which must be formed in the process of education in Bulgarian school are defined in the Law of Preschool and School Education.[5] Part of them are based on acquired knowledge, skills and experience for preserving the value of nature and the health of the people around us and our own health.

The study of health and ecological problems in high school has its own specification defined by their nature, the access of information, the personal experience of the trainees, the methods and forms of organization of the school process. It is necessary for the education to be organized in such a way that the students can be aware of the significance of these problems, so that they can be brought up to have an aspiration for natural way of living and perceive nature and human health as significant universal value. Good possibilities for realization of these tasks and also for full rationalization of the free time of the students are offered by the activities in the extracurricular and out-of-school forms. The aim of these organizational forms is to cover the whole development of the students, to give more space to their interests, expressions and creative work and to help forming in them important key competences.

Object of the present work is the possibility for forming one of the key competences, present in the Law, the competence for supporting the steady development and healthy way of living and sport with the help of the club activity.

The aim of this work is to present the developed plan and part of the chemistry and environmental protection school club activity.

The term "club" has an English origin and means "union of people". In Bulgarian dictionary we have two meanings of this term. For the present work the more suitable is the first meaning - "association uniting people from definite social field, profession, etc. who usually get together every day to chat, read newspapers, play chess, etc." [Andreychin,L, 2005]

Judging by this definition the school club can be characterized as "union of students who are volunteers to do various creative or research work." on a topic set in advance.[5] The participation in the club activities lets the free time of the students not be wasted, lets new knowledge and skills in different education field be acquired, it gives stimulus to the interest in the relevant science and subject. It is typical for the club organization that there are no age restrictions for participation, and it is not necessary for the topic to correspond to a concrete study content but it can be complied with the wishes and the abilities of the participants. Moreover, within the one year activity different problems can be examined and by doing this the interests of more club members can be satisfied.

Creating a school club calls for preliminary formulation of its main goal, tasks, methods and the ways of its realization..

The goal and tasks of the school club are defined by its topics and participants, and most often they aim the increasing of the interests and the motivation of the students. For their achievement it is suitable to use interactive technologies which are realized more often by work in group – discussions, debates, case studies, play methods, work on projects. All they create conditions for the creative work and self-initiative of the participants to be revealed, the qualities tolerance, organization, creativity, confidence in their own abilities, work skills for working in team. [Galcheva, Hineva, 2014]

The executed survey among the students from 9th and 10th grade showed that they are not included in extracurricular forms but they are interested in participation in a club by interests. This gave us the idea to develop a program for a chemistry club with a topic "The Chemistry In Our Live".



RESULTS AND DISCUSSION

The goal of the suggested club is to show the students the numerous application of chemistry in our life and also its role for causing ecological and health problems and their solving.

For the realization of the set goal it is necessary the following **tasks** to be executed:

1. To create favorable conditions for stimulating the interest and filling the free time of the students.
2. With the help of non-traditional methods to be given current information about the different application fields of chemistry.
3. To explain the advantages of the healthy way of living.
4. To form attitude to the role and responsibility of everyone towards their own health, environment and its protection.
5. To develop the students' skills for executing chemical experiments.
6. To form knowledge and skills for cooperation and mutual help, for working in team.
7. To show the nature of the problem connected with the use of alcohol and psychoactive drugs.
8. To form mindset in the students to take personal responsibility for their attitude and to form attitude of irreconcilability with the harmful habits and to form active opinion about the way of living.

Anticipated results:

1. wide and profound knowledge about the different fields of the chemistry applications;
2. formed skills for working in team;
3. formed skills for experimental activity;
4. formed skills for selection and use of information;
5. formed skills for planning, self-organization, presentation;
6. formed attitude to the harmful habits;
7. formed important key competences – study and cognitive, communicative, experimental, research, information, etc.
8. Increased interest in the subject and motivation to study it.

The organization of the work in the club needs using methods by which we can stimulate the participants to exchange opinions, to share personal impressions, to discuss actions in a concrete situation. Such a possibility is executed by using the interactive methods, forms and approaches, for example, case study, role play, team work, situational methods, training, project activity, laboratory and demonstration experiment, making of brochures, posters, fliers and other handouts and visual materials, writing an essay, discussions, debates, etc.

The club is destined for students who show interest in the suggested topics and have desire to enrich and make deeper their knowledge and skills in the relevant field. In chart 1 we see the curriculum of club "Chemistry in Our Life". The club lessons are to be two times monthly and each of them is going to last two class hours.

Chart 1: Curriculum of club "Chemistry in Our Life"

Topics	Main Goal	Subtopics and Activities
1	2	3
A Lesson about the Organization – 2 classes.	Motivation of the students for active participation in the club activities.	1. Introduction with the goals of the club; accepting the program and work schedule of the classes; introducing the regulations of the club – rights and duties of the participants; election of club head staff. 2. Arousing the interest in the topics by playing the movie "The Ecological Challenges in 21

		Century”
History and Present of Chemistry – 4 classes	Development of the interest in the subject by widening and enriching the knowledge in history and the different fields of application of chemistry.	<ol style="list-style-type: none"> 1. Chemistry in the Antiquity – presentations. 2. Alchemy – Mysticism and Reality – debate. 3. Creation of the Scientific Chemistry – Re-enactment of historical experiments; role play for detecting some chemical elements; curious moments for the lives of scientists. 4. Preparation and organizing a week dedicated to the chemistry. 5. Chemistry – present and perspectives – project activity – preparation of visual materials, writing essays on the topic “Chemistry – Our Life, Our Future”, preparation of presentation for enriching the chemistry laboratory.
Chemistry and Nourishment – 4 classes	Enriching of the knowledge about the composition of the food products and the E-numbers in food and drinks and formation of skills for healthy nourishment.	<ol style="list-style-type: none"> 1. Chemical compounds in our food. The students are divided into groups and work on a project – they investigate information and prepare presentations and reports about proteins, carbohydrates, lipids, vitamins and enzymes, mineral substances; they analyze the composition of the food substances on the food labels; they execute chemical experiment for finding the carbohydrates and protein in the food stuffs and illustrate the influence of heavy metals, alcohol and phenol on proteins. 2. Food additives and their influence on health – role play; preparation of brochures of the chemical composition and the influence of the E-numbers in the food and drinks on health. 3. Culture of nourishment. Diets – meeting with an expert in diets.
Chemistry in Our Living – 4 classes.	Introducing the participants with the composition and properties of the washing, soap and cleaning preparations and formation of skills for competent choice of such preparations with the help of the chemistry knowledge.	<ol style="list-style-type: none"> 1. History of the washing substances – presentations. 2. Cleaning, washing and soap substances – composition and properties – making posters, chemical experiments for fixing pH of shampoos, creams, soaps, preparations, cleaning preparations. Discussion on topic: Are the Products of the Modern Household Chemistry Useful or Harmful?



		Case writing: What Can We Change the Harmful Washing Substances With?
Chemistry and Medicines – 4 classes.	Introduction of the history of making medicines and the chemistry composition of the medicines and the medicinal plants and their use as painkillers, and introduction of the necessity from knowing their properties and side effects regarding their versed use.	<ol style="list-style-type: none"> 1. The Drugs – from Avicenna and Paracelsus till nowadays – preparation of information materials. Chemical demonstration – obtaining pharaoh snake from calcium gluconate as the symbol of “snake” in pharmacy. 2. Debate - “For or Against the Antibiotics”. 3. Chemical experiment – defining the composition of the aspirin; definition and explanation of the properties of potassium permanganate, hydrogen peroxide, iodine tincture 4. Work on a project. Topics for the project. Medicinal plants – biological effect; The herbs in Bulgaria; Food additives and the medicine.
Green Chemistry – 4 classes	Formation of responsible personal attitude to nature and its protection.	<ol style="list-style-type: none"> 1. Modern materials (plastic, chemical fibres) and ecological problems – work on a project, discussion. 2. Acid rains – posters, presentations, case studies. 3. Fuel – role play – press conference. 4. Mineral fertilizer – chemical demonstration for examining food products for presence of nitrates. 5. The problem with the waste disposal – virtual field trip by using computer technologies. 6. Brainstorm: How To Save The Earth?
Alcohol and Alcoholism – 4 classes	Enrichment of the knowledge about the alcohol influence on the human organism; its reflection on the physical and intellectual execution of the duties and formation of attitude of irreconcilability to the uncontrollable use and abuse with alcohol.	<ol style="list-style-type: none"> 1. Alcohol – history, chemical composition, physiological effect on human organism – papers, presentations, visual materials about the way of the alcohol in human organism; chemical demonstrations about the alcohol influence on a white of egg and liver. 2. Alcoholism through the eyes of the cartoonist – organizing and holding a competition for a cartoon in the school. 3. Alcoholism – a social poison – making brochures and writing essays; movie; meeting with social worker.



		<p>4. Alcohol drinks abuse and car crashes – meeting with a representative from Traffic Police.</p> <p>5. First aid to a victim of alcohol abuse – demonstration by a medical man.</p>
Narcotic Substances – 4 classes	<p>Enrichment of the idea of the drug addiction as a factor destroying health; cultivating need of healthy way of living and conscientious attitude to drugs as an enemy of the human person and formation of an active civil attitude regarding the considered problem and skill to say “NO”</p>	<p>1. Project activity – conducting a survey by the staff of the club with students and parents about the spreading of drugs and drug abuse.</p> <p>2. Types of drugs – tranquilizers; analgesics with intoxicating effects; psychostimulants – preparation of presentations and handouts.</p> <p>3. Drugs – way out or trap – discussion.</p> <p>4. Project activity – examination and preparation of presentation about celebrities who became victims of drug abuse.</p> <p>5. Case studies connected with the use of drugs.</p> <p>6. Script preparation of a role play for the closing lesson.</p>
Closing lesson		<p>The pills of “happiness” - artificial paradise or...”</p>

The last lesson of the club is supposed to be organized as whole school event under the name of “The Pills of “Happiness – Artificial Paradise or...” which covers larger circle of students. The possible date of the event is June, 26th – the world day for fight with the drug addicts. By activities included in the plan of the program, the students from the club who have opinion and attitude to the problem will introduce their schoolmates with the drug influence on the human organism and the prevention of drug abuse. The different initiatives help for revealing the nature of the problem and aim to wake the interest of the rest of the students and make them empathetic to the idea of forming position of irreconcilable attitude to this “fatal bliss”.

Aims and Tasks

By using non-traditional methods the students must be given precise and topical information about the harmful effect which the drugs cause to the organism.

To reveal the nature of the problem connected with the use of drugs to more students.

To reveal the advantages of the healthy way of living and in this way to influence them to be aware of the risk of using drugs.

To decrease the percentage of drugs and prevent the use of drugs among the young people.

To create mindset in the students so that they themselves to take personal responsibility for their health.

Young people to be motivated to live healthy way of living – without using drugs.

Anticipated Results

Increasing the culture of health of the students.

Forming an attitude of irreconcilability with the harmful habits.



Created mindset in the students for standing the pressure of the environment.

Activities and Initiatives

We have showed on screen: **REMEMBER! You do not test the drug, you start it!**

The song "Salvation" by the band BTR is being played and after that one of the members of the club takes the floor: "The drugs are one of the biggest challenges of our times. They are part of the civilization, culture and myths, and they are present in our life regardless if we accept their existence or don't. The drugs "pervade" everywhere and no one, regardless of their social position, education, material satisfaction or poverty, is protected from running into them. The multi million army of the drug consumers increases incessantly and what is more fearful – the consumers become younger all the time."

According to a report from UN 2.5% from the population on the planet (about 140 thousand people) smoke marijuana or hashish, 13 million people – sniff cocaine, 8 million –use heroin. The statistics shows that 8.6% from the Bulgarians at age of 15 and 64 years old have used psychotropic substances at least once in their life. People who use heroin in the country are between 20 000 and 30 000 - according to the statistics of the National Focal Point on Drugs and Drug Addictions, 33% from the young people by the age of 18 have used drugs at least once in their life. According to the newest statistics the students at age of 15-16 who have used cannabis at least once in their life are 24.3%. Bulgaria is at the 5th position among the countries from the EU with 42% death rate of drug addicts up to 25 year old. The most frequently used psychotropic substances except alcohol and nicotine are marijuana, amphetamine, ecstasy, cocaine and heroin. [2]

Before we make our conscious choice taking our risk everyone of us must take decision for themselves: is it worth it? We hope that the organized by our club event will help you find an answer to this question.

We have planned the events to be held in the conference hall and in the school yard.

I Activity

The members of the club are ready and with the device "Do you know what drug can do to you?": they present information about the types of psychoactive substances and their compound with the help of posters and presentations; they present materials about the influence of the drug substances on human organism by using brochures they have prepared when they had club classes;

II Activity

Members of the club organize holding of activities which can substitute the use of drugs. There may be sports games, listening to music, dances, painting.

Each of these activities is written on a little sheet of paper. The volunteers who want to take part form a group from several people and everyone of them draws one sheet. They do the activity they have drawn as long as they think it is necessary.

III Activity

Role play – melodrama

Role play by script which requires skills for taking decisions is played by the participants in the club.

IV Activity: Round table: "The Drugs – Myth or Reality".

Here we have invited a toxicologist doctor, social worker, policeman, man of law, psychologist who can answer to questions from their field and also tell stories from their practice.



V Activity

Information and role training "Let's Say No To the Drugs"

Within the training we do the following activities:

we deliver a presentation about celebrities who became victims of their disastrous passion to the drugs;
the volunteers are given opportunity for case studies connected with the use of drugs.
We make a survey regarding the attitude of the participants to the problem;
We make a quiz;

We play a game "Disputable Statements" (A member of the club reads disputable statements and the participants answer in one of the following ways: "I agree", "I don't agree", "I agree but with a special opinion", "I don't have opinion", after that they explain the motives for their choices. For example, The soft drugs are not harmful; Drug addiction is sickness; Drug abuse can be stopped at any moment; Drug abuse is a crime, etc.)

VI activity

We have announced in advance a competition for cartoon, anti-commercial of drug abuse, posters and flies on the topic "Say Firmly No" which can be used as handouts, essay on the topic "A World without Drugs".

From all presented materials we prepare an exhibition, and a jury which has checked the works awards the winners in all fields.

The event finishes with the song "Awesome Day". We screen the notice "We Choose Life."

CONCLUSION

The suggested version of a curriculum for a school club in chemistry reflects the goals, tasks, content and the organization of the club activity which can secure the development of the cognitive interest of the students and formation of important key competences necessary for their successful realization in life.

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