

Международна
научно-практическа конференция

„ЗАЩИТЕНИ КАРСТОВИ ТЕРИТОРИИ –
ОБРАЗОВАНИЕ И ОБУЧЕНИЕ”
(23-26 септември 2015 г., София)

ДОКЛАДИ



International
scientific and practical conference

„PROTECTED KARST TERRITORIES –
EDUCATION AND TRAINING”
(September 23-26, 2015, Sofia, Bulgaria)

PROCEEDINGS

ТерАрт
София '2015



Международна научно-практическа конференция
**“ЗАЩИТЕНИ КАРСТОВИ ТЕРИТОРИИ –
ОБРАЗОВАНИЕ И ОБУЧЕНИЕ”**
23-26 септември 2015 г., София

СБОРНИК ДОКЛАДИ

International Scientific-Practical Conference
**PROTECTED KARST TERRITORIES –
EDUCATION AND TRAINING**
Bulgaria, Sofia
September 23-26, 2015

PROCEEDINGS

© 2015 Национален институт по геофизика, геодезия и география - БАН
Bulgarian Academy of Sciences,
National Institute of Geophysics, Geodesy and Geography

Терарт – Кръсто Терзиев

ISBN 978-954-9531-26-8

OUR proKARSTerra CHALLENGE

Victoria Karanlakova, Reneta Valkova

137 Secondary School „Angel Kanchev”, Sofia

We live in a dynamic, challenging century. The formation of the personalities of the new type is placed with a particular finality. New times require a new generation of adolescents - knowledgeable, capable, able to communicate with others, to work in groups and in teams, to seek causality, explore processes and phenomena and formulate conclusions and generalizations about them. The formation of a new type of personalities requires seeking new forms and methods of provoking student activity, which is to put him in a situation of intellectual disability, as well as to ensure student development, to incite them to study and research. One of the ways to achieve this goal is the use of research, observation and field work in upper-secondary education.

The interdisciplinary educational activity on karst themes started in 2012 with the participation of Ms. Reneta Valkova, senior English teacher at Angel Kanchev Secondary school 137 in the Second International Competition of protected karst territories and the awarded to her First prize for educational software with karst focus in the "ProKARSTerra" project of UNESCO and BAS. The First prize winner educational research film "Karst in Zemen Gorge and Its Karst Pearl Polska Skakavitsa" of Ms. Reneta Valkova launched the contribution of Angel Kanchev Secondary school 137 and it has been proclaimed an associate school to the network of UNESCO in 2015.

The idea for the formation of young researchers has been corroborated by **the National Institute of Geology Geophysics and Geography at Bulgarian Academy of Sciences at the ProKARSTerra Forum held in November 2013** in the town of Shumen. Experience in the study of karst processes and land in Bulgaria was presented excessively there. The studies showed that the topic is prolific and appropriate for depth research and educational work. Moreover, much of the Bulgarian territory is karst whereas karst theme is poorly developed and briefly presented in the textbooks of geography, physics and chemistry.

In practice school teachers from Angel Kanchev Secondary school 137 always look for ways to provoke thinking and learning activities of students and their participation and deeper involvement in the educational process. Thus the other reason for our contribution to the study of karst geosystems in Bulgaria has been formed.

Research and directed educational observation related to the out-of-classroom field study is not present in the curriculum in the context of activities. For students it is new and unfamiliar. And at the same time, the performance of instrumental experiments is under-represented in secondary school.

The out-of-classroom directed observational study of objects on an educational interdisciplinary basis, refracted through the prism of karst and karst processes, as initiated by Ms. Reneta Valkova, served as a starting point of further participation in this international project.

The educational study of the karst terrain on an interdisciplinary basis puts students in a new situation and provokes their thinking and motivation in the learning process, as well as serves

as a prerequisite for proper communication between students on the one hand and between teacher and students - on the other, between institutions of different rank – on the third. It evokes a new, creative atmosphere. It increases the quality of education and the growth of the individual. It ensures achievement of the educational goals of training subjects after research observation, creates prerequisites for the increased interest in exploration activity, relating to career guidance. Together with this one of the pillars of global education in the spirit of globalization is being performed - to learn to communicate with others. The question of tolerance in the process of learning by doing is also stated.

The main objective of the project has been the active participation of Angel Kanchev Secondary school 137 as a full member of UNESCO Associated schools on the topic.

The specific objective: integration between the research concept and the educational concept of karst geosystems in the time span between time 2014 and 2016.

In order to realize these objectives a project proposal for joint action has been presented to Docent Peter Stefanov and Associate Prof. PhD Diana Stefanova and it has been accepted.

Specific tasks:

For the lecturers and partners of BAS these were:

1. Conducting educational discussions with students about karst in Bulgaria and its specific features.
2. Providing support for an out-of-classroom directed educational observation and visit of karst sites - karst terrain, caves and waterfalls.
3. Familiarizing students with ways of working with topographic and thematic maps.
4. Support for the implementation of caving microclimate measurements and doing field analysis of karst and groundwater.
5. Organization and conducting a lecture-presentation summarizing the work involved.
6. Conducting a discussion on the role of man in the modern karst genesis.

Tasks of the teachers at Angel Kanchev Secondary school 137, working on the project:

1. Out-of-classroom educational observation and survey of information of karst and karst processes in Northern Bulgaria and in particular in the area of Krushuna village.
2. Extracurricular interdisciplinary study of landmarks of Krushuna and their importance for the development of environmental, rural and recreational tourism.
3. History of the settlement and monitoring of cultural and historical layers.
4. Biodiversity in the region of Krushuna.
5. Conducting chemistry experiments to prove the karst processes.
6. Organization of the exhibition, as a result of the expedition-research and directed out-of-classroom observation in three phases of work - preparation, proper and final.
7. Promotion of studied objects (geographical, historical, architectural, etc.) to the European Community in Bulgarian and English and their use in training practice.
8. Presentation of the results from the comprehensive study to the National Commission of UNESCO for Bulgaria and the European Community.
9. Participation of the created educational products at the Third International Competition for educational products "ProKARSTerra", organized by BAS.

Five sections have been formed at Angel Kanchev Secondary school 137 in the preparatory stage: "Young Researcher in Karstology", karst education conducted by Victoria Karanlakova, senior teacher of Geography and Economics; "ProKARSTerra Traveler" section, karst education in English conducted by Reneta Valkova, senior teacher of English language; "In the Eyes of the Past" section, karst education conducted by Nora Topalova, senior teacher of History; "Nature and Art" section, karst education conducted by Dr. Monica Mihailova and "Karst Researchers" organization section under the leadership of Plamen Mitev, a teacher of physics and chemistry.

The format for implementation was an out-of-classroom directed expedition-research school in Northern Bulgaria which was held in the time span between 30 October 2014 and 2 November 2014.

After its completion the five sections started working on the participation of Angel Kanchev Secondary school 137 in the Third International Competition "Karst under protection - gift for future generations". Many educational products have been created, derived from the directed observations and out-of-classroom training of karst landmarks, such as drawings, brochures, geographic passports, reports and more.

Prizes

The teaching staff consisting of karst education teachers from Angel Kanchev Secondary school 137 has been awarded Second prize in the category "Our school project" in the Second International Competition of protected karst territories in 2015. Students from the school have been awarded six more prizes in different categories with representatives from both age groups (5 grade and 10 grade students).

The **First prize in the category "Drawing for students over 12 years"** has been a **traveling summer school for karst**. Representatives of 7 countries took part in it. Three natural geographical areas have been visited in Bulgaria in four natural parks, 4 plateaus, caves 9, three karst water sources, five industrial sites, many architectural and historical and archaeological sites - monasteries, fortresses, churches and many others.

Our "ProKARSTerra" challenge earned deserved awards. The formed big "karst family" included students, teachers, and associates. It has contributed to more acquaintances and friendships with karst participants from other countries.

We are motivated to continue the **interdisciplinary education through observation training on the topic of karst** in our country and with curiosity and interest we would share our experience and explore the mysteries of this phenomenon in our partner countries.

НАШЕТО proKARSTerra ПРЕДИЗВИКАТЕЛСТВО

Виктория Каранлъкова, Ренета Вълкова

Формирането на личности от нов тип изисква да се търсят нови форми и методи за провокиране на учениковата активност, които да го поставят в ситуация на интелектуално затруднение, да осигуряват неговото развитие, да го подтикват към проучвателна и изследователска дейност.

Интердисциплинарната обучителна дейност по темата за карста започна през 2012 година с участието на старши учител по английски език – г-жа Ренета Вълкова във Втория международен конкурс за защитени карстови територии и спечелената от нея първа награда за образователно-програмни продукти с карстова насоченост в проект „ProKARSTerra“ на ЮНЕСКО и БАН. Носителят на първа награда образователно-изследователски филм „Карстът в Земенския пролом и неговата карстова перла Полска Скакавица“ на г-жа Ренета Вълкова постави началото на приноса на 137 СОУ „А.Кънчев“ като асоциирано към мрежата на ЮНЕСКО училище.

Изследователската дейност и насоченото извънкласно обучително наблюдение, свързани с **проучването на терен** не присъства в учебните програми в контекста от дейности. За учениците тя е нова и непозната.

Извънкласното насочено обучително наблюдение и изследването на обекти на междупредметна основа, пречупено през призмата на карста и карстовите процеси, както бе подето от г-жа Ренета Вълкова, бе и идеята на колектива от учители за по-нататъшно участие в този международен проект.

Обучителното изследване на карстовия терен на многоаспектна междупредметна основа поставя ученика в нова ситуация, провокира неговото мислене и мотивация за обучение, създава предпоставки за пълноценно общуване между учениците от една страна и между учител и ученици - от друга, между институции от различен ранг – от трета.

Главната цел на проекта бе активна дейност на 137 СОУ „Ангел Кънчев“ като пълноправен член на асоциираните към ЮНЕСКО училища по темата.

Специфичната цел: интеграция между научно-изследователската концепция за карстовите геосистеми и образователната концепция за времето от 2014 до 2016 година.

Подготвителният период включи формиране на **5 секции:** „Млад изследовател карстолог“, с ръководител Виктория Каранлъкова, старши учител по География и икономика, секция „ProKARSTerra пътешественик“, с ръководител Ренета Вълкова, старши учител по Английски език, секция „През погледа на миналото“, с ръководител Нора Топалова, старши учител по История и ицивилизация, секция „Природа и изкуство“, с ръководител д-р Моника Михайлови и се ползвахме от организационните и технически умения на Пламен Митев, учител по Физика и химия. Всеки от нас си постави конкретни задачи, свързани с учебния предмет.

Формата за осъществяване бе: извънкласно насочено експедиционно-изследователско училище в Северна България. То се проведе от 30.10.2014 година до 02.11.2014 година.

След неговото приключване започна работа по **участието ни в Третия международен конкурс „Карст под защита – дар за поколенията“.** Създадени бяха много образователни продукти, резултат от насочените наблюдения и извънкласното обучение за карста: рисунки, диплянки, географски паспорти, доклади и др.

Наградите не закъсняха. **Учителският колектив** спечели **Втора награда в категория „Нашият учебен проект“.** Учениците получиха общо **6 награди с представители от двете възрастови групи (ученик от 5 и останалите от 10 клас).**

Наградата на заелите **първо място в категория „Рисунка за ученици над 12 години“** бе пътуващо лятно училище за карста. В него участваха представители от 7 страни. Пътуващите преминаха през 3 природногеографски области в България, през 4 природни парка, 4 плата, 9 пещери, три извора, 5 стопански обекти, множество архитектурно-исторически и археологически обекти – скални манастири, крепости, църкви и мн. други.

Мотивирани сме да продължим да работим по **интердисциплинарното образование чрез наблюдение на карста в нашата страна** и с любопитство и интерес бихме споделили нашия опит и бихме се докоснали до тайнствата на този феномен в партниращите ни страни

Victoria Karanlakova

senior teacher of Geography and Economics
137 Secondary School „Angel Kanchev“, Sofia

Reneta Valkova

senior teacher of English language
137 Secondary School „Angel Kanchev“, Sofia