LOCAL HORIZON ENVIRONMENTAL KNOWLEDGE IN CONSTANTA CITY
BY PRACTICAL APPLICATIONS ON THE BLACK SEA SHORE

1NECULA LILIANA, 2BOSTINA ALINA

1”Traian” High School Constanta; 2Constanta Maritime University, Romania

ABSTRACT

A special importance in the study of geography is on the local horizon environmental knowledge, the surrounding reality, as human and natural potential socio-economic offer important resources which support the teacher and students but by their direct observation and analysis, can be easily integrated and exemplified in the geography lesson. Nature is the medium closest to the student's familiarity with the geographical space. Students are eager to know more about how develops the local environment and the near horizon environment.

In this paper we proposed to familiarize students with the geography of the near horizon, as well as capacity building, skills: orientation, observation, analysis.

Keywords: local horizon, practical application, knowledge, landscape.

1. INTRODUCTION

Didactic teaching extracurricular activities are versatile, designed and organized by the teacher as travel distance and in some places, with a limited duration. These activities are great ways to:

- Meaningful and educational use of leisure time;
- Training and educating the whole personality;
- Ensure learning and deepening directly, actively and consciously knowledge;
- Training of skills and abilities necessary for their integration into life;
- Dynamics of scientific curiosity, the spirit of investigation, imagination and creative thinking;
- Body hardening and physical development;
- Training of team spirit;
- Fostering courage and initiative;
- Developing the love and respect for natural beauty and man;
- To establish an active attitude to protect and maintain an environment as good (especially the local horizon).

2. TYPES OF ACTIVITIES:

After the form of organization, there are these types of activities:

2.1. Walking - is a journey on foot, at your leisure, in parks, botanical gardens, zoological gardens, in the city to recreate, get the air, to see, discover and explore, for 1-2 hours. The teacher can organize a walk during hours (lessons), after hours or on weekends. The teacher’s semester activity project include walking, setting operational objectives of the parade, the route, the goals will be considered ready for discussion with students plan, which will lead to the observation questions. Students must know the operational objectives of the parade, the route and rules that must follow.

Sample trips can be made to:
- Archaeological Park
- Park Tanning

2.2. Visiting - is a journey lasting more than one day, in order to meet immediate locality, economic unit exhibits in a museum, a monument of nature or history. Visits can be organized during the time of geography, after classes, weekends or holidays. The teacher must set the goal to visit, to include visits to semestrial activity project, establish operational objectives of the visit, to document the objective of visiting. The teacher should inform students that will be visited on the objective, the operational objectives targeted by this activity will specify the place and time of departure and return, during the visit, will indicate the equipment, protective measures and rules that students must meet. During the visit, students observe, write down observations in their notebooks, ask questions, take pictures, etc. After the visit, the data will be processed by the teacher and the students form of essays, reviews, discussions, debates, etc.

Thus, you can visit the following objectives:
- Wastewater Treatment Plant "Constanta - north"
- Constanta weather station
- Museum of National History and Archaeology

2.3. Hiking - is a journey lasting more than one day, without means of transport for short distances on foot and aims recreation, physical and psychological recovery in nature, the collection of information by direct observation, immediate knowledge of a natural monument, a natural reserve, landscapes, a lake, a cave, and a man-made target. To make a trip with students, the teacher must establish objective and targeted operational objectives include hiking in semestrial activity project, to establish the route to be covered, to document the target and the route. The teacher must inform students about the goal that will be visited on operational objectives pursued, of course. The teacher will set a date and time of departure and return, will indicate where the meeting
will recommend necessary equipment and food (depending on season), and environmental protection standards of the person.

In the studied area can be hiking in the area:
- Beaches of Constanta, Modern beach starting from the head until the Fishery Cape
- From over the sand-belt that stretches Mamaia

2.4. Trip - is a journey outside the city of residence, duration of at least one day a means of transport and aims recreation, visiting, information, study. The teacher sets the goals to be achieved according to the excursion, the route chosen, the goals will be visited, set size and structure of the group includes a trip to the annual or semestrial activity project. The route must include varying objectives to arouse and maintain student interest, provide them with pleasant emotions through the beauty of the landscape, through its uniqueness.

For example, mention trips in the area of natural reserves of:
- Fantanita - Murfatlar
- Valu lui Traian
- Agigea

2.5. Expedition - is a journey of study and research, with a duration of 10-14 days, which is preferably done during the summer outside the city of residence and includes students with interests in targeting the expedition theme: geology, geography, biology, history, ethnography, folklore.

2.6. Practical applications in local horizon on the black sea shore

Local horizon features favors the development of practical applications of analysis and interpretation. He is an inexhaustible treasure for applications, observations and research. The local horizon usually means an area determined as the tension surrounding the city of residence.

We must first distinguish the local horizon which is reduced to very near the school or the entire city where the school is. Then comes the closest local horizon which can be extended curse of 5-10 km, enough to be crossed on foot round trip for one day without needing overnight accommodations. Over 15 km away is the local horizon which can not be limited in practice than the outside of vehicles. Some authors delimit the local horizon based on scientific, geographic criteria whatever the degree of accessibility and travel possibilities. Thus, Mrs. Professor V. Velcea defines it as "a conventional area or well-defined territorial unit by certain criteria, in which global or detailed research enables the identification of mechanisms for phenomena and processes, dynamics and directions of evolution."

Applied lessons are the foundation of geographical concepts of conscious properties, of their fixation; we can generate in students an attachment to their native places. Visits and trips to the local horizon leading to acquiring thorough knowledge on the formation of correct scientific concepts and representations, the formation of work habits and civilized behavior. In these activities, students can develop their skills of observation, analysis and interpretation of phenomena and processes, causes, how they conduct and the effects of these phenomena.

Also, students are awakening the interest for study, research, the wish to know more, to know, to be informed.

To achieve all goals, the teacher must study sites first and then to extract the characteristic features of different routes of practical applications.

As an example of how the lessons can take place, trip with students to know the local horizon we will present some possible practical applications can be made on the coast between Constanta and Navodari, and in the region nearby.

1. In the local horizon relief direct investigation involves:
- Mapping of specific phenomena: for example, degradation processes and modeling of self seawall and beach silt accumulation on the streets of the city after every heavy rain, etc.
- Photographing and interpreting photographic documentation of phenomena with a greater degree of spectacle;
- Achieving some direct measurements (this is especially true for the slopes with gravitational processes);
- Achieving geomorphologic profiles;
- Completion of geomorphological chips;
- Achieving some sketches and maps;

Practical applications on a quality embossed lead to accurate and easy notions about the forms of relief, especially to the coast, the action of external agents on the earth's crust, etc..

Observations on the relief of local horizon can be made, for example, on the coast between Casino of Constanta and Perla Hotel in Mamaia.

1. From the cliffs (35-40 m) high coast is observed almost linear. Morphologically, Dobrogea region is complex maritime coast carried out two sectors joined the East-West:
- The cliff - a sector level, currently emersion, which formed in the geological past area ongoing processes marine transgression and regression, but which now dominates the aerial modeling process;
- The continental shelf (self) - immersive, but temporarily dry in the past (the Quaternary), where the accumulation and erosion processes predominate underwater.

The interaction of land – modeling agent have resulted in a number of forms and processes of degradation and modeling of self seawall and beach.

Through observations and discussions directed students can highlight the main geomorphological processes and forms, namely:
- Processes and marine forms: abrasion - due to currents and waves, more powerful in the south of the coast, and precipitating - extensive beaches, especially north of the Fishery Cape.
- Processes and forms of gravity: easily observed in the south coast due to slope inclination, the loess property falls off prismatic columns and
groundwater occurrence impermeable clay horizon of the loess. There are frequent subsidence, slumps, landslides, piping.

- Anthropogenic processes and forms: visible through out the sector under observation - consolidation of banks, development projects and defense of the cliff, protection dikes, breakwaters, etc..

It can also do exercises with the guidance map, map of confrontation with reality on the ground, you can take pictures, panoramic drawings can be done.

2. At the beach you can follow, using a column stratigraphic geography of the area and found that the Sarmatian formations, represented by limestones and calcareous sandstones, outcrop, being trapped in anticlines and synclines wide undulating system oriented almost shore line.

It can perform measurements of the thickness of rock layers, taking samples of rocks, indicating the importance of sedimentary layers for measuring time and the documents underlying the research (fossils and layers thickness). Thus, over the Sarmatian limestones can be observed gips-clay layers, followed by thick sandy clay and loess formations then, about 20 meters thick.

Opinion can be questioned on the origin of C. Bratescu opinion about the four loess horizons corresponding to the four phases of glacial and fossil soil horizons, corresponding to interglacial stages.

Also on the beach can make determinations of particle size and chemical composition of the sand.

North of Fishery Cape, is seen the sand-belt enclosing lagoon Siutghiol (Mamaia), where the resort of Mamaia was built. Students will explain and observe that the old Black Sea coast, a high shore, with cliffs, is located on the western shore of Lake Siutghiol.

3. Knowing the local climate horizon is very important for the organization of human social activity. Items that are useful for understanding local climate horizon refers to:

- Genetic factors;
- Climate factors (mean annual temperature, warmest month temperature, etc..) And the existence of local weather phenomena (frost, drizzle, frost, mist, hail, thunderstorms, fog);
- Topoclimatic and microclimatic differentiation;
- On these outstanding results plus the observation of empirical phenomena.

Information about the elements that define the local climate horizon is based on measurements made at a meteorological station situated in Constanta, on the extrapolation of data and on some scientific or empirical observations (with the help of simple tools).

To better understand how to obtain data on air temperature (average monthly and annual absolute maximum, absolute minimum, the number of days with temperatures above 30 ° C, etc..) Is a visit to the meteorological station of Constanta. There, students learn about weather characteristics of the plant, equipment with various measurement devices (thermometers, barometers, plviometers, psychrometers, the device for measuring direction and wind speed).

In terms of empirical observation as the students observed in this area is low rainfall, the predominant circulation of air masses from the east and north-east (the chill wind, a dry summer and frosty winter wind). Students also noted that because the Black Sea, foggy periods are more frequent than other areas of Dobrogea, and in their proximity, humidity is higher, the temperature is less excessive daytime; freezing takes about 76 days per year and there are also over 100 days of summer.

4. Applications to study the hydrographic components are watching the Black Sea coast, the estuary and lagoon-type lakes.

Since the city borders the Black Sea, students are familiar with the notions of seaside promenade, beach, waves, currents, etc.. Greater focus on concepts related to land interaction - modeling agent, and the unique aspects that make the Black Sea, namely in terms of biotic stratification (related to the absence of vertical currents) and in terms of salinity (due to exchange Mediterranean Sea water).

On water clarity and color, stands out about the weather, flora exist in seawater, with alluvium brought by the rivers flowing into the Black Sea and not of last row, with discharges from anthropogenic activities. In summer, certain periods, closely linked to sea water temperature, currents and the direction of oxygen in the water level is apparent and the development of different types of seaweed.

In the winter of 2006, due to very low air temperatures, students could observe the phenomenon of frost on the Black Sea, rare and spectacular. Also, closely related to air circulation, over the year, have seen various degree of agitation of the sea and how it influences the movement of ships.

Analysis of standing water body to identify the type of basin, identifying changing water levels under natural conditions, the use of lake waters, the observation of phenomena related to pollution, frost, vegetation and fauna wet environments, and the realization of a bathymetric profile graphic representation , knowledge and learning how to measure the depths of execution, etc.. To do this, students can travel to the lakes: Tabacarie, Siutghiol, Tasaül.

5. The analysis of the local horizon biotic enjoys special attention from students. The trips are group reservations Fantanita – Murfatlar and Valu lui Traian, observing the specific vegetation and fauna of forest and grassland, as well as human interventions on the aftermath of the coating were not quick to defend.

Thus, practical application in forest Fantanita - Murfatlar is to: observation of natural vegetation, soil type correlation with elements of vegetation, observation of human interventions and natural changes on vegetation.

Deployment of the application consists of:

- Determining the locations where observations will be made (in the forest, to 10 m inside the forest, to 20 m inside the forest);
- The types of observations that will make students (and the influence of light from inside
the forest edge, the edge temperature variation in the interior; appearance of forest vegetation)

Practical Reserve Valu lui Traian, emphasizes characteristic formation of steppe vegetation, with a particular interest to enjoy this land tortoise, submediteranean element. In these trips can be observed and other specific elements of wildlife, such as ferret, the bustard, snakes.

Students see both the positive aspects of human intervention on the natural environment, endless vineyards such as vine varieties Murfatlar superior, but also negative ones such as high levels of pollution resulting from forest visitors. Students can print their desire to participate in an action of greening the area.

6. Hiking means also the observation of the types of soils and their characteristic profiles, the use and transformation underscores the correlation between soil, vegetation and fauna.

Thus, observing the light color of the soil in our area (the study of a soil profile in the cliff north of Constanta), have students explain the notion of chernozem steppe, which are plants that can grow on it. It highlights the fact that this type of soil fertility decreases (because of porosity) in the absence of rainfall, so irrigation is required as necessary. Also observed in coastal psamosoils developed on sandy substrate. You can make comparisons between the steppe lands covered in the past and use today and those in most modified by human actions (tillage, terraces, irrigation, fertilizers, pesticides).

7. Applications on population and settlements are slightly accomplish in Constanta city by visiting the most important objectives. Students can be divided into two teams to investigate the past, and the other the present in the history of this city. Students can study the town-monography and can talk to older people can go to city hall to obtain the latest census data on mortality, birth, nationality, etc. Based on statistical data obtained we can calculate the natural balance.

They explain the concepts of the built-in, the metropolitan area, the movement of people (come and go) for the city of Constanta, because its function is a port and tourist attraction for people from many parts of the country.

Students can collect data about economic activity on the branches of the economy and the products made.

Also, students can collect data about tourist-activity in the town, so the statistical service of the mayor and the county tourist information center, on which to make charts on the evolution of tourist activity in the last three years.

3. CONCLUSIONS

It can be said that the applications made, geography becomes a concrete object, easily accessible to students, developing their sense of observation, assessment and interpretation of natural phenomena and social relations between them, logical thinking, love and care from their native places.

Can also be concluded that:

- Regardless of the venue of the lesson, this is the basic form of transmission of knowledge and learning.
- Regardless of the type of lesson (communication of new knowledge, practical skills training, fixing, checking and control, etc.) Must establish goals and techniques work most effectively, leading to best results for students.
- New knowledge must be reported and is always related to prior knowledge.
- Lesson content must have a strong scientific without being charged or heavy.
- Learning methods and means must be as varied in order to maintain students' interest in knowledge always awake. Emphasis must be placed on practical activities, personal discovery, which stimulates creative thinking.
- Contents lessons must be continually updated.

The teacher must work with students in the learning process. The teacher should be the leader of the activity, process coordinator, it's protagonist. Nature is the medium closest to the student's familiarity with the geographical space. Students are eager to know more about how evolves the local environment and the near horizon.

4. REFERENCES