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EDUCATION FOR TOURISM WITHIN THE PROJECT "MARAMUREŞ – TRANSCARPATHIA INFO TOUR"

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ABSTRACT

The article aims at presenting the exact means of tourism education for pupils and university students. We described the methodology of tourism prospective research, marking tourist tracks and designing cartographic publications for the project region of the historical Maramureş. The presented facts are useful for pupils, university students/graduates from tourism programmes of study, bachelor or master level, in order to develop skills that are specific to the tourism activities. This article is basically a case study and it relies on actual activities implemented during the project "Maramureş–Transcarpathia Info Tour", financed through The Hungary-Slovakia-Romania-Ukraine Cross Border Cooperation Programme ENPI 2007-2013, project in which high school and university students, from tourism programmes of study, got involved as volunteers.

***Keywords**: tourism, geography, education, students, cross border project, Maramureş, GIS*

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INTRODUCTION

Involving pupils and university students in conceiving and implementing projects is a way of learning by action (Dulamă, 2008), an efficient way of developing skills and education for tourism. In this paper, we analyse the tourism prospective research, tourist track marking and cartography activities implemented within the Romanian-Ukrainian cross border cooperation project "Maramureş – Transcarpathia Info Tour". This project is set in the Hungary-Slovakia-Romania-Ukraine Programme, ENPI Cross Border Cooperation 2007-2013, at *Priority 1. Promoting social and economic development; Measure 1.1. Harmonized development of tourism*.

The Town Hall of Săpânța Village, was the beneficiary and leader of the project, and it had the following partner organisations: Botiza Town Hall (RO); Solotvino Town Hall (Ukraine); Association Maramureş Project Link from Sighetu Marmaţiei (RO); Centre for Ecology and Tourism Maramureş (RO); Association "Nadia" (from Solotvino, Ukraine); Association of Applied Geography Sighetu Marmaţiei (RO).

The specific objectives of this project were: arranging four tourist information centres; tourism prospective research of the project region and the marking of eight tourist tracks in Săpânţa, Botiza, Sighetu Marmaţiei (RO), and Solotvino (UA); improving the quality of human resources in the rural tourism from Săpânţa, Botiza (RO), and Solotvino (UA) localities; awareness of the cultural patrimony and consolidating the ethnographical identity in Săpânţa, Botiza (RO), and in Solotvino (UA); promoting on the touristic market Săpânţa, Botiza, Sighetu Marmaţiei (RO) and Solotvino (UA) localities and the cross border region of Maramureş – Transcarpathia.

Of all the activities unfolded during the project, in our article we analysed only a few (tourism prospective research; marking tourist tracks; editing project publications; designing a tourist web site) from the perspective of their contribution to education for tourism. The project target groups were the families of the employees in the rural tourism from Săpânța, Botiza, Solotvino, approximately 1,200 people. The final beneficiaries of the project were the population of the four localities and the tourists visiting them, with a total estimate number of 272,080 people.

During the field activities of tourism prospective research and marking tourist tracks, due to the extensive geographical area and also to the short deadlines, the project team recruited volunteer pupils from "Dragoş Vodă" National College and students from the Faculty of Geography, specialisation Geography of Tourism, from Babeş-Bolyai University, in Cluj-Napoca, as well as from the Sighetu Marmaţiei Academic Branch of Babeş-Bolyai University.

THEORETICAL SUBSTANTIATION

In this section, we pointed out studies on the importance of tourism higher education development and the involvement of students into practical stages of touristic activities.

The direct connection between the development of tourism higher education and increases in the tourism businesses is highlighted for the Chinese space by Jiang (2003, p. 103).

The issue of tourism higher education is also approached by Okumus and Yagci (2005). They performed a complex analysis of the tourism higher education in Turkey, by highlighting the weaknesses of the system and also by proposing solutions in the form of improving the *"standards of tourism higher education"* alongside *"cultural and structural reforms"* in their entire national higher education system (Okumus and Yagci, 2005, p. 89).

Moreover, there was also a preoccupation for outlining the need for more co-operation between the tourism higher educators and the representatives of the tourism industry (Cooper and Shepherd, 1997, p. 34).

In addition, the favourable situation of Australian tourism higher education was due to a well-established relation between research and education (Pearce, 2005, p. 251). Also in this context, Sigala and Baum analysed the proper way universities in tourism and hospitality could adapt their management strategies for the changes in higher education and indicated the use of *"modern technologies"* and *"information literacy"* in the process (Sigala and Baum, 2003, p. 367).

In other studies, the future of tourism education was analysed for the next two decades. The educators together with the tourism industry representatives met up in Vienna, Austria, at Modul University, and agreed upon several skill categories that future students should have owned, such as: *"destination stewardship* skills" and *"enhanced human resource* skills" (Sheldon *et al.*, 2008, p. 61).

Another study from the worldwide scientific literature tackled the Tourism Education Futures Initiative (TEFI), which is an international network of tourism educators. The article also supported the ideas reflected by the other studies, mentioned in the present article, aspects connected to the need of adjustment, from the tourism higher education, to the present changes in society. The article also linked the tourism higher education to the tourism industry like most of the other authors that we mentioned (Sheldon *et al.*, 2011, p. 2).

In Romania, in studies referring to education for tourism it was stated that the recipients and beneficiaries of this type of education should have been those employed in the education system and could be taught in an organised way, by teachers, by those working in tourism or in areas that provided economic support for tourism, and also by the general population

(Dulamă, 2004). Some of the objectives for tourism education from the educational system were: knowledge of tourist sites (location, value); the formation of appropriate attitudes for protecting those sites; knowledge of policies and strategies in order to promote tourism (Dulamă, 2004). As means of tourism education used in school were the following: developing projects, posters, reports, essays, studying websites, marking tourist trails, collecting waste from touristic areas, meeting with people from other countries, etc. (Dulamă, 2004).

In other studies, they analysed the organising of tourism activities at a high school and faculty level and the benefits of these activities for education (Răcășan and Vana, 2015, p. 20). Some researchers studied the perceptions and attitudes of pupils and students about certain sites from Romania, namely old churches in the historical Maramureş (Kosinszki *et al.*, 2013, p. 55). Other studies aimed at capitalising teaching, including in terms of tourism education for geomorphosites, the Dragons' Garden (Slevaş, Incze, 2014) or the promotion of tourist attractions through websites (Dulamă, 2014; Gavriş, 2015). In other studies, they analysed the forming and assessing of skills to elaborate touristic plans (Osaci-Costache *et al.*, 2013).

METHOD

Within the project, we went through several stages.

Stage 1. The initial tourism prospective research of the project region was completed in an office stage and it assumed: studying the touristic resources based on existing maps, brainstorming sessions with the project team members from the NGOs responsible for this activity and studying the bibliography. For the prospective research of the tourist tracks, that were going to be marked, we studied and created slope maps for an easier framing on certain sections of the route.

Stage 2. Designing the tourism prospective research questionnaire and sheet. The questionnaire included 16 completion and multiple choice items. The questionnaire was designed to be applied in a locality (village, town). Taking into consideration the content of the requested information, the items referred to the presence of natural tourist resources on the territory of a municipality (tourist sites belonging to relief, hydrography, climate, wildlife, interesting landscapes, natural reserves), as well as to the presence of anthropic tourist sites, the latter ones being structured on religious buildings (old churches with monument value), historical, cultural (museums, memorial houses), human activities (fairs, folk festivals, patron saint and agro-pastoral celebrations), ethnographical sites (traditional

architecture, peasant technical installations, occupations and crafts, and customs). The questionnaire was translated into Ukrainian, in order to be administered in the Maramureş north of the Tisza River.

We designed two types of tourism prospective sheets: one for the natural tourist sites and one for the anthropic ones. The sheet for the natural tourist sites requested the following types of information: tourist attraction location (geographical coordinates), size, form of relief, the importance of safeguarding, operational risks, etc. In those sheets, we had sections where the field prospector had to give scores from 1 to 5 for their value as a unique element, for the degree of exploitation, accessibility, tourist features, and an overall score for a particular tourist site.

The tourism prospective research sheet for the anthropic sites requested other types of information: dating, owner, present functionality, previous arrangement, necessary arrangement, touristic utility, etc. Scores from 1 to 5 for the value as a unique element, degree of exploitation, accessibility, tourist features, and an overall score was also requested for the anthropic tourist attractions. Both types of sheets were kept also in electronic format, where a photo of the tourist attraction was inserted.

Stage 3. The field tourism prospective research was carried out by the authors of the study, together with the other Romanian-Ukrainian project team members. We took trips in all the localities of the cross border Romanian-Ukrainian Maramureş (239, 61 in Romania, 178 in Ukraine) and the questionnaires were filled in with key people and experts from the respective localities (mayors, school headmasters, museologists, tourist information officers, etc.). We visited *in situ* the natural and anthropic tourist sites, we took photos and registered GPS coordinates for the important sites, to be able to place them accurately on the touristic maps of the project localities: Săpânţa, Sighetu Marmaţiei, Botiza, in Romania, and Solotvino, in Ukraine. We filled in the tourism prospective research sheets for the natural and anthropic tourist sites (e.g. Custuri Waterfall in the Săpânţa river basin, or the Old Josani Wooden Church in Budești Village – UNESCO monument).

Stage 4. The data centralisation was performed in the office, both in a spatial format with Microsoft Excel software, and in graphic format, with ArcGIS Desktop 10.2 and ArcPad 10 software. In the end we created a spatial data base, a photo archive and text files that facilitated the designing and editing of all the touristic publications for the project region (maps, a tourist guidebook, leaflets, posters, and a WebGIS site).

Stage 5. Marking tourist tracks in the project region. In the project application form, we mentioned the marking of eight tourist tracks, two in each target locality (Săpânţa, Sighetu Marmaţiei, Botiza, and Solotvino).

a. Establishing the tracks was done in the office. The process assumed studying and choosing the exact routes for the field marking in such a way that the most important natural and anthropic tourist attractions from each locality could be included.

b. Marking the tracks was done in the field. It assumed the actual marking of the tracks with paint on tree trunks, rocks, electricity poles, etc. and recording GPS coordinates for each marking.

Stage 6. Designing and implementing the spatial data base. For the designing of a geodatabase we undertook two main phases: creating a logical model that reflected the geographical reality and the actual data base implementation.

The logical model for a touristic spatial data base relied on the information collected in the field and it was built after finalising the tourism prospective research of the region, or of the locality for which the map would have been designed. In this stage, we identified the logical categories and the necessary data in order to abstract the territorial reality. We classified the spatial objects and the relations between them. We chose the type of representing the reality (e.g. hydrography could be represented by line-type or polygon-type vector data, and the relief through a raster, contour lines or TIN – Triangular Irregular Network).

Implementing the data base assumed making a relational data base based on the designed logical model. When we built the geodatabase structure, we took into account the thematic grouping (layers), the topological associations (relations and constraints that the database elements would have had), the data projection systems and the unit responsible for storing the respective data.

a. Generating own data, import and digitisation. After designing the database, it was populated with spatial and alphanumeric data. Some data were generated by recording GPS coordinates, for example for the tourist sites or for the lodgings. Existing spatial data were used by importing them into the database, for example, data generated in some other GIS projects for the region. Some of the data were generated by spatial analysis techniques, for example by interpolation of the contour lines to achieve a digital elevation model of the terrain. In order to generate other data sets it was sometimes necessary to perform operations of digitising on scanned maps or satellite images.

b. Symbolising the data and making the map layout. The symbolisation of data was done by setting the colours, the lines or spots sizes that were to be mapped as well as the fonts for annotations. In order for the maps to be exported into other formats, or printed, we made the layout that included spatial data and other map elements (title, legend, graphic and/or numeric scale, north orientation, grid, frame, authors, etc.). For making the interactive maps, we loaded spatial data on a server and symbolised them, then we designed the web page that had a window for viewing the map.

RESULTS

Some of the results obtained in this project were:

a. *The spatial touristic data base.* The spatial data that we used for the touristic maps were stored in a data base of "file geodatabase" type, a "container" for depositing geographical data. The technology used to make that type of database was ArcGIS Desktop 10.2. The data was stored in the geodatabase as vector form, as raster form, as TINs and as statistical data tabular form or alphanumeric data that could be associated to the graphical data. The vector data was stored as groups of files (Feature Dataset) and as files with objects or spatial entities (Feature Class). The raster data were stored in three ways in the geodatabase, namely in the following formats: Raster Dataset, Mosaic Dataset and Raster Catalog. The TIN type elevation model was stored in the geodatabase as Terrain Dataset, which is a multi-resolution storage model for the triangular irregular network-type surfaces. The tabular information was stored as dBASE files and classes of annotations-type spatial entities.

All those data were exported from the geodatabase format, which was primarily a relational database, to other formats of the following types: shapefiles (for vector data), Excel or text (for tabular data), and JPEG and TIFF (for raster data).

b. *Eight marked tourist tracks.* They were marked, mapped, with GPS coordinates registered for each marking and they were described in the tourist guidebook and web site. On the territory of Săpânţa locality we marked two tracks. We presented a short description of those tracks in Table 1.

Table 1. Marked tourist tracks in Săpânţa

Track 1: Săpânța – the Merry Cemetery – Săpânța trout farm – Mineral waters (Mineral springs) – the Săpânța Valley Canyon – the Red Water – the confluence of the Săpânța Valley with the Mireș Valley – the Runcu Valley Gorge – the Custuri Rock - the Custuri Waterfall.
The arranged tourist track went through the protected area of the Igniş Natura 2000 Site.
Marking: red cross, track marked up to the Custuri Waterfall;
Time: 4-5 hours up to the Custuri Waterfall;
Difficulty: low; altitude difference: 330 m;
Length: 11 km up to the Custuri Waterfall.
Track 2: the confluence of the Săpânța Valley with the Mireș Valley – the Mireș Valley - the Mireș Valley Gorge – the small waterfall on the Mireș Valley – the

hydroelectric dam - the Șipot Waterfall. Marking: blue cross, the track is marked up to the Șipot Waterfall; From the Săpânța locality we follow the red cross marking tourist track till the confluence the Săpânța Valley with the Mireș Valley, from here we follow the blue cross marked tourist track; Time: 2-2.5 hours from the confluence of the Săpânța Valley with the Mireș Valley up to the Șipot Waterfall; Difficulty: low; Altitude difference: 250 m; Length: 4.96 km from the confluence of the Săpânța Valley with the Mireș Valley up to the Șipot Waterfall.

On the territory of Sighetu Marmaţiei locality we marked two tracks. For all the marked tourist tracks we generated an elevation profile to be able to state the difficulty.

Table 2. Marked tourist tracks in Sighetu Marmaţiei

Track 1: Sighetu Marmaţiei – Mihai Eminescu Street – the "Mill garden" Park – the Fortress Spring – the Cave and the Reservation from the Solovan Hill – Solovan Peak – the Devil's Knoll – Agriș Peak - the Gipsy's Gorge – the Volcanic Plateau – the "Petriceaua Rock" – Pleşca. The track goes through the Iza Valley Natura 2000 Site and through Solovan Hill protected area, through the Reservation from Solovan Hill, and through the protected area of Igniş Natura 2000 Site. Marking: red cross, track marked till the Gipsy's Gorge; Time: 6-7 hours till the Gipsy's Gorge; 9-10 till Pleşca; Difficulty: medium; altitude difference: 555 m till the Agriș mountain hut; Length: 16 km till the Gipsy's Gorge. *Track 2*: Agriş mountain hut – the Strungi (Gorges) Waterfall. The track is situated within the protected area of Igniş Natura 2000 Site and follows a north-east to south-west direction along the foot of the volcanic steep "the Stone Ridge" from the Agriș mountain hut to the Strungi (Gorges) Waterfall. Marking: blue triangle on white background; Time: 2 hours; Difficulty: average; altitude difference: 230 m (Figure 1); Length: 3.6 km.

On the territory of Botiza locality, we marked two tracks (Table 3).

Table 3. Marked tourist tracks in Botiza

Track 1: Botiza – the forest road from the Sasului Valley - Botiza Monastery – the mineral spring from "The Mill" – the Glodeasa Valley – the quarry with complex ore vein and the waterfall on the Glodeasa Valley – the bear observatory – the marshes from the Glodeasa Valley – the Văratec Marshes – the alpine meadow from Văratec – the marshes below Văratec Peak – Văratec Peak. The marked tourist track goes through the Iza Valley – the protected area of the Solovan Hill Natura 2000 Site. Marking: red cross on white background, track marked till Văratec Peak, the track makes the connection with the ridge track red band colour on white background; Time: 5-6 hours till Văratec Peak; Difficulty: medium; altitude difference: 897 m; Length: 13.80 km till Văratec Peak. *Track 2*: Botiza – the cart road from the main ridge between the Sasului Valley and the Mireșului Valley - the Hill "At the Burrows". In the area of the Hill "At the Burrows" ("At the Limestones") there is a surface karst developed in gypsum rock, made up of a pot cave, two caves and 5 sinkholes. Marking: blue cross, the track is marked till the Hill "At the Burrows", the track may continue towards Crâșmărița Peak, Secu Peak, and the track makes the connection with the ridge track red band colour on white background; Time: 2 hours till the Hill "At the Burrows"; Difficulty: low; altitude difference: 140m; Length of track: 1.83 km till the Hill "At the Burrows".

On the territory of Solotvino locality (Ukraine) we marked two tracks.

Table 4. Marked tourist tracks in Solotvino

Track 1: The Town Hall of Solotvyne (Solotvino) – Harkiv Street – Solotvyne Railway Station – Leningrad Street – Sub Măgură Street – Măgura Peak – the ridge of the Măgura Hill – Borkaniuc Street – Gagarin Street – the "Salt lakes" spa, Solotvyne – the History Museum of the Salt Mines – the Salt Mines precinct – Sahtarska Street – the Central Park – the Town Hall of Solotvyne. Marking: blue cross; Time: 4-5 hours;

Difficulty: low; altitude difference: 110 m;

Length of track: 7.67 km.

Track 2: The salt mines tourist track from Solotvyne starts in front of the Solotvyne Town Hall on Sahtarska Street (Miners' Street) and reaches the area of the former salt mines that had been flooded and collapsed because of karst erosion (dissolution) process.

Marking: no markings were painted as the route crosses a traffic restricted area and can be travelled only with a specialised guide from the Tourist Information Centre in Solotvyne;

Time: 1.5 hours;

Difficulty: low; altitude difference: 20m;

Length: 2.16 km.

c. *Printed publications*. We made a cross border *Tourist Guidebook Săpânţa, Sighetu Marmaţiei, Botiza, Solotvino* (Kosinszki *et al.*, 2013) – 1,600 pieces and four maps; *The Romanian-Ukrainian Cross Border Region of Upper Tisza River. Tourist map* (Măran *et al.*, 2014) – 2,000 pieces; *Sighetu Marmaţiei - Solotvino Cross Border Tourist Map* (Măran *et al.*, 2014) – 1,000 pieces; *Săpânţa. Tourist map* – 1,000 pieces (Măran *et al.*, 2013b) *Botiza. Tourist map* (Măran *et al.*, 2013a) – 1,000 pieces. The publications were distributed to pupils, students, teachers, professors, and to people from the local public administrations in the cross border project region and to the tourists through the project's own four tourist information centres. They were also distributed at symposiums, local visits and when launching the publications.

d. *Touristic website.* It is named Maramureş-Transcarpathia and it can be accessed at: http://www.Maramureş-transcarpatia.ro/index.php?lang=ro. It is the official web site of the project Maramureş-Transcarpathia Info Tour.

The web site was translated into four languages: Ukrainian, English, French and Spanish, with the home language being Romanian. It was structured in eight sections: *Home, Maps, Region, Partners, Results, Team, Publications* and *Contact*. The web site was created in March 2014. On the *Home* section (Figure 1), one finds the logo of the HUSKROUA ENPI Cross Border Cooperation Programme. The Home section contains a general presentation of the project, together with the project region of Maramureş (RO) and Transcarpathia (UA). We also have general geographical and touristic information on the project localities: Săpânţa, Botiza, Sighet, and Solotvino. Other subsections of the Home button present information about Who's online, Project financers, and the Latest articles.

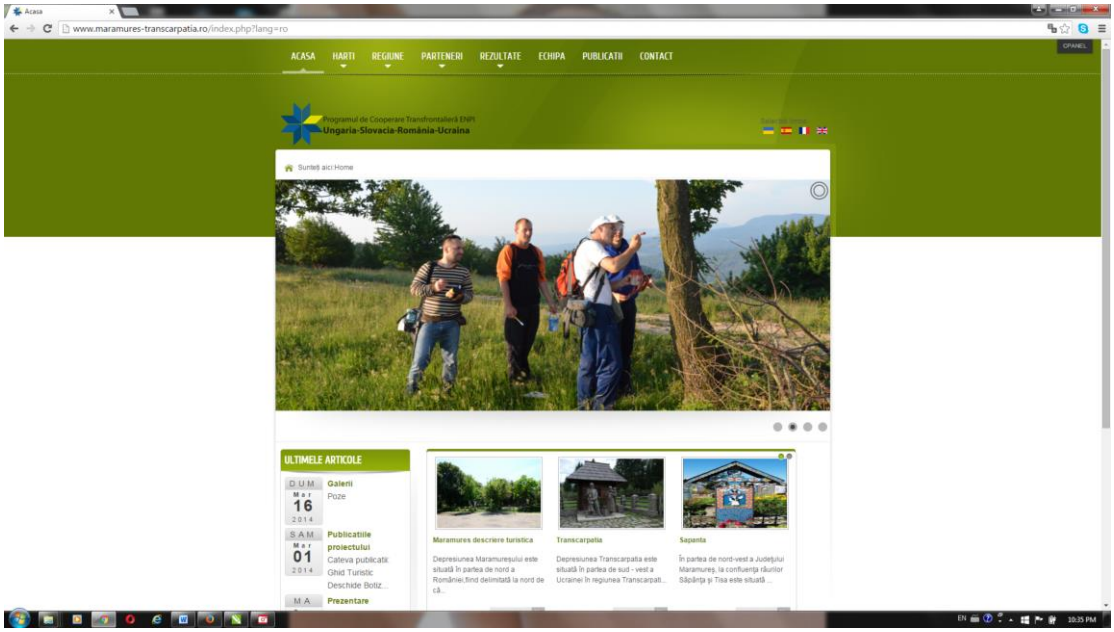

Fig. 1. Home page screen capture of http://www.Maramureş-transcarpatia.ro

The *Maps* section contains interactive Web GIS maps that were made by the project team. These maps are: Botiza Tourist Map, Sighetu Marmaţiei - Solotvino Tourist Map, Săpânţa Tourist Map and Romanian-Ukrainian Cross Border Tourist Map.

The *Region* section contains general geographical and touristic information on the cross border project region and target localities that can also be accessed from the Home section.

The *Partners* section contains information about the four NGOs that implemented the project activities, with a short organisation portfolio on each: Association of Applied Geography Sighetu Marmației, Association Maramureș Project Link, Association Centre for Ecology and Tourism Maramureşm and Association "Nadia".

The *Results* section contains photos taken at the main project activities, as subsections: Marking the tourist tracks, Traditional workshops, Tourism prospective research, Rural tourism course, and Scientific symposium.

The *Team* section presents the project team members.

The *Publications* section contains full sized files ready to be accessed and downloaded by web site visitors. Here are the promotional publications of the project: flyers, tourist maps, the tourist guidebook, tourist informational panels, all in digital PDF format.

At the *Contact* section there is detailed information on the contacts of all the project partner organisations: Association of Applied Geography Sighetu Marmației (RO), Association Maramureş Project Link from Sighetu Marmaţiei (RO), Association Centre for Ecology and Tourism Maramureş (RO), Association "Nadia" from Solotvino (UA), Săpânța Town Hall (RO), Botiza Town Hall (RO), and Solotvino Town Hall (UA).

DISCUSSION

a. *The spatial touristic data base.* The project team and the volunteer pupils and students developed a series of skills related to the new information and communication technologies (ICT) that allowed access to multiple spatial data resources related to the geography of the Maramureş Depression and its tourist sites. The most difficult for the project team was to make the connection between real objects, in particular the touristic ones, and the way these were stored and displayed on the computer. We identified a number of issues related to data entry, especially in the process of digitising the various layers from topographical maps or from orthophotos. Thus, a number of corrections were needed on the digitisation process. For data correction, a set of topological rules were developed and validated in the database. The corrections for the errors occurred during the digitisation process and were done automatically for multiple objects simultaneously, but also punctual or individual for each spatial object that broke those topological rules. During the digitisation process, the project team and the volunteers learnt the basic functionality of GIS type softwares and also how to conceptualise and store information extracted from the reality of the tourism phenomena in a GIS type information environment.

b. *Eight tourist tracks marked*, with GPS coordinates registered. Pupils and students learnt that tourism arrangement involved marking in the field with painted conventional signs, according to the National System of Tourist Markings, adopted in 1945, according to international standards. They got familiar with various information, for example, that this system stated the cross with equal arms on white background for marking connecting routes, the equilateral triangle on white background and the point in a circle on white background for marking secondary paths, the point with double white and red circles for roundtrip routes and the vertical strip on white background to mark the main routes which were mostly ridge trails.

In the process of marking with paint, the participants observed the conventional colours for marking tourist tracks: red, yellow and blue, all on a white background. They complied with the technical details of signs: these

were framed in a 16 cm sides rectangle, colour bands had a width of 6 cm and the white ones 5 cm (5 + 6 + 5 = 16 cm), the coloured triangle had 10 cm sides, and the white band 3 cm (3 + 10 + 3 = 16 cm), the coloured cross had two 6 cm wide perpendicular strips and the white band of 5 cm (5 + 6 + 5 = 16 cm). The marking signs were painted from both walking directions at a close enough distance as each sign was visible from the other one, perpendicular on the travel directions and at a height of 1.5 - 2 m above the ground to avoid straying tourists. In the process of marking the tourist tracks, the pupils and students learnt these signs and the importance of following them while trekking in the field.

c. *Acquiring and developing professional skills for the Geography of Tourism specialisation* pupils and students got involved into these activities. The following professional skills were mentioned according to RNCIS grids and to the Tourism Geography Curriculum in the West University of Timişoara, Faculty of Chemistry, Biology, Geography (2013-2016, p. 2.2).

PS1 (professional skill). *"Defining and describing the main concepts, regularities, geographical processes and phenomena, explaining their genesis and evolution, assessing the consequences they have on the natural and anthropic geographic systems."* By involving pupils and students in the project activities together with geographers, they used practically knowledge and skills acquired at the Physical Geography, Human Geography and Technical Geography classes.

PS2. *"Identifying and analysing the geographical resources for tourism."* The volunteers learnt to fill in the tourism prospective research sheets or to register by photographing the tourist sites in a data base or to record in geodatabase the GPS coordinates of these sites and the lodgings.

PS3. *"Processing the data obtained from the theoretical research and analysing the results."* The students have learned to correct the tourism prospective research sheets, to transcribe them into electronic format, to select photos and process them to be uploaded on the project website or for use in touristic advertising, importing the data from GPS devices in the ArcGIS Desktop software database. In these activities the project team also explained to the volunteers a series of procedures and concepts from the tourism area and from the area of processing the touristic data which is more difficult to understand.

PS4. *"Using ICT for information processing and analysis."* Through teamwork among geographers, the volunteer pupils and students have observed how to use GIS in processing spatial data.

PS5. *"Arguing solutions based on corroborating the information from various sources: didactic, scientific and popularization of geography."* The project participants learned to choose the best solutions and arguments to the various problems encountered during the project implementation.

PS6. *"Applying the principles of multi and interdisciplinary approaches in Geography."* Participants learned to identify connections between

different components of the environment and turn them to good account, within the studied tourist area.

d. *Printed publications*. The four touristic maps edited were also posted on the project web site. At the *Publications* section of the web site, the tourist maps and the guidebook can be visualised and downloaded, in electronic PDF format. At the *Maps* section, the number of visualisations on the 17th of January 2016 was the following: Botiza Tourist Map–611, Sighetu Marmaţiei-Solotvino Tourist Map–468, Săpânţa Tourist Map–566, and Romanian-Ukrainian Cross Border Tourist Map-485. The tourists can get a lot of information from the website: the tourism promotional publications can be read and downloaded, the marked tourist tracks and the tourist attractions of the project localities can be visualised through interactive WebGIS maps.

CONCLUSIONS

Tourism can be a sustainable activity and bring a constant flow of visitors to a region. In this article, we pointed out the importance of involving students within the activities of a tourism cross border co-operation project. The importance is double: for the project team, bringing new valuable human resources in order to achieve the general and specific objectives, and for the students, for their much needed professional skills, which we detailed. One of the project activities was to organise six traditional workshops in the rural localities of Botiza and Săpânţa in Romania and Solotvino in Ukraine, with hundreds of participants, many of whom were students belonging to local folklore bands, thus transmitting the importance of promoting the traditional costumes, songs and dances as priceless resources for the local tourism.

The marked tourist tracks together with the maps will attract more tourists to the region to practise hiking and cycling through the mountain and hill landscapes. The thousands of printed maps and guidebooks educated and informed the students on the regional tourist attractions and the means of accessing them.

The combined professional skills acquired by the students involved into the project activities will enable them to design and implement future similar projects, in which the specific ICT skills will facilitate learning to operate GIS software. The education for tourism continues even after the end of the project through maintaining the web site active and providing interactive Web GIS maps for online visitors worldwide.

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