EDUCATIONAL TOURISM: A PILOT STUDY ON CAVES AT PRIMARY EDUCATION

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Abstract

The increase in educational tourism is impressive and it's not just travel, it is a unique change for all to enjoy nature and the outdoors and be physically active engaging in sports. The purpose of this paper is to show that by implementing a cave-themed educational program, with the introduction of new strategies, methods and materials, combined with innovative actions in the classroom and school trips, modernizes the teaching process and contributes to the effectiveness of learning. The educational program in cave of Agitis Springs involved students of the Second Grade of the Primary School separated to control and pilot group. A test was administered to explore students' knowledge, as well as a physical education evaluation program aimed at determining space, balance and orientation. The program had 3 phases, classroom-based actions, fieldwork activities and follow-up activities. The score of students' correct answers was recorded before the program's implementation and after the completion of the pilot program. The initial and final test results of the exposed group had statistically significant differences. Also, the initial test results of the control group and the final test results of the exposed group had also statistically significant differences. In conclusion, the interdisciplinary approach of the caves is a pleasant learning experience through which students gain a better relationship with the environment, nature and sports. They cultivate psychomotor skills and gradually acquire a tourist consciousness". Edutourism can also promote sustainability and transform the young tourists to responsible tomorrow consumers and travelers, who respect and protect nature.

Keywords

edutourism; school; recreation; sport; physical activity; nature

1. Introduction

Educational tourism is a tourism activity by overnight holidaymakers and excursionists for whom education and learning are the primary or secondary motivation for their trip (Samah & Ahmadian, 2013; Ritchie, 2003). Education is defined as the organized, systematic effort to promote learning, to define the conditions and to provide the activities through which the learning process can take place. There is, however, no precise definition for learning, because it can refer to the product (where the outcome is important), to the process (which occurs during learning) and to the training function at the tourist destination (the specific steps to achieve learning). Educational tourism can be treated in a similar way, as a product, as a process and as a function (Ritchie, 2003). As a product, emphasis is placed on the outcome of the learning experience. Whereas as a process or function it focuses on the means and not on the result.

In educational tourism, learning is the tourism product and the clientele has an institutional relationship with learning. Tourists visit the destination with the purpose of being educated and during their education, they also have tourism activities. Alternatively, educational tourism can be any form of tourism in which tourists are also involved in educational activities (Sfakianakis, 2000). In this case, learning is not necessarily organized, but is a natural process and takes place due to environmental stimuli. Education, on the contrary, is implemented through formal learning institutions and organized courses.

Educational tourism (edutourism) refers to any program in which participants travel as a group, with the primary purpose of engaging in a learning experience that is directly related to the location (Demeter & Bratucu, 2014). It should be pointed out that educational tourism is of high added value, offers long-term socio-economic benefits and is highly attractive (Pittman, 2003). It is an international business with wide range of activities, such as transportation, accommodation, recreation, food and other related services (Anthony, Marcelo, Andrew, Sarah, Neil, David, & Kelvin, 2004). Educational tourism is beneficial to society in many ways. It is a tool for the development of any region and country. It is a mean by which destinations will be able to acquire an identity and to reveal their hidden treasures (Sharma & Das, 2015). It is the combination of the two powerful industries of education and tourism, which together create the potential to enrich positively the lives of those involved in. Educational travel can serve purposes such as satisfying curiosity about other people, their language and culture and encouraging their interest in music, art, architecture and tradition. It sensitizes the individual towards the natural environment, the flora and fauna of the place and increases the interest of tourists in cultural heritage and historical sites (Ritchie, Carr & Cooper, 2003).

Also, educational or school tourism can be defined as a program through potential learners move to a specific location with the aim of acquiring new knowledge related to their specialty (Bodger, 1998). Engaging an individual's learning process with a tourism context such as experiencing an unfamiliar culture is more effective than conventional study within a classroom (Werry, 2013). Familiarity with new populations, landscapes, languages, cultures and traditions develops better through travel. Educational tourism is defined as on-site recreation learning that combines education with tourism in a way that promotes lifelong learning, promises an enjoyable learning experience, while creating new knowledge, new skills and a sense of expanded horizons in students. Setiawan, Hussain, Hussin and Yann (2007), indicate that student attention and interaction are key elements for the success of such programs and should be emphasized in the planning phase. The goal of educational tourism is to improve the educational process and enrich educational experiences.

Educational school tourism

School trips may not create a major revenue for the tourist destinations, but they advertise the attractions and destinations to a group of potential visitors and their parents. From a tourism perspective, school trips help destinations by boosting attendance at off-season periods. Today students can choose between different types of educational tourism, such as field visits, student exchanges and international research projects (Dale & Ritchie, 2008). The pedagogical character of school trips is an indisputable fact, as their usefulness and benefit to students is recognized by almost the entire scientific community, despite any weaknesses they involve. According to Piaget's cognitive theory (Hartland, 1995), which has greatly influenced teaching in elementary schools, young children learn by acting. Emphasis is placed on learning through discovery and individual action.

Dewey, one of the first American pragmatists, who has been characterized as a proponent of "alternative educational ideas", which we later meet in the lifelong education movements, permeates his work with the belief that education related to the concept of development, is indeed lifelong, while school is a prerequisite for effective initial learning. Dewey argues that a qualitative educational experience is enjoyable and attractive to students when it promotes "desired future experiences", awakens curiosity and empowers students to take initiatives (Davinson, 2001). Key, Montessori, and Decroly support the child-centered system that emphasizes the role of the child in the planning of action, while the Germans Gaudig and Kerschensteiner propose the vocational school (Fortbildungsschule), in which the education is through experiences (Chrysafidis, 2002). Tourism should be considered as an educational activity, not in the narrow sense of a typical school, but in the broad sense of discovering the world. Tourism is a powerful cultural tool which gives people the opportunity to discover the world, in a way that neither the mass media nor classroom teaching can (Machin, 2000).

Educational trips can be defined as students' experiences outside the classroom in interactive settings designed for educational purposes (Tal & Morag, 2009). According to Ritchie and Coughlan (2004) the type of educational trip is particularly important because it determines the planning and decision making for the excursion by teachers, parents and students. They distinguish two types of school trips. Day trip and overnight trip. A day trip is considered easier to organize compared to a trip lasting more days. As with any type of educational program, school educational trips must be designed around specific educational goals. When planning and organizing a successful educational trip, three important stages must be included (Wilson, 2011). The pre-trip stage, the during-trip stage and the post-trip stage.

Pre-trip stage

The stage before the school trip involves two strands: management and teaching. Management includes all the steps taken by the organizer to arrange all the support services of the tour. Steps include securing the appropriate permission from the administration, arranging transportation for the trip location, verifying the time schedule and activities, and obtaining signatures from the students' parents/guardians who will participate in the excursion. Teaching on the other hand, which is the second activity of the pre-trip stage, is also critical in preparing the participants for it. Many research studies have shown that participants, especially young people, often have high levels of anxiety when going on such an excursion. To reduce stress, organizers should make participants feel comfortable and safe during the trip, just as they would feel in a typical classroom (Farmer, Knapp, & Benton, 2007). As part of teaching, organizers need to review safety and behavior rules and expectations regarding students. This information should be included in the authorization forms of the parents/guardians of the trip participants.

During-trip stage

The second stage of a successful school trip involves the trip itself. At this stage two strands should be considered: the role of the participant and the role of the organizer. The role of the participant is covered by the preparation of a detailed plan that will include the actions of the excursion and the communication of the objectives of this agenda to the participants. A suggested agenda for a school trip begins by providing a short free time for individuals to explore the trip site on their own. This open exploration may not be appropriate in all locations (Michie, 1998). The second phase of the agenda often includes a tour that refers to the entire team. During this tour, the organizer may highlight specific components related to the educational objectives of the tour. This also provides an opportunity for participants to ask any questions they may have developed during their exploration (Scribner-MacLean & Kennedy, 2007). The third phase of a suggested daily agenda is a learning activity for a small group. Working in pre-determined groups of 2-3 people, allows participants to complete an activity such as a short worksheet or something similar. The role of the organizer is also an important part during the trip. While monitoring and managing the experience of participants is important, monitoring participant's learning is also an important responsibility of the organizer. Throughout the excursion, the organizer should be actively involved in teaching activities. However, in such trips the organizer should use different teaching approaches than those used in traditional school classrooms (Kisiel, 2006). During these tours, organizers should act more as facilitators or guides rather than principals. By playing an active rather than passive role during the field, organizers can increase students' interest in learning.

Post-trip stage

The third and final stage is after the excursion. Like the other stages, this stage also includes two strands. Reviewing and highlighting the most important activity of the excursion. During the class after the trip, participants should be encouraged to share and discuss their experiences during the trip. This could include sharing and discussing data or results of assigned small group activities as well as sharing feelings about specific aspects of the trip or overall impressions (Nadelson, & Jordan, 2012). The second component of the post-trip stage is determining the peak activity. This activity should give participants an opportunity to apply content-knowledge acquired during the trip. Both debriefing and peak activity should occur as soon as possible after the trip (Ferry, 1993). Planning and organizing a successful school trip can be a tedious and tiring process for the organizer. However, by following the simple steps in each of the previously mentioned stages, participants can greatly benefit from it. Also, when the agenda is well-developed, many of the concerns are usually successfully addressed. Finally, it should be noted that school trips should be an integral part of educational planning, as the benefits for the participants are multiple.

The purpose of this paper is to show that by implementing a cave-themed educational program, with the introduction of new strategies, methods and materials, combined with innovative actions in the classroom and school trips, modernizes the teaching process and contributes to the effectiveness of learning. It will be revealed the significance of the cooperation of different specialties of primary school teachers for the creation of succeeded educational tourism programs.

2. Methodology

2.1. Sample

The educational program in cave of Agitis Springs involved 17 students of the Second Grade of the Primary School of Petrousa Drama in Greece as pilot group and 14 students of the Second Grade of the Primary School of Voloka Drama in Greece as control group. The program was named "Let's go to the cave" – case study of Agitis cave and it ran through the lesson of Flexible Zone and as an innovative program included in the theme of Environmental Education. The students of these classes were chosen because the Flexible Zone course takes place in the School Timetable 3 (three) hours a week and is implemented by the main class teacher in collaboration with other ones with different specializations.

2.2. Measurement scale

A test was administered to explore students' knowledge as well as a physical education evaluation program aimed at determining space, balance and orientation. The questionnaire was designed by the research group in collaboration with the class teacher and the Physical Education program by the Physical Education teacher based on the Analytical Study Program of the 2nd grade of Primary School. The test comprised of 44 questions (37 closed and 7 open-ended) on the subject of caves, of which 10 related to general knowledge about caves, 24 related to knowledge about Aggitis cave and 9 questions related to the life and habits of prehistoric people (of the Paleolithic era) who lived in caves.

2.3. Process

In order to conduct the research, written permission was requested from the students' parents. The tests were completed in the classroom at the beginning and at the end of the research for the pilot group. The questionnaires of control group were completed only once regarding the cognitive level of the students of this age. The program had 3 phases/stages classroom-based actions (before excursion), fieldwork activities (during excursion) and follow-up activities (after excursion) organized by the researchers and the class teacher, musician, English teacher, informatics teacher, art's teacher.

Classroom-based actions (before excursion)

- Preparation, rules of behaviour, management of emotions
- Movie screening: the ice age
- Virtual tour of the museum and the cave to be familiarized - preparation of the visit
- 3D virtual representation of cave objects
- Orientation exercises, spatial delimitation and balance exercises, in the courtyard of the school
- With the help of Google Map, the students located the cave on the map and oriented themselves in relation to their school, their village and the capital city.
- They traced the river that passes through the cave, they saw where it starts and where it ends.
- Digital orientation
- Special mention was made of the wheel room, which owes its name to the existence of a large hydraulic wheel, which covered water supply and irrigation needs during the Ottoman era (http://www.caveagitis.gr/gr/).

- English teacher proceeded to learn basic words related to the caves and the reading of signs lesson
- Social Behavior Contract with the creation of the game “The Museum Guard and the Naughty Visitors”
- Singing songs with museum object with the musician of the class
- Preparation of a theatrical play “The hunt for the mammoth”
- The geometric shapes understanding
- Energy and sustainability issues
- Reading and processing of the fairy tale "The 10 rights of a young visitor to a museum".
- Treasure hunt: guided by a map, students became archaeologists and discovered "ancient pottery" in the school yard.

Fieldwork activities (during excursion)

- Hiking by the river Agitis (pre-planned route) for determining space, balance and orientation purposes
- Observation of the area (flora, fauna)
- Visit-tour of the cave and same purposes as the river hike
- Group recreational games in nature
- Visit to the archaeological museum
- In the museum area, group visual activity - painting "I think about what I saw in the cave and the museum and imagine a day in the life of the people of that era".

Follow-up activities (after excursion)

- Comprehension of the subject with artistic creations (painting, collage, 3D impression of the cave with various materials) - Aesthetic impression
- A clay workshop was created and museum exhibits (figurines, vases, tools) were constructed by students, which were the exhibits of their own "Museum of Class".
- Using VR glasses for virtual observation of other caves - comparison
- Written reports of experiences and feelings
- Finally, an exhibition was organized with a presentation of all the activities and creations of the students (texts, constructions, photos, etc.) that related to the entire educational program. The exhibition was visited by the students of the school, as well as their parents, with the students of the class having the role of host-guide.

3. Results

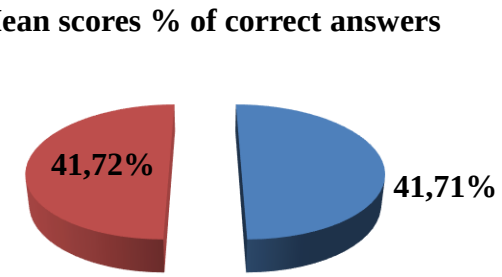
3.1 Record of cognitive level of pilot and control group

At the beginning of the research, the questionnaires of control and pilot group were completed regarding the cognitive level of the students of this age. The results of the Mean Score of each group are shown on table 1 and figure 1.

Table 1. Mean scores in percentages of correct answers in evaluation test for pilot and control group.

	Number of students	**Mean Score in %**	**Standard Deviation**
Pilot Group	17	41,71%	9,84
Control Group	14	41,72%	8,67

Figure 1. Mean scores in percentages of correct answers in evaluation test for pilot (blue) and control group (red).



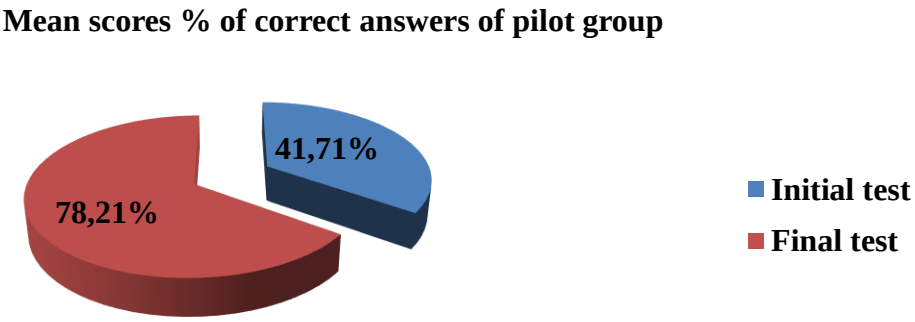
3.2 Initial and final score of cognitive level of pilot group

After the implementation of the research program of three stages, it was conducted a repeated measure for the pilot group. The results of the initial score and the final score of pilot group are shown in table 2 and figure 2.

Table 2. Mean scores in percentages of correct answers in evaluation test for pilot group before and after the research program.

Pilot Group	Number of students	Mean Score in %	Standard Deviation
Initial test of knowledge efficiency/cognitive result	17	41,71%	9,84
Final test of knowledge efficiency/cognitive result	17	78,21%	9,41

Figure 2. Mean scores in percentages of correct answers in evaluation test for pilot group before and after the research program.



The score of students' correct answers was recorded before the program's implementation and after the completion of the pilot program. By comparing the initial and final test results of the exposed group, we conclude that there were statistically significant differences, $t(16)=17.898$, $p < 0.05$ (Mean1=41.71, Mean2=78.21).

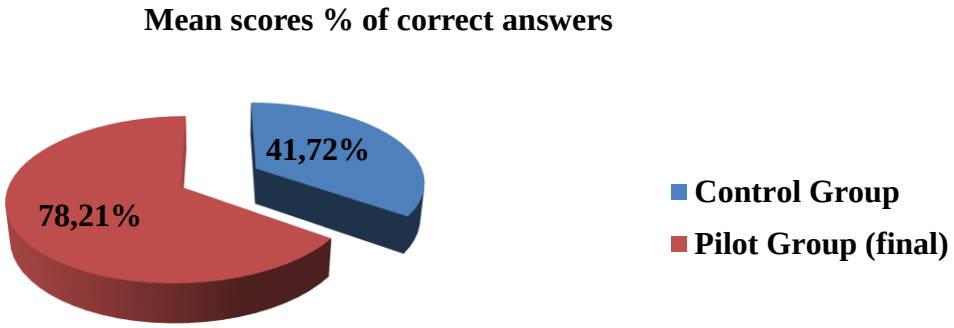
3.3 Comparison of cognitive level of pilot and control group after the implementation program

After the implementation of the research program of three stages, it was conducted a repeated measure for the pilot group. The results of the final score of pilot group and the comparison with the results of control group are shown in table 3 and figure 3.

Table 3. Mean scores in percentages of correct answers in evaluation test for pilot group after the research program compared to control group scores.

	Number of students	Mean Score in %	Standard Deviation
Control Group	14	41,72%	8,67
Pilot Group (final)	17	78,21%	9,41

Figure 3. Mean scores in percentages of correct answers in evaluation test for pilot group after the research program compared to control group scores.



By comparing the initial test results of the control group and the final test results of the exposed group, we conclude that there were statistically significant differences, Pilot group A - Control B $t(29)=11.128$, $p <0.05$ (Mean A=78.21, Mean B=41.72).

4. Conclusions

Nowadays, tourism is a societal commodity, therefore the interest of the educational community pivots on school excursions. In this context, the attitude, and the findings of this study, are fundamental to further comprehension and development of school excursions within educational tourism. In the recent study there has been a try to be investigated whether the planning of educational tourism programmes in context to the lesson of Flexible Zone and pioneering programmes carried out in Primary Education, with the introduction of new strategic methods and materials in cooperation with Education Specialists and in association with innovative actions such as the use of new technologies, planned school excursions, retrofits the teaching procedure and contributes to the effectiveness of learning.

According to the findings of the recent study, arose the importance of educational tourism in the increasing of cognitive result in compliance with the students' former cognitive level in the second grade between the two Primary Schools (pilot team and control team), regarding the subject of the caves. Due to the scores of the right answers at the questionnaires/tests at the beginning and at the end of the survey, a statistically significant disparity was noticed (students doubled their score), that is a fact that features the implementation of equivalent programmes

that contributes significantly to the educational process and the conquer of knowledge in experiential way. The reassessment test was given at the end of the school year as a question game "Sharpen my mind" and students delivered with confidence, using the phrases that were heard during the sightseeing in the cave.

The syllabus of the lessons of the second semester of the pilot class was covered cross-curricular according to the research, "Let's go to the cave", in conjunction with the education specialists, who were involved. The modules were literally connected and enriched with inquiring lesson plans. In this way, the collaboration among the students was boosted as well as their inquiring interest and their creativity. In this programme participated all the students having an active role, even the ones, who were more weak and less sociable, unfolding their talents, skills, and abilities.

The use of new technologies (virtual touring, Virtual Reality, 3d glasses, digital maps, etc) was a positive aspect regarding the students, as they were familiarized for the first time with these techniques. The playful approach as well as the fear management for the unknown and claustrophobia contributed so as the students would feel more relaxed throughout their touring in the cave. The Physical Education lesson accompanied with programmes, balance games, both orientation and delimitation brought about students' confidence, since they could follow and enjoy the pre-established route (graded difficulty) in the cave's surrounding with glide. Moreover, students affiliated with each other, enjoyed themselves through games with natural materials, such as rocks, wood, leaves, etc. The Art lessons, like drawing, music, theatrical education, stimulated the little explorers to cooperate, express creatively and improvise. Knowledge through the lessons of Language, Maths, Science and English attained handily and naturally since it was gained with experiential way. Young children learn while seeing, touching, smelling, tasting and moving in the setting since they experiment in a variety of materials" and that "processing matters entail that the activities developed, offer students chances for expeditions in natural and social environment, direct observation, collection and process information (Δαφέρμου, Κουλούρη & Μπασαγιάννη, 2005). In this way schools manage to meet with success in society.

The main result that arises from the recent study is that the planning programmes regarding educational tourism in the frame of the school curriculum, carried out by the Primary Education, modernize the educational process, and contribute to the effectiveness of learning. The novel programmes carried out by Primary Education are significant to the process of learning since the latter from memorizing- individual turn out to enquiring- cooperative. Thus, the students develop their skills and nourish positive attitudes and behaviours. The acts where the students observe carefully, express themselves, play and participate actively, as well as the use of technology through 3D presentations, comprise useful tools for broadening the range of the educational purpose and the desire of learning further to students.

It is believed that school excursions as part of the teaching method in order to be more effective, should be planned and activities should be organized with specific goals. A further conclusion from the study is that organized school excursions are better regarding students' interest and satisfaction contrasting to being taught in class and this is because school excursions both help students comprehend better the syllabus by having an immediate contact with it and modify their behaviour positive. The Department for Education and Skills in the United Kingdom consents to them, claiming that school excursions are a unique opportunity for children to develop their social and ludic skills, adding that they are extremely helpful for children's skills growth and better understanding and cohesion in the school environment (Hunter-Jones, & Hunter-Jones, 2007). In conclusion, the interdisciplinary approach of the cave tourism is a pleasant learning experience through which students gain a better relationship with the environment, nature and sports. They cultivate psychomotor skills and gradually acquire a tourist consciousness.

Pupils' profiles of the 21st century have completely changed globally. Digital technology has altered the traditional educational model by bypassing the teacher to get to the student directly and revolutionize the way of teaching through experiences. It is crucial for the students of the 21st century to be equipped with a variety of skills so as to respond and be active parts of the continual changing world (Schleicher, 2015). It is imperative that the educative setting must change, and furtherance of innovative applicable programmes be introduced. According to Dubberly (2008) the novelty is the foundation of society. The failure of introduction and implementation of innovative programmes in modern organizations is likely to lead to lack of today's demandings. Edutourism can promote sustainability and transform the young tourists to responsible tomorrow consumers and travelers, who respect and protect nature.

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