

“A DREAM JOURNEY TO KNOSOS”: AN ALTERNATIVE MEANS OF TUITION OF THE UNIT OF THE MINOAN CIVILIZATION

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Abstract

This paper aims at presenting a hypermedia application called “A dream journey to Knosos”, the basic principles of its design as well as its educational features and the evaluation of its application in a classroom of a primary school fourth graders. The general aim of this product is to give pupils an opportunity to learn various aspects of the Minoan civilization and “get a flavor” of this ancient era by taking advantage of the multimedia and interactive potential of current ICT tools. In this virtual - but relatively authentic - environment, students develop, in an experiential way, knowledge of various meaningful aspects of this civilization rather than merely obtain partial information. A further aim is the discovery and construction of knowledge by the students themselves, through a variety of activities, by being active and developing critical reasoning, which contribute to making learning a pleasant and an interesting journey.

INTRODUCTION

In recent years there has been a continuous discussion concerning the teaching of History in schools, the deficiencies, the characteristics of the traditional instruction model and the dissatisfaction felt by students. As a result of a number of factors, the teaching of History confronts with various problems. One crucial problem, which is connected with the nature of the subject of History, is the difficulty concerning both content and teaching methods. Furthermore, students face some developmental difficulties in understanding historical phenomena and their importance, particular terminology, abstract ideas and concepts. Lacking relative experience, they face difficulties, for example, in understanding the sense of time, the function of historical sources and the meaning of events. The latter is partly due to the fact that these constitute actions of the adults world, while students have not developed the necessary critical thinking and experience for their interpretation (Coltham, 1934, Fraggos, 1984).

On the other hand, there are several problems, which do not have to do with the nature of the subject itself but relate to other, contextual factors. The problematic situation in the teaching of History is reproduced by the schoolbooks content and mentality, the syllabus and the examination-based educational system, as well as the unsuitability of teachers and the current teaching methodology adopted (Avdela, 1998). Consequently, consideration has to be given by motivated teachers on how to achieve learning targets of a higher level while at the same time helping students to develop more positive attitude to the subject of History.

Since it is not possible to solve such systemic problems overnight, there is a need for a lot of effort on the part of teachers to improve as far as possible the quality of the learning process in their classroom. In recent years, especially with the introduction and utilization of New Technology in education, there has been some progress. This also gives hope for the future and reinstates History as a valuable subject, at the same time rendering it more enjoyable for students (Chandler, 1990, Yiakoumatou, 2001). Taking advantage of the internet, educational software and virtual reality applications in teaching History, can contribute substantially to the amelioration

of the learning process, provided these are used suitably and in a manner that has been planned to meet educational and methodological development needs (Yiakoumatou, 2000, Kaskadami, 2001, Repousi M., 2000).

The hypermedia application “A dream journey to Knosos” has been designed and applied within this context and as part of the effort to achieve an educational intervention that will overcome memorizing practices while encouraging explorative learning on the part of the students. With the aid and guidance of the teacher, students will become young archaeologists who will discover for themselves the magic of the Minoan civilization.

Educational and Teaching Context

The methodology of the development and the exploitation of ICT for the educational purposes of this application are based on the method of learning through discovery. A story is constructed in which the protagonists, the youngster Tolis and Ariadne, travel to Knosos and meets its civilization. An imaginative archeological guiding simulation has been developed that serves to attract the interest of students so that they can gradually discover many aspects of the Minoan culture, through their virtual touring in the ancient palace and their acquaintance with people, objects, symbols and happenings. Rather than being mere operators of software and passive recipients of data, students are transformed into protagonists who actively participate in this “journey”. Moreover, experiential learning is realized through these activities. This particular software is intended to facilitate comprehension of meanings which is achieved through the students’ active processing of the information supplied to them while they are facing various challenges during the exploration process. Moreover, both the investigative and the intuitive thinking of students is activated in conjunction with higher mental processes related to problem solving (Raptis & Rapti, 2004).

The designing and development of this educational product is also based on Vigotsky’s constructivist theory. According to this theory, students construct knowledge through the stimulus they receive from various problematic situations to which they respond using the ideas and preconceptions already existing in their minds (Koliades E., 1997). Furthermore, emphasis has been given to using the internet as an educational means for the qualitative upgrading of the subject (Owston, 1997). The contribution of the electronic mail is emphasized, since students may use it to communicate with experts and converse with other groups. Through e-mail, the students can act both as individuals and as members of social groups in a motivating context and learn in their own way things that teachers could not always predict.

Planning Principles

On the basis of Bloom’s classification of Knowledge (Bloom et al, 1986) and the targets set by the analytic program for teaching the module “Minoan civilization”, it is noted that the general aims of this hypermedia application have taken into account many aspects of the Knowledge devel-

opment process. This software is an alternative proposition of teaching this particular thematic unit, aiming at providing the students with global rather than fragmented knowledge about the "Minoan civilization". Furthermore, it seeks to stimulate the initiative and personal involvement of students in order to enable them to deal with specific historical matters and to critically process information concerning Minoan Crete. Within the framework of our general objectives, there lies the multi-thematic approach of this particular historical module, the student's interdisciplinary data processing based on both the knowledge of history as well as the knowledge of other fields, such as literature, mathematics, art, economics, mythology etc. Finally, particular emphasis is given on investigation - both at an individual and at a group-collaborative level - as well as on supporting critical thinking.

The particular objectives of the application are:

- Enabling students to learn about important events, persons, situations and historical meanings concerning Minoan civilization and to relate them to modern civilization.
- Helping them to become aware of the concept of time and experiencing changes taking place in every day life during lengthy time periods. The comparison of present and past is an a theoretical axis which many of the activities of the application are consistent with
- Informing students of the social, cultural, religious and other manifestations of Minoan civilization and relating them to other societies being studied.
- Giving them opportunity to develop critical reasoning and cultivating a spirit of group collaboration via discussions on various issues and playful activities in the context of a fictitious story.
- Forming a personal opinion and taking a stance on current affairs such as the attitude of humans towards nature and the environment or animal life, their perception of liberty, symbols of power through time, the meaning of rituals, etc.
- Pinpointing, selecting and organizing historical data through a variety of sources, using technology and especially the Internet.
- Acquainting students with the use of New Technologies as a means of exploration and expression.

DESCRIPTION OF THE APPLICATION

The scenario of the application, which has been brought into effect within the programming of the Multimedia builder 4.9.6a and Macromedia Flash MX 2004, commences with the presentation of a story, which serves as the basis on which to construct the whole application. The protagonist is a boy, Tolis Dreamer, a junior school student in the fourth grade who is at the same age as the students for which this program is intended. The name "Dreamer" is characteristic of the development of the plot, which is the following: "Young Tolis goes for his summer holidays to Crete with his mother. On visiting the archaeological site of Knossos, he falls asleep under a tree and this is the point where the story actually begins... In his dream he meets Ariadne, the daughter of King Minos and they set off on a journey in ancient Knossos".



Tolis, a temporary youngster, and Ariadne, an important figure in Knossos link the historical past to the present. The imaginary coexists with the real and the students become involved in a process of discovery and construction of knowledge in a manner that is pleasant and enjoyable. The material - as it is large and varied - has been divided into distinct units corresponding to various aspects of the particular civilization. This facilitates its comprehension and choice for use by the students. These units are the following: The Palace, Economy, Religion and Festivals, Sport, Arts and Crafts, Attire and Writing. In each unit there are also relative activities built in the story which enable students to learn more efficiently.



In addition to these main units, the application comprises supplementary material in the form of the following units: Mythology, consisting of well-known myths about Knossos and the Minoan civilization, Excavations, containing information about the excavations that revealed the unknown Minoan civilization and photographs of the palace ruins, The End of the Minoan civilization, which includes viewpoints on how this civilization was eventually destroyed, and Literature, consisting of relevant literary extracts. There is also included a video of the Knossos site and audiovisual material related to both the particular subject and Crete in general. The activities are an important part of the application and, depending on their content and function, supplement and round off each relevant unit. There are open ended and closed activities. Specifically, the program includes five speech-generation activities, two drawing/painting activities, a grammar activity, a mathematics activity, a crossword and a jigsaw puzzle and an activity in which the student has to solve ciphers in order to help Tolis find the parts of Ariadne's yarn.

EVALUATION RESULTS AND CONCLUSION

The "A dream journey to Knossos" software was tried and assessed with the participation of seven junior school fourth graders of the Montessorian schools. The role of the tutors during the students' assessment of the software was confined to that of coordinators of the procedure, providing help and guidance to the students when necessary. The following conclusions were arrived at as a result of the assessment process of the software, which was carried out by means of students answering questionnaires:

- The subject of the Minoan civilization was regarded as a good choice by the children and met their wish to acquire more multi-modal information than that contained in the schoolbook.
- The information and the way it was presented within the application were comprehensible and students' involvement was quite enjoyable. The level of difficulty of tasks was medium so that they could feel "at home" and at the same time feel challenged enough to further processing and exploration.
- The program can serve as an alternative model of instruction of this particular history period. It makes History look more appealing to children and more integrated. It also provides opportunities for supporting activities and issues that the syllabus and the schoolbook fail to tackle.
- Students became immediately familiar with the environment of the application and found it friendly and interesting to use.
- The lesson was rendered more vivid and appealing as a result of using stories, picture and sound, a variety of colors and motion.
- Students' involvement in the activities contributed to the advancement of critical reasoning, the comparison and resolution of problematic situations.
- Experiential learning was reinforced, as the students became fellow travelers in the "Dream journey to Knossos", through which they gained interesting experience and assumed roles.
- The two protagonists, Tolis and Ariadne, helped the students to make a trip to that era and to be involved in a process of discovering knowledge in a pleasant and enjoyable way.

On the whole, the students responded enthusiastically to this alternative educational proposition of using New Technologies for learning about the Minoan civilization and evaluated it positively. They preferred it to traditional tuition and expressed their wish for more graphics in the program. One of our future aims is to satisfy this demand and to incorporate a virtual excavation that students will carry out in order to enrich the particular explorative environment.

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