

Teaching Greek as a second or foreign language through the development and use of educational software

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Abstracts

English Abstract

The paper is a first presentation of the design and development of educational software implemented by the Department of Technology Education and Digital Systems of the University of Piraeus. Its aim was the development of educational software for teaching Greek as a second or foreign language to people coming from English-speaking countries. In this paper, the objectives and the target user group of the educational software are defined. Also, the structure of the educational software and its methodology are presented.

Greek Abstract

Το άρθρο αναφέρεται στην ανάπτυξη και κατασκευή ενός εκπαιδευτικού λογισμικού από ομάδα φοιτητών του Τμήματος Διδακτικής της Τεχνολογίας και Ψηφιακών Συστημάτων του Πανεπιστημίου Πειραιώς, το οποίο απευθύνεται σε αλλοδαπούς μαθητές οι οποίοι διδάσκονται την ελληνική ως δεύτερη ή ξένη γλώσσα. Στο άρθρο αυτό, παρουσιάζονται οι στόχοι και η δομή του εκπαιδευτικού λογισμικού.

Keywords

Intercultural Education (IE), Information and Communication Technologies (ICT), educational software, web-based learning, Distance Education (DE).

1. Introduction

During the last twenty years in Greece, the arrival of a massive population of repatriated Greeks as well as foreign immigrants caused changes in the socio-cultural physiognomy of the Greek society. The multicultural mosaic which defines the structure of contemporary Greece is also reflected in the data for foreign and repatriated pupils that attend Greek schools. However, Greek society and its educational system - unlike other countries, such as Great Britain, Australia and Canada - were not ready to accept this population [1].

As a result of the above situation, actions were taken and quite soon the necessary institutional framework was shaped. Unfortunately, Intercultural Education (IE) has not proved until now its great value as a pedagogical approach due to the lack of appropriate educational textbooks, software and infrastructure.

2. Repatriated and foreign pupils in Greek schools

One thing that often leads to confusion is the exact number of foreign and repatriated students. Numerical data vary according to the source from which they are obtained^[1] (independent research; Ministry of Education; Special Secretary of Education of Expatriate Greeks and Intercultural Education, National Statistical Organisation, etc). From the school year 2001-2002, the Institute of Education of Expatriate Greeks and IE has undertaken the task of collecting and presenting all the relevant statistical data. The following table [2] illustrates both the foreigners/immigrants and the repatriated students in Primary Education (excluding Nursery schools), Junior Schools and Junior High Schools for the school year 1998-1999.

Table 1. Statistical data for the repatriated, foreign and Greek students, school year 1998-99 (Source: Paleologou & Evangelou 2003: 132)

Repatriated, foreign students and indigenous population in the primary, junior high and high schools, school year: 1998-99					
School year	Repatriated	Foreigners	Repatriated & Foreigners	Greeks	%
Primary Schools	27,687	28,426	56,113	590,446	8.67
Junior School	11,976	5,761	17,737	362,372	4.66
Technical School (Junior High level)	1,880	609	2,489	136,933	1.78
Junior High – Vocational School (Junior High level)	2,443	955	3,398	262,393	1.27
Total Number	43,986	35,751	79,737	1,352,144	5.57

Source: Drettakis (2001: 40)

One can notice a drastic decrease of repatriated and foreign students during the transition from one level of Education to another (i.e. from Primary to Junior High Schools). Only 20% of foreign pupils go to Junior High School, while the remaining 80% abandon school. From 5,761 foreign pupils in Junior High Schools only 1,564 go on to High School (27%), whereas 73% abandon school. The phenomenon of "dropping-out of school" can partially be explained by the fact that lots of repatriated and foreign pupils work from an early age in various part-time activities and jobs. As a result, they often abandon school at an early stage and do not complete their compulsory studies. As far as their participation is concerned the problem aggravates; and there are no official statistical data in Tertiary Education.

In the above data, if we include the 7,065 Muslim and 8,500 Roma children, then the total student population with different ethnocultural characteristics amounts to the 16.4% in the Greek Primary Schools [3].

Based on the above tables, one can notice that there is an increase in repatriated pupils and a decrease in the number of foreign pupils in the schools of the country. The two main representative groups of pupils that are included in the category of repatriated come from the ex-Soviet countries and North Epirus.

In order to explain the percentages in the above tables, Drettakis [2] pointed-out that the increase of the foreign population in our schools regarding their representation, compensated to some extent for the big reduction of the indigenous school pupils; the latter was due to a great extent to the vertical reduction of births in our country during the 1980s. By the school year 1999-2000, there was an important rise in the number of foreign pupils and an equivalent decrease in the number of repatriated pupils. This is due to the fact that the percentage of foreigners arriving in our country is increasing while the return of the repatriated people to our country has almost been completed.

3. Current provisions and obstacles

Difficulties arise in the school adjustment of foreign pupils during their attendance in a new educational system. More specifically, children coming from a foreign country often present a higher rate of school adjustment difficulties, not only in their attainment but also in their behaviour, according to the international bibliography [4, 5, 6, 7, 8]; also, the self-esteem of foreign students is very low [9].

In order to overcome the difficulties described above, the educational system is asked to adopt ways and practices that would help students to have a better academic achievement as well as feeling and reacting better in the psycho-social domain. The establishment of the "Office of Intercultural Education" within the Ministry of Education and the "Law 2413/96" [17], entitled "Greek Education abroad, Intercultural Education and other arrangements" consisted, for the first time in Greece, of an official acceptance from the Greek authorities for the educational needs of the different ethno-cultural groups.

According to the current legislation students with different cultural characteristics attend special classes for some hours during the school-day, which are called "Reception Classes" [18]. In these classes, students are taught lessons mainly in the Greek language in order to reach an adequate level and be intergraded in the mainstream classes later on. There are also the "Tutorial Classes", which help students learning the Greek language by means of private tutorials [18].

In schools providing "Tutorial Classes", the actual amount of tuition dedicated to each pupil or group of pupils, varies to a considerable extent. It can be between 3 and 10 hours per week after school tuition; that is to say, each pupil in need of extra teaching is appointed to a small group and there are 3 to 10 hours per week for that particular group.

In the "Reception Classes" there are 5 to 10 hours of instruction per group, taking into account how many years the pupil has been in the school, how many years of remedial instruction he/she has followed and what his/her linguistic competence is. Absolute beginners receive 10 hours of instruction per week whereas later, minority pupils receive 5 hours of instruction in Reception Classes. During the rest of the school day they attend the mainstream classroom and are expected to acquire the foreign language (Greek) through a lesson which is tailored to the linguistic needs of their Greek peers.

4. Needs for an ICT approach in IE

Education cannot be excluded from to the technological development; ICT promises revolutionary changes in the field of Education. ICT provides tools that help the school's operation; it is an instrument that makes teaching more effective and more stimulating; and through some specific applications such as distance education, it brings a complete reform to the learning process. While important for almost all educational activities, ICT promises a new perspective in the way IE is handled in school [22, 23, 24].

The use of ICT is a pleasant process for the pupil because with the use of various tools (i.e. multimedia) the course becomes attractive, his/her attendance is increased and his/her interest is retained [10]. Moreover, a pupil's navigation in the Internet can bring important educational results if it is developed with a suitable pedagogical way.

In classes with foreign pupils, ICT is used in the educational process with particularly positive results in the promotion of cooperative learning, to combat racism in education, and to open the school to the society via special programmes that take advantage of the communication capabilities of ICT and the Internet [19]. A good example was the *Lingua Salve Programme* (1995-1998), where ICT was used for teaching Greek as a foreign language as well as for other European languages not spoken at an international level such as the Italian, Swedish and Finnish. In this particular instructional approach English was also included [11]. Among the aims of this programme are the in-service teachers and their pupils in European countries to collaborate and communicate using in their mother tongue without the help of a third language as a mediator (i.e. English) and the production of multi-language stories by pupils.

In general terms, ICT creates a fertile learning environment, particularly for the mastering of reading and writing skills and for the acquisition of a second/foreign language. Students can work in teams (collaborative and cooperative learning) and thus learn one with the help of each other; as a result, foreign and indigenous pupils come closer together, develop social relations and create friendships. In particular, the self-esteem of foreign pupils is increased due to the use of ICT. Thus, they tend to participate more and they feel that they have something to offer and they worth more [20, 21, 19].

5. Applying ICT in IE: limitations and recommendations

As it was already discussed, IE in primary and secondary schools in Greece faces a variety of problems mainly due to the fact that the educational system was not ready to accept such a large number of immigrant students. There are two aspects of the problem where ICT can play a vital role (a) in teachers' training in IE, (b) in foreign students' education. Both of them can be managed in two ways. The first is to use off-line applications and the second is through Distance Education (DE) with the use of web pages.

Regardless of the selected methodology for applying ICT (on/off line), the objectives that can be set are common in both cases. These are the following:

1. To promote intercultural dimensions in Education.
2. To develop a new teaching methodology for IE, based on the use of ICT.
3. To provide a complete set of IE courses either as a stand-alone application or as DE application.
4. To provide teachers with new tools for IE and facilitate them in their work with immigrant students in order to promote equal opportunities in Education for all students.
5. To provide in-service teachers with courses on managing and promoting IE with the use of ICT.

IE is a relatively new field of study in Greece. Most teachers have faced difficulties in their career associated with the presence of foreign students in their classrooms; however they were not trained how to handle them.

Since the year 2000 all high-schools have computer labs and connection to the Internet and since 2004 there is an on going effort to equip Primary Schools with computers and train teachers on ICT in the frame of the Society of Information funded by the 3rd Community Support Framework [26]. One could think that this national scale initiative provides a firm ground for applying ICT in schools with success. Unfortunately, this is not the case. Providing schools with computers is one issue, ensuring their usage is another, more difficult task.

Taking into consideration that ICT in Education is a relatively recent situation in Greece, teachers will be able to use ICT under two conditions:

- a. if they know how to operate them and
- b. if they are persuaded that ICT forms tools support their teaching duties.

As far as (a) is concerned, during the last four years in Greece there is a national initiative aiming to train in-service teachers on basic computer skills. Regarding (b), little is done. Therefore, any effective educational design concerning teachers' training on ICT and IE should take into consideration the following issues [25, 26, 28, 29]:

- Technical issues. In almost all cases teachers' lack of technological knowledge-called 'technological illiteracy' - is a major obstacle. Any kind of training should focus on this direction.
- Teaching issues related to different instructional activities and methods during the teaching process. Also, computers as educational tools require a shift in the attitudes and roles of teachers and pupils.
- Organisational issues. The demand for quality in education on the one hand and innovative changes in school's timetable and curriculum on the other create the need for rearrangement regarding school's operation and management.
- Training in the design of appropriate teaching material. Teachers should acquire the independence to use simple, cost effective tools and the flexibility to adjust them to their pupils' educational needs.
- Evaluation of ICT methods, their advantages and disadvantages. The analysis of the results of on/off line applications aids to identify weaknesses which limit their effectiveness.

In brief, we distinguish two ways for providing teachers with IE courses. Their content in both cases is almost the same with minor alterations in the case of DE; the off-line method – which is more challenging - produces no real problems as it is very close to traditional teaching, with the exception of using a computer instead of a textbook [12, 13]. In this case, schools are connected to the Internet through simple dial-up or - in best case - ISDN telephone lines. This type of connection requires the use of some technical tricks which allow adequate quality and transmission speed:

1. Extensive use of multimedia elements is not recommended. Impressive multimedia features should be avoided when presenting the educational material because this:
 - (a) will decrease connection speed and
 - (b) will distract the pupils' attention from the educational objectives of the educational software.
2. The size of image files has to be reduced by decreasing resolution colour depth and/or by compressing them; the same applies to animations.

With respect to the teaching approach/es one can follow, it this can be either group-work and collaborative learning or partially self-learning. The concept underlying this approach is grounded on web based education; by default it is a student-centered teaching method. According to the research, students who have more control on the teaching process tend to be more positive towards the process of acquisition of knowledge [14, 15]. In web based education the hypertext structure indicates whether a student can exercise an effective control over the educational material; for this reason, in order to avoid disorientation the hypertext structure should, at the same time, help students not to lose track while navigating through various web pages.

Thus, a good idea would be to present the hypertext structure which is hierarchical-linear as non linear. The various sub-sections can follow a linear structure as in a textbook. Choices on the menu bar will allow students to follow a non linear course. We must, however, stress that we do not recommend using this non-linear course for the initial lessons; this can be applied to the ongoing courses where students will be more familiar with the use of the second or foreign language. Students will have the possibility to repeat whatever parts of a lesson and they want and whenever they want to, which is also an advantage of the DE method.

Teachers who wish to keep a high degree of control over their classes do not accept easily DE as a teaching method. DE as a 'personalized' method renders the close observation of the students' progress as a whole entity impossible. Another issue is that the teacher will have to work hard in order to aid every student according to his own needs and this can make him/her suspicious towards the applicability of the method.

Another final point we should take into consideration is that it would be beneficial to use a platform. An effective platform looks like a simple portal-like web site. A portal is a web site which also provides Internet services: email, chat rooms, free personal web pages, guides, calendar etc.

6. The development of educational software for teaching Greek as a foreign language

In the Department of Technology, Didactics, and Digital Systems of the University of Piraeus, in the area of teaching Pedagogic and Didactic courses to students with technological background, there is a project led by a group of students for the development, application and assessment of an educational software for foreign students which are taught Greek as a foreign language.

The aim of the development of the educational software 'Greek Learning' is teaching Greek as a foreign language to immigrant students with the aid of English language as a mediator.

In the international bibliography there exists a variety of studies in the field of teaching a second or foreign language - mainly the English one - where the basic principles for teaching a foreign language are laid. These principles create the frame for the teaching of a second or foreign language; for this reason we took them into consideration for the development of the educational software 'Greek Learning'. We also studied the relevant published textbooks for teaching Greek to immigrants, the design methodology of the educational software 'Xenios' which is used for teaching English, French and German language in Greek schools, the design methodology of the educational software 'Filognossia' as well as the design methodology of the Greek on-line courses addressed to the Greek Diaspora. In addition, the Department of Primary Education of the University of Patras in Greece has developed educational software which is a dictionary from Russian to Greek and vice versa for Greek learners coming from the ex-Soviet countries [16].

The educational software 'Greek Learning' was developed in two phases. At the first phase, the basic structure and the main chapters of the educational software were constructed, while at the second phase a variety of exercises was added, aiming at the teaching of an extended vocabulary of daily communication. More specifically, the first edition of 'Greek Learning', which also forms its pilot application, includes two main chapters; the first consists of two units, where the first contains the Greek alphabet and the second one the numbers followed by relevant exercises. The second chapter includes seven units, which refer to experiential situations of daily life, aiming at the acquisition of a basic vocabulary for the communication with individuals and with the public services.

More specifically, the first chapter includes the following:

1. Greek Alphabet,
2. Numbers,
3. Days,
4. Months-Seasons,
5. Exercises.

The second chapter consists of seven sub-chapters:

1. Greetings exercises,
2. In the bank,
3. In the taxi,
4. In a clothes shop,
5. At a kiosk,
6. In a tavern,
7. At a cafeteria.

The third and fourth chapters consist of three sub-chapters with grammatical exercises.

All these units include context and exercises are shaped in such ways that give the impression of a guided tour in the city.

Hopefully, in the long run, the timetable of the educational software's development consist of four phases:

1. Development of the application.
2. Evaluation of off-line lessons.
3. Development of the web pages-portal to host the application.
4. Evaluation of the web-based lessons.

The evaluation of the off-line lessons will start in the beginning of the forthcoming school year.

To give a specific example of the application's structure, in Chapter 2 the starting page of the application is a town's square (Figure 1).

In the corresponding exercises there are exercises of "filling-in" the gap where the student-user has to put the appropriate letter in order to see the word in its complete form.

There is a hierarchical presentation of the exercises of each chapter starting from the simplest ones and successively going on to more difficult ones.

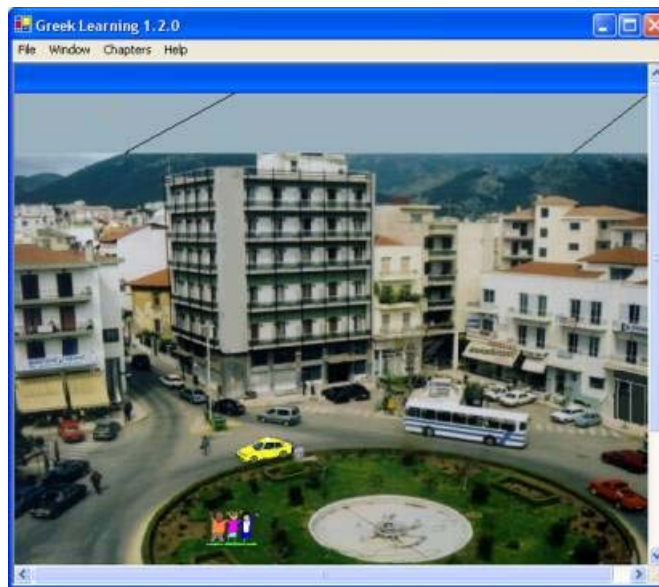


Figure 1. The interface of chapter 2

The student-user can click on whichever icon/shop he/she chooses and then a relevant dialogue appears. For instance, in case he clicks on the kiosk he/she can listen to the relevant dialogue between the vendor and the tourist (Figure 2). Then he/she can practise what he/she has learned with the relevant exercises.

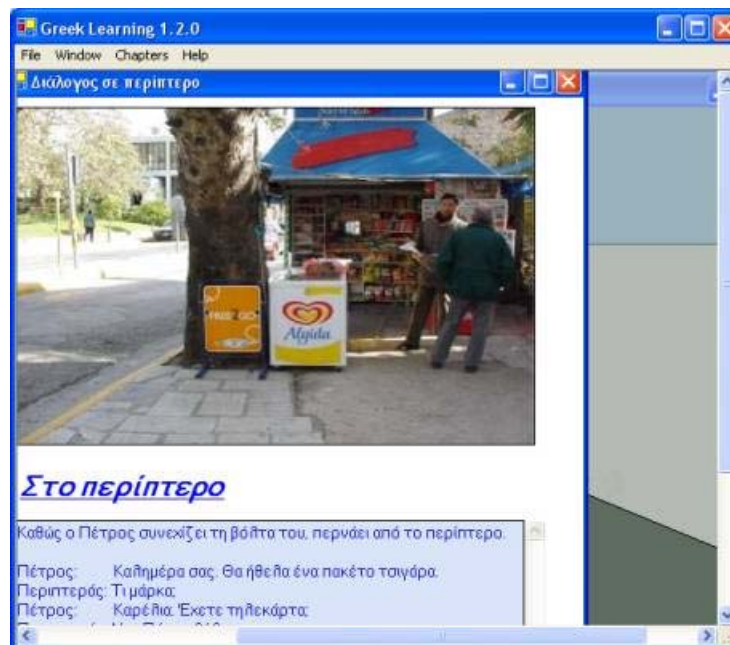


Figure 2. Buying at the kiosk

In its second edition the following changes were made - among the others:

1. The figure of Merlin the magician is used (after special license), which is the same in the Microsoft Office as an Assistant,
2. Sounds as well as multiple ways of arranging windows were added so that each user can place them in a way that is at his convenience. Moreover, the user has the possibility to 'see' simultaneously a lot of windows for continuous feedback.

The application was developed with .NET programming language; in this way graphics were drawn very easily without the existence of a particular code.

The assessment of the educational software has been planned to be accomplished in two big public schools in Athens municipality in the next school year. The diagnostic evaluation which refers to the first edition of 'Greek Learning' has already taken place in two schools with a small team of five foreign students through interviews regarding the kind of difficulties that they faced at each exercise, their degree of interest for each exercise and their suggestions for the enrichment of 'Greek Learning'; their comments were taken into consideration for the development of the second edition of 'Greek Learning'.

7. Conclusions

As we discussed earlier, in modern Greek classrooms foreign and repatriated pupils make up a significant percentage in the whole student population. Thus, there is great need to use various technological tools. We believe that the application of the following measures in the Primary and Secondary Education could have positive results for the foreign students as well as for their Greek peers:

- The use of ICT in the teaching of Greek as a second or foreign language. It is obvious that for the

effective learning of the Greek language as a second or foreign language the creation of suitable educational software is important; the mother tongue of the student will also be used by means of a dictionary in the educational software in order to learn Greek as a foreign language.

- The training of teachers on using ICT in their classrooms as a pedagogical tool; with such training their professional status will be reinforced amongst other benefits.
- The contribution of ICT can be valuable for those pupils that attend rural schools; in this way, students that are geographically excluded can communicate with their school peers in Greece and foreign friends globally. ICT provokes a shift of attitudes and practices in all the institutions that are involved in the educational process.

Consequently, it calls for changes in the wider social, political and cultural dimension of educational planning. What we should look at is to which degree ICT can become a tool for promoting the cultural integration and convergence and not creating communication gaps among people. We are looking forward to seeing the results of the current application and of its summative evaluation.

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¹ Statistical data are presented in the book: Paleologou, N., Evangelou, O. (2003), Intercultural Pedagogy. Educational, Teaching and Psychological approaches, ed. Atrapos. The statistical data in Table 1 is from the table that Drettakis illustrates in his article: Drettakis, M. (2001) *Children of repatriated and foreigners get beyond the 5% of the student population*, Contemporary Education, vol. 119, pp. 39-44. The data come from the Ministry of National Education and Religious Affairs and the Special Secretary of Education of Expatriate Greeks and Intercultural Education.