THE UTILIZATION AND INTEGRATION OF ICT TOOLS IN PROMOTING ENGLISH LANGUAGE LEARNING INTO NURSERY SCHOOLS: A CASE STUDY IN GREECE

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Abstract

This case study attempts to examine the utilization and integration of ICT tools in foreign language teaching in Early Education. The study uses an online application for creating and publishing Web content. This paper draws on the literature of web-based learning with a concern to foster innovative changes in classroom practices. The framework the study uses also looks into the level of participation, enjoyment and collaboration when learning with and/or from ICT. The study was implemented in pre-school to test its effectiveness in instruction and in resultant student learning. The results of the study support the significance and the educational value of this online tool on EFL teaching and learning.

Keywords: Elementary education; information and communication technologies (ICT); web-based learning; innovative classroom practices

Introduction

It is undeniable that as children are increasingly immersing in a digital world, learning styles change. The "Digital Natives" (Prensky, 2001) postulation refers to the children who are born in the Internet era and for whom new forms of digital communication and learning are second nature. Young children have access to ICT tools both at home and school (Plowman, Stephen C., & McPake, 2010).

Technology offers unique intellectual experiences and opportunities for young children and has become an integral part in early childhood education. (OECD, 2011).This fact has led a growing body of researchers in the field of English language teaching for young learners to investigate their potential when integrated in the young learner curriculum (Goodwin-Jones, 2005; Terrell, 2011). Hence, a growing consensus has emerged regarding the use of ICT tools in early childhood (Price, 2009; Reed & Canning, 2010; Siraj-Blatchford, 2011). In principal, literature suggests that the exploitation of new technologies in Early Childhood Education (ECE) can help meet the learning objectives and at the same time make learning authentic, appealing and effective (Plowman et al., 2010; Nikiforidou & Pange, 2011). It is suggested that ICT experiences early in life encourage children to ask questions, think more critically, experiment and develop their reasoning (Bybee & Kennedy, 2005) . More studies suggest that ICT use can offer the right environment for collaboration, cooperation and positive learning experiences between children, or between children and adults (OECD, 2012). As New Zealand Council for Educational Research (Bolstad, 2004) reports, quality technological tools encourage children to engage in self-exploration and cater for their individual

needs in a way that conventional print-based material cannot equal. Likewise, studies support that ICT can help children develop their skills and competencies in their early years. (Price, 2009; Reed & Canning, 2010; Siraj-Blatchford, & Siraj-Blatchford, 2006; Byron, 2008).

Technology can boost early childhood learning when integrated into their classroom environment, curriculum, and daily practice. Successful integration of technology into early education involves the use of resources such as computers, software applications, and the Internet in daily classroom practices (Edutopia 2007; Technology and Young Children Interest Forum 2008; Hertz 2011). Overall, ICT may stimulate children's attention in class, make instruction more exciting through digital games and support and strengthen cultural exchange through discussion groups on the web (Pange, 2008). However, there are some researchers who have expressed concern about the integration of ICT in pre-school education. Proponents of such views contend that ICT may alienate children and bring lack of communication and decreased academic performance, as well as cause lack of concentration and bring about behavioral issues, focus and attention problems (Lee, Bartolic, & Vandewater 2009; Tomopoulos *et al.* 2010; AAP 2011). However, all the downsides may be moderated by the same principles and fair practices that apply to the use of all conventional print materials and learning tools and content for young children: "Technology should not replace activities such as creative play, real-life exploration, physical activity, outdoor experiences, conversation, and social interactions that are important for children's development but be used to support learning and expand young children's access to new content" (Guernsey 2010).

English as a Foreign ILnguage in Early Education
Teaching English to Young Learners (TEYL) is a general trend in educational systems across Europe. In most countries, the starting age of the first foreign language as a compulsory subject ranges between 6 and 9 years old. However, in some countries in Europe, all students start learning a foreign language as early as 3 years old, when they start pre-primary education[1] (Shin, 2010). The advantages in learning foreign languages at a young age (Read, 2003; Cameron, 2004) are, among others, that they acquire improved phonological and aural skills, have lower inhibitions, greater confidence and " less developed language ego*"* develop knowledge of the world and improve communication and flexibility. Moreover, studies have shown that young children put less effort in learning a foreign language than adults (DeKeyser, & Larson-Hall, 2005; Harmer, 2007). An early start in L2 means less interfering from L1 and improvement of mastery of L2. Early foreign language Education can lay the foundations in acquiring sound language learning skills which can assist in the successful introduction of at least two foreign languages (mother tongue plus two foreign languages), which is the target aimed for by the European Union (Commission of European Communities, 2003, p. 7).

Teaching English to Young Learners in Greece
In most countries in the EU, the starting age of the first foreign language as a compulsory subject ranges between 6 and 9 years old with few exceptions

where all students start learning a foreign language as early as 3 years old, when they start pre-primary education (for instance in Belgium in German-speaking Community)[2]. The Key Data on Teaching Languages at School in Europe 2012 report stresses that English is by far the most taught foreign language in almost all European countries. More specific direction on the optimal starting age is unclear, though, as it is stressing only the benefits of an earlier start in language learning in the pre-school years in non-formal settings (European Commission, 2011).In Greece all students start learning English as a compulsory subject from the age of 7[3]. The increase in pressure to teach English as a foreign language from an early age, and the privatization of education has led foreign language teachers to experiment more with new learning trends and adopt new learning approaches that conform to the needs of a digital society. Due to lack of curriculum design for the teaching of English as a foreign language in very young learners, kindergartens implement tailor made programs. Generally elements from L1 curriculum are adapted in L2 instructional design. Familiarization with the English language comes about through psychomotor activities, experiential games and songs.

Using ICTs in English Teaching in Early Education.
There is a growing recognition of the contribution of ICT in EFL (English as a Foreign Language) in Early Education. Technology in language teaching has been used for quite a while now in classrooms around the world (Dudeney & Hockly, 2007). The role of ICT in the teaching of English can be used to support the development of specific skills, enhance the current curriculum and transform ways of learning and teaching (see Burnett. Dickinson. Merchant, & Myers, 2006). Computers and the web are gradually being adopted by language teachers in pre-school settings. Teachers resort to the Web for innovative ideas and games. However, it is their role to develop awareness and competencies to effectively integrate technology in their daily practices. They need to keep up to date with the recent technological innovations to comply with the needs of the modern world (Churchill, 2007). As researchers claim when English language learners (ELLs) have access to online tools, they are motivated to practice English outside the classroom (Aydin, 2007; Bolstad, 2004). As far as the effects of technological tools on academic outcomes, studies refer to positive influences on children's development and motivation in the foreign language learning. They provide teaching with authentic material, encourage interaction and allow students to tailor the time they spend and path they take through a learning activity   (Dudeney & Hockly, 2007; Chapelle, & Jamieson, 2008). Therefore, many kindergartens try to respond to the needs of learning a foreign language at an early age with state of the art learning approaches. The integration of ICTs in the teaching of a foreign language may follow a more realistic trend towards acquiring language and culture.

Creating Online Tools for TEYL.
Online tools such as games, wikis, speaking avatars, smart boards, interactive stories or language websites can reinforce English language teaching for young learners (TEYL).Web sites for pre-school children offer a range of opportunities to develop foreign language mastery through play and entertainment (Van Scoter, Ellis. & Railsback, 2001). The selection of

material, instructional design of a website and its blending with conventional teaching methods for the teaching of English in pre-school education is a demanding and complex process for many language teachers. As young children's attention span is limited, teachers must focus on appealing to their interests. Research has suggested that activities alternate and be enhanced with ICT tools (Clements & Nastasi, 1993). The design of an educational website must support and develop the common goals, content and skills appropriate for young learners and fulfill the selection criteria of children's educational software (Shade & Watson, 1990; Roblyer, 2006). Consequently, educational websites should have clear goals and place emphasis on interactive, experiential, problem-solving activities (Dogoriti &Pange, 2010). They must assimilate knowledge and answer questions through play and dialogue. They must provide a custom-made environment and be easy to navigate. Most important, they must be aesthetically pleasant (with clear sound, colours, graphics) and have graded activities corresponding to different levels. Finally, they must integrate in the school curriculum. As regards assessment, educational websites must comply with certain criteria (Alexander & Tate, 999) relating to content, visual and acoustic design, navigation and safety.

Purpose of the Study

The purpose of this case study was to explore the benefits of using educational websites in foreign language teaching in Early Education and suggest ways to enhance language teaching through the Web.

Research Questions

   a. What is the impact of using educational websites on children's interest, motivation and participation as observed in the study?
   b. What is the children's language achievement in selected tasks?
   c. How can ICT be integrated in the pre-school class curriculum?
   d. Do educational websites satisfy children's learning needs and preferences?

Materials and Methods

A university-based early childhood center located in the University of Ioannina, northwestern Greece served as the setting. There were 42 children participating in the study and four teachers. Children were all between 4 and 5 years old, while 57% were female and 43% male. Most children were from families which had a computer at home and 30 of the children (73.2%) used them at home. All students participated in all activities. The research method used in the data collection was participant observation[4] in the children's natural setting, i.e their classroom. The type of instruction applied was based on learner-centered pedagogies for foreign language in which the teacher acts as a learning facilitator. Observation ensued during a twelve-week timeframe in autumn 2012. Field notes were used for data collection and recording process. The online tool used in the research was WIX (www.wix.com), an open source online publishing platform that helps design and create websites. (Figure 1).
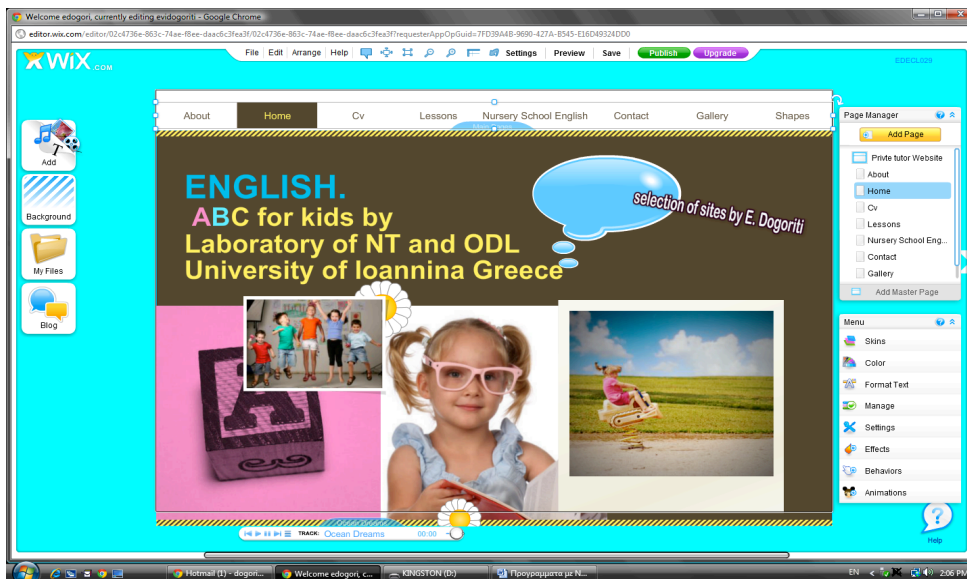
Figure 1. WIX online platform.

Materials

The content of the website concerned the teaching of colours, shapes and numbers. The whole layout of the website aimed at activating previous knowledge and constructing new one with the help of a friendly electronic environment. Online tools were integrated in the Wix platform (Figures 2a and 2b). The content was selected by websites for pre-school English teaching. The syllabus design was assorted in agreement with the curriculum for the teaching of language and computers in pre-school education in Greece[5]. In detail, the thematic units comprising the website are: colours, shapes (rectangle, square, circle, triangle and star, numbers 1-5). The online activities were based on educational material (pictures-songs- audio file formats-games) relating to the teaching of colours, numbers and shapes in English.
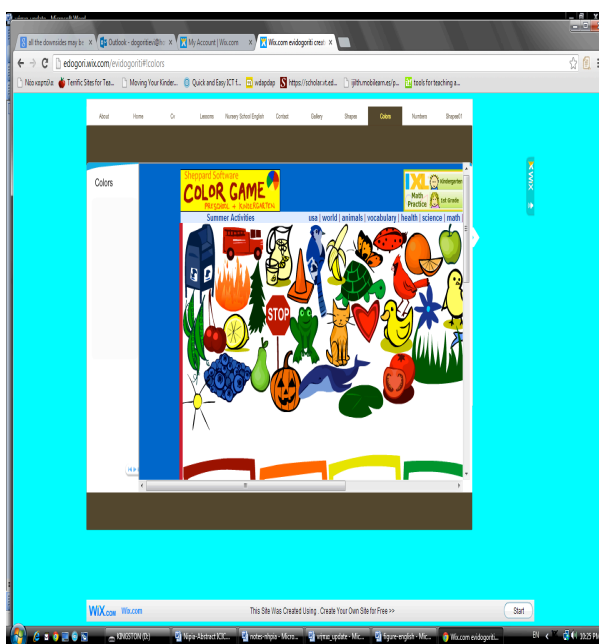

Figure 2a. Online tools integrated in the WIX platform.

Figure 2b: Online tools integrated in the WIX platform.

Procedure

In order to facilitate the assimilation of the online content, conventional printouts with similar language input were handed out to the children in the first eight sessions. During the next visits, the children were introduced to the website content (http://edogori.wix.com/evidogoriti) and explored the online activities. In each session children were given one online task to complete. The sessions had 20 minutes duration. The pre-school teacher recorded all the steps of the procedure. The lesson plan comprised the following:

1. Pictures and oral repetition
2. Shapes and numbers recognition
3. Colours and shapes songs in English
4. Games with numbers and shapes
5. Drawing

The following list of activities was developed:

a. Drag and drop construction games with shapes
b. English pronunciation & word stress exercises for numbers 1-5
c. Listening and singing
d. Coloring outlines of shapes and numbers
e. Finding objects
f. Matching flashcards
g. Same or different (shapes)

Results and Discussion

Teachers assessed children's developmental progress through analysis of work sample. Data collection entailed two distinct phases: introductory and subsequent warm-up sessions focusing on learning the online material and two separate interviews, one with each child and one with the teachers. To address potential concerns with internal validity, phase 2 followed immediately after phase 1 for individual children. As the results of the teaching procedure and participant observation showed, the enhancement of the English language lessons with additional online material in the website had positive outcomes. The website material had an impact on the children's motivation and attention

span in the activities, as 100% of the children participated and completed the tasks. By contrast, the conventional printouts in the first eight lessons did not attract all children's interest for an equivalent amount of time. Participation in the activities was received with enthusiasm and exclamations of appraisal or disparagement for other children's attempts. The records of all activities were used for the assessment of the application. Children displayed willingness to collaborate and their response to all activities was positive. The website offered preschoolers interactive experiences and games to help practice and reinforce numbers, colours, shapes, rhymes and English words. The majority of learners in the task-based assessment marked high scores. In detail, as one can notice from Figure 3, more than 90% of the students completed successfully the "Images and Oral repetition", with 10% unsuccessful attempts, 93% achieved to complete the numbers recognition and games with numbers and shapes as well as 95% learned the English songs and completed painting tasks. The unsuccessful rate ranged from 5-10% in all activities.
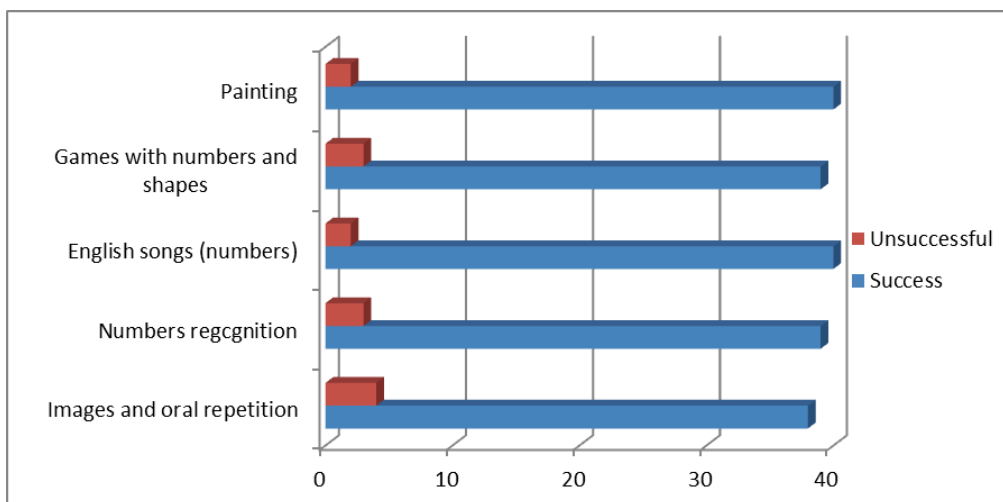

Figure 3. Success/ Unsuccessful in task-based activities.

Additionally, only 7% of the students did not accomplish to go through the tasks which involved shape and number recognition. The overall observation is that a substantially large percentage of students managed to fulfill successfully all the tasks. 40 children were interviewed (one was absent) and one gave no response. Of the 40 responses, 26 children (65.10%) indicated that they liked using the WIX platform more than the handouts, 13 (33.33%) preferred traditional materials and one (2.56%) indicated no preference. In the interviews, teachers provided qualitative descriptions of evidence of children's interest. All teachers perceived the children's interest in the platform as very high. They asserted that children seemed to have fun with it. It was a way for them to create and to explore technology. Moreover, they claimed that teacher involvement in the development process was an important principle in the learning process. Feedback from the teacher was necessary during the whole development process. It helped children improve and revise a number of elements taught in the first eight conventional learning sessions. When queried about whether the children's excitement for using the technology may be due to novel activities, the group of teachers responded that children seemed more engaged in the online activities and that their interest did not wane in the following sessions. Involving students from the very beginning ensured that

students' learning preferences were taken into consideration. The children's language achievement in selected tasks was thus enhanced as they had the chance to repeat similar activities online and assimilate previously constructed knowledge. ICT tools were successfully integrated in the class curriculum as shown in Table 1.

Table 1
Success/ Unsuccessful in colour-number –shape exercises

	Success	Unsuccessful
Color Exercise	40	2
Number Exercise	38	4
Shape Exercise	39	3

Conclusion

Web-based language learning platforms are powerful tools that, as with other technologies, are most beneficial when used as a complement to classroom learning experience. Applying their use as a part of the ongoing curriculum offers a channel for communication and interaction within a virtual classroom. This finding is in agreement with previous studies (see Burnett *et al*., 2006) that supported that the role of technologies in the teaching of English is to support the development of specific skills, enhance the school curriculum and transform ways of learning and teaching. As observed in the current study, educational websites satisfy young children's learning needs and preferences and excite their interests and motivation for class participation. Web-based tools such as websites with language learning materials can be integrated in the pre-school class offering more than simple online feedback. With the creation and design of an online publishing platform learners can make full use of all potential features of a "virtual classroom". However, the features of such a learning environment need to be clear and conform to the common goals, content and skills appropriate for young learners and fulfill the selection criteria of children's educational software (Shade & Watson, 1990; Roblyer, 2006). Based upon this research, a further study on effective use of Web resources in Early Education is strongly recommended.

Notes

1. Data collected through the E-Teacher Scholarship Program in 2009-2010
2. Source: http://europa.eu/rapid/press-release_IP-12-990_en.htm
3. Source: http://www.pi-schools.gr/programs/depps/
4. Schensul, Schensul and Lecompte (1999) define participant observation as "the process of learning through exposure to or involvement in the day-to-day or routine activities of participants in the researcher setting" (p.91). 'It provides researchers with ways to check for nonverbal expression of feelings, determine who interacts with whom, grasp how participants communicate with each other, and check for how much time is spen
5. t on various activities' (SCHMUCK, 1997). http://www.qualitative-research.net/index.php/fqs/article/view/466/996

6. Ministry of Education and Religious Affairs, Sport and Culture / http://www.pi-schools.gr/content/index.php?lesson_id=300&ep=367

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