DEVELOPING AND DELIVERING A TRADITIONAL-CLASSICAL FAIRY TALE USING THE MULTIMEDIA BUILDER EDUCATIONAL SOFTWARE

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Abstract

The study examines pre-service teachers' experiences in delivering a traditional-classical fairy tale using the Multimedia Builder (MMB) software or, in other words, a digital fairy tale. A case study approach was employed, collecting qualitative data through classroom observations and focus groups. The results focus on pre-service teachers' reactions, opinions, experiences, and difficulties revealed while using the MMB as an educational tool. Given the above, students' and teachers' roles, the new learning environment developed, and the concept of developing multiliteracies through a digital fairy tale are discussed. Finally, the role of public and private universities is explained.

Introduction and Theoretical Background

Computers and Education

Technology has been making it into educational settings for more than five decades, deeply affecting education. Technology as an educational tool has been integrated within classroom practices in various forms, such as drill and practice, open and closed educational software, computer- and Internet-based activities, collaborative educational websites (Dawson, Pringle, & Adams, 2003; Eteokleous, 2008; Hadjithoma & Eteokleous, 2007; Mullen, 2001). More specifically, the use of technology in the

educational context evolved from "learning from computers" to "learning about computers" to "learning with computers" or in other words "computers as mindtools" (Eteokleous, 2008; Hadjithoma & Eteokleous, 2007; Jonassen, 1999). Technology provides a realistic, visually compelling, and motivating interactive environment for developing the skills and knowledge needed in today's Information Society.

Within the last 10 years, the Cyprus Ministry of Education launched an ICT policy in the Primary sector in an attempt to integrate new technologies as educational tools in the teaching and learning process (Eteokleous, 2008). The Cypriot ICT policy has five pillars/portals: 1) the update of the national curriculum that will include computer technology applications; 2) teachers' professional development; 3) using computers for school management; 4) integrate Internet applications; and 5) increasing the amount of hardware, software support, and maintenance within schools (District Curriculum Developers and Evagoras team, 1999).

However, in alignment with other studies around the globe that examined and evaluated ICT integration in numerous educational settings (Angeli & Valanides 2005; Earle 2002; Honey 2001), it is revealed that elementary teachers do not regularly integrate ICT in their classroom practices. The above happens due to a number of factors which one of these is the inadequate, ineffective and inappropriate preparation of teachers' in integrating technology as a tool in the teaching and learning process (Angeli & Valanides, 2005; Earle, 2002; Eteokleous, 2008).

On the other hand, students can be already considered as computer literate, extensively using technology tools for various reasons but mainly to play games, visit social networking websites (i.e. Face book, MySpace), use e-mail accounts, search for information, communicate through chat rooms, net-write through wikis and blogs, etc. (Hargadon, 2009**;** Murugesan, 2009). Students can be characterized as digital natives (Prensky, 2001) or digital learners (Murugesan, 2009). Indicatively, by the time teenagers turn 18, they will play 10,000 web games, they will talk 10,000 hours on the phone and they will send and receive more than 200,000 e-mails (Prensky, 2001).

Fairy Tales and Teaching Modern Greek Language

Fairy tales or in other words story telling is the original form of teaching (Pedersen, 1995). Throughout history, storytelling has been used to share knowledge, wisdom, and values (The Digital Storytelling Association, 2002). Researchers suggest (Bruner 1990; Gils 2005) that storytelling is a simple but powerful method to help students to make sense of the complex and unordered world of experience by crafting story lines.

Fairy tales have been a great and well-known method of communicating numerous messages to kindergarten and elementary school students (Angelopoulos & Brouskos, 1994). According to Vygotsky, the story telling promotes the development of memory and logical thinking (Bodrova & Leong, 1996) and is also beneficial for language development and creativity. As of now we have been approaching linguistics and language learning only through the stereotype of written text. In addition to the above, it has been noticed that students have difficulties in relation to linguistics and language

learning (Anagnostopolos & Delonis, 1987). The above lead in proposing alternative was of teaching in multiple learning environments and seeking other teaching and learning methods and techniques than the traditional ones to approach linguistics and language learning. It is important to enhance the learning environment and discover different ways of teaching Modern Greek Language. Teaching a fairy tale provides flexibility in integrating numerous subject matters within the various activities and takes advantage of every opportunity in engaging students in discussing students' values and perceptions regarding the subject under investigation (Abrazi, & Bouras, 2007). Finally, having in mind the above in regards to language development, text production, and the digital world the students are expected to function, The New London Group (1996) introduced the term *multiliteracies* to highlight two related aspects of the increasing complexity of texts of our era: 1) the proliferation of multimodal ways of making meaning, where the written word is increasingly part and parcel of visual, audio and spatial patterns, and 2) the increasing salience of cultural and linguistic diversity characterized by local diversity and global connectedness.

Digital Storytelling/Fairy Tale

Although storytelling is not new, the idea of digital storytelling was recently put into practice (Meadows, 2003). The Digital Storytelling Association (2002) describes Digital storytelling as a modern expression of the ancient art of storytelling. The digital storytelling provides the opportunity to the students to become active learners by interacting, shaping, recreating and crafting the stories, and go beyond being only viewers (Dorner, Grimm, & Abawi, 2002). The delivery of an animated fairy tale can liberate children's memory, logical thinking, imagination and self-regulation. The animated story enhances children's interest, attention and memory as well as it enriches their imagination (Ktoridou, Dolapsakis, & Yiangou, 2005). Lynch and Fleming (2007) indicate that "…the flexible and dynamic nature of digital storytelling, which encapsulates aural, visual and sensory elements, utilizes the multitude of cognitive processes that underpin learning-from verbal linguistic to spatial, musical, interpersonal, intrapersonal, naturalist and bodily-kinaesthetic" (p. 7).

The Multimedia Builder

As Sadik (2008) supports the multimedia software can facilitate the development of digital fairy tale or digital story telling. Specifically, he mentions that "within the last few years, a variety of non-linear applications have become available that can be used in the creation of classroom digital stories" (p. 493). One of these applications is the Multimedia Builder software (MMB), an open source software appropriate to be used within the educational context. It has been designed in way to provide to the educators the opportunity to develop multimedia educational material for their students for educational purposes (Raptis & Raptis, 2004). As reported by Abrazi and Bouras (2007), MMB is easy to use software that provides the tools to create multimedia applications in a graphic environment, while at the same time it is strengthened by its own program language which it is really easy to use and it does not require the knowledge and skills of high programming. It also supports the introduction of various types of documents (pictures, sounds, flash, and html documents). Supporting the above, Swan, and Meskill (1996) mention that "A multimedia environment combines a variety of media such as

text, graphics, still photographs, animations, sound and video — in non-linear computer-based environments with which its users can interact" (p. 168).

Along the same lines, Lim and Tay (2003) strongly argue that multimedia authoring and presenting tools, in particular, like PowerPoint, MultiMedia Builder, HyperStudio, MovieMaker and iMovies have proved to be good constructive tools to learn through production, collaboration and project management. The greatest advantage of a multimedia environment is that it activates students' intellectual thinking. A multimedia environment also functions as a diagnostic educational tool, parts from that it helps in the perception and in the expression of a child.

The educators have the flexibility to design by themselves a teaching environment based on the curriculum, the learning objectives and their students needs and demands. Students have the opportunity to interact, participate in group work as well as develop digital educational material. In addition, when a fairy tale is taught the children cannot conceptualize its logic only by listening to the educator. It is important to see the scenes in pictures as well (Ktoridou et al., 2005). The past years teachers have an array of technology tools to integrate within the teaching and learning process. For the purposes of this study, the MMB software is used for the development and delivery of a digital fairy tale.

Main Aim and Research Questions

The study aims to examine how a traditional-classical content, a fairy tale, can be developed/recreated and delivered through the use of new, innovative instructional techniques and specifically through the application of the Multimedia Builder (MMB) software. Specifically, the study examines pre-service teachers' experiences in recreating and delivering a classical fairy tale using the MMB software. The pre-service teachers are expected to develop exercises and activities using the MMB in order for their students to understand and comprehend the fairy tale meaning and messages as well as achieve language development. Last but not least, the study aims to examine pre-service teachers' reactions, opinions and experiences.

Research Methodology

Research Design

A case study design is applied, aiming to collect qualitative data through focus groups and classroom observations (Creswell, 2003). The study focuses on examining and conducting an in-depth analysis of a single process, which in this case is the application of the educational software Multimedia Builder (MMB) in developing and delivering a fairy tale. Frederick's University pre-service elementary teachers served as the sample of the current study. Specifically, purposive sampling was used to select a total of 24, 3rd and 4th year pre-service elementary teachers to serve as the sample of the study. The

data collection process took place during Fall 2009. In order to collect the data needed for the study, three classroom observations took place (during class sessions) and four focus groups were organized by the end of the three class-sessions with the pre-service teachers. The observations' goal was to examine pre-service teachers' experience with the MMB and their efforts in recreating and delivering a traditional-classical fairy tale using the MMB (i.e. any difficulties faced). During classroom observations, teachers' reactions and interactions as well as the process of developing the digital fairy tale were observed. Focus groups took place upon completion of the three class sessions. The focus group interview protocol included open ended questions as an attempt to provide to the pre-service students the opportunity to freely express themselves regarding their experience with the digital fairy tale development (Kvale, 1996). Specifically, the basic questions of the protocol aimed in examining pre-service teachers' views, opinions, reactions, experiences, and difficulties revealed when MMB is used in the teaching and learning process. On average the duration of each focus group was 1 hour. The data collected from the interviews and the focus groups were analyzed with the method of continuous comparison of data (Maykut & Morehouse, 1994).

The Process

Within the course of Educational Technology, the elementary pre-service teachers were taught how to use the educational software MMB. The main goal of the course is to teach pre-service teachers how to integrate technology as an educational tool within the teaching and learning process. Consequently, they were taught how to use the Internet and numerous educational software within the educational-classroom context, developing at the same time lesson plans, exercises and activities.

For the purposes of this study, a three-hour workshop (a class-session) took place in developing the knowledge and skills needed in using the MMB. During the workshop the teachers were provided material (book and notes) and several examples of MMB applications within the teaching and learning process. Also, the pre-service teachers were given guidelines on the lesson plan to be developed using the MMB as an educational tool. Specifically, they were asked to get in groups of 3–4 persons, choose a traditional-classical fairy tale and develop their lesson plan's learning objectives based on the public curriculum's goal under the Teaching Modern Greek Language content subject. The pre-service teachers were given a number of guidelines to follow in developing the digital fairy tale: use MMB as the main technology tool; employ other technology applications (i.e. M.S. Word, PowerPoint, Paint, Inspiration); use other technology documents and tools (i.e. pictures, sound, video); use technology in four different types as classified by Lim and Tay (2003) (informative tool, situating tool, communicative tool, and constructive tool); achieve meaningful technology integration; aim in achieving language development and creativity through the lesson delivery; engage students in the teaching and learning process ; and design the learning process based on the constructivist approach, learn in a social context, have the opportunity to create new knowledge, solve problems, and employ creativity and critical thinking (Hoffman, 1997; Richards, 1998).

During the second class session, pre-service teachers followed the guidelines given and started developing their fairy-tale project using the MMB software. Their project was

finalized beyond class-session. Finally, during the third week each group served as the "teacher" and presented their project to their classmates, who served as the "students" having to do all the required exercises, and activities following the group's, otherwise the "teacher's" guidelines.

Results

Digital Fairy Tale Development and Delivery Using the MMB

The pre-service teachers were chosen the following classical fairy tales: *Aesops' Fables*, *Sleeping Beauty*, *The Three Small Wolves*, *Little Red Riding Hood*, *The Master Cat*, *Tom Thumb*, *Sleeping Beauty*, and *Cinderella*. Prior using the MMB software, the pre-service teachers developed a diagram including all the steps of the digital fairy tale, i.e. the delivery, the activities and exercises to be performed. This process helped them to put things in an order and resulted in less confusion and frustration.

After the fairy tale's narration/presentation is completed through the MMB, the pre-service teachers developed numerous exercises in order to examine whether the children are acquainted with the story's context as well as developed a number of skills such as writing, language development, creativity, imagination, etc. A representative sample of the numerous kinds of exercises/ activities developed by the pre-service teachers are the following. The students are required/ asked to use the MMB in performing the following: Answer a number of multiple choice questions or small essay type questions of general context based on the story, fill the blanks, solve crosswords and puzzles, match pictures with sentences, re-write/ retell the story mentally experimenting with its elements, add heroes in the story, re-write the story but keep its meanings/messages, change the role of current heroes of the story, give a different ending of the story changing its meaning, create new episodes when given the beginning of a story line, paint the heroes of the story, paint a different ending, write and record a song for the story, compare different given versions of the story, and imagine what could have happened if… Finally, some of the pre-service teachers through the activities developed integrated other subjects such as art, music, and geography.

Overall Reactions, Views and Opinions

The pre-service teachers reported that it was a new experience, and something totally different from the technology use in the classroom they experienced until now. They have also reported that they never developed by themselves educational software material. When they have been told for the very first time what it was expected from them they were scared. They thought that they needed to know programming in order to develop educational software material. One of them said: "I am proud of myself. . .I did not believe that I could develop this kind of materials for my students. . ." Another one said that ". . .when we were told that after the 3-hour workshop we will be able to use the MMB software, we were surprised. . .actually we did not believe it. . .but indeed, it happened!!" They all agreed that after the workshop they felt much more comfortable in using the software.

The pre-service teachers supported that the digital fairy tale would be very interesting, motivating, and engaging for the students. It will also enhance their classroom participation and interaction with each other. Besides the above, a digital fairy tale can be adjusted to students own time and pace. A pre-service teacher argued the MMB provides the tools to develop exercises and activities that promote personalized learning and create student-centered environment:

> As of now we were approaching a fairy tale as content more appropriate for lower elementary grades. Using the MMB software to deliver the fairy tale we have the opportunity to develop exercises having different level of difficulty, so it can be used for upper elementary grades as well.

Along the same lines, another pre-service teacher reported that

> It is not a structured step-by step process. It allows students to provide their own input, connect with the Internet, use other computer applications, do exercises, paint, and play games.

In addition, they argued that through a digital fairy tale, its value can be effectively communicated to the students. Also, the material of the digital fairy tale can be easily renewed, revised, and updated. Finally, pre-service teachers reported that "time" is a challenge and a big issue that should be considered when integrating technology in their classroom practices. They need significant time to prepare the digital fairy tale and its activities as well as deliver it in class.

Difficulties Revealed

The teachers can be separated in two groups, those who can be rated to have high computer literacy skills and those who have low to medium computer literacy skills. The difficulties and obstacles appeared can be explained based on their computer literacy level. The majority of the difficulties revealed focused in developing the appropriate exercises/activities in order to deliver the fairy tale and communicate its meaning to the students. In contrast with the minor obstacles appeared in learning and using the tools and functions of the MMB software even though none of the pre-service teachers had prior knowledge in multimedia authoring tools. Those who had adequate computer skills faced limited problems in using the software to deliver the fairy and develop the exercises. On the other hand, the pre-service teachers that had low to medium computer literacy skills faced minor difficulties in understanding the use of the software. However, it took them some more time to develop the digital fairy tale and its activities, needed more assistance and also had some management and organizations difficulties in setting up their fairy tale as well as developing its exercises. Along the same lines, it has been observed that those pre-service teachers revisited the books, and the notes provided more frequently than the computer literate ones in order to overcome the barriers and ease the process of developing the fairy tale using the MMB software. Finally, teachers mentioned that by the end of this process they felt that they further developed their overall computers skills while using the MMB software and other computer applications. They argued that it was a unique opportunity to gain multimedia literacy skills.

Discussion and Implications

As Earle (2002) supports technology integration is defined not by the amount or type of technology used but by how and why it is used. Given the above, using technology for educational purposes should be in alignment with students' lifestyles and interests. As soon as students realize that their lifestyle goes along with their future work-style, in regards to technology use, the more benefited they will be. The personal, educational, and professional use of technology is not in contrast anymore (Hargadon, 2009; Prensky, 2001). The role of the school is to adjust the "education-style" with students' lifestyle and future work style. Developing activities like a digital fairy tale helps students realize that technology is a necessary tool, to be used for numerous purposes in their lives and should not be approached as a game or as an extra as it has been approached by several teachers as of now (Eteokleous, 2008).

School is responsible in appropriately preparing students to function in a technology-oriented, interconnected society and as a result they are required to develop an array of numerous higher-order skills (i.e. critical thinking, analysis, synthesis, evaluation) as well as various forms of literacy, or other words called multiliteracies (New London Group, 1996). Technology and specifically multimedia environments have a significant role in achieving the above. In regards to language development and creativity we could argue that dealing with this kind of activities in multimedia environments is a very good practice concerning the production and understanding of multimodal texts. According to Kalantzis and Cope (2001) owing to the nature of the modern communication technologies, meaning is formed in a more multimodal way, where the meaning of the written speech is intertwined with other meaning patterns which could be visual, audio, etc.

It goes without saying that the acquaintance of elementary pre-service teachers with the utilization of software like MMB increases their ability to meet the modern educational requirements (Komis, 2004). The students (future citizens) will increasingly encounter knowledge in multiple forms (in print, in images, in video, etc.) and will be asked to represent their knowledge in an equally complex manner often using such combinations in a multimedia environment (Komis, 2004).

Another important point is that through activities like this, the pre-service teachers and of course their students will become aware that designing and producing a (multimodal) text has to do with the creative and transformative nature of designing and producing meaning, since, for example, the interpretation or the effectiveness of a written text could vary according to the different visual or audio elements with which it will be combined. Of course, this also means that they become better or more active readers of all these kind of meanings.

We also believe that is very important that this way of teaching multiliteracies (The New London Group, 1996) forms future teachers who can use images not only as means of supply of knowledge but also as means of production of different meanings. One more advantage is that through their acquaintance with a specific kind of text, in our case the fairy tale, the pre-service teachers practice in teaching their students how to construct

certain types of text with specific requirements. This is very important in educational systems like the Greek and the Cypriot ones which promote the discourse-analytic approach as one important aspect of language teaching (Kostuli, 2001).

Given the above, numerous changes to take place within the classroom environment and the teaching and learning process are suggested. First of all, the role of the educator and the role of the student are differentiated from the traditional ones. Within the student-centered environment developed, the educators facilitate, guide, and collaborate with the students. The educators are not the only source of knowledge for their students. At the same time through the activities performed in the digital fairy tale the students are expected to search, discover, imagine, create, role play, think critically, present, and discuss. The MMB can be characterized as an open-ended, diverse, creative, motivating and flexible tool (Abrazi & Bouras, 2007) that enriches classroom environment and add educational value to the students' learning experiences and the curriculum. The educational value of the MMB can be seen in the opportunity that students have to personalize the learning process through the digital fairy tale and have a visible contribution in learning. Also, the students have the opportunity to reflect their own thoughts both visually and aurally.

Learning has been approached through a holistic point of view, implementing an interdisciplinary approach, in an attempt not to cut knowledge in pieces through different subject matters. Even though the pre-service teachers developed material to be taught in a Modern Greek Language course, they managed to relate the concept with other disciplines such art, music, etc. It can be said that using the MMB the pre-service teachers managed to develop an authentic learning environment where the fairy tale text is transformed in a creative process and the students are encouraged to use their knowledge, skills and experiences in developing new learning schemes.

Many pre-service teachers mentioned that the shift from the traditional way of teaching demanded effort, time, commitment, and change in their beliefs (Ktoridou et al., 2005; Sadik, 2008).

Pre-service teachers' mindset shift needs to be achieved, in order for the above to take place. Consequently, the role of public and private universities is considered to be vital in appropriately educating and preparing future educators. They share a great responsibility, since future teachers will educate students — the future citizens of the Information Society. In this ever-changing hi-tech, globalized world it is the responsibility of all of us and a great challenge to develop responsible and competent citizens who will be able to survive in today's multicultural interconnected world (Eteokleous, 2008). Given that the Cyprus Ministry of Education and Culture has developed and employed an ICT policy for the Elementary Sector since 2000 there is an immediate need to form policies in various educational levels and specifically higher education. The Schools of Education in the public and private universities in Cyprus should take immediate actions and develop their own policies regarding technology integration in their practices (Ala-Mutka, Punie, & Ferrari, 2009). It is suggested that technology as an educational tool should characterize the philosophy of each Program of Study within a School of Education. Consequently,

technology as an educational tool in the teaching and learning process should be in alignment in the majority (if not in all) courses of the Programs of Study. In addition to the above, the Educational Technology course can be offered as a specialization, where pre-service teachers will have the opportunity to get more in-depth and enhance their knowledge and skills in integrating technology as a tool in the classroom. Finally, pre-service teachers should have the opportunity to attend lessons where technology is applied in elementary classrooms and in relation to the above to integrate technology in their teaching practice in different subject matters under the supervision of their university lecturers.

Constant and continuous communication and collaboration with the Ministry of Education and Culture, the Pedagogical Institute (PI) — the government body responsible for in-service teachers' professional development training — and the public and private universities should exist. The goal is to prepare the future teachers in alignment with the Ministry's and PI's goals in regards to technology integration, as well as teach the students the use of the educational software sent and used in the elementary schools. It is good if future teachers get an idea of what is going on in the elementary schools in terms of technology. Finally, as Sadik (2008) suggests that teachers' education in technology integration should be part of their professional development training and need to be provided continuous opportunities for teachers to align technology with the curriculum and collaborate and learn from peers who integrate technology into the teaching of other subjects.

Conclusion

Multimedia environments are promising when used in the classroom practices. Digital Fairy tale seems to be beneficial for the development of students' multiliteracies, an important characteristic that they need to posses. However, to be able to achieve the above, it is of vital importance that future teachers to instill a culture of learning, work, and communication through the use of technology in their own lives. Specifically, teachers need to make this new learning, work, and communication culture their own reality and then transfer it to their students.

The next step is for the pre-service teachers to put in practice the MMB projects and test them in classroom with the students. To further expand this idea and its advantages, the MMB could be utilized in relation with the principles of a modern multi-literate education (Kalantzis & Cope ,2001), that teaching should build knowledge based on language resources and ways of behavior which students acquire through their everyday life in a certain cultural and linguistic community. Since a lot of certain themes of the fairy tales appear in different communities and cultures keeping their basic structure (Vervitis & Kapourkatsidou, 2003), it could examine how students with different cultural or linguistic backgrounds combine the same story with different visual or audio elements using MMB, therefore to combine technology, multiliteracies and interdisciplinary approach.

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