When eShadow met ALICE & Akritans

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Abstract

eShadow is a storytelling tool that can be used from both adults and children in order to create, record, share and watch digital shadow theater plays. It is based on the traditional Greek Shadow Theatre, which has a long history of usage in entertainment and education, particularly pre-school and primary school education.

We present our experience from the use of eShadow in the ALICE ALPPs conducted in Greece as well as its use in an implementation of the "Let Us Share The Music" learning scenario addressing remote connection of schools to prepare and present musical events.

Using eShadow teachers and their students developed their own scenarios, virtual puppets and digital stories. Teachers gave positive feedback about the potential of the approach and the use of this tool to promote children's collaboration skills and learning in a creativity and playful manner.

Key Words

education, creative languages, intergenerational learning, games

Introduction

Storytelling is a very common educational practice that is used in every level of education. In particular the use of storytelling in children education can have beneficiary results in the learning and creativity process of children. In this Note we present a storytelling tool inspired by the Greek traditional shadow theater. EShadow is a storytelling tool that can be used from both adults and children in order to create, record, share and watch digital shadow theater plays. It provides alternative methods for controlling the virtual puppets either through mouse or through a motion sensing controller. We present our findings from the use of eShadow in a children's creativity exhibition and a field trial of eShadow in two elementary schools in Greece. Our findings illustrate that eShadow is very easy to use, attracts the interest of both children and teachers and has a positive impact on the development of children's creativity.

Traditional Shadow Theater is popular in many countries around the world like Greece, China, Taiwan, France, India, Turkey, Malaysia and other. The diversity of possibilities provided by playing with shadows (for example when children play with hand-shadows) has impressed humans throwout history. This fact is what made traditional Shadow theater so popular in many countries and over time.

More specifically in Greece, shadow theater is a very popular form of entertainment. For older generations shadow theater was the only form of entertainment available to them. That was a time before cinema and television became available to the general public. Traditional Shadow theater is a common link across generations. Children in Greece still watch traditional shadow theater plays, learn about Shadow Theater in school and also play with shadow theater puppets.

Shadow theater in education

The impact that Shadow Theater has on children, allowed for its use as a learning tool. Especially in primary education it is used as an alternative way of playing and learning. One basic criterion for selecting it as a learning tool is that children relate to its main character Karagkiozis in many ways.

Karagkiozis has the ability to motivate children and expand their creativity. Children find their own ways of mimicking plays, create their own improvised dialogues, express their emotions and create their own stories with unique characters. Additionally children get familiar with the research process and with collecting and using information about different shadow theater plays. Traditional plays were written in difficult times for Greece. They all contain historical information about life and many sarcastic elements about the conquerors/authorities of those times.

Another aspect of the plays that has not analyzed yet, is music. Every play has a musical theme that is, in many cases, unique. Each shadow theater performer used local traditional musical themes for his plays. By examining the music from different plays, children can learn about musical tradition across the whole country.

When creating their own plays children, work in groups. Each group is assigned to a different task of the play creation process. The most common assets of a play are: scenario of the play, dialogues, music, characters and sceneries. Children cooperate in order to create the scenario and dialogues, find the appropriate music for each part of the play and draw the figures or sceneries. With the active participation in the above process, children are engaged in a collaborative fun process that allows them to express their creativity.

Except from the creation of a play, watching one is another activity that offers collaborative learning experiences for both children and adults. Many traditional plays have educational characteristics. The most common topics that they address are: equality (gender and social equality), environmental protection, people with special needs and many other social issues that are common to every society.

What is eShadow

EShadow is an on-going project about an electronic shadow theater application inspired by Greek traditional shadow theater. The main goals of eShadow are:
- To adapt traditional shadow theater in modern times.
- To preserve traditional art as much as possible and make traditional shadow theater more popular.
- To create a learning tool for both children and adults.

With eShadow users can create, record, share and watch digital shadow theater plays. It provides alternative methods for controlling the virtual puppets either through mouse or through a motion sensing controller. EShadow also offers the ability to video chat for enhancing collaborative creation and watching of plays.

It supports intrafamily communication scenarios that promote intergenerational bonding and playful learning. For example, a child, who lives in the United States of America, could present a shadow plays story to his grandparents in Greece. The grandparents are able to watch and encourage him or even try to cooperate with him/her by controlling other virtual puppets on-line. They also have the ability to watch and communicate with their grandchild through the video chat facility which is embedded in eShadow. Such kind of new opportunities for intergeneration bonding that overcomes the physical separation of children and their

grandparents is important for children's development and contributes to the well-being of the elderly [R. Vutborg, J. Kjeldskov].

ALICE project

The project "Adults Learning for Intergenerational Creative Experiences" focuses the idea of Intergenerational Learning as key to reinforce the role of adults (grandparents, parents, volunteers) as educators. New opportunities for intergenerational learning need to be based on new languages: creative languages, beyond just transmitting information from one generation to another.

eShadow and ALICE

eShadow provides an engaging educational environment that promotes creativity and establishes a bridge between generations where adults and children can collaborate, create their own stories or use classic shadow theater scenarios in order to create their own shadow plays. eShadow can accommodate virtual puppets inspired by fairy tales or children narratives, legends or historical figures as well. These possibilities will be further explored within the context of other activities currently under implementation within the context of the ALICE adult learning pilot programmes implemented in Greece.

Adults Learning Pilot Programmes (ALPP)

In Greece a number of the ALPPs that are going to be implemented explore the educational use of eShadow. By using the creative languages of games and digital storytelling eShadow provides new opportunities for children to express themselves and learn.

The interested and benefited institutions from the ALPPs that use eShadow are mostly elementary schools. In the elementary school curriculum there are classes devoted to Greek traditional shadow theater and storytelling. By instructing teachers and parents to use a new storytelling tool, children can benefit by:
- Providing a new way for children to express their creativity and learn
- Teachers can make related classes much more interesting and engaging for children
- Children learn to use games in a safe way in the school environment

The implemented ALPPs aim is to offer new experiences and tools that can

help children create and visualize stories. eShadow is very easy to use and learn by both teachers and children. The workflow that has been developed consists of creating a story, creating figures and sceneries and digitizing the story.

Teachers are encouraged to guide their students through the creation of a story based on the children's interests. After the creation of the story they convert the story into a script with dialogues that has specific plot and characters. The final step is to visualize the story with eShadow and produce the video of the play.

The participants engaged in the several activities proposed by this ALPP will be able to better understand how Shadow Theater plays are structured, how they are performed and also create their own play. In parallel, they exercise their creativity by creating their own figures and sceneries as well as their own scenario. Another skill gained by this activity, is cooperation. The scenarios and the plays are created cooperatively which is a very important skill especially for the participating children.

Sessions with eShadow

The first ALPP sessions that used eShadow were held in Athens in the context of the exhibition titled "The Triumph of Shadows". The participants were members of the EcoFans Club. The EcoFans Club is a program designed to raise and promote environmental awareness and consciousness through an educational process combining ecology and English language learning. The EcoFans Club main group consists of students attending the Hellenic America Union English Language program, their parents, friends and other people that wish to participate in the EcoFans activities.

From these sessions one shadow theater play was produced by the children with the support of their teachers. The play is available on the link: http://www.youtube.com/watch?v=VB_jn0WkG1Y.

The next two sessions of this ALPP were implemented with children and adults with special needs. The participants of the first session were children with physical disabilities. Totally six children and six teachers participated in this session. The outline of the session was the following:
- The participants are welcomed to the session and a brief introduction is made
- The participants watch a play that has been created in cooperation with a professional shadow theater performer
- The participants are instructed on the use of eShadow and create their own shadow theater play

The participants of the second session were adults with mental disabilities. Six adults and six trainers (each adult had his/her own trainer) participated in this session.

Fig. 1: Children with special need at the ALICE session

Fig. 2: Adult with speciall need at the ALICE session

The final sessions that explored the use of eShadow targeted teachers, parents and children. eShadow was presented in local events targeting schools and several teachers were interested in eShadow and were trained to use it for creating digital stories with their students.

Fig. 3: Students watching a play created with eShadow during the sessions in Chania

Other educational activities

eShadow was used in "ΑΚΡΙΤΩΝ ΜΟΥΣΙΚΗ (Akriton Mousiki)" which was a live interactive performance audiovisual event combining Music and Digital Shadow Theatre and took place on April 2013. Akriton Mousiki was part of Distance learning Music Agoge (DMA) and it was its fifth implementation.

Akriton Mousiki was a more ambitious implementation of DMA in two ways:
1. It was the first time in the program that 5 Greek remote areas were connected at the same time.
2. It was the first time that real time music visualization was used and it was achieved through eShadow.

Distance learning Music Agoge (DMA)

Distance learning Music Agoge (DMA) is a pilot project attempting to set the foundations for the exploitation of teleconference and live streaming capabilities used as tools for supporting music education in Greek remote areas. It was funded by the e-services action of the Operational Program Information Society (O.P.I.S./ES 6875) and it operates under the auspices of Ellinogermaniki Agogi Private School, the Department of Research &

Development and the School's Music Department. DMA is the first project of it's kind in Greece.

- Satisfying it's short-term objective the project already broadcasts online low and medium scale music events of specific interest especially from remote places without advanced ICT infrastracture (first successful event : May 2010 via mobile broadband).
- Medium-term objective is to have remote communities collaborating towards the development of a live online music event. This objective seeks to help remote sites to exchange cultural content through music activities as a result of a training process that combines creative music-technology and music-teaching. Blending teleconference and live streaming tools towards this task is part of this current objective. Two such trilateral (multiple-site) links have already been accomplished:
  - the first in June 2010 (between Western Achaia, Boeotia, Crete)
  - the second in January 2011 (between Attica, Boeotia, Western Achaia).
- In March 2013 in collaboration with Stord Haugesund University-Norway and the "Write A Science Opera" project, DMA achieves the second interstate effort and the first cross-country-link ("linkcast") towards the creation of a live-performance educational event in the history of European Music Education. The event linked Greece, Norway and Cyprus.
- Long-term objective is to develop and promote advanced and innovative videoconference capabilities used as tools that can link together remote communities in areas were access to music educational practice is scarce or impossible.

Building an advanced objective… Akriton Mousiki

Up to this current stage the project is adopting the digital environment of the Adobe Connect Pro v7.5 platform to both the needs of distance learning courses and the needs of multicasting music events. For the distance learning courses it is essential to mention that no virtual web-platform is capable of replacing actual and in person face-to-face lessons.

The ultimate objective of this project is not to substitute traditional teaching methods but to encourage users to start building a relation with music not only as listeners but as active performers from the area in which they live. Peer to peer videoconference combined with diverse streaming capabilities, that allow links with more-than-two users simultaneously, enhanced by diverse audiovisual content can only be a part of music-instrument teaching using ICT.

At the moment higher education in music performance to individuals cannot be established through streaming media but can be significantly enhanced mostly in territories where specialized music tuition is impossible.

Other webcast platforms are also tested towards this task as long as physical body action is captured and transmitted through live video image. In this direction the capabilities of connections (links) and direct multimedia streaming (live webcasting) are combined and tested in low-infrastructure-conditions that constantly vary according to the actions which the program covers. The term "Linkcast" may describe the above effort.

The experience gained day by day builds the foundation for the future development of a live & interactive network of remote web-channels available to the world of music-education in Europe.

Akriton Mousiki

"ΑΚΡΙΤΩΝ ΜΟΥΣΙΚΗ (Akriton Mousiki)" was a live interactive performance audiovisual event combining Music and Digital Shadow Theatre. The performance was inspired by Greek Acritan heritage and included the collaborative preparation, co-creation and realization of an online event between multiple distant schools linked together via videoconference. During the linkcast (webcasted videoconference) pupils from four acritic schools presented a virtual-stage role-playing educational activity by moving digital figures (e-shadow platform) accompanied with shared live Music performance.

Fig. 4: Adobe Connect Pro, screenshot. Cyprus and Gavdos perform a scene from the play. Karpathos and Athens are watching

The blueprint of the linkcast scenario was derived from the "Let Us Share The Music" activity recognized as good practice from the Pedagogical Institute Good-Practices Database. The scenario involved pupils from Gavdos, Karpathos, Kastelorizo and Cyprus. An early version of the scenario was as follows:
1. The school in Gavdos begins the event by presenting the Acritic heritage in general.

9

2. A music theme from classical music inspired by the acritic tradition is performed in Athens.
3. The school in Cyprus continues with the acritic song of Digenis Akritas. At the same time pupils from Crete move figures of «Digenis in the Marble Threshing Fields".
4. Karpathos presents "sirmatika" (traditional songs from Karpathos) and excerpts from the song of Armouris. At the same time pupils from Cyprus move e-shadow figures inspired by the song. [Samuel Baud-Bovy, Chansons du Dodecanese, t. 2, Societé d'Édition "Les Belles Lettres", Paris 1938 /   Samuel Baud-Bovy,"La chanson d' Armouris et sa tradition orale", Byzantion, v. 13 (1938)]
5. The school in Crete presents Kypridimos from the scene of joust contest with Erotokritos (epic poem by Vicenzos Kornaros).The school in Gavdos move figures from this scene.
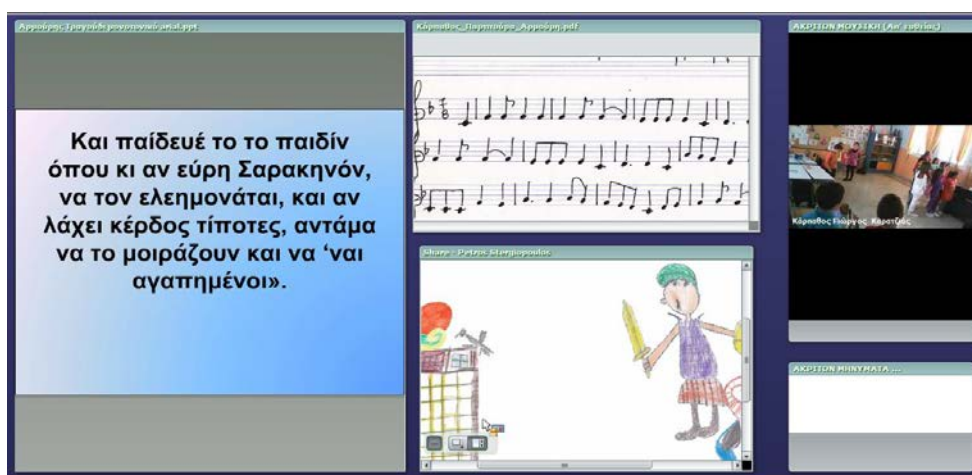6. The linkcast closes with classical Music from Athens.

Fig. 5: Karpathos during a rehearsal

The final scenario scenario was based upon the educational needs of every site that took part on the event following the phases of the good practice. This scenario consisted of four aspects of interaction: the flow of sites succeeding each other (1st column) and three columns representing a sequence of online events:

- Yellow column: the flow of the e-shadow theatre events
- Purple column: the flow of Powerpoint events
- Cyan column: the flow of audio events

This final scenario included advanced interaction between five remote sites through live physical-instrument music performance and digital images movement. Part of the dialogues performed by the students were arranged and prepared specifically for the event and they were based upon the

digitized by the University of Crete "Anemi" Database.

Fig. 6: Kastelorizo during a rehearsal

The planning of this event involved, trials, studying - finalization of the final scenario and rehearsals with teachers and students emulating as much as possible the duration of the final event.

Fig. 7: Gavdos and Athens performing a sequence of music themes live. Karpathos turns the pages of the sheet music

For the Digital Shadow Theatre part of the event, children were asked to draw their own acritan figures in order to be used in eShadow. So the scanned children's drawings, with the use of an image editing program, were converted into two part figures and then imported to eShadow. When children saw their drawings moving like actual puppets, they were very excited, as their teachers stated. All the training of the teachers was accomplished through video-conference since physical presence was not possible.

11

Music as a performance art

With music being a universal language and live performance being the most crucial part of music as an art, live audiovisual web-streaming and teleconference capabilities can expand our concepts for both music education and define our every day connection with music as an Art. Communities such as professional soloists, music teachers and music trainees can obtain ways of becoming "music protagonists" by creating audiovisual live-links across Europe or even worldwide.

A clear and open ICT-in-music window within Europe must not be limited to the current digital communication practices whose usefulness has not yet been focused upon the needs of both the formal and informal music education. Satisfying the key feature of Music as an Art, which is: "being conducted on a specific place and time", video conferencing and live multimedia streaming can profoundly support and enhance music performance, along with music education. Music, as an art of time, requires the co-existence of the listener (receiver) and the artist (transmitter) at the same place and time in order to become reality. This characteristic could also be reflected in the relationship between a teacher and a student during the music education process.

This necessity, which has so far been satisfied mainly by automatic web tools (on-demand internet web2 applications or stored resources of audiovisual content) can now expand to blended synchronous and asynchronous communication methods that engage true and actual live human tuition and collaboration.

The participation of many remote users who are able to co-create a cultural event fulfils the basic and primordial characteristic of music creation that is the "Sympraxis" (=cooperation) of different people and cultures in order to create Music.

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