Cultural Sustainability: Identities and cultural diversity

Some experiments of the use of the New Technologies in Artistic Education: new challenges to bridging the gap between different cultural and social groups

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Abstract

How to build constructive dialogue between different cultural and social groups may be a huge challenge. It is important to respect traditions and identities but at same time provide a level of education necessary nowadays. It is also important to engage families in the process in order to recognise the importance of formal education. The use of computer programs and other electronic equipment as creativity tools in the context of Artistic Education enable students, teachers and communities, to build new relationships by putting together knowledge and practices. It also helps to bridging the gap between the school and the student's families and communities (OLIVEIRA: 2007). The use of digital cameras and/or video cameras, the possibility of scanning, changing and editing the images and sounds in computer, leads to new teaching and learning methodologies and consequent changes in the educational concepts. The projects developed in a school context show the potentialities of the use of the New Technologies in Artistic Education and pose new challenges to the

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teachers and students in the area of the Visual Arts. They also facilitate various project approaches developed in educational context, by exploiting them at different ages mostly from the Basic and Secondary School level.

Key words: artistic education; new technologies; different cultural groups; inclusive school.

1. Introduction

The Curricula of disciplines related to Visual Arts followed in basic and secondary schools suggest a broad approach regarding the teaching of art in school. In the classes shall be used different languages of visual arts, including painting, sculpture, printmaking and drawing, but also other forms of artistic expression such as photography, film and video. Being Arts Education connected to the education of vision and observation of images, the aesthetic involvement is also an important factor in building the student's knowledge and therefore should be encouraged. It also requires education of the visual language in today's world and the ways of decoding it.

Therefore, it is essential to build the critical judgment of students from the reading of the image based on aesthetics, formal and cultural. The use of new technologies in visual arts brings a new way of understanding shape relationships, a new form of perceiving and appreciating the configurations that present them to our perceptive organization.

In Portugal at the public School System it is possible for students of different levels and ages and from different social and cultural groups working with different technologies and approaches. Some of these technologies such as

computers and digital cameras are also available out of school but others like holography are very difficult and expensive to use out of the labs that are set-up at schools or involving science and arts clubs. In this case it is also necessary a careful supervision of the teacher to avoid misuse of the technology.

Exploring new creative and aesthetic territories with the proper tools of science and applied technologies, direct the development of art projects of an experimental nature and transdisciplinary. The new technology represents a new aesthetic of the medium, since it is used a new language, which it is inherent. The contemporary technologies and their proposed trial appear as diverse, ranging from the use of the digital electronic instruments, science information networks, involving a global network activity involved in construction work, even changing the concept of copyright and a work of art.

This implies a creative activity in a context that includes a variety of audiences, whether cultural or sociological, and increasingly expanded, located not only in the traditional exhibition place, but also in remote locations, inaccessible until now (e. g. internet and web). The response to these new ways of creating using these new media compels us to find solutions to understand not only the aesthetic dimensions of the use of technological means in artistic production, but also questioning the paradigm shifts brought about by the relationship between Art, Science and Technology.

2- Concept of Technology in Education

The concept of "Use of Technology in Education" has emerged as one of the first aid to education as a tool in motivation, making the materials under study in the classroom more interesting, and their use, particularly for audiovisual

equipment (slide projectors and Overhead) when one considers the picture as conductor of the educational value of the achievement against the power of abstraction, a strong contribution to the quality of teaching, giving the teacher a better performance, reflected in greater interaction with students.

Following the use of technology in schools, there are projections of slides, televisions and videos, teaching computer-assisted micro-information, interactive videotext and Internet usage. Thus, in the twenty-first century, sophisticated cell phones, computers, software of different types, interactive whiteboards, digital cameras and machines filming and sound become part of educational resources, available to many students and teachers inside and outside school and their use is transversal to all social cultures. They also became new media for using in artistic education.

3. Use of New Technologies in School

Currently, we are witnessing an increasing pressure to implement the use of new technologies in all strata of society, implying a new literacy for their proper use and handling. This pressure is also very large at schools, where we can see changes in quality in the teaching / learning motivated by their inclusion. This type of literacy implies an innovative and revolutionary vision is used as an instrument of creativity enhancer. The teacher then moves on to have more methodological options for organizing your interaction and communication with students, may find more appropriate ways to implement these methods with the technological means at its disposal.

With regard to education, the computer is seen as a versatile machine and can easily be used in any subject area, with several objectives. This versatility

has increased, with the advent of multimedia platforms, which combine the traditional functions of computer tasks that were reserved for machine-projection image and sound recording and reproducing apparatus. They begin to belong to a new category of interactive electronic machines, which are regarded as a powerful and versatile audiovisual platform, able to gather themselves characteristics of projection systems, fixed or animated, and systems for sound reproduction and other characteristics traditionally assigned to computer, such as text editing and calculation. Of course it is necessary to have suitable software, which allows the teacher to interact and create their own teaching materials according to the objectives and pace of student learning.

Taking benefit of the interest and capacities of the young people for using new technologies it is possible develop projects and adequate them to the age of students and their learning level as well as the program of studies in visual arts. Now it is possible recording images and sound, changing them, editing them and producing other type of works expressing them in different ways using multimedia.

4. Projects in Art Education, using New Technologies

The Arts Education, which has as its subject the languages of art, seen as an area of experience, creative and artistic production, reading, critical and aesthetic enjoyment, which are presented by different modes grouped under the name of Visual Arts, using each of the knowledge, resources and specific tools, contributing to the teaching of art from visual codes of modernity.

At the same time it gives students a deeper practice of technological tools, contributing to a greater involvement of students with New Technologies in the

educational context increasing their production in ways that weren't predictable some time ago, produce changes in the way of doing art, the materials and the tools used. But what are the changes generated by the advance of New Technologies in Art Education and the consequent changes in educational concepts from its application?

These projects allow implementing and evaluating strategies for teaching and learning, leading to overall development of students, with regard to their knowledge, skills and competencies from an In this context, the reflective capabilities, relational and productive skills will reach and diversify, they arise with their actions, leading them to independence, expressivity, aesthetic sensitivity and critical development, appropriate to their age level and develop psycho- social.

> "The research and reflection allow the student to acquire a method of study that will be useful throughout life. When understanding prevails over memorization, knowledge is imposed from outside and there is removal of inhibitions caused by the feeling of inferiority that quite often occurs in situations where the teacher is the sole holder of knowledge. When the student understands rather than memorize, he becomes able to reason well. The teacher is prompted to discover, in a context of autonomous activities, the principles, concepts, implications and relationships in different content, it will place problems, solutions will search and analyze data, finding, therefore, how it is gratifying to learn "(CORIA, 1993: 146).

And also:

> "The approach is therefore not just a programming language, but mainly

a way to develop and use new technologies in education, spanning the learning environment, involving not only the student, the computer and software but also the teacher, the remaining available resources in the environment and the relationships established between these elements. "(ALMEIDA, n/d: 29).

In these projects, the methodology allows the group to go forward correcting the mistakes as they appear. It is a methodology that you may have alternative proposals for responding to the problem, the issues raised by learning and attitude changes during the process. The final product will be the result of a whole process of learning and practicing in an interdisciplinary perspective. At the same time the cultural differences and the gaps of education, culture and practice that may exist among the group of students is fading. Each student increases the skills he or she has and acquires other that were in need, correcting the mistakes in order to have a good result at the end.

5. Experimental projects

The projects presented here were developed with different groups of students of different ages and in different schools.

5.1- **New Technologies in the School Context: What Role in Arts Education?**

This project was carried out by Ana Paula Lucas, as part of her work for the Master in Contemporary Artistic Creation of University of Aveiro. The group of students involved was of Secondary preparatory for technical- professional that means that the following year the students were ready to leave school and

start their professional activities. This first stage of research was the basis for the development of the second, held with two groups of students in Secondary Course Technology Design, Ceramics and Sculpture at the club and Contemporary Artistic Creation and the disciplines of Communication Design, Industrial Design, Drawing and Painting and Ceramics / Sculpture. "

Fig. 1- Photography worked in computer

The practical work undertaken with her students was implemented through careful planning in order to answer the questions most relevant to this study. The work was developed in two phases: first, proceeded to study the changes generated by the advance of new technologies in schools, which focused primarily on the use of the new disciplines of Information Technology and Communication, Internet use in audiovisual, in lectures with interactive boards (Smartboards) in digital cameras and shooting on machines and sound, and the analysis of consequent changes of educational concepts.

5.2- Short animated films

This Project was carried out by Paulo d'Alva who developed it with two groups and as the result were made two animated films: "White car, Black car", developed by a group of gipsy children and some times accompanied by their

parents. The age of children involved varies between 6-16 years, of both sexes; the second animated film is "The Life in a match," based on Hans Christian Andersen tale of The Girl of the Match, developed by other group of children. This short animated film, was presented for evaluation of the discipline Creativity and Communication of The Master on Education on Visual Arts of University of Aveiro. The script of the film is a loose adaptation of students, changed the number and types of characters, so the whole group to participate actively. The age of children involved varies between 6-12 years, of both sexes. Being a complex project, characterized by the articulation of various artistic disciplines and the specific components of audiovisual arts, can be as a unifying device for artistic expression integrated. Add to this his connection to media education, the possibility of bringing other curricular areas and cross-curriculum of basic education and playful character.

In its proposal for work, this student believes that "the moving image media is one of the greatest presence in the communication strategies and contemporary expression. Your brand is reflected in the various areas of information technology and entertainment holding, in this way, a substantial part of the experiences and perceptions of individuals. In this framework of analysis, the children are characterized as highly exposed viewers to its content and its strategies. Moreover, children's relationships with the new electronic media would refer them, usually to the role of a user who enjoys products already finished, without having the opportunity to (re)construct or produce their own solutions and thus be able to develop new skills of expression and communication. This suggests that the current initiatives of visual education, primary education, pointing to new approaches on the image at the level of their

media and their communication process, which result in the development of effective education for the media. "

In fact the results are very interesting but also the process of making of films.

5.3- Holography at Secondary Schools

This project was carried out in different secondary schools integrated in the Program Science Alive and supported by FCT (POMBO: 2000; 232-238). The groups were small and the age was between 15-17. Being a project mostly directed to scientific purposes, in two schools was developed with students with vocational to arts (POMBO: 2002; 109-114).
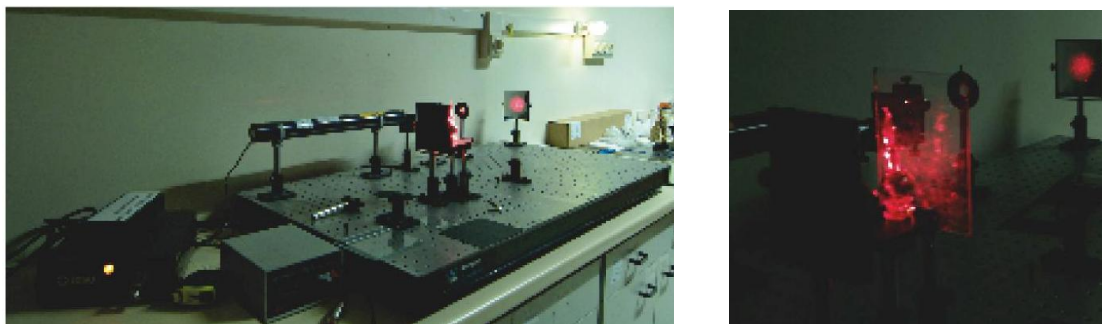

Fig. 2, 3- Aspects of the lab and set-up.
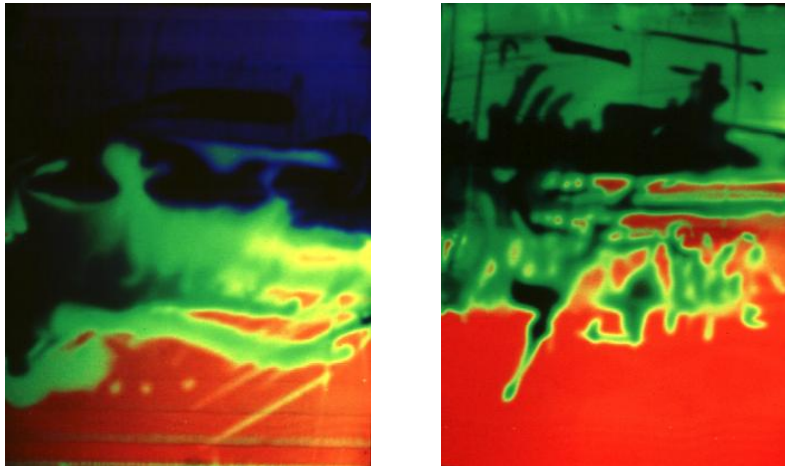

Fig.4- Exhibition of Monocromátic 3D Holograms

Fig. 5, 6- Multicolour 2D Holograms

Of all the known 3D representation systems, only holography provides a parallax identical to the original object, with no need to use any other auxiliary interpretation instrument, as in stereoscopy.

In a hologram, all the object information existing in amplitude and light phase is recorded. As a consequence, when we see the image reconstructed, it displays nearly all the object visual information, although the notion of solidity, value and colour intensity are to a certain extent ethereal or even unreal.

It might be said that the holographic image looks like a "light sculpture", free from tangibility, i.e. "blind" to the touch. However, the hologram (glass or film on which the holographic image is recorded) appeals to the tangible and motor sensations. This happens because only when we hold it in our hands and move it forwards and backwards like a mirror, or look at it from various angles, do we see the holographic image and "discover something similar to a painting" (POPPER: 1993, 37-38).

The artistic experiments with holography as a medium change the usual ways of perception of shapes and spaces, as well as material and immaterial in art. In the visual arts there is usually an artifact: a canvas, paper, stone, some support

from signs that are perceptual images. In holography, there is only the existing information in the light, there is therefore a multidimensional space, shapes and colors that exist and reveal themselves at different times, as well as an apparent conflict between the presence and absence of the image on the hologram. The holographic image reveals itself in time and space as the viewer moves (OLIVEIRA: 2001).

Appears and disappears, due to a virtual movement, which allows the reading vary depending on the movements of the observer. To be revealed by the incident light in an appropriate manner, the holographic image is visible, but still intangible, since it is no more than pure light. In this light we find transparency, air, space, lightness and atmosphere. There is a loss of support, the substrate material. The image can be shifted from the plane of support, or even floating in space. It is a dynamic state, widening the space of the image to infinity.

6. Acknowledgments

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