

USE OF ICT IN THE TEACHING OF ART AND DESIGN IN THE CONTEXT OF SECONDARY EDUCATION IN ITALY

L. Monsalve Lorente, A. D'Avino, I.M. Gallardo Fernández

University of Valencia (SPAIN)

Abstract

Currently, we are participating in the discovery and use of different multimedia resources, digital platforms and technological devices that are making inroads into the educational system. This study deals with the use of new multimedia technologies, specifically developed in a Secondary School of First Cycle in Sicily in the province of Agrigento.

The purpose of this communication is to present partial results of a broader research project on the use of ICT in teaching art and design in the context of secondary education in Sicily with the intention to explore the impact on the methodology multimedia teaching resources and technological devices. We intend to develop an innovative methodology for teaching art and image based on the use of the interactive whiteboard and tablets. We consider relevant the use of multimedia interactive whiteboard because it promotes student interaction with touch curriculum content or with a stylus. In this research from the constant daily use of the interactive whiteboard we try to promote and strengthen new and different ways of teaching and communication. We assume that the tablet in the classroom stimulates student participation, but at the same time transforms the role of the teacher. In addition, we aim to develop digital teaching strategies and action research tools in the classroom.

This paper develops from the paradigm of qualitative research literature search that pays special attention both digital tools and skills to teachers and learners. We highlight the fundamental role of schools, as well as national and European institutions in decision-making regarding the use of technology in the classroom. Following the studies of Stake (1995) we opted for a case study working with a sample of 6 classrooms of the Comprehensive Agrigento Institute (Sicily). Among the methods / research instruments highlight the diary, interviews, classroom observations and content analysis of the documentation center.

The results are provisional as it is an ongoing investigation. The different interventions carried out with the use of ICT in the center under study are analyzed and described. The use of technology in school is an opportunity for students who want to grow with methodological innovation. The arrival of tablets and new digital technologies in the classroom have changed and revolutionized the educational contexts of all school staff, also underlining the need for change in Italian schools. We are in the process of analyzing and interpreting the information, although some interviews and classroom observations still need to be done.

As for the conclusions we are in the development of research studies. The work done we can infer that these technologies favor school integration of all students and help train teachers in acquiring new skills / abilities. In addition, these technologies foster and strengthen an inclusive education and social cohesion in the classroom context (INCLUD-ED Project)

Keywords: ICT, the teaching of art and design, digital platforms, technological devices, secondary education.

1 INTRODUCTION

This study is about the use of new multimedia technologies developed specifically in a secondary school in Sicily, in the province of Agrigento (Italy). It was realized as research work conducted at the Faculty of Philosophy and Educational Sciences, PhD in Education, research line in Didactics and School Organization (University of Valencia).

As we remember Trinchero (2002) the definition of a research project starts with the identification of a specific theme, in this case related to educational research, from a cognitive problem connected to it, which continues with reference to a clearly defined theoretical framework in which the ideas, values, paradigms and reference theories of the researcher are placed. The cognitive problem in our case is

referred to the use and development of new media technologies in the context of teaching art and imagery in secondary schools, to encourage learning and take a different approach to art world.

The research question that led to the study is to introduce innovative multimedia tools to secondary school students and, specifically, to use these tools for the study of art and design, with actions aimed at information and information. Orientation to the correct use of the network and new technologies that schools offer to students. As Pennarola (2016) writes, assuming that technologies alone can not revolutionize teaching and learning, but can achieve surprising results when teachers' support is strong.

Technological and multimedia innovation is a priority for secondary education systems, being a theme that has a strong impact on the social and educational fabric; favors the scholastic integration of all students, offering help to students who suffer from color blindness, learning specifically to use the application for tablets and smartphones for color recognition. The research work illustrated is organized into two main parts: the first, which analyzes the phenomena of interest from a theoretical point of view; the second, related to studies designed and implemented to answer research questions and hypotheses. Firstly, the theoretical framework in which the concepts of interest are placed, with particular reference to the situation in Italy and in Europe, has been defined, and the literature analyzing the topic of the new multimedia teaching methodologies has been taken into consideration.

We have evidenced the study of the state of the digital school in Europe and in Italy, the National Plan for the Digital School which is the document of the direction of the Ministry of Education, University and Research for the development of a strategy of Italian school innovation, and for a new location of its educational system in the digital age. This is a fundamental element of La Buona Scuola (Law 107, 2015), which reflects the position of the Italian Government with respect to the great challenges of innovation in the public system: the strengths of this decree are the innovation of the school system and opportunities for digital education. This research aims to build a vision of education in the digital age, through a path related to the new challenges that schools and society face in interpreting and supporting lifelong learning in all contexts.

We point out that in spite of the slight steps forward for the fourth consecutive year, Italy remains in last place in Europe in terms of skills and use of digital technology. According to the European digital index DESI for 2018, Italy confirms itself, in fact only at the 25th place out of 28 members of the EU. The only positive note is the growth of fiber optic coverage in the strong recovery phase, going from 23rd place to the 13th. The data underlying the evaluations that led the EU Commission to the start of the three initiatives see Italy in a condition of strong rearguard.

From the 2017 data of the indicators on which the DESI (Digital Economy and Society Index) is based, we find an inability of our country to produce significant progress in the area of digital skills and Internet use. This study highlights how the European Commission promotes various initiatives to increase digital skills training for the workforce and consumers, modernize education across the EU, exploit digital technologies for learning and for recognition and validation of skills, as well as to anticipate and analyze skills needs.

We are talking about the Pan-European experimentation plan on the use of the tablet at school "Creative Classrooms Lab (CCL)". This is a pilot project at European political level that took place between April 2013 and March 2015, and included nine pilot projects. The project represented one of the first "ministerial experiments" funded in the context of the European Commission's Lifelong Learning Program. The CCL ministerial experimentation project was born out of the interest of the Ministries of Education who, in 2013, expressed their willingness to fully explore the added value of tablets in the context of strategies linked to 1: 1 facilities in schools.

The research illustrates in detail the fundamental tools for digital teaching, the multiple applications related to art and tablet design, Android applications dedicated to design, such as Auryn Ink, Auryn, are an application dedicated to watercolor.

Clover Paint, by Fareast Inc, is a very complex painting and drawing application dedicated to a more experienced audience. How to Draw, by ArtelPlus, an application dedicated to teaching, for all those who want to learn how to draw. Infinite Design, by Sean Brakefield, is a professional vector application dedicated exclusively to the Android world, which allows you to draw simple objects to move to a much more complex reality. Infinite Painter by Sean Brakefield is a painting application that offers over 100 types of brushes grouped into specific categories. We also talk about applications dedicated exclusively to art history, starting with Art Tripper, which allows us to have a 2.0 tourist guide that will allow us to orient ourselves, obtain information, news on the artistic, historical and archaeological heritage of Italian cities, and the first Europeans We continue with Artsy, app.

With that we will be able to see the contents of over 600 art galleries all over the world. Without traveling, we will have the opportunity to discover the museums. The research is also aimed at the use of the application for tablets and smartphone for color recognition, one of these is ON COLOR MEASURE that allows you to detect the color in view of the camera in real time. You can also capture the image or open gallery images. The color information will be displayed on the screen of the device. It includes sample color, RGB, HSV value, hexadecimal code and HTML color names.

2 METHODOLOGY

One of the most important steps for conducting a survey is to decide the appropriate methodology for research, choosing the most suitable one between qualitative research and quantitative research in the investigation process is essential. Both play a critical role in ensuring that data provides accurate information to make informed decisions. Qualitative research allows gathering detailed information on the chosen topic and formulating hypotheses to direct quantitative research and verify the correctness of the developed theories. After identifying the sample, for our investigation process we are inclined to perform qualitative research, even though it often presents fewer respondents or participants than quantitative research. However, this allows to answer in a definitive and exhaustive way to questions such as: Are the principals inclined to introduce the new multimedia methodologies in the schools they manage? Do teachers prefer to use new technologies in teaching? Or do they prefer traditional teaching? Do the students feel more motivated to learn with the use of innovative teaching and are they benefiting? Which? Do Sicilian students who learn teaching with multimedia aids will have a higher artistic cultural background than those who learn from traditional teaching?

These questions will be proposed to a sample of subjects identified by me: principals, teachers and students in a specific school context in Sicily. Following the studies of Stake (1995), we preferred a case study on a sample of 6 classrooms of the Istituto Comprensivo Agrigento (Sicily). Among the research methods / tools we highlight the diary, the interviews, the classroom observations and the content analysis of the documentation center.

Qualitative research is based on constructive interpretations that consider reality as heterogeneous, interactive and socially shared and interpreted by individuals (McMillan and Schumacher, 2005.) According to the objectives of the study, we can hypothesize different types of qualitative tools. It was decided to use two distinct types of qualitative tools: structured observation and in-depth interviews. For what concerns observation, always in the specific case of the aforementioned research, the method used was that of structured observation, which suggests to the researcher what to observe and when. With structured observation we mean that the researcher acts on the "discovered", informing all those present of the reasons for his presence (thus acting in an ethically correct way), but without interacting with the events.

Most of the scholars agree that the methodology of structured observation in the psycho-educational investigation is important and this is mainly due to two reasons: on the one hand, the need to conduct a study of behavior in the natural context where the phenomenon takes place; on the other hand the characteristic of many educational situations that implies that on certain occasions it is difficult to perform the analysis of the phenomena that are produced using a different methodology, as is the case with investigations on teaching methodologies. The use of the in-depth interview tool has instead had the objective of detecting in detail the object of the study. The interview model used was that of the semi-structured interview, whereby the interview developed from a trace of open questions that focus on the topic.

From this interview trace both the interviewer and the interviewee may diverge in order to make a concept more comprehensible. It is emphasized that the objective of the interview in qualitative research is to find out what the structure of the meanings attributed by the interviewee to a specific topic is and the task of the researcher is to avoid, as much as possible, to impose its structure and its opinions. The researcher must remain as neutral as possible even in positions opposed to his beliefs and values. In summary, given the interview track, the researcher is free to define the order of questions, to deepen or not some topics, to contain any non-relevant digressions by the interviewee, to bring him back to the interview, to facilitate the answers.

Naturally, different traces of interviews can be constructed based on the target of the administration. The selection of the sample, in this type of research, is small, in order to produce a plausible and coherent explanation of the phenomenon under study. The objective is therefore to study a phenomenon

and / or its interactions with the three variables and to interpret it. The results will not be statistically generalized, but it will be the theory or model that will be produced by this type of study.

Therefore, the choice of the sample will take place according to the criteria of relevance and qualitative consistency related to the object of study. Moreover, considering the temporal dimension, the proposed study has been transversal, that is, with the collection of interviews at a given moment without having as its objective to establish the reasons for a possible change in certain aspects of the study, as it would have been possible to do with a longitudinal drawing, in which various measurements of the same variables are carried out during a well-defined period of time. In order to achieve the predefined objective, we chose the structure of a research that turns out to be a methodology indicated in the reflection on the teaching practice on the change of direction of the teaching in the light of new technologies and the introduction of improvements in the education sector.

3 RESULTS

In this part of the work the results obtained during the first experimental phase are exposed both of the interviews and of the questionnaire, in particular the characteristics of the participants are described, the results obtained in the analysis of the use of the didactic models associated to the use of the LIM or of the Tablet, in the teaching of art and design, the evaluation of skills developed by the students, the advantages and disadvantages in the use of new technologies in the classroom, the perception of teachers on the use of these technologies and their influence on learning of their students, and ultimately, the impact on performance that has been found.

3.1 Participants in the study

The provisional number of participants in the study is made by 3 teachers belonging to the Istituto comprensivo Agrigento, G. G. Garibaldi, three teachers of the L. Pirandello complex of Agrigento for a total of N = 6 teachers of Art and Image.

3.2 Results of semi-structured interviews

We present the results of the interviews conducted at the Istituto comprensivo Agrigento centro and at the Istituto comprensivo Essenetto of Agrigento realized with teachers of Art and Image who had the third classes where the use of the Tablet and the interactive multimedia Whiteboard was introduced from the year scholastic last (2017-2018). At the time of the interviews, the school year had just begun and therefore it was possible to sum up the new experience that had been dealt with in the previous year. Below are the first reflections and contributions of the teachers, although in some cases the same professors declare they still have to reflect on the subject and have referred to the group discussion some fundamental decisions such as making the use and introduction of the Tablets and app.specifications for drawing in new third-party classes. The teachers interviewed followed the main ministerial guidelines that solicited the passage from paper book to e-book and a greater introduction and use of new technologies in classrooms, they feel the advancing of the technological era and consider the transition to forms to be ineluctable bureaucracies are more technological educational.

3.2.1 Teachers prefer to use new technologies in teaching

The interviewed sample demonstrates a certain skepticism in the introduction of teaching based on new technologies in their methodology "I believe that the introduction of new technologies for classroom teaching partially destabilize the normal course of the lessons, as the students are not yet ready to this type of teaching. "(Professor of the I.C.Agrigento centro, plexus G.Garibaldi)

3.2.2 The students feel more stimulated to learn with the use of innovative teaching

The interviewed students are enthusiastic, and they claim that with the introduction of new technologies in the classroom the activities would be simplified, the tablet would be used in the study of all subjects "I think it would undoubtedly give us the tablet a great help, would speed up our research , not to mention the lower weight of the rucksack, on certain days there are five very heavy books "" (student of the downtown center, plesso G.Garibaldi)

3.2.3 Comply with ministerial requests

The main motivation that led the teaching group to adopt the Tablet in the classroom was of a bureaucratic nature, responding to the invitation of the Ministry of Education to introduce the e-book in

the classroom at least partially: "We followed the ministerial directives who asked to introduce the e-book or e-book, with a certain percentage of relationship with the paper book ... "(professor of the I.C. Agrigento center, plexus L. Pirandello.)

3.2.4 *It represents an obligatory passage for the next years*

"I think a choice of the College, but it is still an obligatory step even if we have doubts about how to proceed next year, we still have to decide whether to keep the obligation in the thirds" (professor of IC Agrigento centro, plexus G.Garibaldi)

"... I personally worked on the project, we installed the IWBs in the third classes where the bulk of the work takes place, the Tablet is a support, but we have decided to put our hands to understand how it is; It is inescapable that in the next 20 years we could not do without it ... ". (professor of the I.C. Agrigento center, plexus L. Pirandello)

4 CONCLUSIONS

In this context we highlight the conclusions obtained from the analysis of the results previously exposed, starting from the examination of a hypothetical application of ICT in the teaching of secondary schools in the teaching of art and image and having the perception of the acquisition of skills on the part of the students, who will work in class with the help of new technologies. The conclusions reached are the result of both the semi-structured interviews and the results obtained with the questionnaire: through the procedure followed and the evaluation of the results obtained we have come to believe that the application of new technologies in art and image, in the Italian secondary school still inadequate has had a notable development in the last years thanks to the use in class of the IWB, the interactive multimedia blackboard, and of the Tablet as tools of integration and renewal of traditional school teaching and favors, according to the majority of teachers, the development of many basic skills of students. Below we highlight the main didactic models that are developed in the classroom with the help of ICT and in particular of the Tablet, which are considered of greater interest and usefulness by the teachers:

- a) The teacher explains and presents some material (such as videos, images, photos ...) in the IWB or the Tablet, which then discuss together in the classroom.
- b) Community exercises are implemented and the results obtained are commented together. Some student-teachers present in class work carried out in groups or individually on the IWB.
- c) Students experiment with simulators scientific experiences and not on their Tablet or in the IWB. is. Students look for resources on the net that they then present in class to their classmates.
- d) Students create multimedia material such as essays or general research and present them in class to their classmates.
- e) The teacher holds a website or a blog where he interacts with his students by providing information and / or useful teaching material.
- f) Teachers, learners and parents consult through e-mail and through the official website of the school.

The majority of teachers consider that in any case the use of new information and communication technologies in the classroom favors the development of the basic skills possessed by the students.

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