Creating e-learning History of Art courses in Higher Education

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In the last years the number of technological tools and devices at the disposal of art historians is constantly increased. New technologies are changing the way art history is taught or, at least, they have the potentiality to do it.
However, many of the experiences carried out until now have simply replaced the face-to-face lectures with online materials or combined in-class experiences with online materials or activities (for instance forums to answer questions submitted electronically or to have seminar-style discussions with small groups of students).
A most powerful way to use technologies to teach art history it would be to use them to engage students in new activities and to facilitate them in taking control of their learning. In order to achieve these goals it could be useful to take advantage of the potentialities related with mobile devices as delivery tools and with game based teaching approaches as methodology.
This paper aims to describe the most used methodologies to teach History

of Art in Higher Education and, based on these considerations, to propose a model to design History of Art e-learning courses for University. The field-testing of this model will be done as part of a PhD research described at the end of this paper.

1 Introduction

Teaching History of Art is an activity that involves different fields of study and several competences. The knowledge of history and literature, the study of science and technology and visual analysis skills are the building blocks to analyse a work of art, comprehend its meaning and learn the language of art.

In Italy this subject is studied mostly in schools and universities, and in cultural places such as museums, adopting different methodologies and involving a variety of technological tools, but it seems that the prevalent way to teach History of Art, independently from the audience, is through face-to-face classes with individual study and the visualization of the works of art.

The main learning material is usually a book, that in schools is the manual, which briefly correlates works of art, artists, art movements, showing their chronological and diachronic evolution.

Since we refer to the Italian context, we base our discussion on the art historian Giulio Carlo Argan principles of learning and teaching History of Art, as we could also find out in his manuals "Storia dell'arte italiana" [Italian History of Art] and "L'arte moderna 1770-1970" [Modern Art 1770-1970].

The next paragraph is devoted to the explanation of the requirements of History of Art as a discipline, in particular as an academic subject of study.

2 History of Art: a history of works of art and human expressions

The History of Art teaching has been discussed since it has been recognized as an independent studying field. This is a late acknowledgement, in fact in Italy the first History of Art course, as a modern academic subject, was run in 1901 by Adolfo Venturi (1856-1941) at Sapienza University of Rome.

The difficulties of considering the History of Art as part of the cultural context lean first of all on the necessity to recognize this field of study as needed. The History of Art as a subject, in fact, exists not only because there's the necessity to recall and convey in the future an object, a set of objects, an action or event that are identified as artistic, but also because "the only way to objectify and to explain [a work of art], is to refer it to its historical context" (Argan, 1969, p. 5-36).

Although the History of Art belongs to the History field, because it focuses on a well-defined succession and series of events, it required a different method of study.

Giulio Carlo Argan distinguishes between "external history", which focuses

on facts, collecting and examining the available accounts, and "internal history", which investigates the reasons and the meaning of events from the point of view of the ones who were directly involved. Argan recalls that critique is connected to historiography, because the critical review acknowledges the artistic quality of an artwork when recognize that piece of art in his historical context using a defined connections system and when identify its location in the whole context of History of Art.

Argan's reflexions invite to consider works of art not only as an object, but also as a human expression, which has been realized during a specific historical period.

The existence of History of Art as a studying subject entails the formulation of a method, which can provide to the critical judgment some bases, founded on the experience and some useful examples to make comparisons, and which can minimize the presence of elements that are irrelevant for the analytical work. Theories or ideas all the rage, even if they are not universal and maybe distant from History of Art, could make a parallel, and false, history. This method could also evaluate the critical judgment on the basis of historical point of view because even the critical opinion belongs to a specific historical context.

The History of Art, in fact, is related to the history of critique, because a work of art has its intrinsic value and meaning not only in the historical and cultural context, in which it has been elaborated and realized, but also over time and in different socio-cultural environment.

2.1 A work of art: how to analyse it

Considering these aspects, the art historian's work can present different levels of analysis:
- Examination of a work of art as an artistic manufactured product, with special focus on the technical point of view;
- Identification of the elements that characterize the artwork developing process (patrons, or possible collaborations with other artists in a workshop);
- Evaluation of the iconographic tradition and/or other cultural influences that could be found in the artist's style and makes the artwork an expression of its times, that's what Lionello Venturi defines "gusto", taste (Venturi, 1926);
- Description of technical knowledge, conventional characteristics of subjects, iconographical element and style aspects of the author's cultural circle.

In each phase of the research of the art historian, there's the evaluation of the

artist's individual contribution regarding innovation in iconographical, technical and sense, which are essential elements to understand the value of a work of art, both in its historical context, and in the cultural context in which the art historian makes his research and evaluation.

The aspects of the work of the art historian described above, which are the subject of the university courses in this area, can be mainly attributed, according to the taxonomy of the educational objectives developed by Benjamin Bloom (Bloom, 1956) to the cognitive domain of learning. This domain relates to the learner's knowledge and the development of intellectual abilities and skills, and consists of six major classes (Anderson *et al.*, 2001):

- Remembering (i.e. recognising a work of art, listing the exponents of an artistic movement, identifying a technique, etc.)
- Understanding (i.e. comparing or classifying different works of an artist, explaining the style of an artist, etc.)
- Applying (i.e. cataloguing a work of art)
- Analysing (i.e. attributing a work of art to an artist)
- Evaluating (i.e. critiquing and judging a work of art)
- Creating (i.e. planning an exhibit)

Let's see how technologies can help to accomplish these learning objectives and to surpass the limitation of face-to-face lectures and take the university courses of History of Art a step further.

3 Why and how use technologies to teach History of Art in Higher Education

There are several reasons for integrating new technologies into history of art teaching. In fact, new technologies can allow teachers and students to be engaged in new learning activities, facilitate students in taking control of their learning, and responds to a cultural shift that by now involves much of the society at large.

As a study carried out by Donahue-Wallace, La Follette and Pappas pointed out, the use of technologies in art historical instruction can be divided into three categories: the digitization of images, the development of computer-mediated interactive exercises using digital images, and the emergence of courses taught exclusively online (Donahue-Wallace *et al.*, 2008, pp. 5-6).

The first category is the less innovative, in fact the teaching of art history has always relied on reproductions, and the digitization of images simply allows students to review images easily. The development of computer-mediated interactive exercises using digital images is more interesting because enables the adoption of more engaging and interactive learning models. A further evolution

of the use of technologies in art history instruction is the creation of e-learning courses. However these courses, in many case, simply replace face-to-face lectures with online materials.

Referring to the learning needs of an art historian and to the limitation of traditional textbooks already stated, it is possible to say that a more powerful way to use technologies to create e-learning courses to teach art history it could be that of taking advantages of the potentialities related with mobile devices and mobile technologies in order to lead students to observe a work of art, a monument or a building and enable them to understand the original or actual context of the object of their study.

In the next paragraph we dwelt on the potentiality of the use of mobile technologies and devices in the design of e-learning courses about history of art, especially in cities of art.

3.1 Situated and adaptive e-learning for art history and cultural heritage

In the perspective of cities where web and mobile infrastructures are already closely integrated with the physical space, the so-called 'smart cities', the education about art can became more and more spatially widespread and temporally continuous. Thanks to the development of mobile technologies, in fact, learning contents can now be stacked in buildings, archaeological sites, streets, squares and so on. The NMC Horizon Report: 2012 Museum Edition (Johnson *et al.*, 2012) foresees the entry of mobile applications into the mainstream for museums by the end of this year and within two to three years for Augmented Reality.

Let's see how technologies could enhance learning experiences related to art history starting with a description of some examples of initiatives carried out by museums. In the museum context, through the activities of the departments of education, there are already several examples of activities that enhance the multidisciplinary nature of the history of art using mobile technologies such as mobile apps to look multimedia contents before, during and after the visit or games, based on Augmented Reality, hosted on the site of the museum.

The Smithsonian Institute, for instance, organized in 2010 an all day long game for teens in his museums that had the aim to elaborate a method of collaborative learning with mobile devices in museums for students and teachers[1]. The visitors/ gamers have to solve riddles, mysteries, answer to questions related to works in the galleries and they are stimulated to work in team to realize text or multimedia content with a smartphone.

The Smithsonian Institute has also realized a game playable from smartphone or tablet: the goSmithsonian Trek[2]. This game of interactive game of clues and

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[1] http://www.pearsonfoundation.org/pr/100506-smithsonian-next-generation-learning.html

[2] www.gosmithsonian.com/scvngr/

location-based riddles takes the player through some of the top attractions at nine Smithsonian museums.

Interesting experiences have been carried out also outside museums.

An example is "Street museum"[3], an Alternate Reality Game[4] (ARG) whose players have to become curators 2.0. In order to win, in fact, players have to take part into the realization of the first "digital museum" of Street Art, posting photos of Street Art works in the game website and giving as much details as possible about it.

Another interesting example is O'Munaciedd[5]: a Serious Game[6] which uses and exploits the historical, artistic and scenic heritage of the Basilicata region. Players (children between the ages of 9 and 13) take part in a treasure hunt to learn about the culture of Basilicata and the artistic heritage and the landscape of Matera.

As all this examples shows, games are frequently used to teach and learn about History of Arts and Cultural Heritage. Moreover, with the new technologies we have at our disposal nowadays, games can give players a real feeling of "immersion" and increase their level of engagement (Szulborski, 2005).

In the next paragraph we will discuss how narrative techniques can be used, in combination with game based approach, to facilitate the comprehension of a work of art.

3.2 The use of narrative techniques as an opportunity to increase learners' engagement

Stories are an essential part of our lives, in fact, as tools, they are fundamental to human communication and learning. As Crawford said "storytelling isn't an idle leisure activity that humans developed to while away the hours: it evolved for serious purposes, as a necessary component in the development of human culture. Without storytelling, humans could never have communicated complex information. Storytelling isn't merely characteristic or even definitive of the human condition, it's absolutely necessary to the existence of human culture" (Crawford, 2005).

For the reason that people tend to "comprehend time in terms of stories" (McAdams, 1993, p. 27), we naturally cling to familiar stories that are entrenched throughout life experience. It so understandable the fact that storytelling has been a pedagogical instrument since time immemorial and that the human species has used, for thousands of years, stories to pass on facts, concepts, in-

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[3] www.streetmuseum.it/

[4] Alternate Reality Games are interactive stories that take place in the real world and in real-time, using primarily the Internet but also often including phone, e-mail, and in-person interaction.

[5] munaciedd.pa.itd.cnr.it/

[6] Serious games are solutions which have the structure of a game but have also an educative or informative goal.

formation and wisdom from one generation to the next.

Mott *et al.* (1999), and many others, have acknowledged the numerous benefits of narrative to education. Stories in particular have the ability to hold and maintain the learner's attention, connect with the learner's emotions and generate emotional movement. By creating compelling narrative experiences, which succeed in providing emotional involvements, it is possible to achieve significant gains in motivation and to maximize learning effectiveness and persistence (Mott *et al.*, 1999).

With the advance of technology and the proliferation of digital media, stories have changed from visual and audio driven content becoming a component increasingly significant of different kind of interactive experiences, such as games. And the link between game and learning is so tight that, as the game designer and Director of Games Research and Development at the Institute for the Future, Jane McGonigal pointed out "increasingly, some education innovators, including Prensky, are calling for a more dramatic kind of game-based reform. Their ideal school doesn't use games to teach students. Their ideal school is a game" (J. McGonigal, 2011).

An example of an interesting way of linking narrative, game and art in a unique experience is offered by "Ghosts of a Chance", the Alternate Reality Game created by the Smithsonian American Art Museum[7]. The ARG was hosted in the museum's Luce Foundation Center for American Art, that displays around 3,300 objects from the collection. The game told the story of two student curators who came to work for the American Art Museum and discovered that they were both haunted by restless spirits. The challenge for players was to uncover the story of the spirits and determine what they could do to help the curators. The ARG challenges players to solve clues and puzzles in order to progress through the game, and aims to get people looking and thinking about art and about visiting an art museum in an interactive, social and fun way.

Another successful mix of game elements, narrative and cultural heritage was at the base of the ARG designed by Jane McGonigal for the New York Public Library. The game, called Find the Future[8], was initially played by 500 participants who was locked into New York Public Library overnight on May 20, 2011. Once inside, players went on real-world missions by following virtual clues on laptops and smartphones, collaborating online to discover hundred items from the collections of the library. After finding each object, they wrote a short piece based on the experience, inspiring the future with their personal contribution.

In the next paragraph we'll describe a PhD research focused on the elaboration of a specific e-learning model that integrate the requirements of History of Art discipline with the game based approach, storytelling techniques and the

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[7] http://www.ghostsofachance.com/
[8] http://game.nypl.org/#home

potentiality of mobile technologies and devices.

4 A model to design history of art e-learning courses for University students

The PhD project History of Art through e-learning aims to study and to develop a model for teaching History of Art at University through new technologies, using the most up-to-date e-learning methods and taking into account the History of Art teaching distinctive features previously described.

The research focuses on the elaboration of a specific History of Art instructional strategy, useful to develop courses on this topic, not only for university students but also for a larger audience of people interested in History of Art.

Part of the PhD research is to develop a pilot course for students of Sapienza University of Rome, entitled Contemporary Graphic Art. The course aims to carry out an analysis of methods and techniques transversal to time, artistic movements and individual artists careers. Specifically, will be chosen XX century Italian artists, granting a privilege to artists whose masterpieces are held at Istituto Nazionale per la Grafica (the National Graphic Institute) of Rome, institution also involved in the project experimentation.

The main didactical objectives of the course belong to the cognitive domain of learning, described before, and are: to know graphic techniques, to learn how to recognize the major graphic techniques, to acquire the capability to attribute a piece of art to an artist, to a specific art historical context and period.

To reach these objectives students will be provided with a succession of contents to learn and exercises to do; the quite equal division between theory and practice will facilitate an immediate comprehension of a method of study, analyse and recognise a work of art.

Each learning object will be focused on two graphic techniques, discussed in comparison to evaluate similarities and differences by looking at the final effect of a work of art. In each learning object there will be, after the explanation of the techniques, an analysis of a piece of art and a comparison between two different usage of the same techniques: a traditional one and an interpretative one (a usage non common of the technique, or mixed with other instruments, or other experimentations made by contemporary artists); inductive lecture of piece of art; video interview and so on.

At the end of an unit there will be an auto evaluative test to learn how to view, read and comment a graphic work of art.

Other exercises will concern written assignments (a complete description and comment of a graphic work), peer reviewing of written assignments (a useful way to learn other way of written and comment a piece of art), project works such as organizing thematic exhibitions and a mobile activity that make use of

narrative techniques and game-based approach. We'll give more details about this part of the course in the next paragraph.

4.1 Delivery through mobile devices

The pilot course will be load into the learning platform adopted by Sapienza: the open source Learning Management System Moodle. The release of Moodle platform installed by Sapienza also allows students to use services and to take part in activities on the go, by accessing the web version of Moodle platform with a mobile device (smartphone or tablet).

The usage of mobile devices into a course of History of Art in Rome is an opportunity to design a mobile activity to make single or group visit all around Rome. Instead of organising a tour or a guided visit, students are involved in a story in which the main characters are some of the artists known during the course. This mobile activity is structured as a game: students gain points and rewards by participating in each phase of the narration, solving riddles about pieces of art and finding right connections between artists, monuments or works of art.

From a didactical point of view, this activity has the added value of enabling the students to evaluate an artist or a piece of art in a specific geographical context and also in both chronological and diachronic perspective.

4.2 Pilot course evaluation

At the end of the pilot course implementation, will take place a phase of evaluation of the experience (summative evaluation). Focusing on the first two level of the model designed by Donald Kirkpatrick (Kirkpatrick, 1975) the evaluation will take into account both the satisfaction expressed by the students (level one: students' reaction) and the level of knowledge they acquired (level two: learning results).

In the first level of evaluation the participants will be asked to complete a questionnaire on the course pathway (quality of e-learning materials, appropriate timeframe, user friendliness of the platform, efficacy of the practical portions, ability of the course to maintain interest, etc.).

To show learning achievement, students will have to complete the all the written assignments of the course (that will be peer-evaluated) and the final project works (that will be evaluated by the tutor).

The results of both levels of evaluation will be collected and analysed in order to draw up guidelines to facilitate the implementation of further learning initiatives.

Conclusion

In order to really enhance the teaching of History of Art at University through new technologies it is important to take into account the most up-to-date e-learning methods and the History of Art teaching distinctive features.

Taking the activities of the museums departments of education as an example, it is possible to identify different learning initiatives that enhance the multidisciplinary nature of the History of Art using technology tools. Many of them make use of a game based approach and of mobile devices as delivery tools. Mobile technologies, in fact, enable the delivery of location-based contents and allow students to understand the original or current context of a work of art, a monument or a building.

Enriching the face-to-face lectures with online materials can be a useful solution to facilitate the students' access to works of art but don't increase their level of engagement, neither facilitate them in taking control of their learning path.

Thus we described a PhD research that, starting from these considerations, aims to elaborate a specific e-learning model integrating the requirements of History of Art discipline with the game based approach, the storytelling techniques and the potentialities of mobile technologies and devices.

The evaluation of the didactical experience, that will take place at the end of the pilot course implementation, will take into account both the learning level achieved by the students and the satisfaction expressed. This will hopefully enable to achieve the aim of drawing up guidelines to facilitate the implementation of similar learning initiatives that make a more varied and appropriate use of technologies available for the teaching of art history.

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