

Smart Education: Macerata Agriculture School and Civic Museums, UNESCO, eTwinning and Social Networks sharing a project of urban green design

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Abstract:

This study outlines the smart use of new technologies in a learning pathway shared by the 'Garibaldi' Agriculture School (IIS) and the Civic Museums of Macerata, inspired and approved by the UNESCO and supported by the European eTwinning Community. The students involved have designed a public garden for the improvement of a historic building that undoubtedly characterizes the urban landscape in Macerata (Marche Region, central Italy): the *Palazzo Buonaccorsi*, which houses a Carriage Museum and an Art Gallery of Ancient Art and Modern Art.

Through a synergistic design with the municipal authorities and museum experts, it has been decided to realize two green areas: one in the main courtyard and the other on the terrace on the second floor of the building. In accordance with the urban landscape, the environment and history of the Museum, the students of the IIS have carried on a long 'dialogue' with the 18th century architecture of the *Palazzo Buonaccorsi*, defining a new urban green design with the aim of enhancing and promoting the biodiversity of the area.

Within the framework of the Lifelong Learning Programme promoted by the European Commission, the project has been shared on the social platform of the eTwinning Community with a partner school in the Czech Republic. Its products have been published in Italian and English on a website and can also be accessed through the homepage of the IIS. In addition to this, the major social networks have been used to promote the project activities and disseminate its products. Moreover they will furtherly celebrate the next rose blossoming and contribute to the diffusion of the selected UNESCO's issues.

Summing up we can say that this experience has certainly stimulated the design skills and creativity of the students in several fields: from the linguistic to technological and professional one, thanks to e.collaboration and social network aggregation.

Keywords: social network, education, museum, UNESCO, urban landscape.

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1. THE HUMAN CAPITAL

1 Background

'[...] This new faith in human capital has reshaped the way governments approach the problem of stimulating growth and productivity'
(Becker, 1992)

The UNESCO has written: *'Given the importance of biodiversity to basic human well-being, the reversal of biodiversity loss has become one of the major challenges that society faces today... (This) will only be possible if it is tackled in an integrated, interdisciplinary manner that combines different fields, especially those that lie within UNESCO's fields of competence, namely education, science, culture and communication.'* (UNESCO, 2007). We can say that the educational experience we have analysed was mainly solicited by the realization of this issue and the pedagogical necessity to refocus teaching and learning on it. In fact school and university should increase their capacity to understand the importance of biodiversity for the life of the planet and thus act as catalysts of reflection and research protecting this value.

This concept also includes the constructivist 'philosophy' by which all students should always be involved in collaborative learning laboratories producing outcomes which would reinforce their technical skills and social responsibility in a constant transdisciplinary approach. In particular the 'Garibaldi' Agriculture Upper Secondary School (IIS) in Macerata, which has promoted this project of urban green based on biodiversity, is a public technical institution which has always consistently paid great attention to ecology and genuinely progressive development. Moreover they have always adopted attitudes and behaviours conducive to the promotion of cultural tourism in their area. In fact this type of tourism can be a smart 'friend' in the matter of sustainable economy and progress, protecting and appreciating all tangible and intangible cultural values of heritage.



Pict. 1 Biodiversity and Social Responsibility

1.2 A Garden for a Museum: A history of extra-ordinary Friendship

"[...] People where you live," the little prince said, "grow five thousand roses in one garden... yet they don't find what they're looking for...And yet what they're looking for could be found in a single rose, or a little water...But eyes are blind. You have to look with the heart."
(De Saint-Exupery, 1971).

In contemporary society in which relationships sometimes seem to be limited only to fast virtual comments such as 'I like' or 'I don't like', losing their own inner essence and value, we would like to narrate a project that was born from a long history of real friendship, between the IIS and the town of Macerata, between its teachers and the curators of the Civic Museums of the *Palazzo Buonaccorsi*. The IIS has always been committed to the integration of its students with the cultural excellences of its area: from the initial welcoming until University and work orientation. In particular, the Principal and the teachers of this school, as well as the Museum experts and the Municipal Authorities of the city of Macerata have deeply believed in the value of the synergistic relationship between the educational proposal offered by the school and the Civic Museums of Macerata promoting historical intelligence and new knowledge. This 'friendship' has been supported, facilitated and certainly made more accessible by the use of new technologies, both as individual and social learning tools, as well as asynchronous and synchronous communication media.

'A Garden for a Museum' was prepared by another two-year experience called *Museando*, which had already included in its design different forms of knowledge and collaboration between the IIS and the Museums (Pascucci, 2013, p. 59-83) The students involved in this project belonged to the third, fourth and fifth forms, as those were supposed to be more interested in the development and application of their technical and cultural competences.



Pict. 2 United in Smart Education

This action also included external partners which enhanced this learning experience and contributed to its progress with tools, materials and expertise. Among those we have to remember UNESCO, which approved this learning pathway as it was focused on some of the most important UNESCO issues, such as Cultural Tourism and Biodiversity; in particular from the list of protected vegetal species approved by the Marche Region, the students selected and arranged the following plants: the Aghata Rose, the *Rugosa* Rose, the *Belle Sultane* Rose, the *Belle Purple Violet* Rose, then they also included the *Ligustrum*, the Buxus and the Red Barberry.

The Agency for the Services in the Agribusiness Sector of the Marche Region (ASSAM) and the Municipality of Macerata were other two important partners, which contributed with free information, materials and experts. Finally we need to mention the eTwinning Community (INDIRE), which provided all the tools to communicate and work with a Czech school partner and helped the spread and development of the experience through its European social platform for e.learning.

1.3 New Media and Pedagogy

'[...] Cease conceiving of education as mere preparation for later life, and make it the full meaning of the present life.'
(Dewey, 1893).

Multimedia and interactivity, which are the main features of the new media, provided the school and the museum with new educational opportunities associated with a different relationship between perception and cognition (Rossi, 2009) . Digital education, now in its fourth phase of e-learning enhanced by social learning (Rivoltella, 2013), is inherently characterized by a greater interaction between formal and informal space, as well as between teaching and learning; moreover this new type of education may find an effective context for experimentation in the renewed relationship between school and museum. In fact the IIS teachers in close collaboration with the curators of Macerata museums assembled the best of the various project components and worked out the didactic transposition by building up a process of mediation between different representations and different worlds.

It is in this context that the educational project between the school and the museum was enriched by new strategies and new tools, especially thanks to the use of new media, for the study and progress of the learning-to-learn approach. This developed more autonomous and responsible learners also in the perspective of lifelong learning. Moreover the pedagogical use of social media encouraged the creation and sharing of collaborative outputs and the institutional publication of the same.

2. THE “GOOD SCHOOL” AND THE ART.9 OF THE ITALIAN CONSTITUTION

2.1 Public Servants

'[...] The crisis is the best blessing that can happen to people and countries, because the crisis brings progress. Creativity is born from the distress, as the day is born from the dark night. It is in crisis that invention, discovery and large strategies are born.'
(Einstein, 1931)

The Article 9 of the Italian Constitution says: ‘The Republic promotes the development of

culture and scientific and technical research, protecting the landscape and the historical and artistic heritage of the nation.’ This article shows the modernity of the Italian Constitution that, dating back to 1848, calls every Italian to active citizenship to protect the historical, artistic and environmental heritage of the country through study, research and cultural activities. Everyone in Italy is requested to be a dynamic and not static guardian, that is to say ready not only to admire and preserve, but also to promote and develop the expressions of common culture for the social progress of the community. Unfortunately, in times of crisis ethics promoted by the art. 9 seems to be very distant from our everyday life and every project in this perspective appears impossible to be realized; yet it is precisely in the contexts of real difficulty that everyone, especially those who animate the institutions, must be able to find the greatest stimulus for creativity and progress. Therefore even school and university must become resilient and overcome all those economic, administrative and cultural problems they have to face every day offering opportunities and challenges, in which everyone can get motivation and succeed. Working this way means to become true Public Servants of the State, producing culture, development and new positive outlooks helping Italy defeat its emergency situation.

'A Garden for a Museum' wanted to give voice to this very intention, students and staff researched in their specific professional field, pursuing the agreed aims and finally setting up the green areas designed for the Civic Museums of the *Palazzo Buonaccorsi*. Obviously there were problems in the design of this pathway: delivery delays of tools and materials, difficulties of communication both at a technical but also linguistic level, yet everything stimulated reflection and problem-solving skills thus, in most of the cases, sustainable solutions were found (Istituto Agrario Macerata, 2014).

The Italian Ministry of Education has recognized the worth of this project as a good practice of the actualization of the Article 9 of the Italian Constitution and in collaboration with '*Il Sole 24ore*', an important business newspaper, has published an article on it on a dedicated website (MIUR, 2014).



Pict. 3 Web site

2.2 Museums and Cultural Landscapes

*[...] Real museums are places where
Time is transformed into Space.'*
(Pamuk, 2008)

The Art. 9 of the Italian Constitution says that the centrality of culture should aim at achieving the 'Common Good' (Settis, 2012, p. 129-131). Environment, landscape, cultural heritage form a unitary and indivisible homeland. In Italy, as it is written in the Charter of Siena, (ICOM, 2014) 'Museums and Cultural Landscapes', 'the identity of the Italian landscape is intimately related to the special nature of a cultural heritage which is extended, diffused, layered and inscribed in the environment like few others in the world. This makes Italy a great 'open air museum', a 'museum' as large as the whole country, made up of thousands and thousands of cultural goods spread everywhere that, for legal constraint or just because of common feeling, form 'the landscape and the historical and artistic heritage of the Nation' and the Article 9 of the Constitution prescribes their preservation. In this context, the museums constitute the strength of a new and different model of protection as regional departments of the active protection of the cultural heritage.

The growth and the interpenetration of cultural heritage in the territory of origin allow to exploit the enormous educational potential of museums, which become laboratories of knowledge of their cultural and civil identity. Knowledge is the aim and the tool of the museum. It is in fact the primary goal of any museums in order to understand culture, art and environments connected to their own area and landscape. But knowledge is also a necessary instrument to carry out the museum 'natural' activities. In this direction this institution must spend human and financial resources, both internal and external, by activating partnerships with research organizations, universities, schools, companies and foundations. Moreover it must communicate the acquired knowledge by taking care of the local and remote transmission of the results obtained. Therefore the primary task of a museum is to be connected to people and deliver educational services, thus the user becomes the main actor of this cultural action.

The rapid development and the profound changes brought about by information and communication technology have largely contributed to the transformation of the museums into the laboratories of cognitive experiences, social gathering, civil growth and redefinition award-identity (Pascucci, 2007).

In this perspective the workshop of the project 'A Garden for a Museum' has represented the layout of a new practice and suggested a contemporary image of rhizomatic multiplicity. This collaborative work has arisen from the need to cross the complexity of knowledge and the belief that knowledge is not a linear process but an irregular proceeding by leaps and ruptures. The metamorphosis of the museum warehouse in the laboratory has involved the need to combine the conservation needs of the objects and their communicative use; it has also implied the revaluation of the social significance of the 'museum-shape' so that the collection and the different types of hypermedia diffusion have become a means to reach the user and its experience much more easily.

The realization of the lack of balance between the educational potential of the Italian museum system and the effective enjoyment by the public of the available significant assets has driven the protagonists of this project to redesign the lines of a specific pedagogical approach also based on the careful consideration of what has long been made in Italy in the field of cultural heritage.

The problem today lies not so much in the construction of a cultural identity but rather to maintain it and make it evolve into a reality marked by constant and rapid changes (Calidoni 2006, p. 96). If it is true, as Calidoni sustains, that consciousness is shaped by education, in

this sense the heritage education needs to be related to school and university and museums can be excellent educational agencies to work with as they are spread all over the country.

2.2 Techno-Baroque Education? No, thank you.

'[...] Information and communication technologies drive the new economy and human capital is its fuel.'
(Chinien, 2003)

The Italian Government has been busy for months with a general reform of the school which is called 'The Good School'. They have solicited opinions and ideas from every citizen through a long process of crowdsourcing, which has only recently finished. Among the most important elements of this plan the Government has certainly highlighted the concepts of digital school and new literacy. They have written that all school digital systems must be refreshed to facilitate transparency, efficiency and above to support the development of computational thinking and planning. In fact students and staff shouldn't be mere digital consumers, but they ought to code and become digital makers. This would strengthen communication and cooperation through more and more diffused experimental training experiences, also based on peeragogy, in new learning and teaching environments. As we can see the educational institution advocated by this reform is a 2.0 school, where digital divide has been lowered, isolation defeated and lifelong learning has become an essential attitude.

'A Garden for a Museum' has certainly realized the pedagogy of 'The Good School'. First, as we have already written, the technology has greatly helped the realization of this experience without any additional costs, carrying out various functions such as the communicative and the promotional one through the use of the eTwinning social platform (INDIRE) and the freeware adopted for the construction of the project website (Weebly.com, Voki.com) and e.book (Didapages). Then, we cannot forget the fact that the design of the green areas, also in three dimensions, was entirely realized through some technical and professional software already used at school (ProgeCAD, ArchiCAD).

Finally we must underline the involvement of two very popular social media, Facebook and Twitter, for the monitoring and global diffusion of the educational values of the action, which was mainly due to the museum experts.



Pict. 4 Techno-Baroque Civilization

Summing up we could say that the use of technology in 'A Garden for a Museum' was certainly massive, yet the staff didn't emphasize only its contemporary potential, but the fact that these tools may be an added value to construct a more sustainable future. Teachers and curators taught common sense media the focus of which was mainly on acquiring and building up new knowledge and competences, growing autonomous and cooperative research promoting cultural and social responsibility. All the protagonists of this experience have certainly understood that new media do not automatically ensure democratic learning and innovation, but they may offer a better chance of expression, communication and growth if used responsibly, safely and ethically.

2.3 Museums and Social Media

'[...] Even if our mission sounds big, it starts small — with the relationship between two people.'
(Magid, 2012)

The museums of the third millennium are no longer places 'out of time', old-fashioned institutions working only for the acquisition and retention of documents, works of art and monuments, but they are means of interpretation and communication in connection to the complex definition of cultural and environmental heritage (DL January 22 2004 in part. Part Two, Chapter I, Art. 10; Part Three, title I, Chapter II, art. 136). Heritage education means actively contributing to the human and cultural formation of the citizen and improving the ability to identify, recognize and understand the complex concept of 'cultural good'. This is because people need to engage in the future global conservation of an area and work as '[...] this value is preserved in its continuity and unity but also actually used as an active tool for socio-cultural promotion', as Minissi says (1985, p. 182).

The society of information and global network has encouraged the proliferation of heterogeneous places, modes and times of learning; therefore, as a result, we can say that the educational function of the museum is 'pervasive' and has become, along with the mission of preservation and interpretation, the essence of the museum itself. Testing and applying information and communication technology and social networks in particular to the cultural heritage sector has highlighted the role of the museum as an environment of informal learning by introducing multi-dimensional modes of appropriation of cultural goods, the effects of which will affect the design and management of the museum in contemporary society and contribute to create types of museum learning in the perspective of lifelong learning and the construction of a learning society. Specifically, as noted by Jim Richardson, the use of social media by a museum amplifies its institutional communication as a territorial department in charge with the active protection of cultural heritage. This also strengthens the interpretation of the cultural heritage exposed and the surrounding landscape. Finally social networks also create instant connections with visitors.

Conclusion

*'[...] I tell young people: Do not think of yourself, think of others.
Think of the future that awaits you, think about what you can do and
do not fear anything'*
Rita Levi Montalcini

One of the priorities highlighted by the European Commission on the Europe 2020 strategy is

precisely to achieve smart inclusive growth, also bridging the gap between education and work and avoiding any possible types of culture shock about it. It calls, therefore, to balance the skills out of the educational institutions with the demands of a changing labour market, taking into account the European Qualifications Framework which have arisen from the curriculum published by the European Commission. The Article. 9 of the Italian Constitution already urges the school in this direction, reminding citizens that they have to be reflexive leaders, teachers and students, to do their work properly, overcome difficulties and thus prepare a future where everyone will get the opportunity of a sustainable life and be responsible for the common heritage. 'A Garden for a Museum' was inspired by this philosophy and acted as a catalyst and a developer of cultural, technical and professional progress thanks to the support of new media. But this experience was also a positive opportunity of encounter, comparison and integration. We only hope that school and museum would be able to offer a lot of other experiences like this.



Pict. 5 Technical 5th Class



Pict. 6 Vocational 3rd Class



Pict. 7 Technical 5th Class

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