



The Wanderer. Experiencity Case Study an Innovative E-learning Web Platform

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Abstract

The herein project aims at improving - through a specific web platform THE WANDERING EXPERIEN.CITY - cross-functional skills and competences of different stakeholders from schools, research centres and public administrations.

The project team would like to present its experience in creating an interactive map of the city of Pinerolo, using the above mentioned platform, considering it an extraordinary effective and efficient tool to be applied in several fields: Historic, touristic, sport and commercial.

In the light of lifelong learning programmes this project aims at improving education as well as at enabling cultural and social integration among several HUMAN RESOURCES that are fundamental pillars to carry out INCREMENTAL INNOVATION, for instance in the education field.

The above mentioned innovation obviously requires a change of cultural paradigm involving people characterized by different traditions, know-how, experiences that could be summarized and represented through a powerful information system - the platform - enabling to create virtual paths that are highly increasingly important in a society where ICTs play a fundamental role. The project team has to leverage the use of different methods and techniques involving the provision of specific services allowing to foster social inclusion and the use of the information system by different users.

Keywords: web platform, innovative teaching, cultural paradigm, education, integration.

1. Introduction

After a research about the state of the art concerning the e-learning methodologies, it has been acknowledged that several authors have conceived, built and evaluated different conceptual frameworks in specific fields (e.g., Medical, government, community, enterprises fields) [1][2][3][4] aiming to improve the quality of provision of information through specific web-portals as well as they have focused on the best strategies enabling to foster the use of technological infrastructures by different users. From the analysis of literature reviews, it emerges that not many authors [5] have analysed the relationship between school education and the use of web-portals. Nevertheless, some authors have focused on the e-learning methodologies seeking to figure out what are the effects of e-learning strategies on the learning process of students from Academia and secondary schools [6][7][8][9]

2. How could secondary schools implement the use of web portals on the process of education?

In order to enhance the e-learning and the mobile process, the experience case of the Tourist section of Porro institute of Pinerolo will be presented hereinafter. The above mentioned school decided to implement the Wandering platform, starting up with a 30 hours workshop, led by Ms. Talila Yehiel from Mofet teacher institute in Israel.

2.1 What is the “Wandering Platform”?

Wandering is an innovative web-based platform designed by the wandering CEO Shani Ziv, to enhance outdoor, authentic, and interactive learning via the building up of interactive location based objects.

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2.2. Why was the Porro institute chosen by the wandering project leaders?

Two teachers of the Institute attended the course Learning based on location, in the Mofet International Channel: Marta Valls and Barbara Derro who invited Ms. Talila Yehiel for a workshop - specifically dedicated to Tourist Schools such as Porro Institute.

3. What was Porro Institute Experience?

- The workshop was held during the second week of February 2017
- Four teachers and 66 students took an active part in the workshop
- Students were full time involved in the workshop, alternating touristic location-based visits, research and working on the PC laboratory.

3.1 The experience

- Participants experienced Learning based on Location methodology around the city and the museums. Students explored a lot of museums and suggested their activities around.
- Each student created his/her own touristic location based learning object in English:
- students reviewed each other's work
- teachers reviewed and evaluated students work.

3.2 Participants improved:

- Their language skills in English;
- Their technological orientation;
- Their social learning skills;
- Experimental learning skills;
- Knowledge regarding Pinerolo and its historical, artistic and economical heritage.

3.2 Motivation:

The educational aim was to:

- Create a real product for actual tourists, with various fields of interest: Sport, History, Gastronomy, Art and Youth Activities;
- Develop a touristic map-based on Wandering Ltd. technology -CITY RUN; the current map will be improved and delivered to the municipality at the end of May 2017;
- Connect all sites in town and the outskirts;

Language used for the project: English.

It could also be developed in Italian, French and Spanish versions that are studied in the Institute.

4. Framework: A Quadruple Helix Layer

It has been designed an innovative model that lays on three layers:

- Human resource layer
- Technological layer: the technological platform
- A quadruple helix layer

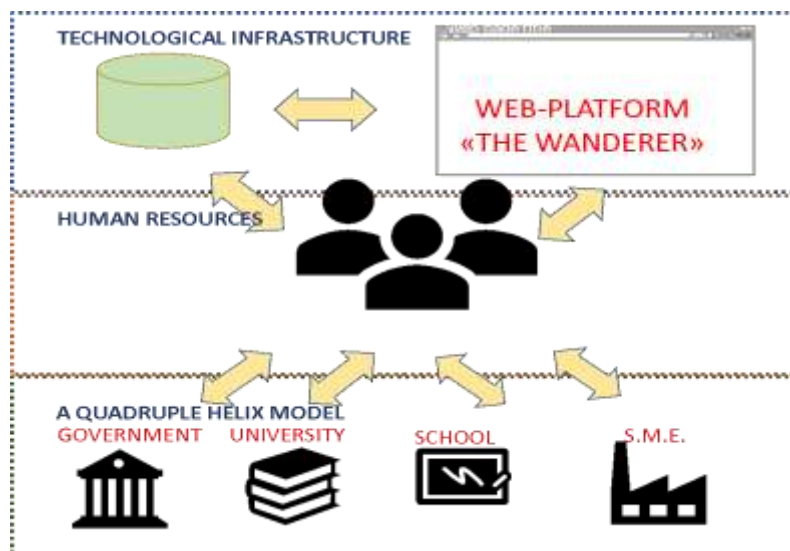


Figure 1 – Conceptual framework

Each component of the layer may interact with other components of the others layers enabling to establish significant communication, synergies and relationships among human resources, users and ICTs.

As showed in the figure 1 developed through the use of Microsoft Office[11], human resources – pillars of society- are placed in the centre of the learning process, in this case mainly students. Concerning the quadruple helix [10] layer, a very innovative model has been conceived. It has been applied involving four main actors: Government (Pinerolo Municipality), University (Molfet Institute of Tel Aviv, Israel), School (Porro Institute), SME (local factories, small retail dealers and also entertainment business).

5. Evaluation process and results

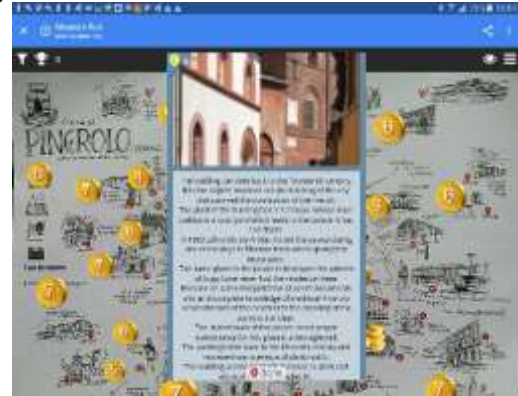
The project can be evaluated in a quantitative and qualitative way. Teachers developed an evaluation grid considering the following criteria: use of the language, research, original content, creativity and artistic skills, media quality.

Comparing the results with the average trend of rating in the same school subjects, there is not always a direct correspondence: Excellent average students did not always fulfil the expectations; Low-medium average students reached high quality results; Not Italian mother tongue students obtained brilliant outcomes. Students with cognitive and / or physical disabilities have been perfectly integrated in the activities, achieving excellent results and developing relevant social, communicative and learning skills.

6. Competence and content skills development

This project has been a real competence learning process. Students, through learning based on location, have developed excellent interdisciplinary knowledge.
Project-map site link:[12]

Some screenshots showing the outcomes:



Press release regarding the project [12]; [13], [14], [15], [16]

7. Preliminary results of the project

The Computer Science teacher, Maurizio Leo, has focused on the analysis of the preliminary results related to the project. Data have been evaluated considering the following dimensions: average of marks concerning the different subjects (X-axis) and the results achieved by the platform activity (Y-axis), according to the evaluation grid described in table 1.

Table 1 – Evaluation Grid

EVALUATION GRID	
SCORE	
4-5	INSUFFICIENT
6	ACCEPTABLE
8	GOOD
9-10	EXCELLENT

The following figures show that it is difficult to devise a statistical model enabling to fit data about the evaluation of students.

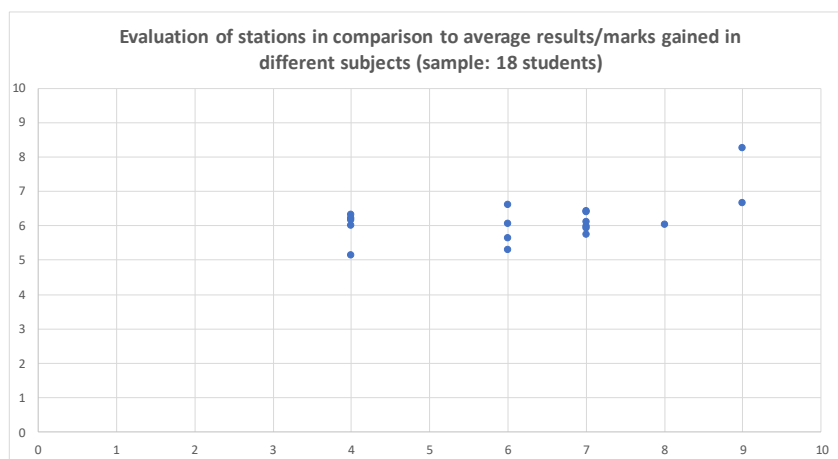




Figure 2 Data about evaluation of stations and average results (sample:18 students)

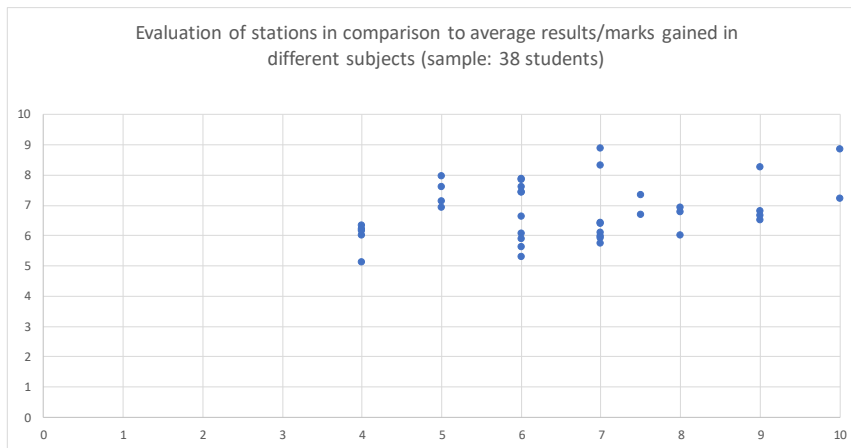


Figure 3 Data about evaluation of stations and average results (sample: 38 students)

Furthermore, the reliability of different statistical models obtained through the use of specific softwares (Microsoft Office [11] and R [17]) results to be very low, as shown in table 2 and 3.

Table 2 Coefficients and parameters of the regression model (sample: 18 students)

	Estimate	Std_error	t value	Pr(> t)
Intercept	-1,2933	3,4200	-0,378	0,7103
Averaged marks	1,2188	0,5517	2,209	0,0421
R-squared	0,2338			
p-value	0,04207			

Table 3 Coefficient and parameters of the regression model (sample:38 students)

	Estimate	Std_error	t value	Pr(> t)
Intercept	3,0370	1,9392	1,566	0,1261
Averaged marks	0,5234	0,2818	1,857	0,0715
R-squared	0,08742			
p-value	0,07151			

From the analysis of two samples of students involved in the pilot project it emerges that students could be divided into four groups:

- A group of students who achieved good average results during the first term, but not so brilliant marks as far as the evaluation of stations is concerned;



- A group of students who obtained good average results during the first term and also good results using the technological platform and English language;
- A group of students who got worse average results during the first term but good marks regarding their performance on the platform;
- Finally, a group of students who got worse average results during the first term and worse marks concerning their work on the platform.

8. Conclusions

It is important to evaluate the dynamics stemming from students, students and teachers relationships and their interactions with technological infrastructures. Indeed, since they influence one another it could be very interesting in future research/school projects to evaluate which are the most effective behavioural and cognitive models.

From the analysis of the above-mentioned dynamics, stakeholders could have a better understanding of the use of specific strategies aiming to improve social and cultural inclusion of human resources having different know-how, values, skills, languages and cultures.

8.1 Further mile stones

The map will be available in May 2017 on the city site, at the tourist information office and Qr codes of the subjects involved.

Further projects: students and teachers that took part in the workshop will be leaders in the Architectural Barriers project. Students will work together with Berti High School in Turin in order to create a site regarding a DP camp in Grugliasco that they will visit on March 29th, meeting a Tel Aviv High School, also involved in the project.

8.2. Further steps on the use of the platform:

The wandering is an exceptional tool for mobile learning and interdisciplinary teaching, its potential could have many further developments for instance in science, mathematics, history and any other learning subjects, and applied in schools of all levels, as Porro Institute intends to do in future.

References

- [1] Stab, S. et al. "Semantic community web portals", Computer Networks/Vol. 33, Issue1-6, Pages. 473-491, June 2000
- [2] Zhilin Y. et al. "Development and validation of an instrument to measure user perceived service quality of information presenting Web portals", Vol. 42, Issue 4, Pages 575-589, May 2005
- [3] Tatnall, A. "Web Portals: The New Gateways to Internet Information and Services", Book, Idea Group Publishing, 2005
- [4] Zhou, J. "Information Technologies and Libraries", Vol. 22, Issue 3, Pages 119-128, Chicago, Sep. 2003
- [5] Large A. et al. "Designing Web portals in intergenerational teams: Two prototype portals for elementary school I1154, 2004
- [6] Torres Maldonado U. et al. "E-learning motivation and educational portal acceptance in developing countries", Online Information Review, Vol. 35, Issue 1, 2011
- [7] Sharpe R. et al. "Implementing a university e-learning strategy: levers for change within academic schools", Research in Learning Technology, Vol.14, Issue 2, Pages. 135-151, 2016
- [8] Boulton H. "Managing e-Learning: What are the Real Implications for Schools?", Electronic Journal of e-Learning, Vol. 6, Issue 1, Pages. 11-18, 2008
- [9] P. Pagram et al. "Issues in E-Learning: A Thai Case Study", The Electronic Journal of Information Systems in Developing Countries, Vol. 26, 2006
- [10] Etzkowitz H., Leydesdorff L. "The dynamics of innovation: from National Systems and "Mode 2" to a Triple Helix of university-industry-government relations", Research Policy, Vol.29, Pages. 109-123, 2000
- [11] <https://www.office.com>, Microsoft Office
- [12] <http://beta.experien.city/cityportal/#/portals/pinerolo-wander/site>
- [13] <http://www.comeedove.it/>
- [14] <http://www.ecodelchisone.it/news/2017-02-17/nasce-alberti-porro-una-mappa-interattiva-pinerolo-25233>
- [15] <http://www.vocepinerolese.it/>



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[16] LA STAMPA: on the 22nd of February, 2017

[17] <https://www.r-project.org/> , The R Project for Statistical Computing