Edited by Pierpaolo Limone & Michele Baldassarre

ICT in Higher Education and Lifelong Learning

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November 14th-15th, 2013
Bari (Italy)

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Introduction

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The present proceeding collects thirty-one papers exposed during the scientific meeting SIREM 2013 "ICT in Higher Education" held on November 14th and 15th, 2013 in Bari, Italy. There are another ten full papers presented at the conference that were collected within the Volume VI, no. 1, June 2014 of REM - Research on Education and Media Journal.

The conference engaged in an interesting interdisciplinary debate about the role of technology in higher education and lifelong learning, presenting an accurate analysis on new strategies for instructional design, innovative teaching approaches methods, and effective assessment systems.

The conference also enabled SIREM scholars to collect the state of the art of the Italian scientific research and the best teaching experiences on the following topics:

- Technologies in higher education
- Digital skills and lifelong learning
- Technological innovation and vocational training
- Digital literacy and adult education
- Technologies for lifelong learning
- Innovative methods and techniques for e-learning
- Models and assessment tools of e-learning
- Mobile learning environments (M-learning) for adult education
- Social learning and lifelong learning.

The conference has been a very important scientific event to establish a dialogue among scholars from several Italian universities. During the conference, they met to examine and discuss emerging issues in the educational field, presenting different but complementary points of view and studies, aiming to map an evolving scene.

This proceeding is divided into three main sections, representing three categories in which contributions were organized during the conference:

- *Full Paper*: contributions referred to results of an original research work.
- *Short Communication*: information about research projects not fully completed.
- *Experience*: innovative educational experiences.

All contributions collected here represent an important record of the interesting ongoing research courses and live cultural debate around educational technology and media education in the national scientific context. In addition, many of the researches presented here demonstrate how collaboration and openness to international environments can bring significant benefits in terms of intercultural development, in order to weave paths with unprecedented and innovative thinking.

Diana Laurillard, a scholar from the Institute of Education in London, participated in the conference with her keynote presentation "*Teaching as a design Science: investigating the integration of technology with pedagogy*" and with this contribution opened the space for international research and reflection about innovative strategies in learning design.

The annual conference organized by SIREM represents a fruitful discussion about new frontiers on media research in the national and international scene with a significant openness to innovative lines and research horizons.

Section 1
Full Paper

The TQM Project: e-Portfolio as "process" and "product"

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Abstract
In the international scenario the e-portfolio represents a fundamental instrument for the professional development of teachers and for the improvement of students' learning processes. In this paper we discuss about the experimentation of an e-portfolio for teachers, which is mainly aimed at overcoming the traditional updating models based on transmission and distribution, by creating systemic interactions between research activities and experimentation, educational paths for teachers on duty and processes of methodological and educational innovation. Evaluation, in its dimensions of peer and self-evaluation, is fundamental for a teacher's professional development and in such a context, e-portfolio becomes a strategic learning environment.

Keywords
Teaching and training, Evaluation, Self-evaluation, Lifelong learning, Educational Technologies

1. Teaching and Training Quality Management (TQM) Project

In the framework of the actions promoted by the Italian Ministry of Education, the Teaching

and Training Quality Management project (TQM), www.tqmproject.eu, aims at meeting the needs for testing teachers and trainers performance measurement systems, for the purpose of strengthening the system accountability level, improving the quality assurance systems in the Vocational Education and Training (VET) framework according to the recommendations of European Quality Assurance Reference Framework (EQARF, 2009).

TQM project intends to transfer two significant evaluation experiences: the self-evaluation in Adult Lifelong Learning (SEALLL) project, and the Teacher e-portfolio for Northern Ireland (Te-Pni) project. The two projects have in common the methodological approach considering self-evaluation as a training process. Through a punctual action research with the involvement of significant actors and trainers, the products and action model of good practices identified have been set to the Italian context and tested with a significant sample group of trainers.

TQM intends to provide a contribution to the discussed subject of the evaluation of teachers and trainers (Cenerini & Drago, 2001; Taylor & Tyler, 2011; Gasperoni, 2010) validating an action model consisting of a training process for teachers and trainers and a prototype of e-portfolio.

In this paper we discuss about the experimentation of an e-portfolio for teachers which is mainly featured by the will to overcome the traditional updating models based on transmission and distribution, by creating systemic interactions between research and experimentation, training paths of teachers on duty and methodological-educational innovation processes. One of the key features of experimentation has been to synergically link the experimentation of the e-portfolio to the training of the experimenting teachers.

2. Self-evaluation and peer-evaluation in teachers' training

In TQM project self-evaluation and peer-evaluation focus on improvement student's learning as part of a social organization. "Self-evaluation of education and/or learning is the process of systematic collection, analysis and exchange of data concerning educational processes of either individuals, groups or organizations (institutions etc.) in order to facilitate learning among all parties concerned so value judgments and decision-making may be based on evidence rather than on intuition" (SEALLL, 2006).

In a systemic perspective the self and peer-evaluation of teachers are straight related to the student's learning. Therefore teachers should encourage self-evaluation because it is one of the main methods to make students active participants in their education (Sloan, 1996).

Self-evaluation and peer-evaluation in the experimental phase have been considered as:
- a reflective process which is related with colleagues to solve problems focused on students' learning. Teachers' training starting from the experiences of the subject involved and reflected on them in order to produce improvement actions (Kolb, 1984);
- an active process rather than a receptive process;
- as a part of the results of the organizational learning, starting from "tacit knowledge" through "explicit knowledge" (Polanyi, 1966) to end up to the "organizational knowledge" (Nonaka & Takeuchi, 1995).

In andragogy, peer and self-evaluation enhance the cognitive and social awareness processes of empowerment and accountability (Limone, 2012) triggering transformative learning (Mezirow, 2003). In a teacher's e-portfolio experimentation, the privileged instrument triggering processes of transformative learning is the Action plan in its personal and social dimension, as confirmed by various experimentations underway (Chianese, 2011).

Each Action plan starts from problematic learning experiences directly lived by a teacher and

through reflections and the elaboration of hypothesis of intervention, ends to a new tangible experience generating a further learning cycle (Kolb, 1984).

3. e-Portfolio as a process

"E-Portfolios represent the beginning of a period of considerable change which will impact on the organization of education and training systems, the forms of support for learning within society, the organization of educational institutions and the development, organization and delivery of curricula and programmes" (Attwell, 2007).

Attwell considers the development of e-portfolio as a "primarily" pedagogic process and a significant shift in pedagogic approaches to how we support learning processes.

The experimentation of an e-portfolio has meant to link, in a pedagogically proven way, learning, education and research, by overcoming the traditional updating models of teachers on duty based on transmission and distribution.

Schön (1987), "recalling" Dewey's thought (1982), speaks out against the limits of the model of technical rationality, according to it is duty of a professional, in our case of a teacher or educator, to apply in operational situations those knowledge and notions which are built away from his/her experience.

Experimentation, in its different phases, has meant to promote dialogue between theoretical thought and practical thought with the aim of transforming teachers in teachers-researchers and of making communities of practice, which were defined by Wenger (2006) as the bricks building a social learning system, evolve into a learning community and, finally, into a research community.

This latter was featured by the collaboration of teachers-researchers and university researchers, thus enhancing the germination of new research communities within educational institutions.

The phases of the experimentation were the following:

- *Analysis of the context.* Methodology and strategy of the projects SEALLL and Te-PNI were shared. The European normative framework related to VET was defined and the transfer and adaptation modes of the instruments were established by the Austrian and British models and also the technical features for the development of the Italian e-portfolio. Also in the same phase the needs of the two target groups, the Italian and the Austrian, (teachers/educators and principals/directors of schools and regional educational bodies) through surveys, with the aim of projecting the educational path and of customizing it on the basis of real needs. Then tutors were trained: four Italian and one Austrian, who supported teachers during the phase of co-projecting and experimentation of the e-portfolio.
- *Transfer/contextualization of the model.* Through the distribution of a questionnaire processed and proposed by INVALSI, it was possible to analyze opinions and attitudes of teachers about their necessity to evaluate their educational and teaching activity through self-evaluation paths, in order to implement an e-portfolio model meeting the educational needs of Italian teachers.
  The changes introduced focused on the technical aspect and design of the e-portfolio instrument and, in particular, the community, thus favoring dialogue among all the actors involved.
- *Selection of the sample.* The selection of groups of Italian experimenting teachers with the participation of 54 teachers and of the Austrian control group involving 39 teachers was carried out. The experimentation featured: seminars and workshops focused on the analysis

and the in-depth analysis of scientific contribution in international literature on topics consistent with the educational needs registered by the preliminary surveys.
- *Organization of the educational setting.* On the basis of the results provided by the questionnaires, an educational process in blended learning mode was projected. Such a process was organized around a constructivist learning model, which led to the building of a learning community, whose members have constantly shared goals and co-projected further development phases.

The innovative side of the project lied therefore in the possibility, for the participating teachers, of experimenting in practice the theoretical shared principles through the co-construction of one's own digital portfolio which enabled them to be more aware of the value of professional self-evaluation and of its repercussion on students' learning.
From an organizational point of view the educational implant was structured in:
- Six workshops in presence on reflective practice (Striano, 2001; Mortari, 2003) which started from highly problematic teaching experiences related to teacher's professional activities. These were aimed at elaborating a situated theory based on evaluation and self-evaluation as processes of professional development and growth, both of the individual and of their educational system. Workshops on reflective practice helped to support the elaboration of the Action plans, which developed and spread new professional epistemologies. The aim of the workshops was to promote communities of research in which teachers could de-construct, through experimentation, their mind maps of reference to reposition them on an epistemological level through the use of reflective and dialogic tools, thus creating synergies between analysis schemes and action schemes. This leads to the introduction of a new professional figure having those reflective and heuristic skills and that situated knowledge, scientifically proven, which are necessary to face the complex educational uniqueness and dynamicity, in order to improve the teaching-learning processes.
- Activities on the dedicated digital environment (http://eportfolio.tqmproject.eu/), aimed at co-projecting and implementing the e-portfolio, by using those digital artefacts expediting and promoting peer- and self-evaluation processes.
From a methodological and educational point of view, the educational setting can be summarized in three phases which are integrated in a circular way, each of them featuring some focuses on which the proposed activities and works on the platform were organized.
The first phase dealt with building group identity and sharing a common vocabulary related to the notion of evaluation, self-evaluation and professional skills.
The second phase pointed out the building of the e-portfolio by sharing material and by structuring action plans on the platform.
In the last phase of the experimentation teachers worked, either individually or in small groups, on the draft of action plans, by reflecting on the professional skills, which were determined as necessary for implementing plans and defining skills through level indicators, to better understand them.
The work was completed and shared by building one's own e-portfolio entered into the digital platform.
The interaction between the experimenting teachers and the research group, composed of the tutors, was constant, with the aim of sharing and improving.
Italian and Austrian teachers and educators have implemented in a thoroughly individual way their own e-portfolio, thus sharing the same digital environment.

4. e-Portfolio as a product

Projecting the digital environment was based on two fundamental principles:
- supporting self-reflection as starting point for professional growth;
- promoting professional dialogue to improve teaching.

Moreover projecting was based on the following methodological principles:
- defining each digital space through a high index of usability through an extremely intuitive interface;
- conciliating institutionalized and formalized research and training modes with modes fostering spaces, activities and taking roles which enable self-organization and self-generation according to a socio-constructivist perspective;
- using web 2.0 resources favoring their collaborative and creative nature with the aim of sharing contents elaborated by users.

The environment consists of four areas:
- Professional Identity
- Professional development
- Sharing area
- Community.

Moreover a further area named *Teachers management*, available exclusively for tutors, allows access to the contents of each teacher and to global report of the processes underway.

Professional Identity is the area enabling teachers to present both their own background and other elements affecting students learning and teaching processes. The area is divided into the following sections: Teacher's profile, Curriculum, Personal Repository and Webfolio.

Professional Development represents the operational instrument enabling teachers to project and develop self-evaluation processes related to their teaching and learning path, by taking into consideration the skills acquired earlier.

The area is composed of the sections "Action plans" and "Professional skills".

The *Discussion and sharing area* of the resources allows professional dialogue among the teachers registered to the community, in order to share ideas, experiences and reflections.

Teachers management is the area reserved to tutors who, through different tools, can access each resource/activity entered into the platform by teachers in their group.

Community is the space designed for text messaging within the platform.

5. Results

Final results are being processed. The teachers experimenters involved are 54 and those who have completed the full course are 35. From a first data analysis we deduce that teachers have initially preferred using the digital tool as a container of material for creating a shared repository empowering the constructions of Action plans. Later the shared material, mainly files, but also videos, have been the starting point for reflections and discussions for teachers within the groups on the platform.

These have fostered interaction and discussion among all teachers involved in the experimentation, who, if interested in the discussion topic, could register to the group and take part in the discussion. The shared and discussed material has been used as basis for the construction of improvement plans.

Structuring Action plans was a hard task for the ICT teachers who had clearly expressed such a difficulty during meetings and focus groups; however at the end of the experimentation pro-

cess half of the participating teachers created their own Action plan on the platform and some of them shared it with colleagues, by posting it.

The report of the activities of the platform in relation to the following items are: discussion groups created (No. 8), themes created (No. 45), topics created (No. 45), improvement plans created (No. 52), resource sharing (No. 156), comments in discussion groups (No. 68) and Action plans shared (No. 20).

Below are reported some elements emerged both from the post-experimentation questionnaire and the focus groups performed with the 35 teachers who concluded the entire experimentation process.

31 teachers claimed as very positive the fact that a teacher's career can be tracked on the platform thus remaining accessible and constantly updatable, for a continuous motorization of the improvement process following the first self-evaluation.

19 teachers maintained that the structure is still improvable, in order to make the e-portfolio constantly represent the complexity of the teaching activity and to allow access also to external evaluators.

From the SWOT Analysis of post-experimentation focus groups the following data emerged:

STRENGTHS
- "Finally someone is taking care of us! ...Finally someone wants to know from me what I do and how I do it".
- Training is not a right, but rather a duty.
- E-Portfolio enables to reflect on personal, organizational and institutional factors which impact teaching, and also learning.
- The tool has the function of guiding and supporting self-evaluation

WEAKNESSES
- In co-constructing e-portfolio it takes more interaction moments and live training.
- Experimentation length is too restricted.

OPPORTUNITIES
- "At school I feel lonely. Being here with lots of motivated teachers gives strength!"
- An occasion to understand the importance of continuous motorization and reflection on one's own activity for professional growth.

In short, TQM e-portfolio is a tool which is theoretically coherent and pragmatically useful to teachers:
- to improve their teaching
- for its positive influence on their students' learning
- available for and usable by all teachers from every order and level.

6. Conclusions and follow-up

Experimentation has provided blended activities aimed at co-planning and creating e-portfolio using digital artifacts, which facilitate and promote peer and self-evaluation processes. The bottom-up approach has promoted co-planning changes, identifying specificity, objectives, instruments, rules, strengths and weaknesses, beginning from the point of view of the teachers. In TQM e-Portfolio teachers co-planned integrated environments of training to promote the transition from formal and institutional environments systems to environments focused on who learns, researches, creates knowledge (Celentano & Colazzo, 2008; Fini & Cicognini, 2009), employs forms of collective intelligence (Levy, 2002) and connective intelligence (De Kerchove, 1997).

Serge Ravet (European Institute for E-Learning) describes e-Portfolio as the DNA of the Personal Learning Environment (Attwell, 2007). In TQM e-portfolio, as a further step, we would implement, in co-planning with teachers, Personal learning management tools (Limone, 2012) to facilitate the construction of knowledge through processes of reflection, conferencing, forms of self-regulation, development of life skills and metacognitive skills fostering the growth and personal development in a perspective of Lifelong Learning.

References

Attwell, G. (2007). E-Portfolios – the DNA of the Personal Learning Environment?. *Journal of e-Learning and Knowledge Society, 3*(2), 39-61.
In http://je-lks.maieutiche.economia.unitn.it/en/07_02/05Art_attwell_inglese.pdf

Celentano, M., & Colazzo, S. (Eds.) (2008). *L'apprendimento digitale. Prospettive tecnologiche e pedagogiche dell'e-learning*. Roma: Carocci.

Cenerini, A., & Drago, R. (Eds). (2001). *Insegnanti professionisti*. Trento: Erickson.

Chianese, G. (Ed.) (2011). *Il piano di sviluppo individuale. Analisi e valutazione di competenze.*Roma: FrancoAngeli.

De Kerchove, D. (Ed.) (1997). *Connected Intelligence: the arrival of the web society*. Toronto: Somerville House.

Dewey, J. (Ed.) (1982). *How we think*. Lexington: Mass Health.

EQARF (2009). Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training (Text with EEA relevance) (2009/C 155/01). *Official Journal of European Union*. In
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:155:0001:0010:EN:PDF

Fini, A., & Cicognini, M. (Eds.) (2009). *Web 2.0 e social networking.*Trento: Erickson.

Gasperoni, G. (2010). La valutazione dell'insegnamento. In A. Cavalli, & G. Argentin (Eds.), *Gli insegnanti italiani. Come cambia il modo di fare scuola. Terza indagine dell'Istituto IARD sulle condizioni di vita e di lavoro nella scuola italiana* (pp. 343-362). Bologna: Il Mulino.

Kolb, D. (Ed.) (1984). *Experiential Learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Levy, P. (Ed.) (2002). *Cyberdemocratie.*Paris: Odile Jacob.

Limone, P. (Ed.) (2012). *Valutare l'apprendimento on line. Esperienze di formazione continua dopo la laurea*. Bari: Progedit.

Mezirow, J. (Ed.) (2003). *Apprendimento e trasformazione*. Milano: Cortina.

Mortari, L. (Ed.) (2003). *Apprendere dall'esperienza. Il pensare riflessivo in formazione*. Roma: Carocci.

Nonaka, I., & Takeuchi, H. (Eds.) (1995). *The Knowledge Creating Company*. New York: Oxford University Press.

Polanyi, M. (Ed.) (1966). *The Tacit Dimension*. Garden City, NY: Doubleday & Co..

Schön, D. (Ed.) (1987). *Il professionista riflessivo*. Bologna: Il Mulino.

SEALLL. (2006). *SEALLL Frametext*. In www.sealll.eu/docs/SealllframetextJaapAnita.doc

Sloan, M. (Ed.) (1996). Assessment at work. I Love This Piece Because... *Instructor, 105*(7), 30-32.

Striano, M. (Ed.) (2001). *La razionalità riflessiva nell'agire educativo*. Napoli: Liguori.

Taylor, E., & Tyler, J. (Eds.) (2012). *Can Teacher Evaluation Improve Teaching?*. In http://educationnext.org/can-teacher-evaluation-improve-teaching/

Wenger, E. (Ed.) (2006). *Comunità di pratica. Apprendimento, significato e identità*. Milano: Cortina.

Digital storytelling:
social dynamics and participation paths[1]

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Abstract
Interactive technology environments are a resource for both students and teachers. Through these interactive contexts, learning acquires complexity as it is not only the result of individual cognitive processes, but also of interactive and communicational dynamics that exceed the centrality of the process of transferring content.
The research focuses on the participatory dynamics generated by the use of digital storytelling within two primary school class groups (40 students in total) in Bari, with particular attention to the participation paths created within the learning community. Using a qualitative version of the Social Network Analysis we intend to investigate the interactive dynamics of the two groups and then compare the results. The results are expected to show how meaningful learning takes place through social and cultural dynamics (Wenger, 1998), influenced by the context in which knowledge is built.

Keywords
Digital Storytelling, Social Dynamics, Interactions, Social Network Analysis, Community of Practice

1. Theoretical Framework

The proposed contribution aims to investigate the participative interaction that is established within the class through the use of educational technology. The argument starts from the premise that the use of well-designed technology should facilitate students' interaction and participation. Within this objective, digital storytelling as a technological teaching tool fits very well in a context in which participation and interaction are keys to building knowledge (Scott, 1977, pp. 7-10). The cultural perspective helps us to rethink learning processes enabling complex interactive and communicational dynamics that foresee the outline of the social dimension of the learning process. The purpose of learning development is for students to become active participants in their own cultural and social context. For this reason,

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[1] This article has been developed jointly by the three authors. **Michele Baldassarre** wrote paragraphs 1.2, 2; **Immacolata Brunetti** wrote paragraphs 1, 3; **Maria Brunetti** wrote abstract and conclusions.

monitoring how participants modulate their placement within the community of practice is an indicator of both individual and social learning. The study of participation paths is fundamental in order to analyse the central or peripheral processes of each participant.

In this reflection, the context is a system internally composed by different elements that interact and produce changes when only a single component varies. According to the Gestalt theory (Lewin, 1951), the behaviour of a group must be seen as determined by the field of social forces in which the group itself is located; for this reason, the environment within which the group is placed is not seen as something external, but as something that really involves the members, thus, the name "perceived environment", since the social meaning is actively constructed by the group members on the basis of their perceptions and experiences (*ibid.*). The recent interest in the environment as a place for meaning construction makes it necessary to consider this combination, which for this purpose calls attention to the use of technology in order to motivate the students' participation and the formation of the class as a learning community. Communities of practice arise when individuals belonging to a group perform a certain task and share the conditions for their existence in an inter-subjective space (Wenger, 1998). This inter-subjective space is characterized by three fundamental dimensions: joint venture, mutual commitment and sharing of the conditions. It is through these three dimensions that the process of collective negotiation, requiring mutual commitment of all the participants, takes place. As a matter of fact, belonging to a community means sharing a commitment and participating in the construction of a task through interactions. It is necessary that all participants share the same commitment and are aware of it. The mutual commitment is fostered by working in the same physical space, sharing information and experiences through the narrations of the individuals. Wenger (*ibid.*) identifies three devices that form the backdrop to mutual commitment, that is, cooperative work, diversity and mutual relationships. Fundamental to negotiating meanings are mutual commitment to the task and sharing objectives that give shape to the enterprise. The final result produces a type of learning which is culturally and socially defined during the interactions (Gherardi, Nicolini & Odella, 1997). The concept of communities of practice finds its counterpart mainly in training contexts in the classroom and in virtual environments.

Telling and listening to stories are at the heart of human experience and are an integral part of an individual's life, besides making up the fabric of cultural and ethical subjectivity. Stories can be considered as an inseparable encounter between tacit knowledge and practical action which stem from the construction of a group's and a community's social identity (Bruner & Feldman, 1995). Within the different stages of a story and throughout the experiences of the different actors in which decisions and actions overlap, stories give life to complex relationships that make the vision of reality consistent with subjective interpretations, a fact that could hardly be explained by the rational component alone (Bruner, 1997). Thanks to narratives it is possible to construct and deconstruct observational perspectives that reflect the idea the subject has of himself as an individual immersed in a global existential structure in which competing social, cultural, ethical considerations govern the foundation of a community.

Taking advantage of the potentialities of the pedagogical and didactic narration, both as a tool for communicating experiences and as a reflective tool for the construction of meanings of reality (Kaneklin & Scaratti, 1998), digital storytelling is at the heart of a dimension in which the multimedia, characterized precisely by linguistic complexity, contributes to enrich communication. In this context, the act of narration is intermingled and blends deeply throughout multiple forms belonging to the cultural plot (Barthes, 1987).

Many studies have shown the importance of such a methodology in developing the empowerment of the individual (Drury & Alterio, 2003; Petrucco & De Rossi, 2009, 2013). For this reason, digital storytelling is not only a multimedia product, but a proper teaching and learning process, a part of a tissue made up of actors, technological artefacts and precise educational intentionality (Petrucco & De Rossi, 2009; 2013). And it is precisely within the context of digital literacy that the new pedagogical proposals foster the development of creativity and innovation (Burgess, 2006).

1.1 Storytelling and active learning

Several studies have been conducted to prove the importance of storytelling in teaching and learning processes, in fact, storytelling has always been an important element in teaching. If we consider the relational aspects of teaching practice, we can say that narration and dialogue are based on the cognitive and emotional involvement of the participants in the communication process (Cisotto, 2005). As a consequence we have, on the one hand, the attempt to construct meaning through continuous negotiations, on the other, the focus on motivation to learn through active and experiential teaching based on the development of skills (Scank, 2011). In this context, the effectiveness of teaching and learning processes is all the greater because the inherent narrative modes are linked to the actual experience. Mc Drury and Alterio (2003) consider storytelling as an active element and bearer of real content and meaningful experiential reality since it helps to contextualize what has been learned and reflect upon it. Jonassen (cfr. Varisco, 2002) identifies three poles around which the learning process is understood as a meaningful construction: the context which determines it, the interaction between the actors based on a partnership intended as a cognitive process, and finally the inner negotiation. The narrative paradigm qualifies reflection as an opportunity to rework the experience and the knowledge in relation to cognitive and emotional processes. By means of this process, not only a meaningful based on experience learning (the so-called learning by doing) takes place (Kolb, 1984), but also a transformative learning (Mezirow, 2003) since, at the end of the reflective process, thought and subsequent action undergo a transformation. Howard Gardner (1999) in his *Sapere per comprendere*, argues that the narrative approaches to teaching harmonize and develop the various forms of intelligence (especially linguistic, interpersonal, intrapersonal). Storytelling itself is an unconscious communicative strategy because it is part of the way we communicate. Indeed, some authors, such as Arahamson (1998) and Egan (1989), claim that a teacher naturally uses narrative strategies that become more and more effective if the subject taught is bound to real events.
The narrative perspective is found in Problem Based Learning (Barrow, 1996; Woods, 2005; Gasser, 2011), where teaching is anchored to practical problems related to children's daily life. This perspective facilitates the process of learning the abstract content related to the context, since this content is resized in its emotional aspects and acts as a stimulus for learning motivation in relation to a specific content. The basic elements that characterize a story are recounting in an active and engaging way, and, as Schank claims, the recognition of a problem and the necessity to explicit its meaning through narration. Digital storytelling embraces both the cognitive and the emotional dimension of the learning process, becoming, thus, an instrument through which education can be provided within the ultimate goal of the whole teaching process.

Therefore, the constructivist approach related to the use of DST is based on participation and interaction that are most important for building and sharing knowledge (Ligorio & Cacciamani, 2013).

2. Research design: methodological framework

The study herein proposed, launches a discussion on the basis of a research (Baldassarre, Brunetti & Brunetti, 2013) carried out during the school year 2012-2013, and presented at the Atee-Sirem Conference in Genoa 2013, on the use of digital storytelling as a tool to improve the perception of the level of understanding, attention, memory, and on the effectiveness of a lesson which uses multimedia narrative strategies in order to encourage students to reflect critically on the use of new technologies by means of a methodology adaptable to children's personal interests and somehow interdisciplinary.

Therefore, we thought of a narrative method and a story that was not only common to all the children in the class, so as to form a single group, but also emotionally engaging, that is, motivated to collaboration, sharing and construction of meanings. The assumption is that the mixture between narrative and emotional aspects mixed with multimedia components, enhances the effects of the perceptual-cognitive interpretation of reality. Thus, we proceeded to extend the search at a later stage where the context becomes central in the development of involvement and commitment in the performance of a shared repertoire. The design of the research involved, the use of digital storytelling as a tool that encourages collaborative work, sharing and the construction of meanings. The tools used by the students were the following four: a digital camera; freeware software to perform editing operations such as Picasa; an audio editor, Audacity, and finally Photostory 3 to animate, create effects and add titles to photos. The result is a video with pictures taken in class, drawings created by the children and an audio commentary. The video was made by a single working group that identified a specific known topic, lived in first person. The chosen theme revolved around the story of Little Red Riding Hood narrated in the English language since the content of the fairy tale is known to all students. The lesson setting was that of the computer laboratory. The most significant aspect recorded concerned the teacher's role, who, thus, becomes a cultural mediator and facilitator, besides supporting the whole teaching and learning process (Jonassen, 2002). The content of the narration is characterized by the reflection which stems from the real action thus created. Furthermore, this allows to reflect on the solution to possible issues which may arise and, as a result, thought processes are explicated and metacognition can be practiced. The reference is precisely to the experiential learning theorized by Kolb (1984) according to whom learning is significant if it is characterized by the reflection triggered by experience, and by social interactions as a factor in the renovation of thought (Salomon, 1993). It follows that, learning is constituted by a sequence of steps or activities which culminate in a reflective change within real action. The key element of this process is the emotional component that makes the story interesting and worthy of attention. The emotional envolvement focuses on interpersonal activity, on mutual commitment in which the activity are always collective activity; so the analysis of participation paths is implement to student.

The research question aims at investigating the interactive dynamics within a community of practice. In particular, the research aims at identifying and comparing the strategies of participation in two different lesson modes. The first lesson mode does not make use of digital storytelling, the second makes use of the digital tool.

The research data will be organized on the basis of the interaction of two groups from primary school fifth classes (40 students in total). Each group (20 students) will be taught the English language through the use of narration. In a subsequent phase, English will be taught traditionally in one class, whilst in the other English will be taught via digital storytelling; hence, the participation of and the interaction between students shall be analysed both at the beginning and at the end of this study. This is crucial to the investigation of the relationship networks within the community of practice and expresses the contribution of participations paths to the collective structure (Annese & Traetta, 2009). Ligorio (2008) establishes 4 types of participation paths:
- *stable*: same level of participation
- *progressive centralization*: constant movement from the margins to the centre
- *progressive decentralization*: centrality, marginality
- *nonlinear stability*: an initial decentralized path, thus, from the centre to the margins and a subsequent change in direction, or, vice-versa, an initial centralization (from the margins to the centre) and then a decentralization (centre-margins).

Well (1993) and Matusov (2001) have investigated inter-subjectivity by observing how individuals cooperate when they manage to perform common tasks. Wells talks about the convergence of attention on an object, in the quest for a common reference, in negotiating the meaning of words and purpose of the interaction and finally in listening to one another. Matusov, however, defines inter-subjectivity as having something in common with each other, when trying to converge one's views with those of the others, and when individual differences are used as essential resources for independent learning.

On the basis of the digital storytelling structural elements identified by Jason Ohler (2008) intertwined with the DST learning model of Mc Drury and Alterio (2003), the research consisted in the following phases:
1. presentation of the project to the class;
2. performing the written part;
3. collection of materials and single composition with the use of a PC.

Element for the planning of the digital Storytelling (Jason Ohler)	Model of reflective learning through Storytelling (McDrury & Alterio)
1. Story and construction of its concept map.	1. Story finding: identifying a story.
2. Feedback from other students on their story with additional comments	2. Story telling: debating of story.
3. Writing and recording the story.	3. Story Expanding and Story processing: correlation with other stories and changes in thoughts
4. Listening and possible reviewing, explaining the end of the story and digitalizing it	4. Story reconstructing: changing the action through a reconstruction process

FIGURE 1. Overview of the elements for the planning of DST(Digital StoryTelling). Jason Ohler (2008) intertwined to the learning model of McDrury and Alterio (2003).

Following the presentation of the project, was the performance of the written part which intertwined the following elements with each step:

1. storytelling and construction of a concept map: collecting story activities (Story Finding) and identifying key points;
2. discussion of stories with common elements (Story Telling);
3. correlation with other stories to enrich the content (Story Expanding) and writing of the storyboard (Story Processing);
4. reconstruction of the final story with possible solutions through a reworking that points to a positive change in thought and action (Story Re-constructing).

During the sharing, summarizing and drawing phases of the story, the teacher changed the position of the children around so that each child could correct his/her classmate's work. The reason for changing positions stems from the necessity to keep up the pace for the cooperative task, other than for the use of the tool; in such a way the fastest child could help the one who worked at a slower pace.

Before the implementation of the Digital Storytelling, data was collected accordingly to a question in two different phases, *pre-design* and *post-design* of digital storytelling: "Choose among your classmates the ones you consider mostly to be your friends by giving them a point from 1 to 5 – 5 being the maximum score and 1 the minimum".

3. Data Analysis

Through the Social Network Analysis (SNA) (Borgatti, 1998; Mazzoni, 2006; Wasserman & Faust, 1994), we intend to analyse relational data that will derive from qualitative methods including:

• the density index to investigate the level of cohesion among the participants,
• the centrality index to investigate the position of each student and his social power.

In the first phase of the research we gave out the socio-metric test to both classes.

In this study, we intended to combine the relational data derived from the socio-metric tests with the quantitative analysis via network analysis (NA). Several national and international studies have shown how this approach can be adequate to study the interconnections between the actor and his/her social relationships (Amaturo, 2003; Burt, 1990, 1992, 2000; Borgatti, 1998; Piselli, 2001, 2003; Salvini, 2007; Scott, 1991).

Network analysis techniques have made it possible to translate the social space within the relationships, this is because it is assumed as a precondition that the shape and structure of this space depends on the characteristics of the actors involved, as determined by the actors' recognition of their own action strategies based on their own resources and by external conditions used to their advantage (Fligstein, 2001). The use of the NA is very useful when you want to make assumptions about the relational processes practiced by the actors in their professional context. In this framework it is possible to take advantage of the opportunities created by the various situations on the basis of the resources possessed by everyone and the strategies that are put into practice and will determine some of the choices. These choices depend both on the professional skills and on the authoritativeness enjoyed by the actor within the network, highlighted by the position that the actor holds within the network (Holcombe, 2002). On this basis, an ego-network has been conducted in order to activate a space comprised within the relationships assuming that the shape and space mutate accordingly to the characteristics of the actor in reason of the intensity of the relationship and consequently in accordance with the changes in position over time (Chiesi, 2003; 2005). The tools used to process the data were: UCINET and NetDraw. Ucinet (Borgatti, 1998) was created by a research group at the University of California, Irvine, and is constituted by a series of

programs that follow the graph theory, the analysis of positional and multidimensional scaling. A file data Ucinet is represented by a matrix of incidence or adjacency, made up of values transformed into binary data. Net Draw is a procedural module used to graphically create social networks, and thus to calculate the analysis of distance and centrality, and finally it is used for the construction of geodesic matrices.

Below the diagram of social networks within the classroom setting (Figure 2-3).

BLOCK DENSITIES OR AVERAGES
Input dataset: classe 5B dico
Relation: classe 5B dico
Density (matrix average) = 0.4907
Standard deviation = 0.4999
Use MATRIX>TRANSFORM>DICHOTOMIZE procedure to get binary image matrix.
Density table(s) saved as dataset Density
Standard deviations saved as dataset DensitySD
Actor-by-actor pre-image matrix saved as dataset DensityModel

Running time: 00.00.01
Output generated: 30 mar 14 18.08.42
UCINET 6.509 Copyright (c) 1992-2012 Analytic Technologies

FIGURE 2. Relational networks of class 5 B before using DST (Digital StoryTelling).

This socio-metric network represents the relationships existing within the class. Each relationship is represented by a pointing arrow which shows single preferences towards the chosen classmate, thus defined as an asymmetric relationship.

FREEMAN'S DEGREE CENTRALITY MEASURES
Model: asymmetric
Input dataset: classe 5B dico

		1 - OutDegree	2 - InDegree	3 - NrmOutDeg	4 - NrmInDeg
7	Alessandro G.	14.000	8.000	73.684	42.105
2	Sergio A.	13.000	13.000	68.421	68.421

		1 - OutDegree	2 - InDegree	3 - NrmOutDeg	4 - NrmInDeg
6	Marco F.	12.000	12.000	63.158	63.158
10	Michela L.	12.000	6. 000	63.158	31.579
5	Raffaella D.	12.000	8.000	63.158	42.105
17	Alessandro R.	12.000	8.000	63.158	42.105
13	Ivan N.	11.000	7.000	57.895	36.842
20	Jennifer V.	11.000	8.000	57.895	42.105
15	Rosanna P.	9.000	11.000	47.368	57.895
14	Alessandra P.	8.000	3.000	42.105	15.789
12	Gianluca M.	8.000	9.000	42.105	47.368
18	Suami S.	8.000	4.000	42.105	21.053
8	Ropsa G.	7.000	6.000	36.842	31.579
1	Aurtora A.	7.000	11.000	36.842	57.895
9	Lucis G.	5.000	5.000	26.316	26.316
19	Maria G. S.	5.000	7.000	26.316	36.842
11	Cosmalinda L.	4.000	7.000	21.053	36.842
16	Melissa P.	0.000	12.000	0.000	63.158
4	Davide D.	0.000	7.000	0.000	36.842
3	Noemi C.	0.000	6.000	0.000	31.579

DESCRIPTIVE STATISTICS

		1 - OutDegree	2 - InDegree	3 - NrmOutDeg	4 - NrmInDeg
1	Mean	7.900	7.900	41.579	41.579
2	Std Dev	4.312	2.663	22.693	14.014
3	Sum	158.000	158.000	831.579	831.579
4	Variance	18.590	7.090	514.958	196.399
5	SSQ	1620.000	1390.000	44875.348	38504.156
6	MCSSQ	371.800	141.800	10299.169	3927.978
7	Euc Norm	40.249	37.283	211.838	196.225
8	Minimum	0.000	3.000	0.000	15.789
9	Maximum	14.000	13.000	73.684	68.421
10	N of Obs	20.000	20.000	20.000	20.000

Network Centralization (Outdegree) = 33.795%
Network Centralization (Indegree) = 28.255%
Actor-by-centrality matrix saved as dataset Freeman degree

Running time: 00.00.01
Output generated: 30 mar 14 18.10.41
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Density is the main indicator of the degree of cohesion related to the network: the Output Log File shows a value of density of 0.49, which means that there are 49% of all possible ties. It is an average value, as the index varies from 0 to 1, allowing us to observe that there is a good level of cohesion in only one half of the class. The value of cohesion is confirmed by the

value of the deviation standards that is 0,50 which indicates the presence of a fairly high amount of variability in the bonds. It represents the highest variability as the density is close to 0.5.

The freeman degree centrality: looking at our network we can see that the node #2, #6 and the node #16 received the highest number of choices (respectively 13, 12 and 12 choices), these are, as a matter of fact, the most popular pupils in the class; the nodes #15 and #1 are quite central (11 choices); the nodes #7 and #2 are those with the highest value of out-degree, i.e. the most expansive. The more peripheral children are those who received the lowest number of choices: #14, #18 and #9.

In this class a good level of cohesion may be observed: ties are numerous and more homogeneous. In some points, you will find that the meshes of the net thicken around those subjects deemed as the most influential and central. These subjects are able to reach the largest number of subjects within the network through short paths. On the other hand, there are some more peripheral nodes from which bonds are originated with no return. Gianluca is a child who shows off, Swami is a socially disadvantaged child and for this reason she is marginalized, she constantly quarrels with everyone, and creates situations of social reality. She is always at the centre of attention and prevails in class interactions, since she imposes her presence.
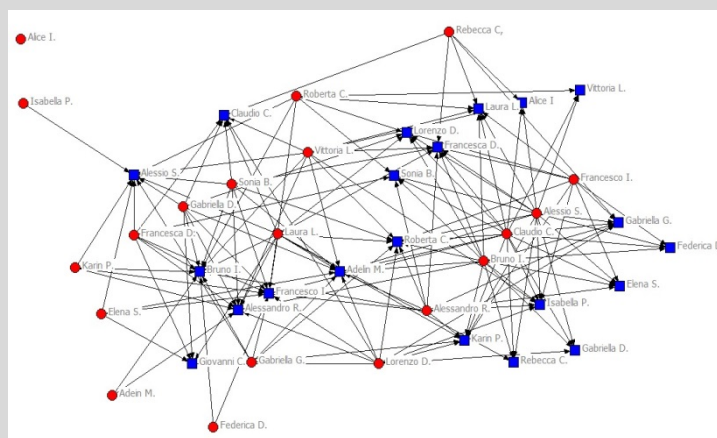
FIGURE 3. Relational networks of class 5 C before using DST (Digital StoryTelling).

BLOCK DENSITIES OR AVERAGES
Input dataset: netdraw classe 5C
Relation: netdraw classe 5C
Density (matrix average) = 0.3750
Standard deviation = 0.4841
Use MATRIX>TRANSFORM>DICHOTOMIZE procedure to get binary image matrix.
Density table(s) saved as dataset Density
Standard deviations saved as dataset DensitySD
Actor-by-actor pre-image matrix saved as dataset DensityModel

Running time: 00.00.01
Output generated: 30 mar 14 16.13.38
UCINET 6.509 Copyright (c) 1992-2012 Analytic Technologies

CLOSENESS CENTRALITY MEASURES
Input network dataset: netdraw classe 5C
Output measures: freeman degree
(Freeman) Set undefined distances to: Max observed distance plus 1
(Freeman) Output options: Divide totals into N-1 (Freeman normalization)
(Valente-Forman) Handle undefined distances:Set reverse distance to zero
(Valente-Forman) Output options: Divide averages by diameter
(Reciprocal) Handle undefined distances: Set reciprocal distance to zero
(Reciprocal) Output options: Averages

		1 - OutFree Clo	2 - InFree Clo	3 - OutVal Clo	4 - InVal Clo	5 - OutRecip Clo	6 - IRecip Clo
1	Vittoria L.	0.679	0.487	1.000	0.947	0.763	0.535
2	Gabriella G.	0.576	0.576	1.000	0.947	0.649	0.658
3	Lorenzo D.	0.655	0.576	1.000	0.947	0.737	0.658
4	Alessio S.	0.826	0.594	1.000	0.947	0.895	0.719
5	Bruno I.	0.792	0.633	1.000	0.947	0.868	0.754
6	Francesco I.	0.633	0.655	1.000	0.947	0.728	0.781
7	Roberta C.	0.613	0.633	1.000	0.947	0.684	0.737
8	Adein M.	0.475	0.655	1.000	0.947	0.518	0.763
9	Alessandro R.	0.655	0.594	1.000	0.947	0.754	0.702
10	Rebecca C	0.576	0.528	1.000	0.947	0.632	0.579
11	Gabriella D.	0.613	0.528	1.000	0.947	0.684	0.579
12	Sonia B.	0.633	0.559	1.000	0.947	0.711	0.632
13	Karin P.	0.543	0.594	1.000	0.947	0.596	0.684
14	Elena S.	0.528	0.543	1.000	0.947	0.570	0.605
15	Alice I.	0.250	0.500	0.000	1.000	0.000	0.570
16	Francesca D.	0.594	0.613	1.000	0.947	0.658	0.711
17	Isabella P.	0.463	0.576	1.000	0.947	0.491	0.658
18	Laura L.	0.704	0.576	1.000	0.947	0.789	0.658
19	Federica D.	0.475	0.528	1.000	0.947	0.518	0.579
20	Claudio C.	0.864	0.487	1.000	0.947	0.921	0.605

20 rows, 6 columns, 1 levels.

Running time: 00.00.01 seconds.
Output generated: 30 mar 14 16.40.46

Density is the main indicator of the degree of cohesion related to the network: the Output Log File shows a value of density of 0.37, which means that there are 37% of all possible ties. It is a rather low value, as the index varies from 0 to 1, allowing us to observe that there isn't a good level of cohesion in this class; however, the value of cohesion is confirmed by the value of the deviation standards that is 0,48 which indicates the presence of a fairly high amount of variability in the bonds. It represents the highest variability as the density is close to 0.5.
This second figure represents a mesh with non-homogeneous ties, like the previous one, in which the use of digital storytelling was given. The red dots are the nodes from which the ties

depart, while the blue ones receive them: there are in fact 18 red nods and 21 blue ones. In this class there are a few peripheral nodes; though apparently it may seem to be a homogeneous class, there are nonetheless few influential nodes as some nodes have many links, but in turn are connected to few nodes, or from one particular node no links depart but in turn are received.

In the second phase of the research we gave out the socio-metric test to both classes after using the digital storytelling.
Below the diagram of social networks within the classroom setting (Figures 4-5).
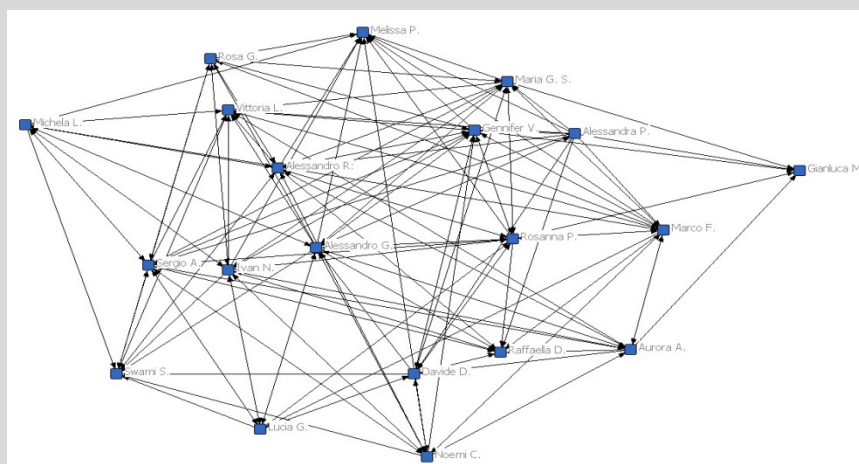
FIGURE 4. Relational network with traditional teaching in class 5B.

BLOCK DENSITIES OR AVERAGES
Relation: classe 5B dico
Density (matrix average) = 0.4803
Standard deviation = 0.4996
Use MATRIX>TRANSFORM>DICHOTOMIZE procedure to get binary image matrix.
Density table(s) saved as dataset Density
Standard deviations saved as dataset DensitySD
Actor-by-actor pre-image matrix saved as dataset DensityModel

Running time: 00.00.01
Output generated: 31 mar 14 23.33.21
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CLOSENESS CENTRALITY
Input dataset: classe 5B dico
Method: Geodesic paths only (Freeman Closeness)
Output dataset:closeness
Note: Data not symmetric, therefore separate in-closeness & out-closeness computed.

The network is not connected. Technically, closeness centrality
cannot be computed, as there are undefined distances.
-- You have chosen to set undefined distances to N, the number of nodes

CLOSENESS CENTRALITY MEASURES

		1 - inFarness	2 - outFarness	3 - inCloseness	4 - outCloseness
15	Melissa P.	81.000	380.000	23.457	5.000
20	Vittoria L.	81.000	380.000	23.457	5.000
5	Raffaella D.	83.000	380.000	22.892	5.000
11	Gianluca M.	89.000	380.000	21.348	5.000
2	Sergio A.	100.000	28.000	19.000	67.857
19	Gennifer V.	100.000	28.000	19.000	67.857
17	Swami S.	101.000	42.000	18.812	45.238
16	Alessandro R.	101.000	36.000	18.812	52.778
14	Rosanna P.	101.000	27.000	18.812	70.370
7	Alessandro G.	102.000	25.000	18.627	76.000
18	Maria G. S.	102.000	28.000	18.627	67.857
12	Ivan N.	103.000	27.000	18.447	70.370
6	Marco F.	104.000	28.000	18.269	67.857
1	Aurora A.	104.000	29.000	18.269	65.517
4	Davide D.	105.000	31.000	18.095	61.290
3	Noemi C.	106.000	28.000	17.925	67.857
8	Rosa G.	107.000	32.000	17.757	59.375
10	Michela L.	107.000	32.000	17.757	59.375
9	Lucia G.	107.000	32.000	17.757	59.375
13	Alessandra P.	116.000	27.000	16.379	70.370

Statistics

		1 - inFarness	2 - outFarness	3 - inCloseness	4 - outCloseness
1	Minimum	81	25	16.379	5
2	Average	100	100	19.175	52.467
3	Maximum	116	380	23.457	76
4	Sum	2000	2000	383.499	1049.345
5	Standard Deviation	9.077	140.047	1.937	24.653
6	Variance	82.400	19613.301	3.750	607.791
7	SSQ	201648	592266	7428.590	67212.086
8	MCSSQ	1648	392266	75.009	12155.815
9	Euclidean Norm	449.052	769.588	86.189	259.253
10	Observations	20	20	20	20
11	Missing	0	0	0	0

11 rows, 4 columns, 1 levels.

Network centralization not computed for unconnected graphs
Output actor-by-centrality measure matrix saved as dataset closeness

Running time: 00.00.01
Output generated: 31 mar 14 23.35.16
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Density is the main indicator of the degree of cohesion related to the network: the Output Log File shows a value of density of 0.48, which means that there are 48% of all possible ties. The value is located in the central point, as the index varies from 0 to 1, which allows us to observe that there isn't a good level of cohesion in the class; however, the value of cohesion is confirmed by the value of the deviation standards that is 0,49 which indicates the presence of a fairly high amount of variability in the bonds. It represents the highest variability as the density is close to 0.5.

The freeman degree centrality: looking at our network we can see that the pupil positioned at the centre, that is, the one with the highest value of closeness in regards to the other node, is node 7. Node 17 is a peripheral node, whilst 15,20,5,11 are the most isolated ones in the class. In this figure, the degree of width and cohesion, compared to the beginning of the lesson ,is unchanged. There is, indeed, a high level of variability in the ties and homogeneity.
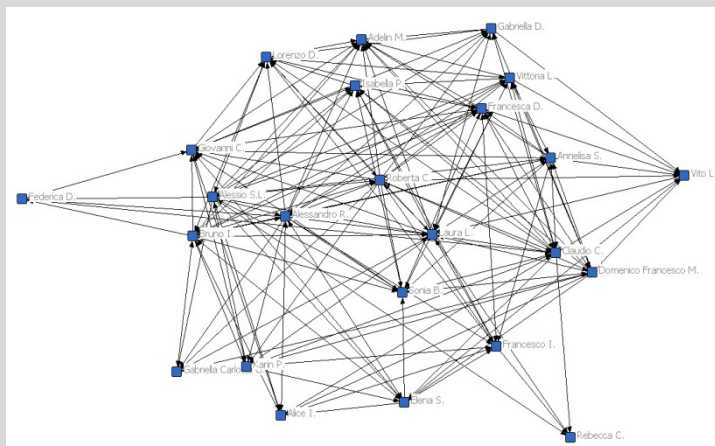
FIGURE 5. Relational network after using digital storytelling in class 5C.

BLOCK DENSITIES OR AVERAGES
Input dataset: classe 5Cdico
Relation: classe 5Cdico
Density (matrix average) = 0.3623
Standard deviation = 0.4807
Use MATRIX>TRANSFORM>DICHOTOMIZE procedure to get binary image matrix.
Density table(s) saved as dataset Density
Standard deviations saved as dataset DensitySD
Actor-by-actor pre-image matrix saved as dataset DensityModel

Running time: 00.00.01
Output generated: 31 mar 14 22.37.02
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Density is the main indicator of the degree of cohesion related to the network: the Output Log File shows a value of density of 0.36, which means that there are 36% of all possible ties. It is

a rather low value, as the index varies from 0 to 1, which allows us to observe that there isn't a good level of cohesion in this class; however, the value of cohesion is confirmed by the value of the deviation standards, that is 0,48, which indicates the presence of a fairly high amount of variability in the bonds. It represents the highest variability as the density is close to 0.5.

CLOSENESS CENTRALITY
Input dataset: classe 5Cdico
Method: Geodesic paths only (Freeman Closeness)
Output dataset: closeness
Note: Data not symmetric, therefore separate in-closeness & out-closeness computed.

The network is not connected. Technically, closeness centrality
cannot be computed, as there are undefined distances.
-- You have chosen to set undefined distances to N, the number of nodes

CLOSENESS CENTRALITY MEASURES

		1 - inFarness	2 - outFarness	3 - inCloseness	4 - outCloseness
2	Rebecca C.	47.000	552.000	48.936	4.167
17	Adelin M.	55.000	53.000	41.818	43.396
15	Laura L.	57.000	33.000	40.351	69.697
6	Francesca D.	57.000	38.000	40.351	60.526
11	Bruno I.	57.000	31.000	40.351	74.194
9	Lorenzo D.	58.000	39.000	39.655	58.974
20	Isabella P.	58.000	46.000	39.655	50.000
3	Giovanni C.	58.000	42.000	39.655	54.762
19	Karin P.	59.000	44.000	38.983	52.273
16	Vittoria L.	59.000	36.000	38.983	63.889
23	Annelisa S.	60.000	34.000	38.333	67.647
1	Sonia B.	61.000	38.000	37.705	60.526
22	Alessio S.L.	61.000	29.000	37.705	79.310
12	Francesco I.	62.000	47.000	37.097	48.936
5	Roberta C.	62.000	29.000	37.097	79.310
21	Alessandro R.	62.000	29.000	37.097	79.310
4	Claudio C.	63.000	30.000	36.508	76.667
14	Vito L.	63.000	46.000	36.508	50.000
8	Gabriella D.	63.000	40.000	36.508	57.500
24	Elena S.	65.000	38.000	35.385	60.526
13	Alice I.	67.000	41.000	34.328	56.098
10	Gabriella Carlotta G.	67.000	46.000	34. 328	50.000
7	Federica D.	68.000	62.000	33.824	37.097
18	Domenico Francesco M.	68.000	34.000	33.824	67.647

Statistics

		1 - inFarness	2 - outFarness	3 - inCloseness	4 - outCloseness
1	Minimum	47	29	33.824	4.167
2	Average	60.708	60.708	38.124	58.436
3	Maximum	68	552	48.936	79.310
4	Sum	1457	1457	914.984	1402.453
5	Standard Deviation	4.632	102.749	3.153	16.093
6	Variance	21.457	10557.373	9.943	258.991
7	SSQ	88967	341829	35121.816	88168.844
8	MCSSQ	514.958	253376.953	238.638	6215.793
9	Euclidean Norm	298.273	584.661	187.408	296.932
10	Observations	24	24	24	24
11	Missing	0	0	0	0

11 rows, 4 columns, 1 levels.

Network centralization not computed for unconnected graphs
Output actor-by-centrality measure matrix saved as dataset closeness

Running time: 00.00.01
Output generated: 31 mar 14 22.40.31
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The freeman degree centrality: looking at our network we can see that the pupils positioned at the centre, that is, the ones with the highest value of closeness in regards to the other node, are node #5 and #21. Nodes #17 and #7 are peripheral, whilst #2 is the most isolated one in the class.
This last figure is the most interesting since it is possible to find a high amount of variability in the ties compared both to the initial stage, i.e., before the use of DST, but also to traditional teaching, which, on the contrary, has a lesser level of variability.
Nevertheless, it is possible to observe a cluster of central ties having consistent shifts, such as, in the case of the student Federica D. who in the initial stage receives links, whereas at the starting point remains at the margins: thus, there is a change in position from central to peripheral. Vito L. becomes a leader because he receives links but does not link to anyone. The analysis shows that there is a good level of cohesion, though there is a fairly high amount of variability in the links.

4. Conclusion

The identified network typology consists of a varying network structure with a density of 0.5, that sets to the center a cohesive cluster of intimate friends and to the periphery a series of superficial bonds. Such structures are shaped based upon the reticular typology where the subgroup density interacts with the peripheries and vice versa (Everett & Borgatti, 2000).

According to the definition of Granovetter (1973) who states that strong relationships result from the combination of the quantity of time, the emotional investment and the intimacy (ivi, p.73), we can consider the central relationships as stronger than the peripheral ones, probably because they are very weak, having been created in the context of reference. We can deduce from this that friendship relations play a fundamental role in the community. In fact, those who were, at the beginning, at the edges of the network, are absorbed towards the centre in the situation following to the use of the DST. Friendship relations do not consider as strangers those who don't belong to it, but as people which it is possible to come into contact with and that represent potentially weak bonds or people towards whom we don't express any interest: people who do not belong to the environment in question, are those who don't share the same interests (Bourdieu, 1992). The investment in friendship does not require a formal apparatus of norms and obligations; in fact friendship relations develops in networks where it's possible to create a collective identity, in which the set of bonds underestimates the importance of the single relationships, whose rules are entirely negotiated within the relationship and the friendship network.

Limits that essentially depend on the type of studied population and on the type of bond based on which it is decided to build the relationships network (Salvini, 2005, p. 76). The network perception is a key element that allows referring to friendship in terms of reflexiveness that is expressed clearly during the interview only, while being substantially unconscious in the daily interaction practices. Thus, even if the network has a structural effect on the single relationships, such effect is not planned *a priori* by individuals: it is unfolded with no planning, as an indirect consequence of the emotional experience that is reflexively expressed in the discourses on friendship only, both when they are done with friends and when stimulated by the researcher. The choice to combine a network perspective with a qualitative close examination, has thus been dictated, apart from a series of methodological considerations, also from the specific interests that have driven this search. From a methodological point of view, asking people to name those that they consider as friends based on a numerical limit, has the advantage of assigning to interviewed person the task to identify the edges of his/her own network. The networks surveyed in this way, have therefore a varying wideness and their variability depends on the type of relationship which the interviewed person refers to when he/she assigns that specific number (Allan, 1982; Fehr 1996)

For the purpose of this study, it was interesting to notice who were the people that each of them considered as friends. The varying wideness of the networks depends not only on the fact that an individual can have more or less friends, but most of all from the different definitions of friendship. We have chosen this type of survey to avoid excluding any type of bond that, even if existing in the network, is not activated. It can be the case of a friend whom we are not frequently in contact with, or friends belonging to one's own companionship but with whom we don't have a close relationship, but also of competitive friendships, bringing poor satisfaction. It is possible that there is a structural effect of the friendship relation on the single bonds: if the friends are mutually connected by very dense nets, it is probable that the cohesion of such structures, holds together also those dyads that would be, otherwise, disconnected. For instance, if two friends fall out but are involved in a wider and strongly cohesive network, they can continue to meet each other, thus having more chances to clear up. The guided participation is hinged on interpersonal activities, on the importance of mutual commitment that makes practices always become collective activities. A feature of the guided participation (Rogoff, 1995), is the way in which individuals try to build knowledge. In this

case, the analysis of the participation tracks, cannot be carried out with reference to the teacher, but to the students.

The expected results show how meaningful learning (Jonassen, 2000; 2002) takes place through social and cultural dynamics (Wenger, 1998) influenced by the context in which knowledge is built; furthermore, digital storytelling, as a narrative tool that facilitates communication among students, promotes the democratic nature of computer-mediated communication (Sproull & Kiesler, 1991).

The novelty does not consist in the use of the digital instrument, but in the fact that none of the students had such a knowledge that he could possibly exceed the others. If a student responded better o before another, by changing position in the computer laboratory, the same student was confronted with a new task: summarizing and correcting a written work of another student and using power point tools. This proves that preconceptions regarding relationships and previous knowledge imply prejudices that invalidate spontaneous learning and relationships. The students who were out of sight, like Alessio, Giovanni and Adelin (5B), the latter always remaining in a peripheral position, at the end of the activities enjoyed the work that was done by using the computer, since none of them knew how to perform the task, but just the same put themselves to the test. Indeed, they told their teacher that:"it was fun!". Thus, the relationships that were randomly forced onto the students by the teacher turned out to be spontaneous. This randomness allowed a free-from-prejudice approach according to which each student helped his/her partner. In class 5C, where teaching was carried out with the use of digital storytelling, social ties were distributed as in a network, as shown in the network graphs and according to the collected data (Figure 3), since this is a class with a very high social level and sociability. After the use of the digital storytelling, graph – Figure 4 shows a greater cohesion and a higher degree of closely-knit social ties if confronted with the start, except for few nodes left at the margins. As far as the traditional lesson in class 5 B (Figures 2 and 4) is concerned, no changes in social ties was recorded. The only element that played a part in socialization may have been the time spent at school, a factor that has a great impact on personal experiences. As you can see from the network graphs in 5C, the relations between the use of digital storytelling, before and after its implementation, have changed. In Figure 3, the networks are widely spaced and uniform; however, in Figure 4 the relationships are more well-concentrated, and only a change in the position of two students can be noticed. The indices of density are the same for Figure 2 and Figure 5; however, what changes is the amount of the relations.

This may indicate two things: on the one hand, that the tool has the advantage of allowing the students to express high potential communicative and interpersonal skills; on the other hand, it marginalizes, within the group, those with low communicative and interpersonal skills (Fligstein, 2001; Jonassen, 2000; Piselli, 2001, 2003).

Several studies have been conducted to prove the importance of storytelling in teaching and learning processes; as a matter of fact, this has always been an important element in teaching. If we consider the relational aspects of teaching practice, we can say that narration and dialogue are based on the cognitive and emotional involvement of the participants to the communication process (Baldassarre, 2012; Cisotto, 2005; Kolb, 1984).

References

Abrahamson, C. (1998). Story-telling as a pedagogical tool in higher education. *Education*, *118*(3), 440-452.

Limone, P., & Baldassarre, M. (Eds.) (2014). *ICT in Higher Education and Lifelong Learning. SIREM 2013 Conference Proceedings, November 14th-15th, Bari (Italy) (2nd ed.)*. Bari: Progedit.

Allan, G. (1982). *Sociologia della parentela e dell'amicizia.* Torino: Loescher.

Amaturo, E. (2003). Capitale sociale e analisi di rete, un rompicapo metodologico. *Inchiesta*, *139,* 18-24.

Annese, S., & Traetta, M. (2009). Psychosocial dynamics of blended communities: participating and positioning in learning contexts. *Qwerty, 4*(2), 90-106.

Baldassarre, M. (2012). Weblog: A Communicative And Formative Setting. *International Journal Of Digital Literacy And Digital Competence*, *3*, 48-59.

Baldassarre, M., & Paiano, A. (2012). My digital english. a digital storytelling syllabus (DST). In M. González Davies, & A. Taronna, *New Trends in Early Foreign Language Learning: The Age Factor, CLIL and Languages in Contact; Bridging Research and Good Practices* (pp. 34-50). Newcastle Upon Tyne: Cambridge Scholars Publishing.

Baldassarre, M., Brunetti, I., & Brunetti, M. (2013). Tell a story. Becoming lifelong learner. In D. Parmigiani, V. Pennazio, &A. Traverso (Eds.), *Learning & Teaching with Media & Technology. ATEE-SIREM Winter Conference Proceedings*. 7-9 March 2013, Genoa (Italy). Brussels: ATEE aisbl.

Borgatti, S. (1998).Network Measures of Social Capital. *Connections*, *21*(2).

Bourdieu, P. (1992), *Risposte. Per un'antropologia riflessiva*. Torino: Bollati Boringhieri.

Bruner, J. (1991).La costruzione narrativa della realtà. In M. Ammaniti, & D. N. Stern (Eds.), *Rappresentazioni e narrazioni*. Roma-Bari: Laterza.

Burt, R. (1990). Kinds of Relations in American Discussion Networks. In G. Calhoun, & M. W. Meyer, & W. R. Scott (Eds.), *Structures of Power and Constraint* (pp. 411-451). Cambridge: Cambridge University Press.

Burt, R. (1992). *Structural Holes: The Social Structure of Competition.* Cambridge Mass: Harvard University Press.

Burt, R. (2000). The Network Structure of Social Capital. In B. M. Staw, & R. Sutton (Eds.), *Research in Organizational Behaviour* (pp. 345-423). Amsterdam: Elsevier Science.

Calvani, A. (2005). *Rete, comunità e conoscenza: costruire e gestire dinamiche collaborative.* Trento: Edizioni Erickson.

Casula, C., & Perra, S.(2010). L'analisi delle reti sociali e degli attributi relazionali degli imprenditori istituzionali. Uno studio di caso sul centrosinistra in Sardegna. *Sociologia del lavoro*, *118*, 129-144.

Center for Digital Storytelling (2005). http://www.storycenter.org/history.html

Cisotto, L. (2007). *Didattica del testo*. Roma: Carocci.

De Rossi, M., & Petrucco, C. (2013). *Le narrazioni digitali per l'educazione e la formazione*. Roma: Carocci.

Dettori, G., & Giannetti, T. (2006).Ambienti narrativi per l'apprendimento. *TD-Tecnologie Didattiche*, 39-42.

Dillingham, B. (2005). Performance literacy. *The Reading Teacher*, *59*(1), 72-75.

Egan, K. (1989). Memory, imagination, and learning: Connected by the story. *Phi Delta Kappan*, *70*, 455-459.

Everett, M. G., & Borgatti, S. P. (2000). Models of core/periphery structures. *Social Networks*, *21*(4), 375-395.

Fehr, B.A. (1996). *Friendship processes.* London: Sage.

Fligstein, N. (2001). Social Skill and the Theory of Fields. *Sociological Theory*, *19*(2), 105-125.

Freeman, L. C. (2007). *Lo sviluppo dell'analisi delle reti sociali. Uno studio di sociologia della scienza*. Milano: Franco Angeli.

Gardner, H. (1999). *Sapere per comprendere*. Milano: Feltrinelli.

Gherardi, S., Nicolini, D., & Odella, F. (1997). Apprendere nelle comunità di pratica e apprendere nei contesti di formazione tradizionali. *Sociologia del Lavoro*, 77-98.

Granovetter, M. S. (1973).The strength of weak ties. *The American Journal of Sociology*, *78*(6), 1360-1380.

Herreros, M. (2012). El uso educativo de los relatos digitales personales como herramienta para pensar el Yo (Self). *Digital Education Review*, *22*, 68-79.

Holcombe, R. (2002). Political entrepreneurship and the democratic allocation of economic resources. *Review of Austrian Economics*, *15*, 143-159.

Hung, C.-M., Hwang, G.-J., & Huang, I. (2012). A Project-based Digital Storytelling Approach for Improving Students' Learning Motivation, Problem-Solving Competence and Learning Achievement. *Educational Technology & Society*, *15*(4), 368-379.

Jonassen, D. (2000). *Learning as Activity.* "The Meaning of Learning Project", Learning Development Institute, Presidential Session at AECT, Denver, October 25th-28th, Denver.

Jonassen, D. H., & Hernandez-Serrano, J. (2002). Case based reasoning and instructional design: using stories to support problem- solving. *Educational technology: research and development*, *50*(2), 65-77.

Kaneklin, C., & Scaratti, G. (Eds.) (1998).*Formazione e narrazione: costruzione di significato e processi di cambiamento personale e organizzativo.* Milano: Raffaello Cortina.

Kolb, D. A. (1984). *Experiential Learning*. Englewood Cliffs, NJ: Prentice-Hall.

Lambert, J. (2002). *Digital Story-telling: Capturing Lives, Creating Community*. Berkeley, CA: Digital Diner Press.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Lewin, K. (1951). *Field Theory in the Social Science*. New York: Harper.

Ligorio, M. B, & Pontecorvo, C. (2010). *La scuola come contesto: prospettive psicologiche culturali.* Roma: Carocci.

Ligorio, M. B. (2002). *Guida alla comunicazione virtuale.* Napoli: Idelson-Gnocchi.

Ligorio, M. B. (2003). *Come si insegna, come si apprende.* Roma: Carocci.

Ligorio, M. B., & Cacciamani, S. (2013).*Psicologia dell'educazione*. Roma: Carocci.

Ligorio, M. B., & Spadaro, P. F. (2005). Posizionamenti identitari e partecipazione a comunità di pratiche on line*. TD. Tecnologie Didattiche, 35*(2), 42-53.

Matusov, E. (2001). Intersubjectivity as a way of informing teaching design for a community of learner class. *Teaching and Teacher Education*, *17*, 383-402.

Mazzoni, E. (2006). La Social Network Analysis: analisi strutturale delle comunità virtuali. In A. Pontecorvo, A. M. Ajello, & C. Zucchermaglio (Eds.) (1995), *I contesti sociali dell'apprendimento*. Milano: LED.

Mc Drury, J., & Alterio, M. (2003). *Learning through Story-telling in Higher Education.* London: Kogan Page.

Merritt, S. (2008). Digital storytelling.Time, Identity and Morality in Multimedia Personal Narratives of College Writing Students. *International Journal of learning*, *13*(8), 21-36.

Mezirow, J. (2003).*Apprendimento e trasformazione*. Milano: Raffaello Cortina.

Miguel, S., Caprile, L., & Jorquera-Vidal, I. (2008). Análisis de co-términos y de redes sociales para la gener- ación de mapas temáticos. *El profesional de la información*, *17*(6), 637-646.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, *108*, 1017-1054.

Ohler, J. (2008). *Digital storytelling in the classroom*. Thousand Oaks, CA: Corwin Press.

Petrucco, C., & De Rossi, M. (2009). *Narrare con il Digital Storytelling a scuola e nelle organizzazioni.* Roma: Carocci.

Piselli, F. (2001). Capitale sociale: un concetto situazionale e dinamico. In A. Bagnasco, F. Piselli, A. Pizzorno, & C. Trigilia (Eds.), *Il capitale sociale. Istruzioni per l'uso.* Bologna: il Mulino.

Piselli, F. (2003). Capitale sociale e familiare, una indagine sulla piccola e media impresa*. Inchiesta*, *139*, 65-76.

Robin, B. (2008). Digital Storytelling: A Powerful Technology Tool for the 21st Century Classroom. *Theory into Practice*, *47*, 220-228.

Rogoff, B. (1995). Schooling and the development of cognitive skills. In H .C. Triadi, & A. Heron (Eds.), *Handbook of cross-cutural psychology*(pp. 233-294) [volume 4]. Rockleight: Alòyn & Bacon.

Salmon, C. (2008). *Storytelling*. Roma: Fazi Editore.

Salvini, A. (2007). *Analisi delle reti sociali. Teorie, metodi, applicazioni*, Milano: Franco Angeli.

Schank, R. (1990). *Tell Me a Story: A New Look at Real and Artificial Memory*. New York: Charles Scribner's Sons.

Schank, R. (2007). The story-centered curriculum. *eLearn Magazine*, *4*.

Scott, J. (1997). *L'analisi delle reti sociali* (It. Ed. Enrica Amaturo, La Nuova Italia Scientifica, Roma).

Seed, P. (1997). *Analisi delle reti sociali. La network analysis nel servizio sociale.* Trento: Erickson.

Spadaro, P. F., & Ligorio, M. B. (2009). *Psicologia dell'intersoggettività nei contesti educativi.* Milano: Franco Angeli.

Sproull, L., & Klieser, S. (1991), *Connections: New ways of Working in the networked organizations,* Cambridge, MA: MIT Press.

Tieken-Boon van Ostade, I. (2000). Social Network Analysis and the Language of Sarah Fielding. *European Journal of English Studies*, *4*(3), 291-301.

Varisco, B. M. (2002). *Costruttivismo socio-culturale. Genesi filosofiche, sviluppi psicopedagogici, applicazioni didattiche.* Roma. Carocci.

Wasserman, S., & Faust, K. (1994). *Social Network Analysis. Methods and Applications*. Cambridge, UK: Cambridge University Press.

Well, G. (1993).bIntersoggettività e costruzione della conoscenza. In C. Pontecorvo (Ed.), *La condivisione della conoscenza* (pp. 353-380). Roma: La Nuova Italia.

Wenger, E. (1998). *Community of Practice: learning, Meaning and Identity*. Cambridge, UK: Cambridge University Press.

Xu, Y., Park, H., & Baek, Y. (2011). A New Approach Toward Digital Storytelling: An Activity Focused on Writing Self-efficacy in a Virtual Learning Environment. *Educational Technology & Society*, *14*(4), 181-191.

Electric pedagogy.
Hybrid environment as cognitive educational space

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Abstract

Merlau-Ponty tactility and Deleuze and Guattari non-linearity are basic concepts for a real-time experimentation we use to connect Arts, Technologies and Education. Thanks to Docebo seas that support research "digital space makes school. Learning and education at web 3.0 time" − that involves schools (primary and secondary schools) and their ordinary activities, research is a "site specific" experience that choose school contest to study how is possible to innovate learning and teaching introducing a "tactile" use of physical and digital spaces; and to create and to make a "cognitive space" integrating learning and e-learning practices; a real time scene based on tactility and non-gravity, in collaboration with Altro Equipe, to develop a new Docebo Learning Management System called "Docebo school" based on tactile method and performing and embodied methodologies.

Keywords

Tactility, Electric Pedagogy, eLearning

1. Electric Pedagogy: toward a new *sense of the place*[1]

McLuhan's insight on electricity as a "principle" of a revolution related to the anthropological and cultural ground, may still be considered a guideline for social research, and particularly for research that touches the issues of education and training, because it intercepts a general and continuous need for innovation and change that, combined with the growing need to act and communicate, recognizes and legitimizes the electrification of learning process and digital extension of the concepts of "environment", "space" and "culture" as a new theoretical framework (Dewey, 1920). It's important to underline that this new theoretical framework, placed in pragmatism and phenomenology, is here assumed to rethink the education through a look that is critical of the traditional and "classical" opposition between doing and knowing, and thus between theory and practice but also between reality and artifacts, languages, or analogic and digital languages. With electricity and then with the electronic and digital media is precisely the opposition that is put in crisis, along with linear logic, by introducing a real cognitive revolution that changed the whole way of thinking and acting because it introduced the convergence, integration, in a word network, as new "brainframe" (de Kerckhove, 1990) able to reconfigure the relationship between man and the world in terms of mutual interdependence and situatedness. The reticular, or interconnection, is the "figure" that characterizes all living systems and their continuous process of change-transformation so the internet and the Web represent and explode as generating principle of the reticular educational processes (and therefore as generative processes and training), based on "principles of connection and het-

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[1] Cfr. Meyrowitz (1993).

erogeneity" and the "principle of multiplicity" (Deleuze & Guattari, 1980). The philosophers of the rhizome, in fact, emphasize that:

> "any point of rhizome can be connected to anything other, and must be. This is very different from the three of root, which plots a point, fixes an order. […] An assemblage is precisely this increase in the dimensions of multiplicity that necessarily changes in nature as it expands its connections" (ivi, pp. 7-9).

The lines intersect with other lines, in multiple directions, drawing geographies that break the linearity and two-dimensional shape and give rise to the third dimension, thickness, depth. But condition of the giving of this multi-layered and non-linear geography is the principle of connection and that of heterogeneity that gives a "dynamic" to "environment" and "systems". The relational dimension is shown as a generative principle: it is the origin of shaping and possibility of existence of each "shape". In this sense, electricity and communications technologies that are derived from it, especially the last generation that converge on the Web and in the "culture converged" (Jenkins, 2006), they merely emphasize, on one hand, the "art to build the world and themselves" (D'Ambrosio, 2008) − performativity − and on the other, sociality and situatedness which are condition of performativity itself. Act, learn, train and self-train are "emergencies" of places and of relationships that take place, so as to produce "works" and therefore actions, knowledge, identity and culture, whose geometry is not Euclidean or predictable but makes N-potential "creatures" and creations, being established by (N-potential) different connections possible.

The agent, or digital performer, or performer, is category with which the individual, as a citizen of the world, including electronic and digital space, is reviewed, emphasizes his creative force and places it on different levels of experience that makes it an ongoing project. The state of "natural" is the individual situatedness and mobility: on these terms "emerges" the individual himself and his agency and transforming capability. So, thanks to the connectivity that is electric and digital, individual, as a performer, expresses a state of continuous learning and training in which you can find a mobile, or "dancing", identity and space.

If mobility is a defining characteristic of electronic and digital culture, we can identify their mobility as generative concept for epistemological status of pedagogy and for educational experience of contemporary.

The aim of this paper, and of project "Digital space makes school. Learning and education at web 3.0 time", is therefore to "observe" the "educating community" to bring out its plastic geography that includes the opening as its own element spacing and requires a non-Euclidean re-sensorialitation of the whole experience, being first tactile and then digital. In this sense, pedagogical thought and reflection married to "educational emergency" can only be located in a contemporary way to do the electrical technology, participatory and inclusive (McLuhan, 1964), a new and complex Hyper-aesthetics educational scene. "Observe" different levels of interaction and the multiple scenes and recognize the educational pedagogical significance, even in their electronic and digital extensions, means emancipation from alphabetic and appropriate the electric epistemology (de Kerckhove, 2001) to re-affirm a paradigm that makes relationship as man species specific habitat of all time. McLuhan (1964) in his most famous work insists that:

> "all technologies are extensions of our physical and nervous system to increase the power and speed. [...] The use of any medium, or an extension of man alters the patterns of interdependence between people as alters the relationship between the senses" (ivi, p. 99).

But the contemporary thought of McLuhan makes his works and his scientific contribution to the study of media and communication, as necessary step for those who want to question today on the future of education and the future of Man. In title "Understanding media: the extensions of Man" we could add: "Of His educational spaces and extensions". As to say that the extension and the "mutation" of Man is always situated and thus refer to a context that builds the Man himself and in which he "takes shapes". Locate becoming Man means to highlight the educational environment in which he is immersed in and through which "makes relationships". And to situate phenomenon of education means acknowledging its relational matrix and therefore power and aesthetics.

So, education includes physical plans and symbolic ones, the body and the mind: the interconnection of these different plans builds cognition. It is here that the contribution of Neuroscience − Johnson-Laird (1988; 1993) and Siegel (2012) − and New Robotics becomes more evident and significant, together with the cultural psychology of Bruner (1986; 1990) and the social psychology of Gergen (1991). These references are complementary to theoretical pedagogical thinking located in the flow today, and are scientific basis for a new epistemology that unites, connects, brain and mind, thought and action, individual and environment. If we analyse in detail the main relevant literature, we find that the key concept is relationship. As an example, we quote what Kenneth J. Gergen (*ibid.*) wrote about the "Bending of Life-Forms":

> "New patterns of relationship also take shape. In the face-to-face community one participated in a limited set of relationship with family, friends, storekeepers, clerics, and the like. Now the next telephone call can thrust us suddenly into a new relationship. […] One of the most interesting results of this electronic expansion of relationships occurs in the domain of parent-child relationships. […] The technology of the age both expands the variety of human relationships and modifies the form of the older ones" (ivi, pp. 63-64).

The proposal for an electric Pedagogy − as "emergence" of an active pedagogy (Dewey, 1916) − implies, then, on the epistemological level, an "incorporation" of an aesthetic paradigm (D'Ambrosio, 2006) and, in practice, a continuous educational planning investing and moves between different geographies, thanks to the ability to create ever new cognitive spaces.

Remapping the "pedagogical" and recognize all technologies such as cognitive technologies or "psycho-technology" (de Kerckhove, 1990), means to broaden horizons and break existing paths and travel up to unknown territories outside official topography. Motion joins sensory of cognition: to open and create new spaces that are acted out as educational spaces, we need to recognise them and to situate and act into this new environment. In fact, thanks to cognitive sciences (Matura & Varela, 1980) and some ecological vision (Morin, 1965) used to reflect the sense of *becoming in the world*, mobility is the ability of organisms to respond to the environment, situating and interconnecting with it; in this "ecological" sense, neurosciences have finally connected body to cognition, perception to movement. Where we find active and "living" space, then this becomes *world-of-life* and cognitive space. But to navigate the new educational and teaching geography designed and made possible by new media, it is not simply purchase a new map. The agent itself is a generator of cognitive maps and mapping of a continuous state of educational extension and multiplication.

And in this state, it is not possible to distinguish students from teachers, or good from bad teachers. Rethinking the education and conduct training, placing them in the electrical principle of the reticular and digital, has the value of real redefinition of a theory of knowledge, where the particular concerns about a "doing" that mobilizes a "how" and therefore involves questions of methodology and process, that is again becoming part of a practice-oriented edu-

cation that empowers all "agents" of the educational community and calls for responsiveness and performativity to the areas in which we act and interact. The structure and the pedagogical methodology that will be setting can not proceed by "models" or for modelling, but for structures and systems generated and regenerated by their social and supportive. Precisely in this sense, then, the electricity can be understood as the symbol and the metaphor of a knowledge increasingly linked to a relational matrix, connective and, for this, generative. Because communication was identified as a condition, the habitat itself, the experience of knowing and thus of the form and formation. So we can say that changing the ways and forms of communication, man has also changed and multiplied the possibilities of training and so the educational theory, such as mobile and electrical epistemology in which it is based, has become useful for a "good social and politic navigation" (McLuhan, 1964).

2. From extended media to extended identity: the electronic space as cognitive space. Epistemological suggestions

Remap "the pedagogical" means to emphasize the importance of educational and training contexts and the need for action conceived as a performance, as a phenomenon emerging from a constructivist, reflexive, "activist philosophy". Retrieve a look and a sensitivity towards the pedagogical notion of space is a necessity and an opportunity: pedagogical itself. Today, that beginning from the urban space look has given heed to the environment and therefore also to the actions, to respond to the environment measurable performance in terms of social wellbeing, it's more legitimate work in an interdisciplinary sense to design environments, whether physical or digital, because they are living spaces, capable of being relational spaces and places of learning and cognition.

As mentioned above, in full post-electric era, so strongly marked by digital culture and the concept of synthesis[2], the educational and training institutions are crossed and interconnected

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[2] "Synthetic" is a concept generated into New Robotics studies and it is related and opposite or integrated with analytic concept. The synthetic approach introduces engineering practice into scientific research. Correspondingly, a particular phenomenon of interest (e.g. how do we recognize a face in a crowd, or how do we move and walk) is approached from an implementation perspective. Design for emergence tries to minimize designer bias and the pre-definition of the artefact's resultant properties. This represents a novel approach uncommon both to engineering and science. The synthetic approach originated from within the framework of pre-cybernetic robotics. The term "synthetic method" was employed by psychologist Kenneth Craik (1943) to describe the process of testing behavioural theories through machine models. The synthetic approach is not meant as a replacement but rather a complement for the traditional analytical approach. The analytical sciences are very well established and have contributed immensely to the increase of mankind's knowledge about and control over the natural world. Nevertheless, starting from about the second half of the twentieth century, science began to take notice of an increasing number of natural phenomena that seem to notoriously resist clarification. By now it is clear that these phenomena share some fundamental properties that largely defy an analytical approach. These phenomena are typically based on a large number of constituents that operate in parallel and whose interactions with each other and their surroundings must be described by non-linear mathematical relationships. Also, we have become aware of the fact that these phenomena are not anomalies or exceptions, but rather represent the vast majority of systems of interest. Examples abound and can be found in the purely physical world (e.g. climate, star formation, the creation of snowflakes), biological organisms and societies (brains, gene regulation, body movement, swarm behaviour, spread of diseases), and man made social, technical and socio-technical systems (cellular automata such as Conway's "Game of Life", the Internet, the stock market, cities, fashion trends). These phenomena are the result of the individual properties of the constituents (the neurons, the "cells" in a cellular automaton, or the humans in a fashion trend network), and of the complex interaction patterns among these constituents. By building artifacts bottom up from components to compound aggregates to whole systems, the synthetic sciences can

in new and "other" environments that are redefining the map of the pedagogical whose geography is layered, network and above all "on time". In relation to this new space, identities are recognized for their cognitive dimension and hence their constitutive plasticity that requires appropriate methodologies to "take shape" and to "make themselves", both for individuals (or agents) and for the environment.

Going back to what was said before, by the way remember that Deleuze and Guattari (1980) "*A Thousand Plateaus*" have foreshadowed with the geography and layered rhizomatic web of enabling us today to look to the rest of reality, and read it as the "net", so that it becomes a metaphor of reality, of a thousand plans, strata, within which and between which each one is situated or located. But perhaps the two philosophers have gone one step further: just as Freud had given place to the unconscious, so they have given a "thick" and a three-dimensional depth of thought. This "architecture of intelligence" (de Kerckhove, 2001), non-centric and multidirectional, that the philosophers of rhizome open to changing, compositions and rearrangements, becomes an actual "staging" of an unconscious manufacturing worlds and it claims a nomadic status, wandering, capable of generating new trajectories and also new wishes and different variables and states of identity. One is reminded of the movie written and directed by Christopher Nolan *The inception*. Dom Cobb, the protagonist of the film, says:

> "What's the most resilient parasite? An idea. A single idea from the human mind can build cities. An idea can transform the world and rewrite all the rules. Which is why I have to steal it".

Ideas are mobile as identities they express. To create worlds, shaping thought, produce knowledge and identity, the grafts are needed; and grafts also claim their contingency and transience. In this sense and even more from a pedagogical point of view, transit and situate, at the same time, become generative, in order to proceed for no more opposed pairs but for "synthesis" and aggregations, without this sounds as unifying or standardising, but planning and mapping. For what has been argued, it would seems that each electric space contains a cognitive "charge" that makes them contexts for learning and training. But the Electric paradigm is to be declined more properly with a methodology that was developed as part of research in artificial intelligence. The paradox is that, from binary machines (computers) we are now able to produce and reproduce no-hierarchical structures or, we might say, hypertext, which trace streams that proceed in a coplanar, crossing and connecting in a horizontal to what they encounter.

Research and experimentation of the New Robotics are oriented to the knowledge of Man: a proper methodology whose slogan is *Understanding by Design* (Bisig & Pfeifer, 2008) so that the design becomes a necessary action to activate a process of understanding. Learning process takes place in a cognitive space, we defined "electric", in which the observation is action that puts into mutual relationship subject and object, individual and environment, and makes possible a re-construction and generates a field of relations (such as a magnetic field, in fact) into which you can also imagine what does not yet exist. Bisig and Pfeifer (2008), themselves, recognize and state that:

> "we have observed that the synthetic methodology is well suited in an education context in that it helps to spawn and maintain a high level of motivation in students and can act as

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study the properties of a whole system and how these properties depend on the interrelationships and behaviours of its components' (Bisig & Pfeifer, 2008, pp. 124-125).

a teaching methodology to communicate even very abstract concepts in a comprehensible and tangible way" (ivi, p. 6)

Methodology of *Understanding by design* develops the concept of "continuous reconstruction of experience" introduced by Dewey (1916) and developed by all that pedagogy who recognizes in constructivism and then captured in digital culture an opportunity to accept in full the "tactile" paradigm as a theory of knowledge able to consider artefacts as cognitive devices.

3. Making school' into antigravitational rotate system. When arts meet education

As we documented in a first short video (http://vimeo.com/67490787), and into "tactile" and "electric" theorical framework, to develop our research – "digital space makes school. Learning and education at web 3.0 time" – we made a live-scene to study how experience a tactile methodology and epistemology in school context and how extend it to a web based Learning Management System. From real experience involving school teachers and scholar, academic researchers, students, teachers and artists – we set an observatory we can synthesize this way:

- *system of rotations*: to break the routine.
  Mutation in self-perception and the perception of space: you draw other trajectories: space becomes generative (in terms of identity and on the environment as a whole, that are understood as weaving) space inside-outside.
  Jobs in interaction with others and other data environment: from the fragments to a possible "unit" mutual generativity of agent and environment.
  Perception-communication becomes interaction: to program to interact (and not "run")
- *system of projections of glossary*.
  Central role of "actual word" and of "interaction": the written word is actualized in the environment.
  Return sensory-perceptual dimension to the word.
  From stability (of the meaning) to mobility of the word that makes it generative and not defining, and that makes agents as environment to actualize and incorporate the sense.
  The word comes into interaction with other data environment and thus is part of a complex process that generates a dynamic system of actions and feedbacks.
  Embodiment.
- *system of projections of video and lights*.
  Visual space: the embodiment of visual dimension of word or of other data simultaneously present in the environment.
  Through the repetition (of live video) it opens and leads to stratification of data that inform agents and will hand back the depth and multisensory (produced by the interaction with the sound system and the live scene).
  Generative images: because they generate exploring and wandering
- *system of sounds*.
  Power of "excitatory" sound (which is material, vibrant, sound) that generates and conveys the ability of the space to be environment of interaction.
  The interaction becomes timing and tuning.
  The sound space where each agent is autonomous and is located in the environment, and updating it and itself.
  Sound-environment.

- *methodology.*
  The "dance" between the spaces: the ability to move between different languages exploring the multiple dimensions through which it is possible to "cross" and have knowledge of the "real".
  "Do interaction": update the data and regenerate them so as to produce mutation (of the data, of the agent and of the whole system-environment).
  Exploration of reality without order or default hierarchies: rotation.
  Actualization of complexity of the "real".
  Body and spatial data flow into environment.

References

Bisig, D., & Pfeifer, R. (Eds.) (2008). Understanding by Design. The synthetic approach to intelligence. In Geiser, R., *Explorations in Architecture*. Boston: Birkauser.

D'Ambrosio, M. (Ed.) (2006). *Media Corpi Saperi. Per un'estetica della formazione*. Milano: Franco Angeli.

D'Ambrosio, M. (Ed.) (2008). *Discorsi sul divenire dentro i luoghi del contemporaneo. Suggestioni pedagogiche*. Napoli: Liguori.

de Bartolomeis, F. (Ed.) (1998). *La scuola nel nuovo sistema formativo*. Azzano San Paolo: Edizioni junior.

de Bartolomeis, F. (Ed.) (2003). *L'arte per tutti: conoscere e produrre*. Azzano San Paolo: Edizioni junior.

de Bartolomeis, F. (Ed.) (2007). *Arte oggi. Il nuovo, il banale, l'offensivo*. Torino: Centro Studi Piemontesi.

de Kerckhove, D. (Ed.) (1990). *Brainframes. Technology, mind and Business*. Utrecht: Bosch & Keuning.

de Kerckhove, D. (Ed.) (1990). *La civilization vidéo-chrétienne*. Paris: Editions Retz.

de Kerckhove, D. (Ed.) (1991). *Connected intelligence: the arrival of Web society*. London: Kogan Page.

de Kerckhove, D. (Ed.) (2001). *The Architecture of intelligence*. London: Kogan Page.

Dewey, J. (1916). *Education and Democracy*. New York: Mc Millan Company.

Dewey, J. .(1920). *Reconstruction of Philosophy*. New York: Henry Bolt & Co.

Jenkins, H. (2006) *Convergence culture*. New York: New York University.

Maturana, H. R., & Varela, F. J. (Eds.) (1980). *Autopoiesis and cognition. The Realization of the Living*. Boston: Reidel Publishing Company.

McLuhan, M. (Ed.) (1964). *Understanding media: the extensions of Man*. London: Routledge classics.

Meyrowitz, J. (Ed.) (1985). *No sense of place. The impact of Electronic Media on Social Behavior*. New York: Oxford University Press.

Monod, J. (Ed.) (1970). *Le Hazard et la Nécessité*. Paris: Edition du Seuil.

Morin, E. (Ed.) (1965). *Introduction à une politique de l'Homme*. Paris: Édizione de Seuil.

Pfeifer, R., & Bongard, J. (Ed.) (2007). *How the Body Shapes the Way We Think*. Boston: MIT Press.

Siegel, D. (Ed.) (2012). *The Developing Mind: How relationship and the Brain Interact to Shape Who We are*. New York: The Guilford Press.

e-Highlight:
a tool 2.0 for collaborative₁learning
in a Social Media Platform

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Abstract
This paper describes a tool, called e-Highlight, which allows learners to highlight the most significant parts of a Learning Object of textual type, and to annotate and remember them in the time, thus as happens in the studying process with a paper support. The tool allows us to associate to the parts of the text selected one or more keywords in order to facilitate the classification and to make a more immediate retrieving later on. The integration of the tool in the learning environment 2.0, YouLe@rn, designed by our team, allows us to share the text highlighted with other learners generating, thus, a tag cloud and encouraging forms of knowledge negotiation for the construction of collaboratively networked learning, according the socio-constructivist model. In this way, to the consolidated formal mode of learning are added those spontaneous and informal typical ones of digital natives. In this paper are also presented the results of an investigation, which allowed detecting the potential, the criticality and the degree of satisfaction of its use in a university context.

Keywords
eLearning 2.0, Social Media, Collaborative Learning, Learning Environments 2.0, Educational

1. Introduction

This paper describes a tool called "e-Highlight" designed and made with the intent to be integrated within an environment of networked learning (eLearning platform) in order to share and to create new knowledge and to promote the achievement of significant learning among learners. The tool follows the "philosophy" of 2.0, according to which the comparison and exchange of information and ideas play a fundamental role in the educational process as learning is favoured by the active and intentional subjects and acquire educational value because of

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[1] This article has been developed jointly by the authors. **Orlando De Pietro** wrote paragraphs 2 and 5; **Pierluigi Muoio** wrote paragraphs 3, 4 and 5; **Giovanni Frontera** wrote paragraphs 1 and 6.

dialogic and reflective processes that are established among them. ELearning 2.0 (Downes, 2004), understood as a new paradigm in education and development of traditional e-learning systems, gives importance to the size of sociability, informality and spontaneity. Each learner is configured, as well as active subjects, with their own learning process that tracks the path to follow without the action to be influenced from the outside. The e-Highlight tool is contextualized, therefore, within the current educational setting that uses the Information and Communication Technologies (ICT) and social tools of the new web (Wiki, Blog, Podcast, Social Networks etc.). The tool in question manifests its usefulness during the use of a textual learning objects delivered within a learning environment in the network, and allows us to be able to underline a word, a line or a whole paragraph by highlighting the steps and concepts considered most interesting and significant to their learning. The highlighted sections of text are appropriately recorded in the database of the platform and made available to the teacher for further information. The highlighted parts are also notified to other users of the platform, facilitating, so, a process of comparison and self-evaluation. The tool is integrated with e-Highlight "notes" in which we can tag semantically the resource where the learner is studying, typing in keywords associated with it as it occurs in social bookmarking systems, typical of Web 2.0 (O'Reilly, 2005). The tool has been integrated into a learning environment 2.0 type created and named Youle@rn by us (De Pietro, Muoio & De Rose, 2013; 2011a; 2011b). This system is configured as a context in which learners become active participants in their own process of growth, aided by improved acquisition mode of learning and the ability to create some form of social relationships and exchange on the web. Although e-Highlight is still not completed, then subject to further improvements, it has been made available in the platform You@Learn (Figure 6) and being used by a group of students during a university lecture. This allowed us to identify, in this first phase of testing, its potential and /or problems and, thanks to a questionnaire to students, to detect the degree of satisfaction of students.

2. Pedagogical value of the tool

The tool is placed among the devices that allow students to interact with the text, taking both an active attitude and a productive and conscious one. Through this operation (*underline* or *highlight*), the student is required to identify and choose phrases and sentences relevant to an understanding and analysis of the text, since he/she makes an *analytical reading*, i.e. a reading finalized to deep, complete and knowingly motivated understanding. It becomes important, in any study path, to trigger *active modes*, to detect, during the use of a text within a platform, initially characterizing the constitutive elements and the text in question, and then build a network of links between the elements and between the knowledge and eventually to be able to understand, according to the *goals* to be achieved, such as software tools, text editors, slides presentation, concept maps, etc. it is better producing to remember what was previously analysed and learned. The ability to remember what one has learned when studying or re-studying a text is a skill that, like all the other skills, needs not only to be exercised but also techniques and tools that can help it develop itself. Among the elements characterizing the logical structure of a text, the main and secondary ideas/information units are the most relevant. The main ideas/information units constitute the backbone of a text, since the central ideas on which then rotate the other units of secondary information, which are linked in a logical and linguistic sense to the first ones to complement and supplement them. The key ideas and the secondary ones constitute the text as a whole and are linked together by *logical connections* through *connectors*. In this understanding operation of the text, it becomes im-

portant to *highlight* or *underline* the parts that have or to which one wants to give a special significance. These are operations that require exam-evaluation (or active reading) of the characterizing elements (basic thesis and subsequent issue), which compose and logically structure the text and at the same time, on the other hand requires the capacity, from the part of the subject, to know how to represent them graphically. Therefore, the tool that allows to highlight, underline, consult and annotate, significantly inserts itself with the qualitative dimension of knowledge (Bruner, 1997). The concept of knowing, in fact, is no longer referred to a particular group of contents, but more and more to the dynamic processes of the subjects and to develop a critical and multiple mind. With these operations (highlight, underline, annotate), each one different and each one aimed at pursuing their goals, one acquires specific skills such as:

a. *knowing* how to *discriminate* and identify both the *main* and the *secondary ideas* and *information*;
b. *knowing* how to identify and *highlight* the *logical* and *temporal connections* linking them and making them a *unicum*;
c. *being able* to *highlight* and connect the points and their most significant correlations;
d. *knowing* how to *synthesize* in an original, intelligent and conscious way, the backbone of the text in question.

The latter competence (*knowing* how to *synthesize*) directly involves knowing how to *schematize*, i.e. to be able to organize the items not according to a linear written sequence, but explaining the structure and logical connections with graphic devices. This is a difficult operation since it requires specific competences, including in-depth study, synthesis capacity, combined with an equally analytical capacity. Underlining effectively produces an accurate and interpretative representation of the text since it is a tool that helps the individual to organize and reorganize his/her knowledge through a language different from the previous one. Underlining, through the elaboration of a scheme and the use of a graphic-visual language, provides an immediate reading of the text with a prevalence of non-verbal data but easy to understand, since it is built with the logical orders of data that constitute it, for which the builder is required a careful assessment of their significance. Starting from a central thematic core, the operation develops, articulates and explains the links, hierarchies and relations, highlighting the concepts and keywords, which may be linked with words bond, which highlight the types of relationship one wants to establish. By using this tool, the trainees, whether supplied in a traditional way (in person) or delivered in eLearning mode, not only gain better the contents present in the text, but also better acquire the *modes* and the *way* one learns, since they move according to a methodological perspective, which requires an assessment of value, i.e. the decision and choice of thought or phrase that is intended to underline or highlight. On the one hand, they develop personalized paths that assume great significance in the ability to discern, know how to decide and choose what should be underlined; on the other hand, they help and train the subject to increase his/her meta-cognitive dimension towards the cognitive development of his/her autonomy and the acquisition of a valid method of study. Thus, this tool, from a purely educational viewpoint, while on the one hand it protects the cultural and symbolic structures of the text under consideration, on the other hand it moves towards a qualitative approach, because it aims at *learning how to learn*, i.e. the acquisition of methodologies and the method of study. Ultimately, the underlining facilitates greater understanding of the text and a more effective and lasting memory, since it actively and consciously involves the subject, who becomes the protagonist both within the cognitive networks and in the interface with the platform and with the studied text, as well as in the development of their meta-cognitive dimension.

3. e-Highlight: description and features

The interface of the tool is shown in the Figure below. The learning content is displayed in a text-area below which there is a drop down menu, activated by the learner, to make the highlights to the desired portions of text. The confirmation of the Highlighting operation occurs by pressing the button "Highlight". On the right, however, the learner can, if necessary, label the text that he/she is using by means of keywords (tags) in a clipboard area. All this is both to categorize the acquired information to facilitate the Information retrieval process according to semantic qualitative and non-quantitative parameters and in order to have the teacher understand how that content was perceived and synthesized by the learner him/herself according to his/her mental model.
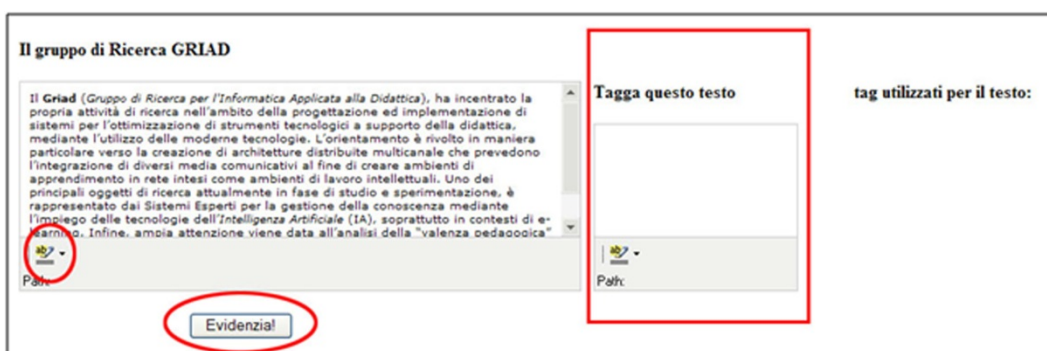

FIGURE 1.The interface of the tool e-highlight.

After having underlined the portions of the text and typed the possible keywords (tags), the learner, by pressing the button highlight can store the changes in the database. A message, in the form of links, confirms that the changes have been made and allows him/her to go back to the document.

FIGURE 2. The message confirming the changes.

As shown in the figure below (Figure 3), going back to the text, this latter will be resubmitted to the learner with the changes (highlighting), made while on the right are shown the possible *tags* he/she has previously entered. The learner will be able to highlight new portions, cancel the previous highlighting, as well as eliminating one or several keywords entered previously, or add new ones.
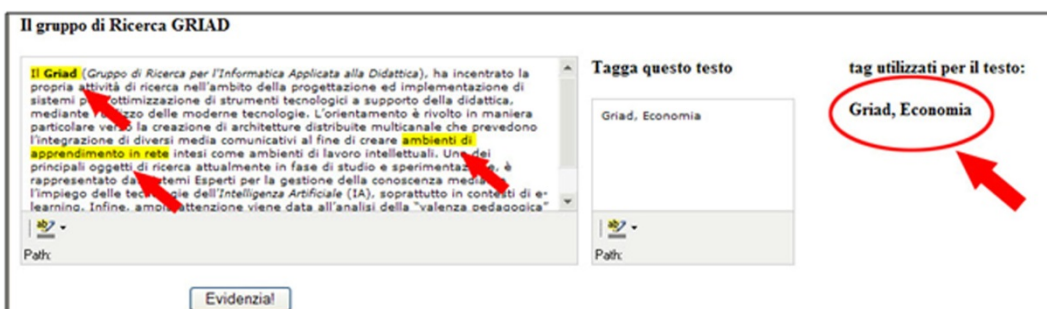

FIGURE 3.The interface of the tool after the changes made to the text by the learner.

The possibility to use the notes area to add keywords (tags) reinforces this active form of study proposed by the tool and ensures that the learner can determine his/her own personalised information which summarize alone the concept of a chapter, a paragraph, a section or entire text. The process of using the *e-highlight* tool can be schematized in the following phases:

- *Reading phase*, during which the learner examines the text in order to identify the main topic and structure, familiarizes with the tool interface and makes a first quick reading of the content, being already able at this stage to use the tags box for writing down some keywords that can represent the text superficially analysed;
- *Study phase*, where the learner reads analytically and in detail the text to understand its meaning and identify the main concepts. On this subject, he/she uses the highlighting tool to emphasize, underlining them, the most useful information, and identifies the keywords that he/she wants to associate by typing them in the appropriate area;
- *Review and examination phase*, in which the learner, after having confirmed the storage of the changes through the Highlight button, comes back to the resource containing the text portions highlighted in the study phase. Deepening and reading the text again, the highlighting helps to visually and mentally reconstruct the links between the concepts by reducing the amount of information to be stored. It is obvious that at this stage, the learner can make changes to the operations performed earlier, by highlighting further portions of text and adding (or modifying) keywords.
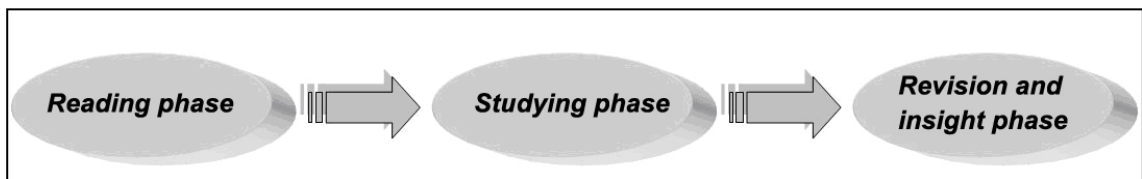

FIGURE 4. Phases of using of the tool.

A very important aspect is represented by the fact that any executed highlighting is stored in the database and notified via e-mail to the teacher and/or to the members of the teaching team, who at a later stage, through specific administration interface, can monitor for each learner the operations chronology carried out on the text and the keywords for further evaluations. Moreover, in order to promote this type of knowledge negotiation for the construction of collaboratively networked learning according to the socio-constructivist model, every involved actor has the opportunity to visualise how the other learners have underlined the same text and to consult the keywords used by the other learners for a particular resource proposed by the teacher team giving life to forms of collaborative tagging. Finally, the assignment of keywords, more than semantically describing the resources, allows the retrieving at later stages by a person who quickly and easily learns, using a special search engine. This tool can be implemented in any integrated Web-based learning environment and has been implemented using the scripting language JavaScript, and the open source technology Apache/PHP/Mysql concerning the development of dynamic pages and the interactions with the database. The student-tool interaction occurs by means of commands sent through simple Web interface. Each underlining operated on the text is a significant event which is traced in the database, along with the date and time in which it is applied in order to trace a history for each student and thus to obtain a "reporting" useful for a possible monitoring phase. For the creation of the database necessary for the creation of the tool, the DBMS open source Mysql database sys-

tem, able to ensure reliability and performance has been used. The figure below shows the database tables of the tool, the relations between them and all the attributes.
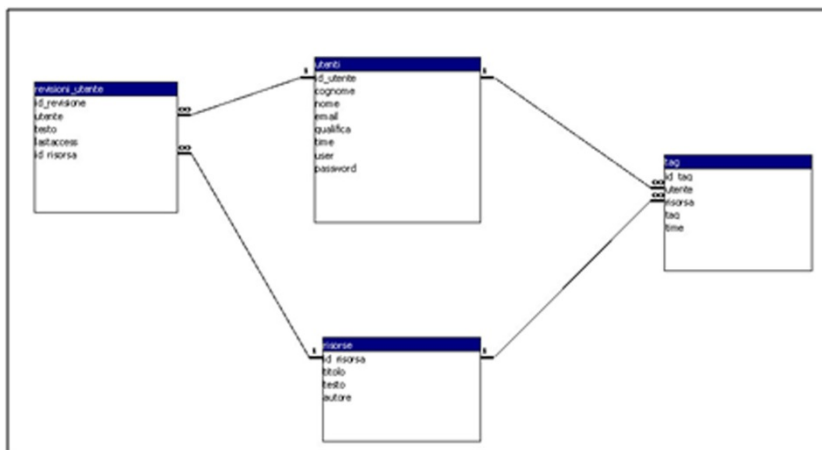

FIGURE 5. Relational database scheme.

The database is designed to store and manage both the information on the learners and those relating to the used resources, as well as the portions of highlighted text. The keywords going from the user to the various resources are stored in a separate table. This makes the search and retrieval phase of learning objects quicker. In addition, the storage of keywords and their consultation subsequently strengthen the social dimension represented by the dialogue and the mutual enrichment among learners since it is possible to know what resources have been identified with a specific keyword, which keywords were used by others for the same resource etc.

4. Integration in a learning environment 2.0

New technologies, more and more support to the services of the Internet over the last decade, produce collaborative environments and social interaction in which it is possible to generate shared knowledge using tools and instruments of type 2.0. The development of Web 2.0 has a strong impact on the concept of e-learning, giving rise to the term "eLearning 2.0", new learning paradigm in the network, which provides an innovative environment that takes into account the needs and training needs of new generation of users, the digital natives (Prensky, 2001; Rivoltella, 2009, 2006), characterized by a strong symbiosis and familiarity with digital technologies. According to many industry experts, it should be noted that the inadequacy of e-learning systems based on LMS (Learning Management System), since they do not allow learners to achieve the learning objectives because of their lack of openness to external resources, the low level of interaction with the web of the second generation and, consequently, of limited possibility to promote the acquisition of learning through social practices. The present trend is to create new and dynamic environments, more focused on the person, or the Personal Learning Environment (Attwell, 2007), able to support the creation and sharing of information and knowledge , to integrate formal, non-formal and informal and make the subject the protagonist of his own growing process. From these considerations, and taking into account that the different tools and different technological 2.0 solutions need to be contextualized and framed in a "common space" in order to avoid the dissemination of information and to achieve forms of personalization of training paths in the network, it is thought to integrate the tool e-Highlight within Youle@rn.

FIGURE 6. The tool e-Highlight within YouLe@rn.

The integration within Youle@rn has been made with the intent to overcome the idea of learner as a mere passive spectator, and shifting the focus to a more active learner that uses a model of e-learning more flexible and dynamic, more functional to the logic of training throughout life (lifelong learning) and which considers the Web space of global learning in which e-learning has innovative tools and applications. The ability to highlight different parts of produced documents; the association of one or more key words (tag) to them; comparison and discussion of information and content, and the sharing of such activities with all stakeholders in the environment are a prerequisite for the creation of new knowledge and for the maturation of significant learning. The possibility offered by the tool, described here, to give the learner appropriate meta-information with various resources, promotes a social process of indexing and construction of knowledge. The particular usefulness of this integration lies in the fact that the various tags used by learners to categorize the different resources represented by the textual nature of learning objects contained within Youle@rn, contribute to the creation of a tag cloud that provides a visual representation of the key words used by the learner within the environment. Clicking on a tag enables the display of all the corresponding operations, giving the opportunity to every student to be able to deepen the knowledge of the specific topic and to discover additional contents or concepts related to it. This leads to a process of cataloging of bottom-up and better yet, the creation of a folksonomy able to increase the interaction between the actors of the educational process, according to the constructivist socio-educational model.

5. Investigation results on the effectiveness and satisfaction of the tool e-Highlight

In order to investigate the potential, arising from the use by the students of the tool e-Highlight and to determine whether, and to what extent, it is able to provide adequate support to learners during the fruition of textual Learning Objects, the mentioned tool has been made available to the students of the course "Theory and methods of educational planning and evaluation", Degree in Primary Education at the University of Calabria. Each student has been provided with an access to the platform You@Learn (see Figure 6), on which had been previ-

ously installed the e- Highlight tool and the teaching materials, handouts and parts of the book, related to the topics of the course.

For this first investigation, which was focused on the Learning Unit "The educational models of learning", that was one of the main topics of the course, were prepared and placed in the platform educational materials associated with the above mentioned LU and then was started the study phase, that lasted six days, during which the students, 55 units, interacted in the platform and used e-Highlight. All students were given the possibility to choose whether to use the tool for studying the LU.

At the end of the study phase were detected, only in quantitative terms, the interactions of students with the tool and the most significant terms highlighted by students, moreover, they were given a questionnaire to measure the level of satisfaction and /or criticalities arisen from the use of the tool.

Below are presented the main data recorded and the graph representing the responses of learners to some questions of the questionnaire, noting that the aim of this investigation was to detect quantitative aspects relating to the use of the instrument and the appreciation expressed by the students.

5.1 Analysis of results

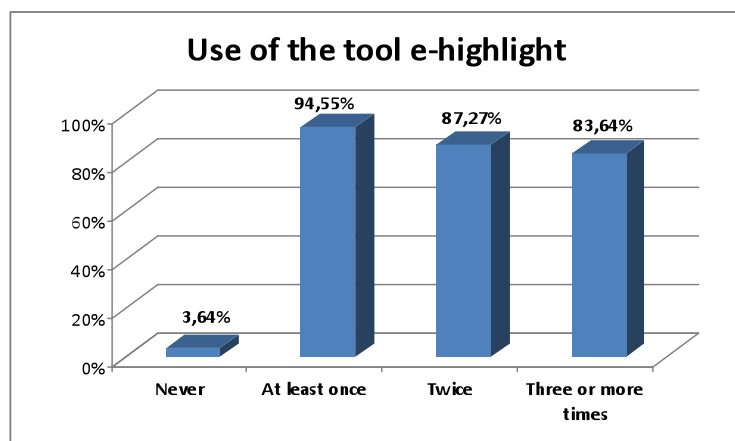The first figure reported (Figure 7) is referred to the use of the tool e-Highlight.

FIGURE 7. Use of the tool during the investigation.

The chart above shows that over 95% of students participating in the survey decided to use the tool at least once to highlight the text within the different learning objects proposed; more than 80% of learners used it three or more times, while was detected an average of about five highlights for each student and for each different text.

The chart below (Figure 8) shows the top five most popular tags typed by learners in the notes area of the tool to mark semantically the textual resources used.

A total of 202 different tags were used. The figure highlights how the ability to highlight (tagged) words considered more significant in a learning object allows the activation of a process of text cataloging bottom-up oriented and enables the creation of a folksonomy that is able to increase interaction among learners. Students have also used the area of the notes of e-Highlights not only to type single keywords, but also to express extended comments. 60% of the sample, in fact, posted at least one comment. 174 comments were posted and contributed

not only to make the individual learner protagonist and aware of his own learning, but also to encourage the process of finding the links and relationships between the various acquired knowledge.
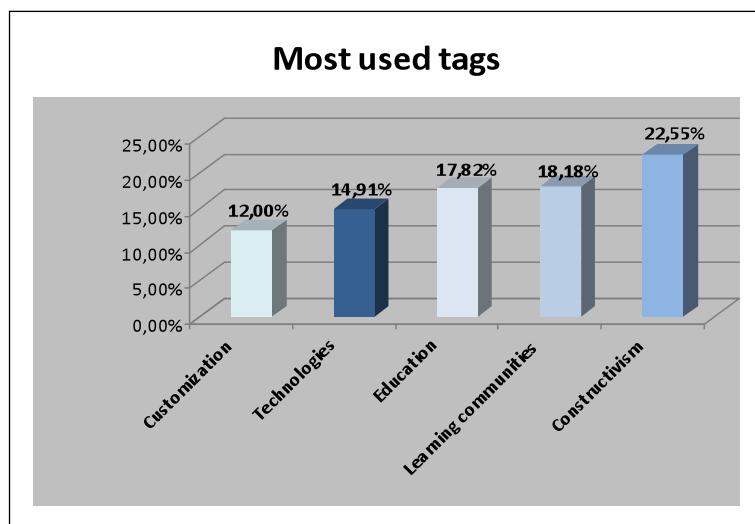

FIGURE 8. Most used tags within the tool.
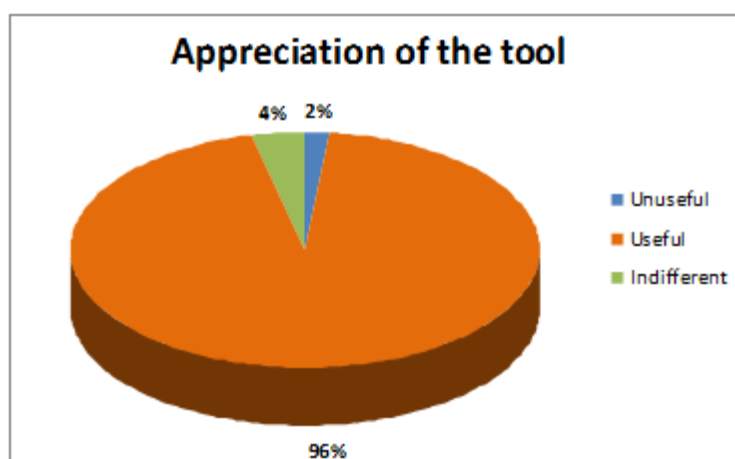
FIGURE 9. Learners' feedback on the tool.

Regarding the analysis of the results on the degree of satisfaction of students who used the tool during the study, they were given a questionnaire, in order to achieve a more reliable interpretation of the quantitative data collected. It showed that the majority of students of the sample given, considered useful the presence of the tool within the learning environment (Figure 9).

As shown in the graph below (Figure 10), the majority of the sample considered it a very useful tool in order to facilitate the ability to synthesize in a personal way the text they were reading (44%), 27% of students considered it more useful to understand the text while the remaining 25%, said that the tool was especially useful to increase the ability to remember.

With regards to the different moments of enjoyment of a text, 35% of the sample believe that the tool is useful in all phases (reading, studying, deepening), 24% considers it to be most beneficial during the studying phase, 22% think is more suitable in the studying one and 20% in the initial stage of reading (Figure 11).

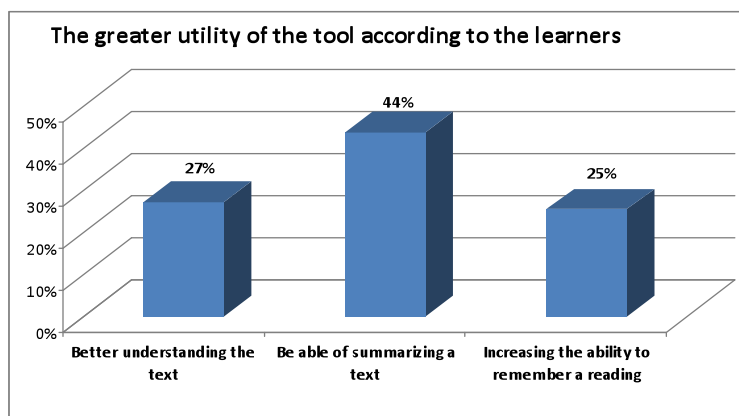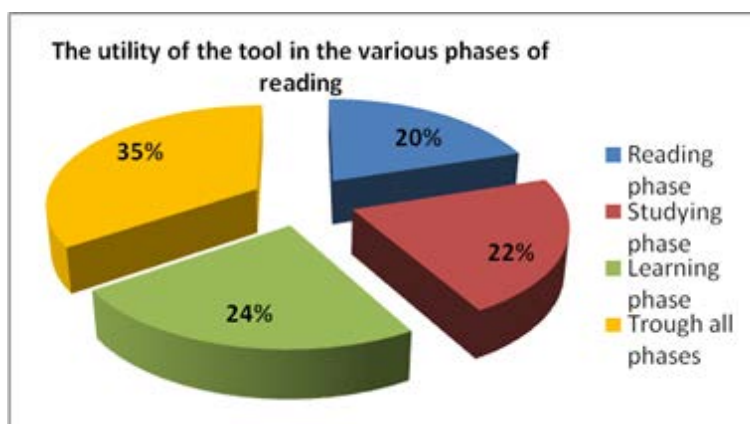FIGURE 10.The greater utility of the tool according to learners.

FIGURE 11.The utility of the tool in the various phases of reading.

In conclusion, students' satisfaction of the tool, tested in a real situation, is highly positive, given that 98% of respondents would like to find in an e-learning platform, a tool such as e-Highlight to support the study of textual learning objects.

6. Conclusions

The changes taking place in the field of e-learning presuppose the practice of innovative teaching approaches and the redesign of the traditional learning environments integrated with social software typical of the new web and such as to reconcile formal and informal learning. The tools 2.0 promote discussion and reflection among individuals with experience and knowledge very articulated and different from each other; also allow us to rework our knowledge, and discover new knowledge. The tool e-Highlight, proposed in this work gives the learner an active role, as it makes him conscious and responsible for his actions, together with a collaborative role, because it operates in a community characterized by the constructivist social gathering. The tool is placed in the category of 2.0 in support of those who benefit from a learning object text-based and allows us to highlight words, phrases, periods, and paragraphs that recall the most important concepts and facilitate the retrieval of information for subsequent revisions and insights. The usefulness of this operation is enhanced by the integration of the tool in a 2.0 environment as Youle@rn, given that the ability to share the keywords used and to display those assigned by others involved in the educational process stimulating the re-

lationship between the participants and allow to identify the learners with whom you have affinity and similar interests, favouring the activation of interpersonal relationships and further sharing of knowledge. Open Source technology, at the base of the tool allows the development of additional modules and subsequent improvements. For the future it is expected the possibility of extending the operation of the tool also to resources on the Web, and therefore external to the learning environment in which it is integrated, to allow a greater level of sharing of knowledge among the participants. The tool e-Highlight and its integration within Youle@rn represent a proposal to the setting up of environments of innovative learning, in line with the emerging paradigm of e-learning 2.0, in which to promote the interaction, the collaboration and the relationship between the actors of the educational process, combining a formal and informal dimension of learning.

References

Anderson, P. (2007). *What is Web 2.0? Ideas, technologies and implications for education*. In http://www.jisc.ac.uk/media/documents/techwatch/tsw0701b.pdf

Attwell, G. (2007). Personal Learning Environments - the future of eLearning?. *eLearningPapers*, *2*(1), 1-8.

Bonaiuti, G. (2006). *E-learning 2.0. il futuro dell'apprendimento in rete tra formale e informale.* Trento: Erickson.

Bruner, J. (1997). *La cultura dell'educazione*. Milano: Feltrinelli.

Calvani, A. (2005). *Rete, comunità e conoscenza*. Trento: Erickson.

Calvani, A., Bonaiuti, G., Fini, A., & Ranieri, M. (2007). Towards e-learning 2.0: new paths for informal learning and lifelong learning. An application with personal learning environments. *Proceedings of EDEN Annual Conference 2007 New Learning 2.0*, Napoli.

Cross, J. (2006). *Informal Learning, Rediscovering the Natural Pathways That Inspire Innovation and Performance*. San Francisco, CA: Pfeiffer - John Wiley & Sons.

Dalsgaard, C. (2006). Social software: E-Learning beyond learning management systems. *Distance Education*, *27*(2), 139-153.
In http://www.eurodl.org/materials/contrib/2006/Christian_Dalsgaard.htm

De Pietro, O. (2012). *L'apprendimento significativo e la valutazione in ambienti e-learning*. Roma: Monolite Editrice.

De Pietro, O., Muoio, P., & De Rose, M. (2011a). E-learning 2.0: un ambiente di apprendimento per la formazione tra contesti formali ed informali. In T. Minerva, & L. Colazzo (Eds.), *Connessi! Scenari di innovazione nella formazione e nella comunicazione. SIEL 2011 - VIII Congresso della Società Italiana di e-Learning* (pp. 339-348). Milano: ledizioni Ledipublishing.

De Pietro, O., Muoio, P., & De Rose, M. (2011b). YouLe@rn: an Online Learning Environment 2.0, *Elearn 2011, World Conference on E-learning in Corporate Governement, Healthcare e Higher Education*, Orlando, Florida, USA, 14/21 October 2011.

De Pietro, O., Muoio, P., & De Rose, M. (2013). E-learning 2.0: una ricerca sull'utilizzo di un Social Learning Environment in un contesto universitario. *Topologik – Rivista internazionale di Scienze Filosofiche, Pedagogiche e Sociali*, *13*, 114-134.

Downes, S. (October 17, 2005). E-learning 2.0. *ACM eLearn Magazine*. In http://www.elearnmag.org/subpage.cfm?section=articles&article=29-1.

Drachsler, H., Hummel, H. G. K., & Koper, R. (2008). *Personal recommender systems for learners in lifelong learning networks: the requirements, techniques and model*. In http://dspace.ou.nl/bitstream/1820/937/5/2008%20Drachsler%20IJLT.pdf

Drášil, P., & Pitner, T. (2006). *An E-learning 2.0 Environment − Principles, Technology and Prototype*. Proceeding of I-KNOW 2006, September 6th – 8th, Graz, Austria.

Ebner, M. (2007). E-Learning 2.0 = e-Learning 1.0 + Web 2.0?. *Proceedings of the International Conference on Availability, Reliability and Security,* 1235-1239.

Fini, A., & Cicognini, M. (2009). *Web 2.0 e social networking. Nuovi paradigmi per la formazione*. Trento: Erickson.

Galliani, L. (2004). *La scuola in rete*. Bari: Laterza.

Levy, P. (1996). *L'intelligenza collettiva. Per un'antropologia del cyberspazio*. Milano: Feltrinelli.

Novak, J.D. (2001). *L'apprendimento significativo. Le mappe concettuali per creare e usare la conoscenza*. Trento: Erikson.

O'Reilly, T. (September 30, 2005). What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software, 2005. In
 http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html

Piu, C. (2007). *Riflessioni di natura didattica*. Roma: Monolite Editrice.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, *9*(5), 1-6.

Rivoltella, P.C. (2006). *Screen generation. Gli adolescenti e le prospettive dell'educazione nell'età dei media digitali.* Milano: Vita e Pensiero.

Rivoltella, P.C. (2009). Nativi digitali, media e nuove tecnologie. In G. Chiosso (Ed.), *Luoghi e pratiche dell'educazione*. Milano: Mondadori.

Sen, S., Lam, S.K., Rashid, A.M., Cosley, D., Frankowski, D., Osterhouse, J., Harper, F.M., & Riedl, J. (2006). *Tagging, community, vocabulary,evolution*. CSCW '06 Proceedings of 2006 20th anniversary conference on Computer supported cooperative work (pp. 181-190). New York: ACM.

Sigala, M. (2007). Integrating Web 2.0 in e-learning environments: a socio-technical approach. *Integrating Journal of Knowledge and Learning*, *3*(6).

Trentin, G. (2004). *Apprendimento in rete e condivisione delle conoscenze*. Milano: Franco Angeli.

Trentin, G. (2008). *La sostenibilità didattico-formativa dell'e-learning. Social networking e apprendimento attivo*. Milano: Franco Angeli.

Varisco, B.M. (2002). *Costruttivismo Socio-Culturale. Genesi filosofiche, sviluppo psico-pedagogici, applicazioni didattiche*. Roma: Carocci.

Wilson, S. (2008). Patterns of Personal Learning Environments. *Interactive Learning Environments*, *16*(1), 17-34.

Web Generation 2.0.
Teens and communication in the age of Facebook

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Abstract
Youth and the Internet: a theme of consideration and debate difficult to avoid in a globalized and worldwide society. How do guys use these means? Are they real social devices in a virtual dimension than later become reality or personal estrangement and skilled meeting with the other? Is there the possibility of a positive interaction between these two kinds of experiences? Which are the differences between the construction of the reality learned online and that one in the real life? What is the relation between communication and identity? In teenagers that go through a year abroad with Intercultura program or foreign students that spend a year in our schools, how much negative is the adjustment to a new culture and new friends if they are still in contact with their native country? What do teenagers do of these possibilities of reorganize their social relationships in new and changeable space-temporal contests? Can the net be an educational device for cosmopolitanism? These are some of the questions this research has tried to give an answer.

Keywords
Web, Media Education, Identity, Citizens, Cosmopolitism

1. Introduction

Youth and the Internet: a theme of consideration and debate difficult to avoid in a globalized and worldwide society. According to critique and scientific literature and a wide series of quantitative and qualitative researches lead in Europe (Bachmair, 2007), a big consideration seem to have those researched orientations that analyze digital *online* environments starting from daily practice (Adoni, 2001) that youth put to use for learning, communicating among peer group building their own identity or exercising their citizenship rights, "building" an intercultural attitude, for feeling world citizens. In fact, *new media* (Bolter, 1999) promote the development of a specific intelligence that Gardner indicated as "relationship-wise intelligence" that is the origin of intercultural thought. This kind of intelligence, in fact, opens to something more meaningful that endurance or treatment; it brings a flexible and agile thought, far from every kind of stiffening, able to operate inside a multidimensional, dynamics and progressive culture; in other words to a culture that recognizes differences as its own birth place. Today the *web* net is one of the most important places for innovation (Barnes, 2006), fly-wheel of a fast social change that seems to be unsetting or difficult to adults' eyes. All this needs complementary researches and surveys: quantitative approach able to measure on a wide sample the actual range of the events and a qualitative one able to show subjective aspect of the experience of "being *online*" (Turkle, 1995). This social change has affected the ways teenagers use media to keep in contact and communicate among them and the whole world (Cassel, 2011).

While academics and politicians talk about the best strategies to "maximize conveniences and reduce risks", day after day, teenagers face with this changing scenery eagerly: they are always go into media, they have absorbed them physically (in their pockets or their ears), essential part of their spaces, public or private. Understanding the actual realty in the practice of the Internet is the new real challenge. But "the new floating world", said by Gergen, seems to allow the attempt to realize a self-reflection own project appealing to the Internet as a new space in which they can explore easy relationships and ways of expressiveness. In the late modernity not only adolescent conditions are changing, but also communicative frameworks and the backgrounds in which identity develops and matures (Livingston, 2001). This last one is always more often defined through changeable life style signals that youth acquire by media practice, rather than traditional indicators, as age, gender, race and place of birth (Meyrowitz, 1995). From this point of view the access to new communication technologies doesn't produce necessarily wider social entourage or geographically vaster (Buckingham, 2006). There are only few empirical comparisons regard to rhetoric of "global village". Anyway the net allows to increase the field of their own daily relationships and to stabilize those ones otherwise it would be difficult to keep, like friends that live abroad, distant relatives, acquaintances moved and friends that guys have left for a while (Drotner, 2005). The difficulty of adults' world is often to decode unreachable communications and strategies that teenagers test to build their *online* identity always more complicated (Buckingham, 2005). Irrespective of the circumstance that they may be in Rio de Janeiro, Shanghai, Boston, Oslo or Cape Town*, digital natives* are essential part of a global youth movement joined by the way they relate to information, new technologies and among them (Merchant, 2006).

2. Meanings, purposes and methodology

How do guys use these means? Are they real social devices in a virtual dimension than later become reality or personal estrangement and skilled meeting with the other? Is there the possibility of a positive interaction between these two kinds of experiences? Which are the differences between the construction of the reality learned *online* and that one in the real life? What is the relation between communication and identity? In teenagers that go through a year abroad with Intercultura program or foreign students that spend a year in our schools, how much negative is the adjustment to a new culture and new friends if they are still in contact with their native country? What do teenagers do of these possibilities of reorganize their social relationships in new and changeable space-temporal contests? Can the net be an educational device for cosmopolitanism? These are some of the questions this research has tried to give an answer. The pedagogical system was built by Experimental Pedagogy, Intercultural Education and Intercultural and *Media Literacy Education.* The choice of the sample (1149 people) happened on the base of stratified model in which the population was divided into layers as uniform as possible inside and from each of them a random sampling was extracted (through a probability sampling method) (Trinchero, 2004). After, we proceed to change information we got from questionnaires in a rectangular number mold, called "data mold", setting down systematically the answers in the questionnaires. The questionnaire built to collect data has questions on basic social characteristics (genre, age etc.), questions on attitude (feeling) and behaviors. In the questionnaire a series of questions were developed with systematically free answers and with partial free semantic answers. For collecting attitude we have used *Likert range* (Alessandrini, 1988). For the quantitative survey data we have used *SPSS software* (*Statistical Package for Social Sciences*). We have used interviews or an additional sur-

vey level using *C-MAP TOOLS* software(developed by *Institute for Human and Machine Cognition* of Cornell University of West Florida, based on the studies of Joseph Novak) that has allowed a summary of concepts into conceptual maps.

3. Stages and instruments of the research

This job was led individually, but it was coordinated by author through national regular meetings and was organized in the following stages:

1. Pinpointing two sample areas (North-South) on the base of the w*eb* penetration indicators (Audiweb, 2010; Istat, 2009). For the South (where the use of Internet is around 38%) Apulia presents a low web penetration indicator, for the North (where the use of Internet is around 48%) Piedmont presents a high web penetration indicator. Noticing that 8.1 are the points that represent the distance between North and South of Italy regard to the Internet access.
2. Identifying five schools per area (five years vocational school and a high school) four for the two metropolitan cities selected per area and two insert in a not metropolitan city (with a population between 10.000 and 50.000 inhabitants).
3. Describing the project through a letter of presentation and meetings with headmasters and teachers of the third and fourth grade to illustrate the research method and sharing contest useful data to set up the job.
4. Identifying a contact teacher for each school, who has followed the different stages of the research.
5. Collecting teaching planning data (checking projects regard study and practice of multimedia and information technology, achieving an Internet school web site with spaces for *blog* e *community*) in the schools through acquisition of POF.
6. Identifying five sample classes for each school.
7. Administering an *online* questionnaire to sample students to supervise how they use information tools and the Internet net, if they represent a real social devices in a virtual dimension than later become reality or personal estrangement and skilled meeting with the others. Our aim was to observe if there is a positive interaction between these two experiences, the difference between the reality learnt *online* and that one practiced in the real life, the relation between communication and identity, and if the net can be a device for educating to cosmopolitanism.
8. Administering a questionnaire to a sample of 60 *returnees* (that have lived a year abroad with Intercultural program, not later than three years ago) to understand the difference between the reality learnt *online* and that one practiced in the real life, the relation between communication and identity, and it will be useful to examine if how much negative is the adjustment to a new culture and new friends if they are still in contact with their native country and if the reality practiced in the foreign country in which they had lived is different from that one "developed" through the *web* before their leaving.
9. Identifying, thanks to literature teacher (openness vs closure), six Italian students to involve into *focus groups* (*FG*) in each school during scholastic time; leading and analyzing *focus group* lasting about 1h 30 each by one or two members of the researching group.
10. Selecting some students who have taken part to *focus groups* for ethnographic interviews during scholastic time (three for each school); the draft of the semi – structured

interview is elaborated by each group considering data emerged from questionnaires and *FG*; each interview – lasting 50/60 minutes – was recorded and later transcribed.

11. Ethnographic interviews to 60 *returnees*, the draft of the semi – structured interview is elaborated by each group considering data emerged from questionnaires and *FG*; each interview – lasting 50/60 minutes – was recorded and later transcribed.

12. Giving back the survey results to classes or groups or students that took part to the research in the second half of the school year 2011/2012.

The research was realized on a sample of students in Piedmont and Apulia attending the third and fourth grade in the current school year, in some high schools and vocational schools in Alexandria, Ivrea, Turin, Bari, Lecce and Martina Franca. The choice to identity for each sample town a high school and a vocational school answered to the need to intercept youth with different cognitive and learning interests, to evaluate the effect of *digital media* in their daily life.

4. Results

First of all, d*igital generation* children confirm an unmistakable data: at home it is almost impossible not to have Internet access, Internet is mostly in each house, the access is nearly free without any restrictions and about half of the youth (41.2%) surf more than three hours per day, 58.1% less than two hours. Most of time surfing is pledged using *social networks*.
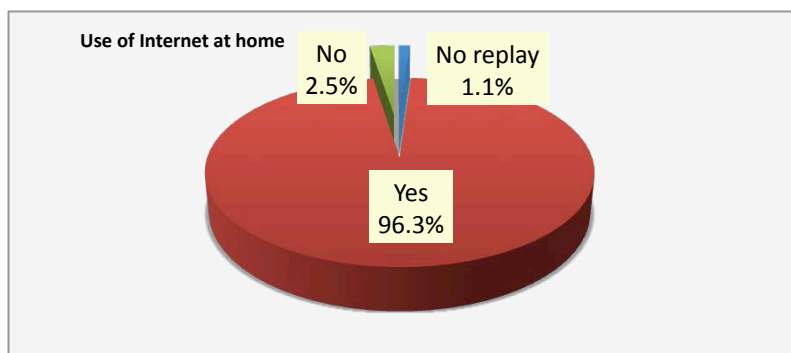

FIGURE 1. Use of internet at home.
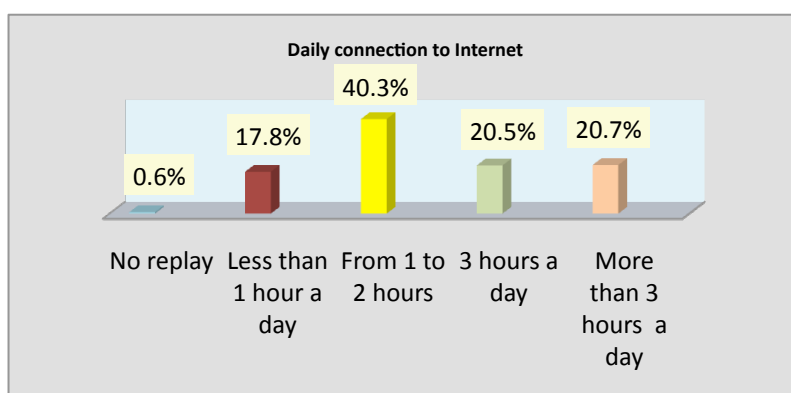
FIGURE 2. Daily connection to Internet.

Only 5.1% of students involved in the research is not enrolled them. Facebook is the most used *social network*. The main use of it is *chatting* with friends, less often is sharing *links* or reading what the others do.
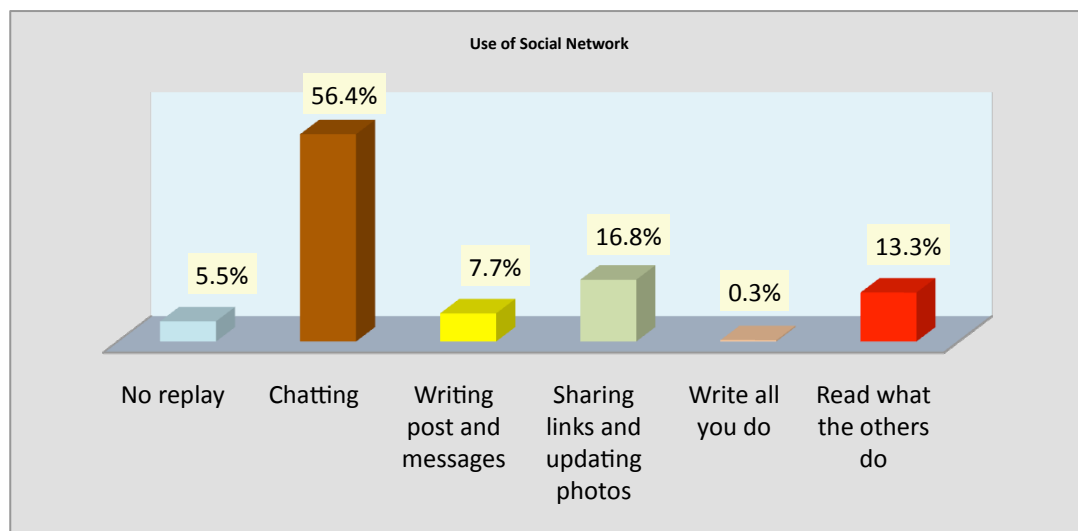
FIGURE 3. Use of Social Network.

Almost half of youth interviewed said to have more than 500 contacts, a few more than a quarter, on the other hand, have less than 200 contacts.
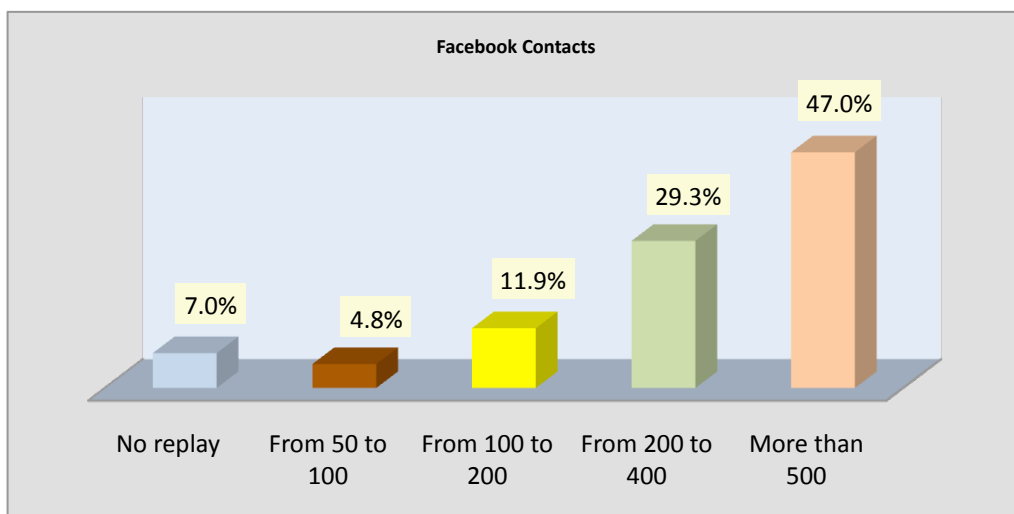
FIGURE 4. Facebook Contacts.

In this way it is clear how *social networks* allow to compose relationships more than it happens in the real life, but it doesn't say anything about the intensity of them. In fact, more than 50% of interviewed think that not more than a quarter of their contacts can be considered truly Friends, on the other hand not more than 10.1% are those that consider nearly more than half of their contacts real friend. "Our" youth have highlighted constantly in their answers a decisive preeminence in their personal relationships to *face to face* contact regard that virtual one on the net, In particular, only 11% prefer contacting people on the Internet, rather than by phone or directly and, above all − otherwise fallacy − most of youth don't love hiding, misrepresenting their own identity chatting on the net (Jenkins, 2006). The net is not a shelter and

it is not perceived as a corresponding world where everything is easier. The use of the Internet induces only few of them to isolate or avoid friends and relatives or, even, preferring the net rather than spending a night with friends (Moscovici, 2005). Therefore, from this research we have some comforting data about present *digital generation*. Youth are certainly able to use new multimedia technologies and spend most of their time (free or not) on the net, but they are well linked to the world of the real life that they don't consider subordinate to the *online* one. Youth believe and look for social direct emotional relationships and later, and only for increasing or perfecting them they use the net. *Online* relationships are surely less attractive, satisfactory than the real ones, and youth disguise themselves or are worried about what the other may think about them when they are on the net or using *social networks*, are less than we think. The limit for all this is that their interest moves in the narrow setting of their vital, local, territorial world, only little available (and formed) to wider openings, that we can say "extraterritorial", intercultural education can do a lot to increase it (Prensky, 2001).
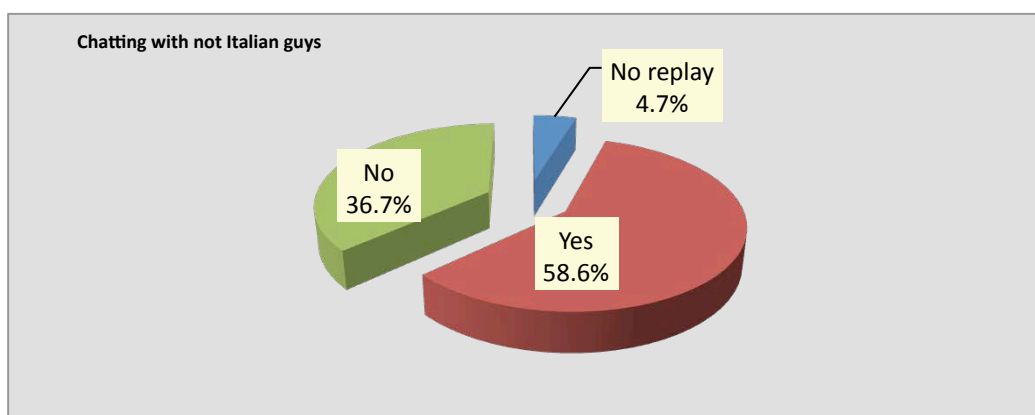

FIGURE 5. Chatting with not Italian guys.

Social networks are an useful resource to increase multicultural relationships that otherwise couldn't arise. It is not a good proof that 58.6% (673 cases) keep contact with not Italian guys and 32.5% of these met *offline*. Instead, 37% (249 cases) are *online* relationships born from direct introduction happened during a trip. For the aims of our research it is important to reiterated that *social networks* seem to be used by our guys especially to activate and/or increase their intra territorial contacts, less those extra territorial ones (linguistic skill indicator affects these relations, of course). This is proved by the low number of not Italian guys that don't live in Italy knowing on the net. Furthermore, among those who keep *online* contacts with not Italians, less than half chat with them sharing their experiences, while about half have short communications. A weak indicator that appears from this research is that *social networks* don't encourage "our" youth to know other cultures. In fact, from the one side, our students say in 45% of cases to use *social networks* rarely to know social and cultural aspects related to different countries, on the other side, over two-thirds of them never do it. Excusing partially these behaviours there is for a low percentage − less than 20% − the belief that those means are unsuitable to know different cultures, diverse from their own one. Examining in depth the link between cosmopolitism and new information technologies, we can say that from proper answers obtained, *digital generation* youth are little interested in placing themselves in the world and that they are wrapped up in living their everyday local world. Therefore, the interest for the different other doesn't arise spontaneously, but only after keeping in contact, and later the *social networks* can be the means to facilitate introduction. So, we could see that almost 40% of students interviewed believe that the Internet helps to build a personal idea of

surrounding world, while the uncertain ones are approximately one-third. But, above all, almost two-thirds of our young people even if they acknowledge that thanks to the Internet geographic distances have been permanently demolished, they believe that this net "power" does not make feel them citizens of the world but citizens in the world. Instead, if we analyse the answers of those students that have spent a period of a year studying abroad with Intercultura Program (called *returnés*) we can observe that 65% of *returnees* have never thought to use *networks* to learn about the country in which they would have had the experience of the study abroad with Intercultura program. Even for the same experience abroad lived by *returnees* with Intercultura program, less than a fifth has considered at least in some way helpful what they had learned from the Internet to adapt to the new cultural reality. Prior knowledge wasn't very fruitful for the 32%; in fact, for over 50%, the prior idea they had about the culture of the host country has been rejected. As a proof of this fact, there is the belief, which is widely available, that the emotions felt during their staying abroad were unpredictable. Real experience abroad was, therefore, different from the one they had supposed. So, in the abroad experience the use of the net is not an essential tool to know the new cultural reality, nor to start and manage interpersonal relationships, where – on the other hand – the straightforward contact, face to face relations were unique (Fornasari, 2010). As for students from Apulia and Piedmont, even our *returnees* totally agree – almost unanimously – that with Internet geographical distances are demolished.
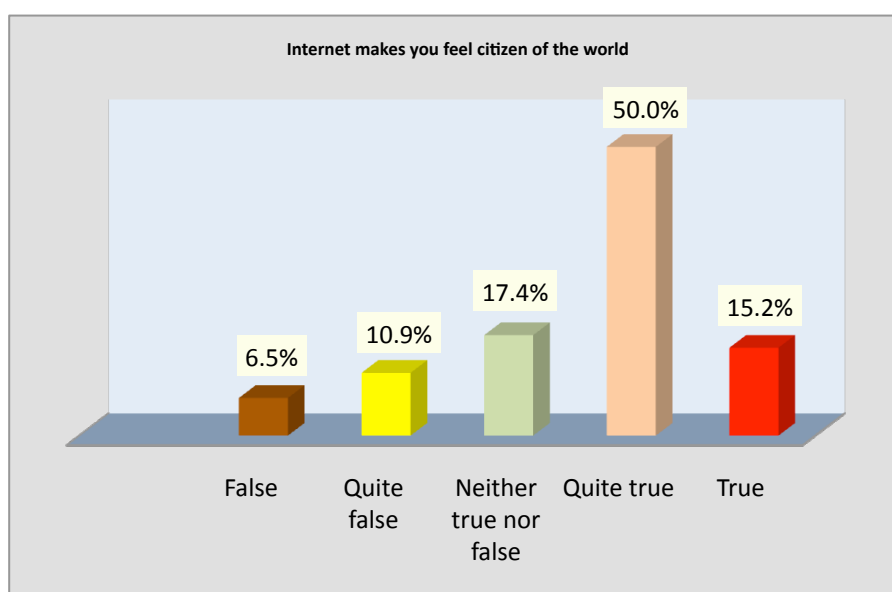
FIGURE 6. Internet makes you feel citizen of the world.

However in these last guys there is a greater belief both in the relation between the net and their cosmopolitan dimension and that one between Internet (*social networks above all*) and education to the world. In fact, over 65% believe that the Internet makes them feel citizens of the world, and above all, almost 60% think that the Internet and *social networks* are useful tools for intercultural education (Santelli, 2004).

5. Conclusions

We live unquestionably in a "globalized" era, where our luck was first that we could benefit

from the structures that have allowed us to travel a lot and to spend longer or shorter periods of staying abroad. We live in a society where the desirable paradigm seems to be represented, as supported by Bennet, by *self-determined citizenship*, a globalized society feature, structured on webbed connections, and on a consequent model of horizontal communication, without hierarchies, dynamic and enforced by the development of means that fosters collaboration, interaction and enduring participation between individuals, no longer considered as passive interlocutors, but equipped with a right of positive pro-active citizenship. So, the network is an amazing training of democracy, where practicing "active forms of democracy, in which each one is called to his task of citizen of the world". The well known German sociologist Ulrich Beck in his book *The cosmopolitan society* uses the word "cosmopolitan" in a revised and correct acceptation regard its ordinary meaning: in fact, we are not speaking anymore about a vague and ideal love for the whole humanity, quoting the author, of a gaze that is wondering about the meaning of the world, a sense of lack of borders. It is the network that allows us to be globalized and local in the same time, and being local is an empirical data that cannot be bring into question. This term was introduced by studies of sociologists as Roland Robertson and Zygmunt Bauman to indicate the phenomena originating from the impact of globalisation on local realities and vice versa (Bauman, 2001). During the transition from an international world to a *global and local* one in the same time, it was the new conception of the mobility to modify deeply all a sequence of conceptual standards that we used to know, among these the idea of citizenship, belonging and nationality (and therefore of the same idea of international relations) (Santerini, 1994). We should develop deep considerations about this transformation and the resulting new conceptualizations linked to the idea of border and territory. For those who deal with education and communication, the study of the network and the *social networks* and how these tools are used by teenagers, is one of the most relevant emergencies in the last years; with this research we have tried to answer to this challenge providing some answers and opening new scenarios of reflection.

References

Adoni, H., & Nossek, H. (2001). The new media consumers. Media convergence and the displacement effect. *Communication*, *26*, I, 59-83.

Alessandrini, G. (1988). *Manuale per l'esperto dei processi formativi*. Roma: Carocci.

Audiweb (2012). *Rapporto Giugno 2012*.

Bachmair, B., & Bazalgette, C. (2007). The European Charter for Media Literacy. Meaning and potential. *Research in Comparative and International Education*, *2*, 80-87.

Barnes, S. B. (2006). A privacy paradox. Social networking in the United States. *First Monday*, *77*, 9.

Bauman, Z. (2001). *The Individualized Society*. Cambridge: Polity.

Becchi, E., & Vertecchi, B. (1984). *Manuale critico della sperimentazione e della ricerca educativa*. Milano: Franco Angeli.

Beck, U. (2005). *Risk Society. Towards a New Modernity*. London: Sage.

Bolter, J. D., & Grusin, R. (1999). *Remediation. Understanding New Media*. Cambridge: MIT Press.

Buckingham, D. (2002). The electronic generation? Children and the new media. In L. Lievrouw, & S. Livingstone (Eds.), *The Handbook of New Media*. London: Sage.

Buckingham, D. (2005). *The media literacy of Children and Young People*. London: Office of Communication.

Buckingham, D. (2006). Is there a digital generation?. In D. Buckingham, & R. Willett (Eds.), *Digital Generations* (pp. 1-13). Mahwah: Lawrence Eribaum Associates.

Cassell, J. (2011).Towardsa model of technology and literacy development. Story listening System. *Journal of Applied, Developmental Psychology*, *25*, 75-105.

DCMS (2001). *A General Statement of Policy by the Department for Culture, Media, and Sport on media Literacy and Critical Viewing Skills.* London: Department for Culture, Media and Sport Broadcasting Policy Division.

Drotner, K. (2005). Media onthe move. Personalised media and the transformation of publicness. In S. Livingstone (Ed.), *Audiences and Publics, When Cultural Engagement Matters or the Public Sphere* (pp.187-212). Bristol: Intellect Press.

Fornasari, A. (2010). *Incontriamoci a scuola. Dinamiche e prassi di educazione interculturale nelle scuole di Martina Franca*. Bari: Editori Favia.

Gee, J. P. (2002). *Learning theory, videogames, and popular culture.* In K. Drotner, & S. Livingstone (Eds.), *International Handbook of Children, Media and Culture* (pp. 196-212). London: Sage.

Giddens, A. (1991). *Modernity and Self-Identity. Self and Society in the Late Modern Age*. Cambridge: Polity.

Habermas, J. (1986). *The Theory of Communicative Action. Life-world and System. A crititique of Functionalist Reason* [volume 2]. Cambridge: Polity.

Hannerz, U. (2001). *La diversità culturale* [trad. it.]. Bologna: Il Mulino.

Istat (2011). *Cittadini e nuove tecnologie*.

Jenkins, H. (2006). *An Occasional Paper on Digital Media and Learning. Confronting the Challenges of Partecipatory Culture. Media Education for the 21st Century*. Chicago: The John D. and Catherine T. Macarthur Foundation.

Jenkins, H. (2006). *Convergence Culture. Where Old and New Media Collide*. New York: New York Press.

Kant, E. (2006). *Critica della Ragion Pratica ed altri Scritti Morali*. Torino: Utet.

Livingstone, S. (1999). New media, new audiences. *New Media and Society*, *7*, 59-66.

Livingstone, S. (2005). Critical debates in internet studies. Reflections on an emerging filed. In J. Curran, & M. Gurevitch (Eds.), *Mass Media and Society* (pp. 9-28). London: Sage.

Livingstone, S., & Helsper, E. J. (2007). Gradations in digital inclusion. Children, young people and the digital divide. *New Media and Society*, *9*, 671-696.

Merchant, G. (2006). Identity, social networks and online communication. *E-Learning*, *3*(2), 235-244.

Meyrowitz, J. (1995). *No Sense of Place. The Impact of Electronic Media on Social Behaviour*. New York: Oxford University Press.

Ministero della Pubblica Istruzione (2000). *Indicazioni PSTD* (*Programma di Sviluppo delle Tecnologie Didattiche*).

Morin, E., & Kern, A.B. (1994). *Terra-Patria*. Milano: Cortina Raffaello.

Moscovici, S. (2005). *Le rappresentazioni sociali.* Bologna: Il Mulino.

Office for Standards in Education (2004). *ICT in Schools-The Impact of Government Initiatives Five Years*. In www.ofsted.gov.uk

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, *9*(5), 1-6.

Santelli Beccegato, L. (1996). Pedagogia Interculturale. Considerazioni epistemologiche. In A. Parrucca (Ed.), *Pedagogia Interculturale e dimensione europea dell'educazione.* Lecce: Edunova.

Santelli Beccegato, L. (2003). *Interculturalità e futuro. Analisi, riflessioni, proposte pedagogiche ed educativ*e. Bari: Levante Editore.

Santerini, M. (1994). *Cittadini del mondo. Educazione alle relazioni interculturali.* Brescia: La Scuola.

Trinchero, R. (2004). *I metodi della ricerca educativa*. Bari: Editori Laterza.

Turkle, S. (1995). *Life on the screen. Identity in the Age of Internet.* New York: Simon and Schuster.

Action Research to support the evaluation process of the eLearning platform at University of Milan

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Abstract
The evaluation of the eLearning platform (Learning Management System) to deliver academic online courses should be one of the most relevant variables of an academic eLearning strategy.
In this paper we describe the University of Milan experience in this field.
The evaluation methodology will be presented analyzing how the Ariel 2.0 users (teachers and students) have been involved not only as compilers of a questionnaires but also during the entire research: from the design of the questionnaire to the discussion of the results; how we applied and tested the Action Research Methodology and how we used a wiki to manage the collaborative online activity among teachers and among students.
The general design of the project will be described taking into account that the overall goal of the project was to evaluate the eLearning platform in use while the main aim of this paper is the description and the evaluation of the methodological choices adopted.
The paper finally presents some inputs and suggestions for next hypothetical editions of the same project and, generally speaking, to better understand if and how the methodological news of this project could be applied within an academic institutional evaluation setting.

Keywords
Action Research, Evaluation, Learning Management System, eLearning Platform

1. Introduction

In this paper we will describe a project designed to evaluate the eLearning Platform, Ariel 2.0, in use at University of Milan. We will describe the methodology, the design and the implementation of the project focusing our attention on the adoption of the Action Research methodology. Some reflections on strengths and weaknesses emerged will be presented.

2. The Context

In 2012 Ariel 2.0 managed more than 1500 web sites related to undergraduate and post graduate courses offered by University of Milan.

Ariel 2.0 has been used to support online teaching and learning activities within our university since 2008 and could be considered the new release of the home made eLearning Platform, Ariel 1.0, which had been used for the previous seven years (2001-2008).

In 2012 took place the latest edition of the evaluation project presented within this paper. The same methodological approach designed for the previous edition (2009 Evaluation Project) was adopted taking into account what we learnt in 2009, when Action Research (later on AR) was chosen and tested for the first time.

In 2009 for the first time both students and teachers were involved into a process of improvement of a tool (eLearning Platform) they daily use into their online teaching and learning activities. In 2012 AR approach was confirmed, but the entire design was enriched thanks to the integration of Qualitative research tools aimed at collecting further data about teachers' and students' styles, perceptions and wishes.

The qualitative section of the Project was designed, managed and evaluated by CREMIT (Centro di Ricerca sull'Educazione ai Media all'Informazione e alla Tecnologia) – Catholic University of the Sacred Heart, Milan.

3. The Evaluation Project: Action Research adoption

The main focus of this paper is the description of the methodological approach adopted so we will not report the outcomes referring to the eLearning Platform evaluation.

Participatory research, collaborative inquiry, emancipatory research, action learning and contextual action research, are synonymous of AR. In this paper we will use the definition provided by Gilmor (Gilmor *et al.*, 1986 as cited in O'Brien, 1998): "Action research […] aims to contribute both to the practical concerns of people in an immediate problematic situation and to further the goals of social science simultaneously. Thus, there is a dual commitment in action research to study a system and concurrently to collaborate with members of the system in changing it in what is together regarded as a desirable direction. Accomplishing this twin goal requires the active collaboration of researcher and client, and thus it stresses the importance of co-learning as a primary aspect of the research process".

Relevant authors describe AR process in different steps. For example, Stephen Kemmis (Mac Isaac, 1995) developed a simple model of the cyclical nature of the typical AR process, each cycle has four steps: plan, act, observe, reflect.

Gerald Susman (1983) gives a more elaborate listing distinguishing five phases to be conducted within each research cycle: Diagnosis, Action planning, Taking action, Evaluating, Specifying learning.

Our project foresees:
- use of AR methodology:
  - to develop collaboratively the quantitative research tools (2 questionnaires for quantitative data collection)
  - to analyse and discuss the quantitative data once collected
- opportunity for teachers and students to participate directly to all the evaluation phases:
  - from the construction of the tools (questionnaires)
  - to the discussion of the results
- use of web 2.0 tools (wiki) to manage groups of users' contributions
  - in order to develop collaboratively the tools for quantitative data collection (questionnaires) and to manage the discussion.

AR implies close and open communication among the people involved, so close attention to ethical considerations must be paid. Richard Winter (1996) lists a number of principles concerning Ethic an Action Research. Referring to his considerations, the ethical issues in the evaluation project described could be split in two different levels.

First level - through the involvement of the users in the process of building the questionnaires.

- Before taking part to the project all the participants are informed about the main goals, objectives, deadlines, rhythm, rules, involvement required in order to allow a conscious agreement to the participation.
- Participation on a voluntary base (call for participation).
- All the information, all the materials and all the discussions are always available.
- Every official document, comment or action is the result of the participants' agreement.
- The output of each phase has to be gained through the consensus of the participants.

Second level - by ensuring informed consensus to those who take part to all the phases of the project.

- Before taking part to the project all the participants sign an informed consensus declaration.
- Access to each Wiki is reserved only to the members of the specific group (students or teachers).
- Each participant is given login and password to enter the wiki.

4. Project Design – macro design

Four different phases have been identified within our Evaluation Project: a preliminary phase (Phase 0) and three phases (Phases 1-2-3) through which the AR project develops (Table 1). Teachers and students (into two separate groups, one dedicated to students and one dedicated to teachers) worked together online first to the definition of a questionnaire to evaluate Ariel 2.0 (that their colleagues would fill in), than to analyse and reflect on the data collected through the survey and propose improvements to the eLearning Platform and its usage.

PHASES		ACTION RESEARCH	
Phase 0 (pre-Plan)	PRE PLAN => Design of AR plan • Criteria definition to select participants • Selection of the people involved in the project • Definition of the web2.0 tools to be used in phase 1 and 3 (structure and supporting tools) • Definition of *scaffolding* level provided by researchers, thus production of activity support material needed • Privacy policy definition • Survey tool selection	Analysis Reflection Identification of the problem Planning	comprehension
Phase 1 (Tool Building Phase)	Collaboration online (wiki) to define the 2 questionnaires to evaluate eLearning Platform Ariel 2.0 • Students' group • Teachers' group		

PHASES		ACTION RESEARCH	
Phase 2 (Data Collection Phase)	Online surveys: • 1 for teachers • 1 for students	Development of the project Action Data collection	monitoring/ observation
Phase 3 (Data Evaluation Phase)	Collaboration online (wiki) to analyse and discuss the data collected during the previous phase • Students' group • Teachers' group	Data analysis Reflection	evaluation
	New Action Plan		

TABLE 1. Project design map.

Phase 0 - PrePlan: the key points addressed in the PrePlan are those outlined in Table 1. Teachers and students were selected on a voluntary base thanks to the use of a call for contribution published on the eLearning platform Portal, on all the websites supported by the platform and by mailing lists. The group size limit was maximum 30 people to allow manageable collaborative online activities.

Phase 1 - planning: the participants discussed within their groups (researchers + students; researchers + teachers) about the eLearning Platform and its functionalities: does it meet the users' needs, both from a technological and methodological perspective? (What works well? What works badly? What and how to improve?).

Then each group formalized their own reflections and questions on the two questionnaires dedicated to all the users of the platform: one questionnaire for students; one questionnaire for teachers.

Phase 2 - data collection: online surveys (questionnaires designed in the previous phase) were used to collect opinions and suggestions.

Phase 3 - data analysis and reflection: outcomes of this phase were suggestions and inputs on how to improve the eLearning Platform from both a technological perspective (tools) and methodological perspective (usage, training etc.).

5. Project Design – collaboration design

Two design levels had to be addressed.

The first level refers to the macro design of the project described in the previous chapter, then a micro design level was addressed. Within this second level we defined also the strategy to actively engage participants (teachers' group, students' group) into carrying out successfully Phase 1 and Phase 3.

The chosen strategy is Collaborative Writing (from now hence CW), thus defined by Lowrey (Lowrey, Curtis & Lowrey, 2004): "CW is an iterative and social process that involves a team focused on a common objective that negotiates, coordinates, and communicates during the creation of a common document" (ivi, p. 8).

To support participant in order to overtake CW own complexities − mainly Procedural complexity and Inter – group relationship complexity (Trentin, 2008) − and afford time constraints of the project, researchers provided:

• Rules for participation to CW
• Wiki structure (2 wikis 1 for each group)
• Questionnaires Draft (Phase 1)

- Data discussion Draft (Phase 3).

Another important consideration refers to the choice of the software that allows CW groups to perform activities such as brainstorming, outlining, drafting, reviewing, revising, copy editing and final wrap-up. We chose the wiki since it was born as a collaborative writing tool.

The criteria used to select the wiki could be considered as a simplification, according to the present context, of those presented by Lowry (2002):

- Free to use: no licence fee
- Very easy to be used, clear, simple and self-evident
- Multiple users profiles (admin, writers etc.)
- Discussions: area for comments
- Log files: Versions history + Statistics.

PBWorks free version (http://pbworks.com/) seemed to be the most user friendly referring to our participants' characteristics. Therefore two wikis were set up within the project: one for teachers' activities, one for students'.

Training activities and scaffolding actions to support participants and help them into taking actively part to the project were designed (Mason & Renne, 2008; Lowrey, Curtis & Lowrey, 2004):

- Ice breaking exercise: to set rules and style to the wiki and to introduce themselves and create the "group";
- Two tutorials audio-video on wiki structure and usage (how and where to write)
- Guidelines on how to design a questionnaire;
- Guidelines to the entire project.

Researchers action developed on two levels:

- Method – motivation level: deadlines reminder, procedures, more relevant contribution highlight (both phase 1 and phase 3);
- Content level: support to the formulation of a question or answers options, highlight improvement or unclear interpretations (phase 1); highlight possible cross relations among questions or interesting data (phase 3).

Moderation depended on rhythm and intensity of CW.

6. Observations and comments

In Table 2 we present some numbers referring to the two edition of the project we can compare: Edition 2009 vs Edition 2012.

PHASES	EDITION 2009	EDITION 2012
Phase 1 (Tool Building Phase)	9 Students 14 Teachers	18 Students 33 Teachers
Phase 2 (Data Collection Phase)	1209 Students 213 Teachers	3439 Students 366 Teachers
Phase 3 (Data Evaluation Phase)	3 Students 8 Teachers	2 Students 10 Teachers

TABLE 2. Numbers.

In this paper we will not talk about data and outcomes of Phase 2 (Data Collection Phase). The reflections here presented refers to Phase 1 (Tool Building Phase) and Phase 3 (Data Evaluation Phase). These reflections are based on observation conducted by the researchers during the overall project and on the analysis of the data available on the wiki of the edition 2012

but taking into account also the 2009 experience.
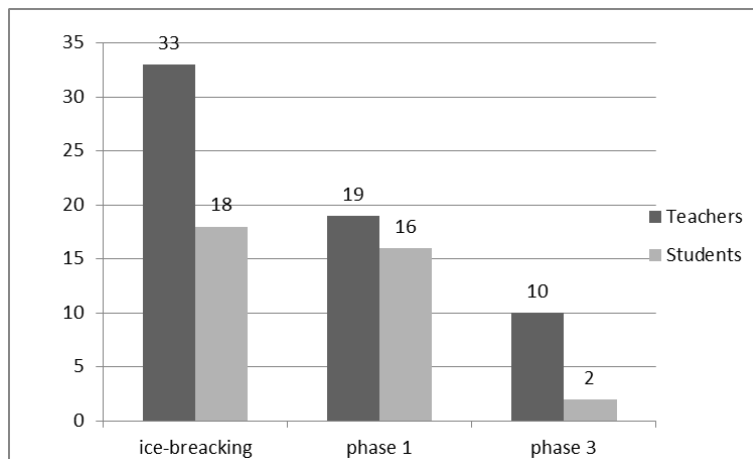
FIGURE 1. Numbers of teachers and student active throughout the project (2012).

We consider as *active* a teacher or a student who wrote at least one comment.
Researchers support, at the beginning of phase 1, mainly focused on where and how to contribute to collaborative writing. Video tutorials and examples were considered very useful. Teachers found it harder than students to pass from ice-breaking exercise (pre-Phase 1) game based activity, to phase 1 purpose based collaborative writing. Those who decided to keep up with the project where very active and committed to the task.
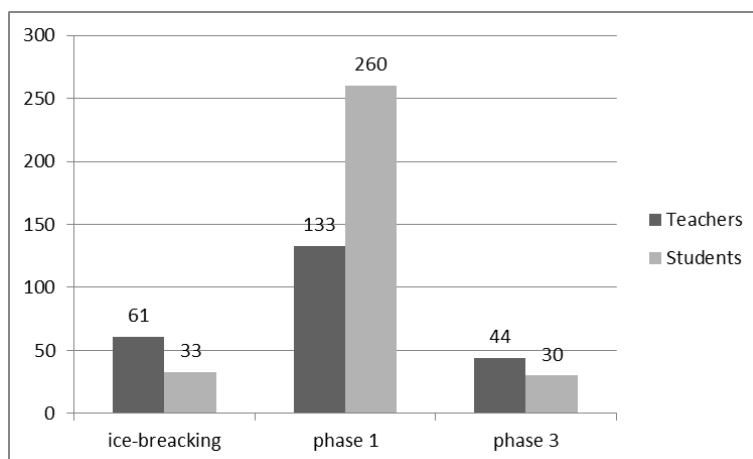
FIGURE 2. Numbers of comments written by teachers and students
throughout the project (2012).

During the ice-breaking exercise participation was very intense. Teachers and students connected to the wiki also at night and during the week-end to check for replies or peers' comments: the first touch with wiki philosophy generated high expectations.
During Phase 1 both groups were deeply involved and also able to respect the topic and pace of the discussion keeping always in mind the project deadlines. Therefore researchers' moderation was soft and needed only for few methodological exemplifications.
In both groups participation decreased during phase 3 and this was mainly due to:
  • difficulty in keeping up motivation
  • high level of attention requested (more than expected)

- overall length of the project
- break (Phase 2) between Phase 1 and Phase 3.

7. Next edition suggestions

Evaluation of the methodological approach refers also on the opportunity, for CTU, to adopt Action Research as one of the methodologies that could be applied in evaluation settings aimed at understanding usage and development of eLearning tools and functionalities, in order to design development plan taking into account final users point of views.

Another important variable is cost analysis: in terms of human and temporal resources. In the experience here presented the cost of human resources was high.

On one hand researchers and participants were involved for a long and intense period of time.

On the other hand the satisfaction level expressed by participants is very high and also the questionnaires responders' rate was the highest ever reached in our evaluation experience.

So, looking to the future costs have to be balanced considering the overall quality of the final results (mainly reliability of the results).

From our point of view AR represented a good "investment", but in an hypothetical next edition of the project we would redesign totally phase 3, while maintaining phase 1 and phase 2 unaltered design.

References

AA. VV. (2010). *Study Report: Virtual Learning Platforms in Europe: What can we learn from experience in Denmark, the United Kingdom and Spain? A Comparative Overview*. Paris: Caisse des Dépôts, Projets ENT.

Bates, A.W. (2000). *Managing technological change: strategies for college and university leaders*. San Francisco: Jossey-Bass.

Black, E., Beck, D., Dawson, K., Jinks, S., & Di Pietro, M. (2007). The other side of the LMS: Considering implementation and use in the adoption of an LMS in online and blended learning environments. *TechTrends: Linking Research & Practice to Improve Learning*, *51*(2), 35-39.

Britain, S., & Liber, O. (2004). A Framework for Pedagogical Evaluation of Virtual Learning Environments. *JISC*. In http://halshs.archives-ouvertes.fr/hal-00696234/

Cantoni, L., & Esposito, A. (Eds.) (2004), *La qualità nella gestione dei progetti di eLearning nelle università italiane*, Università degli Studi di Milano-Università della Svizzera Italiana. In http://www.chersi.it/listing/dol_06_07/2_02_07_nt_did/second_sett/materiali/newmine_cantoni_ali_i_ctu.pdf

Capuccio, R., *et al.* (2004). *Improvement of an e-learning platform through the analysis of usage patterns*. In
http://www. inf. unibz. it/~ gsucci/publications/images/aptec3_improvement_of_an_elearning_platform_through_the_analysis_of_usage_patterns.pdf

Colace, F., De Santo, M., & Vento, M. (2003). *Evaluating On-line Learning Platforms: a Case Study*. Proceedings 36th Hawaii International Conference on System Sciences. Hawaii: IEEE Press.

EDUCAUSE Learning Initiative (2005). 7 Things you should know about wikis. *ELI 7 Things You Should Know*. In http://www.educause.edu/ELI/7ThingsYouShouldKnowAboutWikis/156807

Einsiedel, A. A. Jr., & Hanlis, *E*., (2004). *An action research approach to elearning: A case study in Bosnia-Herzegovina (BiH)*. EDMEDIA Proceedings. Lugano, Switzerland.

Farren, M. (2008). e-Learning and action research as transformative practice. *Innovate: Journal of Online Education*, *5*(1). In http://doras.dcu.ie/667/

Gilmore, T., Krantz, J., & Ramirez, R. (1986). Action Based Modes of Inquiry and the Host-Researcher Relationship. *Consultation, 5*(3), 161.

Jones, D. (2008). *What should a LMS evaluation consider? The Weblog of (a) David Jones.* In http://davidtjones.wordpress.com/2008/09/14/what-should-a-lms-evaluation-consider/

Learning Management System Evaluation Committee (LMSEC) (2003). St. Petersburg College. In http://it.spcollege.edu/lms/index.htm

Lowry, P.B. (2002). Design requirements for collaborative writing tools that support distributed, internet-based work. In *AMCIS - American Conference for Information Systems 2002 Proceedings* (pp.193-200). In http://aisel.aisnet.org/amcis2002/31

Lowry, P.B., Curtis, A., & Lowry, M.R. (2004). Building a Taxonomy and Nomenclature of Collaborative Writing to Improve Interdisciplinary Research and Practice. In *Journal of Business Communication*, 41-66. In
http://ows.edb.utexas.edu/sites/default/files/users/jl35525/Taxonomy%20of%20Collaborative%20Writing.pdf

MacIsaac, D. (1995). *An Introduction to Action Research.* In
http://physicsed.buffalostate.edu/danowner/actionrsch.html

Mason, R., & Renne, F. (2008). *E-Learning and Social Networking Handbook – Resources for Higher Education.* NewYork-Oxon: Routledge.

Milani, M., & Barni, S. (2011). Storia di una piattaforma eLearning come occasione di autoanalisi di un Centro di Ateneo per la didattica online. In T. Minerva, & L. Colazzo (Eds.). *Connessi! Scenari di Innovazione nella Formazione e nella Comunicazione. Atti SIEL 2011.* Milano: LediPublishing. In http://www.siel2011.it/index.php/component/content/article/73-pronto-il-libro-degli-atti

Milani, M., & Pinelli, I. (2011). Action Research e strumenti Web 2.0 a supporto della valutazione di una piattaforma di eLearning all'Università degli Studi di Milano. In M. Pieri, D. Diamantini, & P. Bonfils (Eds.), *Ubiquitous Learning* (pp. 203 -214). Milano: Guerini e Associati.

O'Brien, R. (1998). *An overview on Action Research.* In
http://www.web.net/~robrien/papers/arfinal.html#_Toc26184670

Susman, G. I. (1983). Action Research: A Sociotechnical Systems Perspective. In G. Morgan (Ed.), *Beyond Method: Strategies for Social Science Research* (pp. 95-113). London: Sage Publications.

Trentin, G. (2008). *La sostenibilità didattico-formativa dell'eLearning. Social networking e apprendimento collaborativo.* Milano: Franco Angeli.

Winter, R. (1997). *Action-Research and the Nature of Social Inquiry: Professional Innovation and Educational Work.* Aldershot, England: Gower Publishing Company.

The use of Facebook in informal contexts: what implications does it have for formal contexts?

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Abstract
The main aim of this paper is to describe the results of a preliminary observatory study on the use of Facebook by teenagers in informal contexts. The authors illustrate the preliminary results of the research and analyse some significant variables that contribute to a greater understanding of the important debate on social networks as a source of information and knowledge in relation to formal and informal learning contexts. The contribution constitutes an opportunity for illustrating the potential and advantages that could derive from the use of social networks in education; this problem is now under scrutiny by national and international educational research since it represents a possible meeting area between formal and informal. The key problem in the renewal of teaching strategies is, in fact, the focus of a new possible integrated use of ICT in the teaching/learning processes as an essential factor for the possible restructuring of the didactic action systems in formal contexts in relation to the different learning dimensions (cognitive, emotional, social/relational, psychomotor) and their implications.

Keywords
Informal Learning, Formal Learning, Social Network, Facebook, Didactic Action System, ICT Personal Learning Environment, Teaching

1. Introduction

In every era and at all times, the arrival of a new artefact (even more so when it pertains to the

sphere of communication − just think of the printed book, the telephone and the radio, for example) opens up extraordinary possibilities for the forces which, in society, operate in the direction of change. The introduction of a technology itself does not simply destroy what already exists, rather, it codifies new things and offers alternatives that had not been contemplated before it appeared. In that sense, it is useful to look at the increasingly widespread phenomenon of so-called "social networks", a direct consequence of the development of the Internet, which connects networks of calculators and is a giant infrastructure supporting a very wide range of services and applications (of these the Web is the most well-known, which enables users to access, navigate, save, share and create all sorts of contents/information). Being the IT version of (the original) social networks (Barnes, 1954; Barnes & Harary, 1983), i.e. the network of relations that has always developed between communities of individuals, (IT-based) social networks enable people to reinforce certain bonds, negotiate meanings and take part in experiences. In short, they allow us to update our "social animals" aspect.

Now, it is easy to imagine that being included in such networks – from an emotional and cognitive point of view – produces effects with a varying degree of visibility also when this takes place through the Internet, especially if we consider the amount of time that people, particularly young people, spend online (Roberts *et al*., 2005).Social networking websites, such as Facebook, Twitter, Badoo, Linkedin and MySpace, enable an almost infinite number of web users to unite; each of them, having built up their own profile (containing data about themselves and of any other kind, which, note, may or may not be true), chooses to enter into a relationship with others, whether they are individuals or whole groups, exchanging and sharing information, messages, photos and videos according to different contact methods (Pempek *et al*. 2009) and using the different applications available (one of the most popular is "events management"). Social networks now have a significant presence not only in the lives of teenagers and young people, but also in the lives of children[1] and adults (Lenhart & Madden, 2007; Wiley & Sisson, 2006), conditioning relationships and interactions (Calvani & Rotta, 1999; 2000), influencing the development of the personality and extending the social action sphere, particularly due to the continuous feedback that is sparked off between the parties. All this has inevitably generated a lively debate among scholars. The scientific community was the first to wonder about the Internet medium (and, as always happens in similar cases, dividing into non-conformists and conformists), looking into the processes and effects of communication mediated by the computer, whereas now, faced with the reign of the Web and the exponential spread people joining up to its services/applications (in the meantime many of the non-conformists have become addicted), the possibility of their use for educational purposes is now being sounded out, with a clear attempt to reinforce the cultural aspect of the actions taken by the actual mass of users. By analysing the contents of personal web pages, even for the most naïve reader, the original expressive register used by users to enter into a relationship with others is immediately clear: exchange of ideas and information, assessment and negotiation of their meanings, to cite the most important interactional aspects, take place thanks to the crossbreeding of languages, the mixing of codes and the integration of planes among different contexts − friendly, affectionate, work-related and economic. From that point of view, Stern (2004) sustains that the use of different channels for providing feedback, on a different level, is an indicator of how young people wish to receive responses to the contents published by them, perhaps to satisfy their need for self-confirmation and/or interaction. On this point, it is helpful to remember the results of the research by Valkenburg, Schouten and Peter (2005),

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[1]Normally, children under the age of 13 shouldn't be able to create a Facebook profile, but a survey published in the June 2011 edition of the *Consumer Reports Magazine* revealed that more than a third of the 20 million active minors on that social network, in the year preceding the survey, was aged under 13.

which aimed to verify how teenagers experiment with their own identity, making use of the Internet in different forms. In particular, it emerged that chatting or "instant messaging" are used at least for three main reasons: exploring themselves through the feedback sent by others, making up for social difficulties and forms of shyness by facilitating relations. Therefore, these are simple ways of interacting with peers and collecting feedback at any time of day and, which, precisely due to the ease of access, can be transformed into real opportunities for learning, which can merge in a complex way with the interpretative assets of the individuals. Furthermore, the immediate nature makes these experiences easily approachable by children, young people and adults; just think, for example, about teenagers whose peers are almost always available online and for whom communication is very fast. There is, therefore, such an indulgent disposition towards this type of actions that the hypothesis of making use of them for educational and training purposes does not seem to be such a peculiar or impractical idea. Without falling into the temptation of considering technology "the palingenesis of school" (Vertecchi, 2012), we need to ask ourselves about the invasiveness/pervasiveness of the Internet into young people's lives, understanding the strength of its use, not least for social purposes, since its use in formal learning contexts can only be justified if good or better results than those previously achieved can be produced. A significant aspect of social networks such as Facebook is actually the social use of the web as part of education (Junco, 2012a). Roblyer, McDaniel, Webb, Herman and Witty (2010) have observed, on this point, that students rarely state that they feel their privacy to be violated by the school's encouragement of the educational use of Facebook and, likewise, the study of Roblyer and collegues (2010), highlights the extreme interest of young people in the use of the same tool for learning purposes. Much research confirms this interpretation. Looking again at the survey conducted by Mazer, Murphy & Simonds (2007), note how the students who tried Facebook in education appear, overall, to be more motivated and to have higher levels of learning. While many sources show how young people feel at ease using Facebook also for educational purposes and manage to use it indifferently inside and outside the classroom, lecturers do not seem to ready to support such a use. The surveys conducted on teachers, in particular that of Moran, Seaman and Tinti-Kane (2011), inform us that 77% of lecturers interviewed commit to the personal use of social media, whereas 60% use social media in the classroom, but only 4% state they use Facebook in class. It is clear, however, how social networks *could* only offer students and teachers new prospects if they are integrated into the didactic action system and if they contribute to reinforcing the learning and teaching in view of a quality improvement appreciable of experience. Due to the speed with which the new technologies are spreading, the use of Facebook has grown at a staggering rate[2] among young people (Jones & Fox, 2009; Matney & Borland, 2009; Smith & Caruso, 2010), inciting increasing academic interest due to its impact and effects in terms of learning results (Abramson, 2011; Kamenetz, 2011). According to Kuh (2009), at least one of the outcomes connected with the students' commitment is positively related to many results connected with training (such as cognitive development, psycho-social development, self-esteem, locus of control, moral and ethical development and persistence). Junco (2012b) reached the same conclusions, pointing out how university students consider the use of Facebook to be important in education and how time spent on these social media can be positively or negatively predictive of the study commitment that the students take on; specifically, for example, it becomes a negative predictor when used for playing or for check-

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[2] In Italy, in the month of August 2013, the number of active users, according to the data supplied by the Facebook Advertising platform, reached the threshold of 24 million, 32% of which, if we consider the age range 13-24 (the age declared upon joining the site, but which could be false), at least potentially, falls within the student population.

ing the list of "friends", whereas it becomes positive when spent for posting comments or creating new events or when it is dedicated to co-curricular activities. Note how all of this is in harmony with research on the general uses of the Internet; such research that highlights how online activities teach the outcomes of learning and are important or more important than time spent for their use (Cotten, 2008; Ellison, Steineld & Lampe, 2011; Gordon, Juang & Syed, 2007; Junco, Heiberger & Loken, 2011; Morgan & Cotten, 2003). Therefore, in a natural environment without any guidance, the use of Facebook is both positively and negatively connected with the commitment of the students to study and to participation. However, the fact that a certain use of Facebook becomes a predictor of the students' commitment, in the real world, suggests that some methods of using Facebook may be connected with positive scholastic results and an increase in their involvement in educational activity (Kuh, 2009; Pascarella & Terenzini, 2005). While many research papers have highlighted the various positive effects of the use of social networks on individuals and on students, others, such as those by Krischner and Karpinski (2010), Yu, Tian, Vogel and Chi-Wai Kwok (2010), underline how they lead to a deterioration of scholastic performance; however, there is not sufficient data to prove this data.

What remains a common denominator on which informal uses of Facebook are based and frequently referred to in literature is the "emotional dimension" (in all its forms – "emotional intelligence", "emotional sphere" etc.), considered a vehicle and component for the skilful learning of complex interactions with the other spheres (social, cognitive etc.) and with the different control strategies (cognitive, motivational, environmental etc.) which help the individual to remain focused on significant information (selective motivation, control over codification processes, selection of processed information and so on).Therefore, emotions in terms of "dynamic and chromatic qualities of our existence" (Anolli, 2002) represent the basic elements that allow us to make interpersonal exchanges from birth. More generally, they anticipate, accompany and follow learning (Lucangeli & Fabris, 2001); if they are positive, they induce the person to participate actively, whereas if they are negative they induce the person to develop more rigid expectations ("prediction that will come true"). This means that the ability to handle emotions and be aware of one's own emotional world becomes an essential element for achieving satisfactory development in the different areas and domains of knowledge and at different times of life. The ability to recognise one's own sentiments and those of other people, to succeed in motivating one's self (not least one's own emotions, both internally and in social relations) would seem to constitute the essential condition for improved subjective and shared wellbeing (Trombini & Mancini, 2011), but above all to guarantee learning in the scholastic field (Weiner, Frieze, Kulka, Reed, Rest & Rosenbaum, 1971; Weiner, 1974, 1980, 1986), terrain and place of recognition of emotions and their conscious use in the learning process. If it is true that positive emotions deriving from the exercise of one's own abilities associated with learning and effective methods of handling it are strictly dependent on the way in which the individual tends to justify what happens, whether referring to success or failure, then the result of the decisions that the individual makes in order to understand what he is responsible for can be defined as "attributions", i.e. the need to understand the rules and the world (Heider, 1958).

Literature also highlights how emotional-motivational aspects are responsible for many of the negative experiences and underlines how learning is particularly influenced by the cognitive and emotional-motivational components that accompany scholastic success and failure, establishing clear relationships with skills, a sense of self-effectiveness, attributive style and self-esteem. Therefore, the control of such aspects regards the creation of a didactic system in the scholastic context and an environmental organisation suited to study through the use of Face-

book, in order to provide an environment in which the learner can know, apply knowledge to new problems and consider their actions as re-usable events.
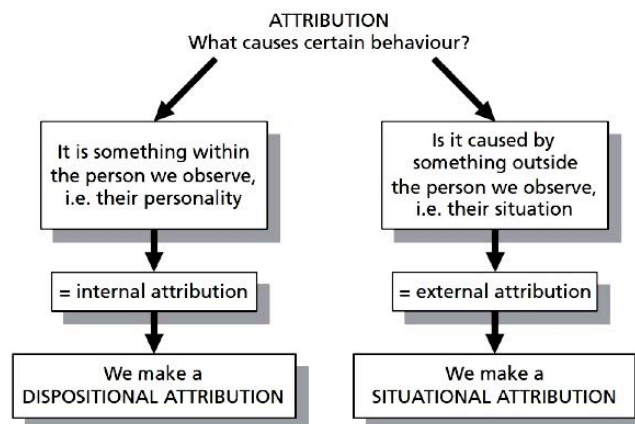

FIGURE 1.Graphical representation of attribution.

Tackling the problem of the emotional effects of the use of Facebook therefore necessarily implies that of tackling other questions connected thereto, such as: what cognitive processes does the use of Facebook environments activate? Which skills does its use require and develop by helping the individual to analytically observe the constitutive elements of the interface? By using Facebook characteristics with awareness, is it possible to think about the emotional impact evoked by virtual interfaces as a meta-emotional learning workshop, in which the individual learns to decipher and recognise their own emotions and those of other people in a controlled protected environment? Can Facebook be considered an articulated environment in which it is possible to implement an emotional education process, moving on from simple forms of interaction to effective and satisfactory interpersonal and group relationships?

2. What implications does this have on education?

These conclusions, although provisional, should lead to a reflection on the importance of boosting research in this sector, by collecting more evidence on what has been stated up to now, both by pushing those who work in education to encourage students to make an appropriate use of Facebook and by putting them in the right conditions to benefit from it, also from a cultural and didactic point of view. Considering that Facebook is increasingly gaining popularity among students, it would be pedagogically interesting to take on the challenge of social networks and imagine the inclusion of such media (perhaps adapting some characteristics) in the educational renewal process. Therefore, the main problem must be to see social networking as a path to be followed for the re-alignment between:
- personal and educational networks;
- learning and teaching methods (think about how teachers are often only "marginal users" of technologies);
- teaching methods and strategies and preferences and learning styles (think about what chatting in real time with a teacher might mean for a pupil);
- the type of commitment to teaching and the type of learning task in order to encourage the achievement of the result (think about what it means for a pupil to commit to intensifying their learning).

In other words, we need to understand whether the use of social networks (particularly Facebook) in an educational context, as well as representing an opportunity for students to personalise their learning approach, can also have an impact on the development of critical thought. This request comes from the statement that, in the last resort, defining and refining one's identity also means being able to control and dominate the use of a series of technological tools rather than being used by them. And, it is worth asking, can this be considered an important transversal objective for achieving strong skills in this sector of the educational context? Literature tends to show how the use of Facebook (Ellison *et al.* 2011) induces people to obtain substantial psycho-social benefits and, in a certain sense, determines better scholastic results (Junco *et al.* 2010), whereas it is more difficult to trace acceptable empirical studies proving the opposite, even if the evidence available for responding correctly and with certainty to these questions is still too scarce, dispersed or insignificant.

For the time being, legitimately and with a certain amount of conviction, we can state that the use of social networks is in line with the development of personal learning objectives mediated by technology and the different commitment rules that occur within specific tasks in which students can interpret and process meanings. Having said that, we must not forget or hide the fact that Facebook is a wonderful tool for collecting information. It therefore follows that there is an opportunity to:

- understand how to use the information critically or analytically;
- become more aware of how to use critical and analytical thought in the selection of information;
- construct an open and independent attitude;
- select and control the technological tools in a formal context.

3. A search in informal context

The quality of teaching has been defined in many ways, among these the interpretation that conceived of as "a type of education" that allows you to learn by ensuring and that is related to several factors, including the renewal of the sources and instruments and the use of appropriate resources to ensure the achievement of the objectives in all students and therefore their educational success (Hanushek, 2011; Nye, Konstantopoulos & Hedges, 2004; Rivkin, Hanushek & Kain, 2005). In this logic, the emotional components are always recalled as connection elements between interpersonal relations and programming as well as what factors able to block or promote the process of acquiring knowledge/skills. But these aspects really have to do with the teaching that makes use of social networking? *And*, more specifically, you can through the social networks promote and support good teaching practices?

Objectives
The research presented here, inserted inside of a wider study on the relationship between social networking and teaching, from such questions, explores some of the variables that are the basis of the use of tools such as Facebook, in an attempt both to increase the understanding of the use of social networking, to clarify both as the latter can make teaching effective. The contribution is therefore the pretext to illustrate the potential and the benefits that could arise from the use of Social Network in education, also considered the great attention that the educational research national and international refers to the social network when asked how these affect perceptions, depictions and cultural profiles of children and young people in a path that goes from the informal to the formal and where the educational

messages meet with those of social communication. In this interpretative key, the central problem for the renewal of teaching strategies puts the focus of a possible integrated use of ICT in teaching-learning process which vital factor for the possible re-structuring of the systems of action learning in formal contexts in reference to the different dimensions of learning (cognitive, affective, socio-affective, and psychomotor) and their implications.

Hypothesis
Hp1.
Verify the existence of a correlation between perception of emotional factors and use of social networking.

Sample
Participants involved in the study were 100, of which 68 women and 32 men. The subjects were aged between 15 and 40 years old, with an average of 24.86 (SD = 7.24), were all Italian and speak Italian as a first language. As regards the school level, most of male participants (41%) attest that have the high school diploma, 37% has the certificate of secondary school, and 22% is graduated. Instead, most women (57%) declare possessing high school diploma, 31% has the certificate of secondary school, 12% is graduated. All participants use at least one social network, and some declare that they use more than one; specifically, the majority of subjects (98%) says to use Facebook, 14% also uses Twitter, 3% also Linkedin and the 2% also uses Badoo.

Procedure
The subjects have participated voluntarily in the research, after having signed an informed consent. Before completing the questionnaires, were given the necessary explanations on execution mode. Researchers asked the participants to answer more honestly as possible, highlighting how, in particular the questionnaire didn't contain right or wrong answers. Researchers have explained to the participants the importance of taking part in research initiatives such as these, where the debate is becoming increasingly more turned on and the social demand increasingly strong. The participants have completed the protocol in about 25 minutes under the supervision of a researcher.

Adopted Tools
Questionnaire socio-demographic
Participants answered to a series of questions on age, gender, nationality. School level, type of Social Network used, the number of friends and time spent on Social Networks.

TEIQue - Emotional Area and of emotional intelligence
To measure the emotional intelligence of stroke has been used the TEIQue v. 1.50 (Petrides, 2009). It's a tool of 153-item that quantifies 15 facets of Emotional Intelligence to stretch, 4 factors of a higher order (Well-being, Self-control, emotionality, and Sociability) and a total score of Emotional Intelligence to stretch, combining all 15 facets. The tool uses a Likert scale 7-points, which varies from "completely agree" to "completely disagree". The internal consistency of the instrument (Cronbach's α) for the four factors and the total score is high in all cases (Well-being α = .82, Self-control α = .81, emotionality α = .83, Sociability α = .80 and Global trait EI α = .89).

Adaptation of the Facebook Attitude scales
Use of Social Networking
An adapted version of the Facebook Attitude Scale (Ellison *et al.*, 2007) was used to measure the involvement in social networks. This instrument consists of six item designed to measure the degree to which the respondents feel connected and the degree to which social networks are integrated in their daily tasks. Through a Likert scale with 5 points, participants indicated their degree of agreement or disagreement to the allegations. In this study the coefficient alpha was 77.

Analysis of Data
Statistical Software for the Social Sciences (SPSS) was used for the statistical treatment in order to calculate the bivariate correlations and check the relationship between emotional dimension and use of social network.

4. Results

Descriptive Statistics
In Table 1 are summarized descriptive statistics of the scores of emotional dimensions and the use of Social Network. The preliminary studies have highlighted acceptable levels of symmetry ($<.9$) and kurtosis (<1.1).
The participants had an average of 392.84 (SD = 322.28) friends on a social network. Specifically, 32% had less than 200 friends on Social Networks, 30% had a number of friends of between 200 and 400, finally 38% more than 400 friends (Figure 2). In addition, 13% passes less than 10 minutes on a social network, the 22% a time between 11 minutes and 30 minutes, 25% between 30 minutes and 1 hour, 22% a time between 1 hour and 2 hours, while 18% passes more than 2 hours (Figure 3).
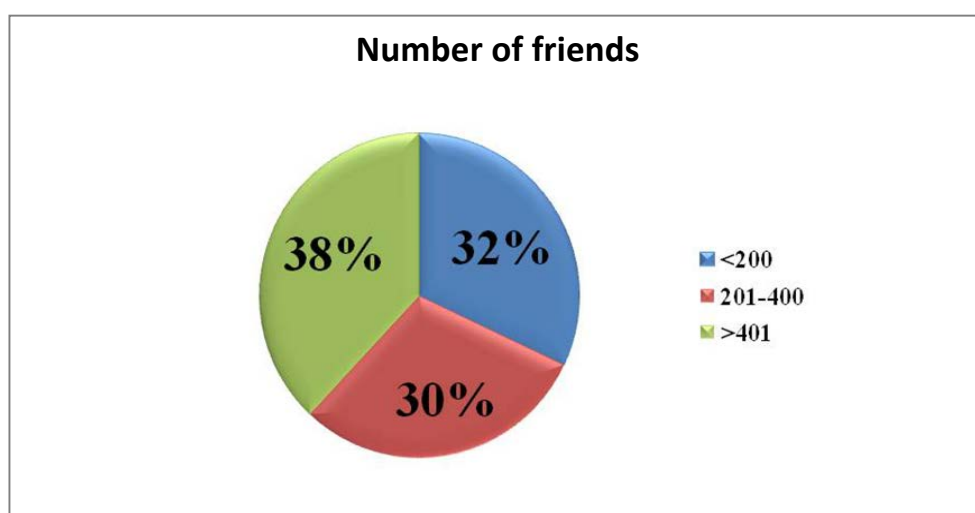
FIGURE 2.Graphical representation of the number of friends.
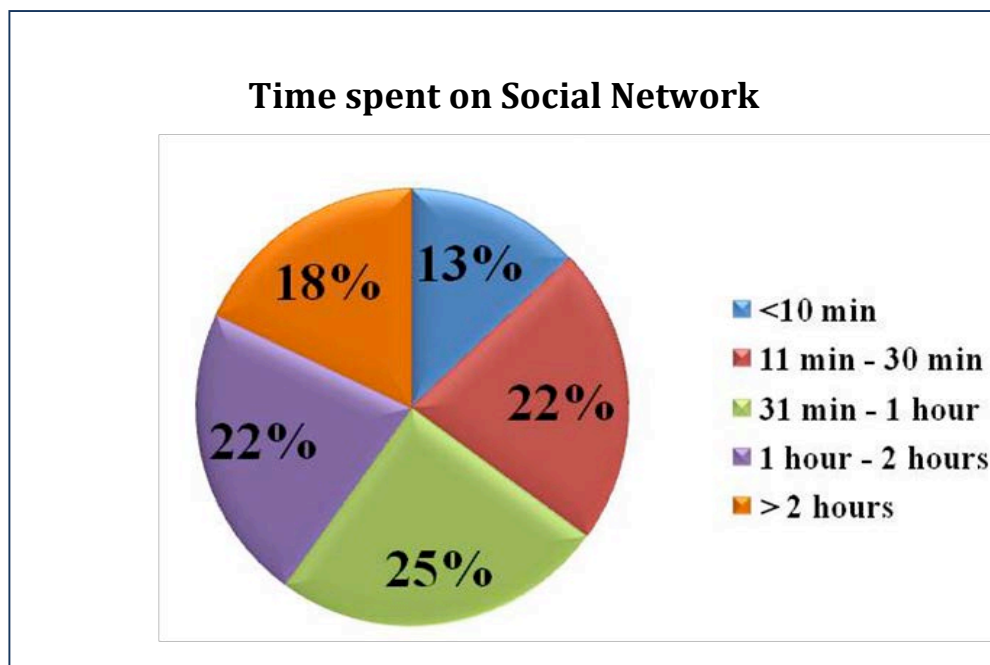
FIGURE 3.Graphical representation of the time spent on Social Network.

Correlation analysis

The correlation analysis (Pearson's r) showed the presence of positive correlation between emotional factors and use of Social Networking. Specifically, the Welfare correlates positively with the self-control ($r = .363$, $p < .001$), the sociality ($r = .202$, $p < .05$) and the total score of EI ($r = .639$, $p < .01$). There is a positive correlation between the number of friends and time spent on Social Networks ($r = 208$, $p = .038$) and use of Social Networks ($r = .244$, $p = 014$). Finally, the time spent on Social Networks, correlates positively with the use of Social Networks ($r = .524$, $p < 001$).

Characteristics	M	SD
Energy/Extroversion	78.54	10.39
Agreeableness/Friendliness	75.14	9.32
Conscientiousness	84.35	10.31
Emotional stability	66.24	14.73
Openness	78.83	10.77
Wellness	5.35	1,01
Self-control	4.05	.84
Emotionality	5.35	.98
Sociability	4.45	.91
Total EI	4.80	.58
Use of Social Network	2.59	.89

TABLE 1. Descriptive analysis.

Discussion of results

In the choice of size to analyze, it was made reference to the components listed below.

-   EMOTIONALISM

Individuals with high scores in this factor are in contact with their own feelings and those of others. They can perceive and express their emotions to develop and sustain close relation-

ships with others. Individuals with low scores in this factor have difficulty recognizing their own emotional states internal and express their own feelings to others (which may lead to personal relations less rewarding). Those who show high markers have a healthy degree of control over their own instincts and desires, as well as a major domain of their impulsiveness and succeed more to adjust the external pressures and stress. They are neither suppressed nor excessively expressive. On the contrary, anyone who exhibits low markers in this sense is prone to impulsive behavior and may have difficulty managing stress.

-   SOCIAL RELATION

This factor is different from the one concerning the emotion indicated above, in that it emphasizes social relationships and the social influence. Attention is given to the individual as an agent operating in social contexts, rather than on personal relationships with family and friends more intimate. Individuals who have high scores in the factor "sociability" are those that succeed to have positive social interactions. They are good listeners and able to communicate clearly and with confidence with people from different social backgrounds and with different background. Those with low scores believe that it will not be able to influence the emotions of others and are less likely to be good negotiators and networkers. They aren't sure what to do or say in social situations and, consequently, are often shy and reserved.

-   WELLNESS

High Scores in this factor reflect a general sense of wellbeing, which extends from past successes to future expectations. Overall, individuals with high scores you feel generally positive, happy and satisfied. On the contrary, individuals with low scores tend to have a low self-esteem and be disappointed for the kind of life she led. As said above puts light on how Facebook is being used in a proactive manner by the subject of different age and how it is therefore possible to think of its use for specific tasks in order to allow students in school to win spaces of learning which contribute to increase their confidence in the decision-making processes and enable teachers to effectively manage the educational processes by leveraging tools like Facebook which "connectors" to "social networks" by integrating Facebook that anyhow also forms of reading and writing Web. The emotional involvement of the student in the use of Facebook would help reduce the "fracture between reason and emotion" (Jonassen, 1994), providing in who learns the "possibilities and means" to apply the knowledge to complex problems, to consider his actions as re-usable, to check their own learning, to learn from others, to develop cognitive capabilities mode and therefore to reflect on their actions. Should push toward a use metacognitive of Facebook that can develop at different levels (of the representations, of knowledge cognitive capabilities, the aspects of control, awareness, the monitoring of the revision and generalization of operations)? (Antonietti & Cantoia, 2001; Cantoia, 2002). If the answer was yes, probably, the social network would become powerful resources to facilitate and enhance the quality of the teaching-learning process. On this side the research, focusing on the use of Facebook by individuals of different ages, informal context for understanding the role of the relationship between emotional components and uses of Social Network, also highlights as well as many of our measures of interest are not distinguishable from behavioral data and relate mainly to the four dimensions (welfare, self-control, emotion and sociality), but can't say always have significant differences with respect to many characteristics of the subjects considered. For this reason need to proceed with further insights and clustering.

Key factors:

-   *Emotional Dimension*: if it's true that the strength of the emotional dimension explains how Social Networks are mainly related to a use related to the personal sphere and the

sentiments toward the other, the mode of emotions perceive and express, how can be used within the educational context to help recognize and control their emotions and to express our feelings toward others, in order to establish rewarding personal relationships in the classroom?

- *Self-control dimension*: if it's true that Facebook generates interactions that can be considered as useful indicators of the degree of control the impulses, desires, of external pressures and stress, can it use to explain the impulsive behavior and the difficulties in managing stress in the classroom, the sources of discomfort, and in particular the performance evaluation?
- *Social dimension*: if it's true that this factor, in terms of social relations and social influence, shows how the individual acts as agent within the social context in a position to influence the emotions of others, such as the use of Social Network to allow students to become good negotiators and networkers, especially in those learning situations in which they feel poorly sure on what to do in social situations, timid or discrete?
- *Wellness dimension*: if it's true that a better harmonization between formal learning and informal reflects a generalized feeling of well-being, allowing you to wander from past successes to future expectations, such as the use of Social Network could actually help students to achieve a better grade of harmonization between acquisition of a different kind, in order to support and meet the needs of female apprentices who tend to have a lower self-esteem and more learning difficulties? The research questions have implicated several fronts of work and require certainly the collection of additional data to support what described here. The results should not be interpreted in this work as causal, but susceptible to further insights even if it is believed important to follow the best practices of scientific research considering the partiality of the given in the light of these limitations.

5. Prospects for future research

In exploratory research here descriptive and clear that there is no pretense to answer all the questions above, but just an attempt to reflect on the idea that the students can improve the learning outcomes using a technology in the classroom already known which has proved effective for communication and collaboration. The research is inserted inside a theoretical picture that he/she takes the movements from the use of Facebook in the contexts of informal learning to try to understand as such tool can be used for determining and to increase the learning and to develop an effective collaboration and communication in formal contexts. The authors of the contribution employ these preliminary results of the research to illustrate the potential and the potential benefits that could result from use of Social Networking in education (Rivoltella, 2012). Today the problem of the educational reform is at the heart of the debate on a built-in use of ICT in teaching/learning processes that allow a re-structuring of the systems of action in formal learning environments for the character of multimodal communication and character "plurisegnico" of the messages based on the joint use of systems of signification different and for the components involved in terms of cognitive variables, emotional, relational, social, and psycho-abilities that are at stake. In the future, in studies that are more coming, the aim will be to deal with as we learn how to learn independently and in a proactive manner, using the new technologies; as we learn to learn with the technologies through forms of exploration of learning and exploiting the potential of social media to create a community

where students are able to collaborate and learn from each other in the context of education. Social networking can be considered a real "social tools" that can allow teachers to enter the use of ICT in a teaching context broader adapted to create environments for teaching-learning in which they are able to design, explore and pursue through technologies tracks innovative teaching and use social media to work together and reflect on how more and more appropriate to build the curricula that could potentially lead to a professional practice capable to innovate and to pursue new educational models. Reflect on how they could renew their systems of action and the way it is the shapes of the teaching through the use of technologies could certainly lead to forms of original teaching and will be most effective. This is to open the way to integrate the Social Networks and new technologies in education so that it will benefit students, teachers and the entire community that operates within the education system (Galliani, 2003; Calvani, 2005).

References

Abramson, L. (February 09, 2011). *Can Social Networking keep students in school?*. NPR: Morning Edition. In http://www.npr.org/2011/02/09/133598049/can-social-networking-keep-students-in-school

Anolli, L. (Ed.). (2002). *Psicologia della comunicazione*. Bologna: Il Mulino.

Antonietti, A., & Cantoia, M. (Eds.) (2001), *Imparare con il computer*. Trento: Erickson.

Barnes, J. A. (1954). Class and commitees in Norvegian island parish. *Human Relations*, *7*(1), 39-58.

Barnes, J. A., & Harary, F. (1983). Graph theory in network analysis. *Social Network*, *5*(2), 235-244.

Calvani, A. (Ed.) (2005). *Rete, comunità e conoscenza*. Trento: Erikson.

Calvani, A., & Rotta, M. (Eds.) (1999). *Comunicazione e apprendimento in Internet*. Trento: Erickson.

Calvani, A., & Rotta, M. (Eds.) (2000). *Fare formazione in Internet*. Trento: Erickson.

Cantoia, E. (2002). Tecnologie didattiche e meta cognizione. In T. Lodrini (Ed.), *Didattica costruttivista e ipermedia* (pp. 143-172). Milano: Franco Angeli.

Cotten, S.R. (2008). Students' technology use and the impacts on well-being. In R. Junco, &. D. M. Timm (Eds.), *Using emerging technologies to enhance student engagement*. *New Directions for Student Services. Issue 124* (pp. 55-70). San Francisco: Jossey-Bass.

Ellison, N.B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "Friends": social capital and college students' use of online Social Network sites. *Journal of Computer Mediated Communication*, *12*(4), 1143-1168.

Ellison, N.B., Steinfield, C., & Lampe, C. (2011). Connection strategies: social capital implications of Facebook-enabled communication practices. *New Media & Society*, *13*(6), 873-892.

Ellison, N., Vitak, J., Lampe, C., Gray, R., & Brooks, B. (2011). *Cultivating social resources: The relationship between bridging social capital and Facebook use among adults*. A Decade in Internet Time: Symposium on the Dynamics of the Internet and Society. Oxford Internet Institute.

Galliani, L. (2004). *La scuola in rete*. Bari: Laterza.

Galliani, L. (2006). Metodologie integrate (in aula, in rete, sul campo) per la formazione continua degli insegnanti. *Generazioni*, *3*(5), 245-268.

Galliani, L. (2009). Formazione degli insegnanti e competenze nelle tecnologie della comunicazione educativa. *Giornale Italiano* della *Ricerca Educativa*, *1*(2-3), 93-103.

Gordon, C.F., Juang, L.P., & Syed, M. (2007). Internet use and well-being among college students: beyond frequency of use. *Journal of College Student Development, 48*(6), 674-688.

Hall, R. (2009). Towards a Fusion of Formal and Informal Learning Environments: the Impact of the Read/Write Web. *Electronic Journal of e-Learning*, *7*(1), 29-40. In www.ejel.org.

Hanushek, E.A. (2011). The economic value of higher teacher quality. *Economics of Education Review, 30*(3), 466-479.

Harris, A., & Rea, A. (2009). Web 2.0 and virtual world technologies: a growing impact on is educa-

tion. *Journal of Information Systems Education, 20*(2), 137-144.

Heider, F. (Ed.) (1958). *The psychology of interpersonal relations*. New York: Wiley.

Jonassen, D.H. (1994). Thinking technology*: toward a constructivist design model. *Educational Technology*, *34*(4), 34-37.

Jones, S., & Fox, S. (2009). *Generations online in 2009*. Data memo. Washington, DC: Pew Internet and American Life Project. In http://www.pewinternet.org/w/media//Files/Reports/2009/PIP_Generations_2009.pdf.

Junco, R. (2012). In-classmultitasking and academic performance. *Computers in Human Behavior*, *28*(6), 2236-2243.

Junco, R. (2012a). Too much face and not enough books: the relationship between multiple indices of Facebook use and academic performance. *Computers in Human Behavior, 28*(1), 187-198.

Junco, R. (2012b). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers & Education*, *58*(1)*, 162-171.

Junco, R., Heiberger, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. *Journal of Computer Assisted Learning, 27*(2), 119-132.

Kamenetz, A. (2011). *Gates Foundation bets on Facebook app to help kids graduate*. Fast Company. In http://www.fastcompany.com/1725665/gates-foundation-bets-on-Facebook-app-to-help-kids-graduate

Kirschner, P.A., & Karpinski, A.C. (2010). Facebook and academic performance. *Computers in Human Behavior, 26*(6), 1237-1245.

Koehler, M. J., & Mishra, P. (2005). What happens when teachers design educational technology? The development of technological pedagogical content knowledge. *Journal of Educational Computing Research*, *32*(2)*, 131-152.

Kuh, G.D. (2009). What student affairs professionals need to know about student engagement. *Journal of College Student Development, 50*(6), 683-706.

Lenhart, A., & Madden, M. (2007). Teens, privacy, & online Social Networks. *Pew Internet and American Life Project Report*. In http://www.pewinternet. org/pdfs/PIP_Teens_Privacy_SNS_Report_Final.pdf

Lucangeli, D., & Fabris, M. (Eds.) (2001). *Processi emotivo-motivazionali coinvolti nell'apprendimento della matematica*. Trento: Erickson.

Mazer, J.P., Murphy, R.E., & Simonds, C.J. (2007). I'll see you on "Facebook". The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education, 56*(1)*, 1-17.

Matney, M., & Borland, K. (2009). *Facebook, blogs, tweets: How staff and units can use Social Networking to enhance student learning*. Presentation at the annual meeting of the National Association for Student Personnel Administrators, Seattle, WA.

Mishra, P., Koehler, M.J., & Henriksen, D. (2011). The seven trans-disciplinary habits of mind: extending the TPACK framework towards 21st Century learning. *Educational Technology, 11*(2), 22-28.

Moran, M., Seaman, J., & Tinti-Kane, H. (2011). *Teaching, learning, and sharing. How today Higher Education faculty use social media*. Pearson Learning Solutions. In http://www.pearsonlearningsolutions.com/blog/2011/05/09/ teaching-learning-and-sharing-how-todays-higher-education-facutly-use-social-media/

Morgan, C., & Cotten, S. R. (2003). The relationship between Internet activities and depressive symptoms in a sample of college freshmen. *Cyberpsychology and Behavior*, *6*(2), 133-142.

Nye, B., Konstantopoulos, S., &Hedges, L. V. (2004)*. How large are teacher effects?. *Educational Evaluation and Policy Analysis, 26*(3), 237-257.

Pascarella, E. T., & Terenzini, P.T. (Eds.) (2005). *How college affects students. A third decade of research*. San Francisco: Jossey-Bass.

Pempek, T., Yermolayeva, Y., & Calvert, S. (2009). College students' Social Networking experiences on Facebook. *Journal of Applied Developmental Psychology, 30*(3), 227-238.

Petrides, K.V. (Ed.) (2009). *Technical manual for the Trait Emotional Intelligence Questionnaires* (TEIQue). London: London Psychometric Laboratory.

Rivkin, S.G., Hanushek, E.A., & Kain, J.F. (2005). Teachers, schools, and academic achievement. *Econometrica, 73*(2)*,* 417-458.

Rivoltella, P.C. (2012).Beyond digital natives: European research on media education; challenges of technology and pedagogical issues. *Educational Technology,52*(2)*,* 25-29.

Roberts, D.F., Foehr, U.G., & Rideout, V.J. (Eds.) (2005). *Generation M: Media in the Lives of 8-18 year-olds*. Menlo Park: Kaiser Family Foundation.

Roblyer, M.D., McDaniel, M., Webb, M., Herman, J., & Witty, J.V. (2010). Findings of Facebook in higher education. A comparison of college faculty and student uses and perceptions of Social Networking sites. *The Internet and Higher Education, 13*(3), 134-140.

Smith, S.D., & Caruso, J.B. (2010). *Research study. ECAR study of undergraduate students and information technology.* Vol. 6., Boulder: EDUCAUSE Center for Applied Research. In http://www.educause.edu/ Resources/ ECARStudyofUndergra duateStuden/217333

Stern, S.R. (2004). Expressions of identity online: prominent features and gender differences in adolescents' World Wide Web home pages. *Journal of Broadcasting & Electronic Media*, *48*(2), 218-243.

Trombini, E., & Mancini, G. (Eds.) (2011). *Dalle emozioni all'intelligenza emotiva. Comprendere per educare.* Milano: Express.

Valkenburg, P.M., Schouten, A.P., & Peter, J. (2005). Adolescents' identity experiments on the Internet. *New Media & Society, 7*(3), 383-402.

Vertecchi, B. (November 11, 2012). *Tecnicamente la scuola fallisce* [Interview]. Il Manifesto.

Yu, A.Y., Tian, S.W., Vogel, D., & Chi-Wai Kwok, R. (2010). Can learning be virtually boosted? An investigation of online Social Networking impacts. *Computers & Education*, *55*(4), 1494-1503.

Weiner, B. (Ed.) (1974). *Achievement motivation and attribution theory.* Morristown: General Learning Press.

Weiner, B. (Ed.) (1980). *Human Motivation*. Holt: Rinehart & Winston.

Weiner, B. (Ed.) (1986). *An attributional theory of motivation and emotion*. New York: Springer-Verlag.

Weiner, B., Frieze, I., Kulka, A., Reed, L., Rest, S., & Rosenbaum, R.M. (1971). Perceiving the causes of success and failure. In E.E. Jones, D.E. Kanouse, H.H. Kelley, R.E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: perceiving the causes of behaviour* (pp. 95-120). Morristown: General Learning Press.

Wiley, C., & Sisson, M. (2006). *Ethics, accuracy and assumption: the use of Facebook by students and employers.* Paper presented at the Southwestern Ohio Council for Higher Education Special Topics Forum, Dayton.

Documenting at school:
the research training "Scritture Bambine"
between transmedia storytelling and mapping[1]

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Abstract
The project, in cooperation between the Faculty of Educational Sciences, Psychology & Communication, University of Bari and *Ufficio Scolastico Regionale della Puglia* (USR, Regional School Office), involved seven Primary and Secondary schools located in Bari and its district as well as Institute Karibu, Panzi (Congo) in a collaborative research&training project aiming at experimenting autobiographical activities for intercultural training practices in primary and secondary school. Starting from an analysis of the different stages that made up the final project, this paper is meant to offer some considerations on the relations between narrative processes and transmedia education documentation. In particular, the core focus is on the driving role played by the development of technologies in fostering new narrative media, with particular emphasis on storytelling activities. At the end of this article a series of devices used to "provide documentary evidence of laboratory activities" carried out by the research project DidaSco within the research itinerary adopted by schools which have joined the project will be showed. These new devices combine writing skills (words, images) with the potential offered by transmedia. Each medium has its own potential and peculiarities which may be used in educational settings appropriately. Nowadays, a new "universe" of writing can be created; the common thread can be developed in different - though coherent - ways on different media, thus creating a new "archetype for communication".

Keywords
Interculturality, Storytelling, Educational Documentation, Transmedia

1. Introduction

The project is in cooperation between the Faculty of Educational Sciences, Psychology & Communication[2], University of Bari and *Ufficio Scolastico Regionale della Puglia* (USR, Regional School Office) and involved seven Primary and Secondary schools located in Bari and its district as well as Institute Karibu, Panzi (Congo) in a collaborative research&training

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[1] This article has been developed jointly by the three authors. **Loredana Perla** wrote paragraphs 1 and 2; **Nunzia Schiavone** wrote paraghraphs 3 and 4.

[2] In particular, the research group is called *DidaSco - Didattiche Scolastiche,* headed by Professor Loredana Perla.

project (Perla, 2010; 2011; 2012) aiming at experimenting autobiographical activities (Demetrio, 1996, 1998, 2003, 2012; Cambi, 2002; Formenti, 1998, 2009; Castiglioni, 2008, 2013; Biffi, 2010, 2012) for intercultural training practices (Demetrio, 1997, 2000, 2002, 2003; Demetrio & Favaro, 1997, 2004; Farello & Bianchi, 2001; Giusti, 1998; Portis, 2009).

The main aim of the project is to transform autobiographical narrative techniques in a communication gathering in order to build something *about* the Other and *for* the Other based on cooperation and solidarity (Pinto Minerva, 1996, 2007; Cambi, 2012, 2001; Bertolini, 1993; Levinas, 2002). Therefore, autobiographical narrative is fostered in the light of an intercultural education in order to stimulate children involved in the project to "unveil" their memory by writing and learning stories and memories of others. The project also aimed at creating adequate conditions to understand the relationship between *periphery-centre* by gathering different cultures, as experiential knowledge narrated by children (and teachers) of two different environments (Bari, Italy and Congo, Africa) met together.

The following are the research-related questions.

Question 1: How is it possible to share a school-life experience of a totally different environment – a mission in Congo – with Western school class and vice versa?

Question 2: These two different environments share the same "existential malaise" being both peripherals realities even though they are at different latitudes and conditions. How is it possible to develop adequate conditions so that they may gather, thus sharing values such as solidarity and brotherhood?

Question 3: What are the educational tools which can be used in order to favour the gathering of different cultures and to *leave a tangible mark* of the resulting narrations? In other words, how to avoid the oblivion which is typical of any educational experience?

Question 4: Is there a specific "child memory" that can be unveiled by means of narrations? How to grow it through narrative activities, the latter being the device used to carry out this research?

To answer these questions, the research-training group tried to test an innovative project aimed at reworking the relationship childhood-secondary school (*scuola secondaria di primo grado*)[3], but it also aimed at favouring a renewal of teachers' documentation practices (Perla, 2012; Schiavone, 2011) by means of the new digital and online tools which can develop new modalities (transmedia) of experiential narration.

2. Research protocol

The research-training project was developed on a two-year basis. In the first year (2012-2013) the main aims were:
- stimulating teachers towards autobiographical techniques meant as valuable tools to renovate ordinary language educational practices, specifically those concerning intercultural education;
- favouring a *narrative attitude* (Bruner, 2001, 2003, 2006; Smorti, 1994) in children so that everyone may discover their recollections, feeling and practices again, as they form the core of one's everyday life and identity;
- providing documentary evidence of the whole research-training project by means of several devices (audio, video, pictures, writing).

The methodology used has been split into three stages.

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[3] This name is consistent with the official text of the "Indicazioni nazionali per il curricolo della scuola dell'infanzia e del primo ciclo d'istruzione", Legislative decree no. 254, November 16, 2012.

1.   In the first stage, a training session addressed to Italian and Congolese teachers on autobiographical methods has been set up. The session was made up of three modules. The first two modules aimed at introducing the theoretical framework of autobiographical methods in school training environments. Then, teachers have attended some narrative-based workshops in order to be acquainted with this "new" approach. In the final stage teachers have co-created ten subject matters to be developed with their classes and using the autobiographical approach. The training session was developed in eight sub-sessions on a weekly basis and dealt with the following subject matters: introducing narrative-autobiographical training: a theoretical framework; creating a workshop of autobiographical writing: a methodology; autobiographical writing at school: the project "*Scritture Bambine. Laboratori di narrazione interculturale*".

2.   In the second stage of the project, the classes involved in the project attended workshops on autobiographical techniques. This session allowed children to analyse some subject matters which could favour a "culture for writing" from an intercultural perspective. Workshops were organised in three macro-units: *Personal identity; Cultural identity; Interculture.* By means of these units, children could discover identities that now need to be recognised and favoured in communication more than ever. Each module was developed simultaneously both in the Italian and Congolese classes and allowed the identification of particular moments of children's life. These events were included in the autobiographical memory thus enriching the narrative framework[4]. In particular, the subject matters developed were: *Mandala* (who am I?); *The origin* (family); *Places* (home); *Traditions* (celebrations); *Flavours* (food); *Multiple belonging; Pen pals*[5].

Each workshop session had five sub-stages:

a. *starting ritual:* it includes recreational activities meant to favour the acquaintance of participants and to start working sessions;
b. *introduction:* a reading session or a relevant picture is meant to stimulate reflection and to discuss the subject matter;
c. *writing:* children recollect relevant, personal autobiographical moments on a space-time axis;
d. *return:* after the writing session, texts are returned in order to look for recurrent, unusual, missing, similar elements and further discussion. This stage is fundamental as children find both common and distinctive elements in comparing their experiences.
e. *conclusion:* a final reading ends the return session.

3.   During stage three, the documentation of the research-training project has been created. Teachers were requested to create and validate ongoing and ex-post documentation models with the DidaSco research group. From an operational point of view, we had to distinguish some documentation formats to be used for monitoring different processes and those used to narrate and mapping stories and experiences. Three methods have been tested.

a) Professional writing. Writing has a great clarifying and organisational value: it lays out one's practical activities (Perla, 2012) and it represents an important element to characterise information. This is the channel through which processes, actions, choices are made explicit, as well as it represents a point of view (De Rossi & Restiglian, 2013b).

The practical devices used to provide written documentary evidence are:

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[4] Though preserving the same scheme, workshops for Congolese classes were redesigned in order to adapt contents for that specific cultural and educational context.

[5] The workshop session ended with an epistolary exchange between children from Bari and those from Congo in order to favour an exchange of childhood stories from different environments, as well as to favour writing as an enjoyable activities which could also allow children to re-discover themselves and others.

- an *examination sheet* of workshop sessions, that is a documentation format for ongoing activities. This sheet, which was filled in each workshop session, aimed at supporting teachers in the description of the activities he/she carried out in order to analyse the educational progress, to retrace actions, problems or difficulties they had during the creation of modules, as well as strong and critical points and opinions on materials and activities being carried out during the different workshop sessions. In detail, the aim was to analyse relations and interconnections between the autobiographical approach as an innovative educational methodology and inclusive approaches in class activities. The entries in the examination sheet were:
  - Development of individual differences among pupils (daily life stories, competence, needs, resources etc.);
  - Creation of an environment in which pupils and teachers could share and listen to experiences;
  - Strengthening of relationships among pupils;
  - Fostering cooperation activities in contexts with diversity;
  - Reduction of discrimination episodes.
- *a professional daily record.* This is an educational, ex-post documentation tool completed by teachers who attended all workshop sessions. A daily record allows a deferred recollection of experience; it also allows the analysis of the relationship between "declared" contents and "experienced" information from educational, relational and organisational perspectives;
- *pictures*. Using pictures is part of visual-narrative documentation used to value the communicative power of visual rather than written contents. We provided teachers with a guide that explained how and when to use picture-based documentation throughout workshop sessions. All digital pictures taken by teachers during workshop sessions were included in PowerPoint slideshows, thus combining visual and written contents efficaciously;
- *audio-visual contents.* The spread of new digital audio-visual technologies allowed easier educational documentation experiences, in which the "making of" of the whole process has the same importance of the final product[6]. Nevertheless, the creation of digital audio-visual contents involved the designing and the realisation of specific operational procedures that could not be used systematically. In detail, video footage included the beginning of workshop sessions (recreational activities and sharing of the "autobiographical agreement"), writing sessions (pupils are stimulated to recollect relevant autobiographical events), reading sessions (pupils read and shared their texts with the class), return sessions (analysis of written texts carried out by teachers) and the final session (end of workshop activities).

The resulting documentation process allowed the creation of a product in which different communication codes are included: voice blends in words, pictures are both steady and dynamic. The explicit aim used was to create a *collage* of "perceptive situations" (Anichini, 2007). On the contrary, the underlying aim was the so called "convergent culture" (Jenkins, 2014): storytelling by different, decentralised authors sharing the same subject matter, using different devices and platforms. In the light of the new opportunities provided by the digital world, narration possibilities are enhanced thus overcoming the traditional, "linear" pattern of narration made up of an introduction, a core part and an end. The main concern, in this new

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[6] Video contents may be also used to analyse and meditate on some specific contexts: video footage, if analysed together with researchers may represent a valuable starting point to favour both explicit and auto-assessment processes. In this sense, see Tochon (2009) and Perla and Schiavone (2013).

sense, is to understand how the same subject matter may be read and analysed by means of several codes and devices & tools. The final aim is to involve children in this experience but also to confirm this involvement; this also strengthens the individual involvement within a group and in comparison with cultural differences. In this way, children learn that technological transmedia can be useful to assimilate information only if they are associated with values such as brotherhood and cooperation.

3. Collaborative timeline

We also found a device which can be used to share all shared and created contents: the so called *collaborative timeline*[7]. This tool guarantees a chronological organisation of all documents created during a series of workshops or activities in order to retrace all activities: what is more, hyperlinks may be generated and Web resources may be integrated. In detail, this timeline is an immediate and effective view mode of events arranged in chronological order: for this reason, it may be functional for providing documentary evidence of educational experiences[8]. Irrespective of the modalities of a timeline creation − automatically, by linking a feed resource or by inserting single events manually − one may edit contents by adding pictures, Youtube videos, text comments. Once a timeline is posted, all digital sharing features can be accessed: comments may be posted in the timeline's main page or in a single event, or the timeline may be shared in different social networks (Facebook, Twitter etc.) or embedded in a website, blog, forum in different view modes. In other words, the "communicative potential" of a timeline may be an effective tool that allows a twofold intervention. First of all, by means of a timeline one may be aware of all activities he/she carried out and a personal reorganisation may be done. This favours a sort of remodulation by means of a multi-item itinerary which can be edited and used several times. Secondly, it allows teachers to choose and gather various contents (writings, video contents, pictures), thus creating new digital contents. The final stage of the methodology was the collection/sharing of the letters written by Italian and Congolese pupils. We received almost 60 letters from Congo; these letters were translated by people within the school community or by students themselves. These letters (five for each class) were shared in the different classes and each pupil has in turn written a letter to a Congolese pupil, as provided for in the last module called "Pen Pals". At the end of all activities, pupils have filled in a sheet of workshop sessions[9] (a further documentation device).
At the end of the module, teachers and pupils stressed they have experienced the potential offered by writing as it gave them the possibility to *voice* their own stories as well as they could experience and listen to other stories, with particular emphasis on stories of foreign people who are experiencing the same growth. All letters written by Italian students were translated and sent to Congo. We collected all kinds of documentation:
-   written texts created by the pupils (arranged in different modules);
-   ongoing and ex-post documentation by teachers;

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[7] For a detailed review of the tools used to share multimedia contents, see Perlmuter (2012).

[8] More generally, a timeline is used to view events over a time span; nevertheless, it may be used to provide documentary evidence of ongoing educational contents, that is by updating content on a daily basis, like a daily record.

[9] Children have developed an ex-post documentation format, the "final experience sheet". This sheet has been used to recall meta-reflective information about the whole experience. Each format was filled in by all teachers and Congolese pupils involved in this research project.

- final experience sheet filled in by pupils;
- audio/video content (uploaded to DidaSco platform[10]).

Paper documentation (children's writings, teachers' writings) was qualitatively analysed following the procedure indicated in the Grounded Theory (Strass & Corbin, 1990; Cipriani, 2008; Tarozzi, 2008); audio/video contents were video-analysed (Tochon, 1999, 2001; Goldman, 2007; Thochon & Hanson, 2003; Altet & Vinatier 2008; Altet, 1999, 2002, 2006, 2008; Altet, Bru & Laville**,** 2012). After the analysis stage, all contents were returned. Nevertheless, further activities have been designed such as the creation of a research group called "Scritture Bambine" made up of representative teachers of each school, school heads and the DidaSco group.

4. Final considerations, further perspective

This intense research-training project allowed us to draw some interesting observations developed during the research stages.

Providing educational documentary evidence has always been a need, but it has rarely been performed. In this sense, the words used by Elio Damiano are predictive. He states that teachers lack a "documentary culture" (Damiano, 2007). Nevertheless, there is a distinction between *product-related* and *process-related* documentation (Schiavone, 2012; Frisch, 2010), as the former has always been more widespread than the latter. Many teachers involved in innovative projects have published or posted their successful experiences both on traditional and digital channels; by the way, the resulting documentation is connected with the explanation of "their" products rather than the process that led to their fulfilment (De Rossi & Restiglian, 2013a). Documenting processes means leaving an accurate mark of the whole operation: this implies that all methodological choices and the adopted educational solutions are made explicit, with reference to all cultural, pedagogical and educational requirements as well as the educational needs of a specific environment. In this sense, documentation processes have a mere diagnostic value; it is used as a way to explain educational tasks and most of all as a planning device, as it defines and supports the whole project.

Starting from this framework, how can documentation practices contribute to stimulate processes of an educational project? Here, a thorough and complete question cannot be answered. Nevertheless, some hints can be provided.

Narrative genres and types have been evolving into several forms of communicative mediation. Visual and audio/video media, as well as digital and IT codes provide a huge potential to narration techniques; therefore, together with verbal communication, can be properly considered adequate channels used to develop mindsets (Lévy, 1999).

Throughout the years, the evolution of Web technologies have shaped the modalities through which documentation contents provided by teachers are shared, discussed and stored. This approach should not be seen as a centralised approach but a personal, well-distributed contribution (De Rossi & Restiglian, 2013). Starting from these "contaminations", a new form of documentation comes out. Here, different narrative modalities converge: written texts are enriched with several devices, thus increasing and strengthening their communicative potential; this documentation is no longer static, made up of paper or digitised documents in a repository, but it is an interactive device. Perceiving the potential in developing a

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[10] DidaSco platform is available online at (registered members only): http://didasco.nbit.it/phpbb_didasco

documentation process is undoubtedly the best feedback teachers may have to inspire their job.

Undoubtedly, the evolution of communication and information technologies is causing important effects on documentation processes. In particular, Web 2.0 tools and social software are more and more used to interact with communities, to create products to be shared online and to cooperate for the creation of common projects (Petrucco, 2010; De Rossi & Restiglian, 2013). New technologies increase communication potentialities and written communication as well, the latter showing unprecedented forms in the light of digital and Web environments.

In this sense, though narrative texts still remain a valuable documentation medium, there are some other documentation forms able to merge with traditional narration forms of educational contents (Perla, 2011, 2012; Schiavone, 2012) thanks to the new potential offered by transmedia processes (Petrucco & De Rossi, 2009, 2013). In other contexts narrative genre and types (Bruner, 1992) are included in multiple communicative forms; *narration for documenting* has nowadays different sides with different communication and development modalities as well as new devices.

What is more, the use of new technologies led to a gradual redefinition of educational documentation modalities, allowing sharing and knowledge building processes to be enabled (Ardizzone & Rivoltella 2008; Rivoltella, 2003). The most interesting feature to underline is the fact that these processes unveiled new perspectives for the documentation of educational innovations: any experience in school environment may be narrated, presented, commented and discussed while in the making, therefore they may also be built, developed, edited and reformulated according to any possible interaction, in different digital environments and among different participants. Transmedia techniques are therefore validated[11], and a new paradigm in documentation practices may be defined.

According to Jenkins (2007), *transmedia communication* is a form of narration that makes use of different devices and formats in order to offer a pervasive experience as well as different *doorways* in a story. This definition may be completed by stating that in transmedia narrations all the different devices and channels do not tell the *same* story, but they rather describe different points of view or different moments in time of the story itself. In this sense, transmedia or cross-media narrative documentation[12], as defined by de Maurissens (2013) can be meant in different ways, such as visual documentations, or visual recollection of the same field, or teachers or pupils; they can also represent the global memory of a whole school community involved in a common project. Transmedia activities entail different perspectives. For this reason, there are different points of view and not only a single voice: here, an environment in which imagination can be stimulated and in which narration is built according to one's interests can be created (Jenkins, 2007). Due to its innate potential, transmedia may become an effective communication form to foster intercultural education and innovative forms of representation, sharing and spreading of educational experiences meant to promote a *culture of participation and sharing* (Jenkins, 2010; Ford, Green & Jenkins, 2013) of best practices.

We still need to understand whether this approach needs further inducement in educational research environments. In this sense, ongoing research projects are being developed.

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[11] For a definition of *transmedia* see Giovagnoli (2013). For the relation between transmedia and educational practices see Limone (2012).

[12] Further reading on cross-media: Giovagnoli (2005; 2009).

Limone, P., & Baldassarre, M. (Eds.) (2014). *ICT in Higher Education and Lifelong Learning.
SIREM 2013 Conference Proceedings, November 14*[th]*-15*[th]*, Bari (Italy) (2*[nd] *ed.)*. Bari: Progedit.

References

Altet, M. (1999). Analyse plurielle d'une séquence d'enseignement-apprentissage. *Le cahiers du CREN*. Nants: CRDP Pays de la Loire.

Altet, M. (2002). L' analyse plurielle: una demarche de recherché sur les pratiques enseignantes. *Revue Française de Pédagogie*, *138*, 85-93.

Altet, M., & Vinatier, I. (2008). *Analyser et comprendre la pratique enseignante.* Rennes: PUR.

Altet, M., Bru, M., & Laville, C.B. (2012). *Observer les pratiques enseignantes*. Paris: Harmattan.

Altet, M., Chartier, E., Paquay, L., & Perrenoud, P. (2006). *Formare* gli *insegnanti professionisti. Quali strategie? Quali competenze?*. Roma: Armando.

Ardizzone, P., & Rivoltella, P. (2008). *Media e tecnologia per la didattica.* Milano: Vita e Pensiero.

Bertolini, P. (1993). *Ragazzi difficili. Pedagogia interpretativa e linee di intervento.* Firenze: La Nuova Italia.

Biffi, E. (2010). *Scritture adolescenti. Esperienze di scrittura nella scuola secondaria.* Trento: Erikson.

Biffi, E. (2012). Narrazione e pratiche educative: fra infanzia e adolescenza. In D. Demetrio (Ed.), *Educare è narrare. Le teorie, le pratiche e la cura* (pp. 73-114). Milano: Mimesis.

Bruner, J. (1992). *La ricerca del significato. Per una psicologia culturale*. Torino: Bollati Boringhieri.

Bruner, J. (2001). *La cultura dell'educazione. Nuovi orizzonti per la scuola*. Milano: Feltrinelli.

Bruner, J. (2003). *La mente a più dimensioni*. Roma-Bari: Laterza.

Bruner, J. (2006). *La fabbrica delle storie. Diritto, letteratura, vita*. Roma-Bari: Laterza.

Cambi, F. (2001). *Intercultura: fondamenti pedagogici.* Roma: Carocci.

Cambi, F. (2005). *L'autobiografia come metodo formativo.* Roma-Bari: Laterza.

Cambi, F. (2012). *Incontro e dialogo. Prospettive della pedagogia interculturale.* Roma: Carocci.

Castiglioni, M. (2008). *Fenomenologia e scritture di sé.* Milano: Guerini.

Castiglioni, M. (2013). La narrazione e la costruzione di sé. In C. Petrucco, M. De Rossi (Eds.), *Le narrazioni digitali per l'educazione e la formazione* (pp. 31-41). Roma: Carocci.

Cipriani, R. (2008). *L'analisi qualitativa. Teorie, metodi, applicazioni.* Roma: Armando.

de Maurissens, I. (2013). La documentazione narrativa trasmediale. In C. Petrucco, M. De Rossi (Eds.) *Le narrazioni digitali per l'educazione e la formazione* (pp. 89-101). Roma: Carocci.

De Rossi, M., Restiglian, E. (2013). *Narrazione e documentazione educativa.* Roma: Carocci.

Demetrio, D. (1997). *Il gioco della vita. Kit autobiografico. Trenta proposte per il piacere di raccontarsi.* Milano: Guerini e Associati.

Demetrio, D. (1998). *Raccontarsi. L'autobiografia come cura di sé*. Milano: Raffaello Cortina Editore.

Demetrio, D. (2000). *Di che giardino sei? Conoscersi attraverso un simbolo*. Roma: Meltemi.

Demetrio, D. (2002). *Album di famiglia. Scrivere i ricordi di casa*. Roma: Meltemi.

Demetrio, D. (2003). *Ricordare a scuola. Fare memoria e didattica autobiografica.* Roma-Bari: Laterza.

Demetrio, D. (2012). *Educare è narrare. Le teorie, le pratiche e la cura*. Milano: Mimesis.

Demetrio, D., & Favaro, G. (1997). *Bambini stranieri a scuola*. Firenze: La Nuova Italia.

Demetrio, D., & Favaro G. (2004). *Didattica interculturale. Nuovi sguardi, competenze, percorsi*. Milano: FrancoAngeli.

Farello, P., & Bianchi, F. (2001). *Laboratorio dell'autobiografia. Ricordi e progetto di sé*. Trento: Erikson.

Ford, S., Green, J., & Jenkins, H. (2013). *Spreadable media. I media tra condivisione, circolazione, partecipazione.* Milano: Apogeo.

Formenti, L. (2009). *Attraversare la cura. Relazioni, contesti e pratiche della scrittura di sé.* Trento: Erikson.

Formenti, L., & Gamelli, I. (1998). *Quella volta che ho imparato. La conoscenza di sé nei luoghi dell'educazione*. Milano: Raffaello Cortina.

Frisch, M. (2009). *Evolutions de la documentation. naissance d'une discipline scolaire.* Paris: Harmattan.

Giovagnoli, M. (2005). *Fare cross-media*. Roma: Audino.

Giovagnoli, M. (2009). *Cross-media. Le nuove narrazioni*. Milano: Apogeo.

Giovagnoli, M. (2013). *Transmedia. Storytelling e comunicazione.* Milano: Apogeo.

Giusti, M. (1998). *Ricerca interculturale e metodo autobiografico*. Firenze: La Nuova Italia.

Goldman, R. (2009). Le rappresentazioni video e la cornice teorica del prospettivismo. Epistemologia, etnografia, valutazione ed etica. In R. Goldman, R. Pea, B. Barron, & S.J. Derry, *Videoricerca nei contesti di apprendimento. Teorie e metodi* (pp. 11-61). Milano: Raffaello Cortina.

Jenkins, H. (2007). *Cultura convergente. Dove collidono i vecchi e i nuovi media*. Milano: Apogeo.

Jenkins, H. (2010). *Culture partecipative e competenze digitali.* Milano: Guerini.

Levinas, E. (2002). *Dall'altro all'io*. Roma: Meltemi.

Lévy, P. (1999). *Cybercultura. Gli usi sociali delle nuove tecnologie*. Milano: Feltrinelli.

Limone, P. (2012). *Ambienti di apprendimento e progettazione didattica. Proposte per un sistema educativo transmediale*. Roma: Carocci.

Perla, L. (2012a). *Scritture professionali. Metodi per la formazione*. Progedit: Bari.

Perla, L. (2012b). *Scrittura e tirocinio universitario. Una ricerca sulla documentazione*. Milano: FrancoAngeli.

Perla, L., & Schiavone, N. (2013). Quels dispositifs de documentation de l'implicite dans la formation des enseignants? *Atti del Secondo Convegno Internazionale IDEKI.*

Perlmuter, C. (2012), La documentazione didattica, condividere e cooperare utilizzando il web. *La documentazione scolastica e le buone pratiche in Puglia.* Bari: Ecumenica Editrice.

Petrucco, C. (2010). *Didattica dei social software e del Web 2.0*. Padova: Cleup.

Petrucco, C., & De Rossi, M. (2009). *Narrare con il digital storytelling a scuola e nelle organizzazioni.* Roma: Carocci.

Petrucco, C., & De Rossi, M. (2013). *Le narrazioni digitali per l'educazione e la formazione*. Roma: Carocci.

Pinto Minerva, F. (1996). (Ed). *Le parole dell'intercultura*. Bari: Adda Editore.

Pinto Minerva, F. (2007). *L'intercultura*. Roma-Bari: Laterza.

Portis, L. (2009). *Storie allo specchio. Racconti migranti*. Milano: Unicopli.

Rivoltella, P.C. (2003). *Scuole in rete e reti di scuole. Temi, modelli, esperienze.* Milano: Etas.

Rossi, P., & Rivoltella, P.C. (2012). *L'agire didattico. Manuale per l'insegnante.* Brescia: La Scuola.

Smorti, A. (1994). *Il pensiero narrativo.* Firenze: Giunti Editore.

Strass, A.L., & Corbin, J.M. (1990). *Basics of qualitative research: grounded theory procedures and techniques.* Sage Publications.

Tarozzi, M. (2008). *Che cos'è la grounded theory*? Roma: Carocci.

Thochon, F. V., & Hanson, D. (2003). *The Deep Approach: World Language Teaching for Community Building*. Madison, WI: Atwood Publishing.

Tochon, F. V. (1999). *Video Study Groups for Education, Professional Development, and Change*. Madison, WI: Atwood Publishing.

Tochon, F. V. (2001). "Education-research": New avenues for digital video pedagogy and feedback in teacher education. *International Journal of Applied Semiotics*, *2*(1-2), 9-28.

Tochon, F.V. (2009). Dai video-casi alla video-pedagogia. Una cornice teorica per il video-feedback e la riflessione con i video nella pratica di ricerca pedagogica. In R. Goldman, R. Pea, B. Barron, & S.J. Derry (Eds.), *Video-ricerca nei contesti di apprendimento. Teorie e metodi*. Milano: Cortina.

Videoresearch and teacher education: giving practice a voice[1]

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Abstract
What and how can teachers learn from their daily class activities? This study tries to provide a partial answer to this question. The research project has involved 22 classes of different education levels (pre-school, primary and secondary school) from Bari and its district; Video documentation was used as a professional educational practice for teachers' training. The spread of new digital audio-visual technologies allowed easier educational documentation experiences, in which the "making of" of the whole process has the same importance of the final product. Video contents may be also used to analyse and meditate on some specific contexts: video footage, if analysed together with researchers may represent a valuable starting point to favour both explicit and auto-assessment processes. This research also provides a self-assessment sheet used as a device for an educational model based on the use of video footage addressed to teachers' learning.

Keywords
Educational Documentation, Teachers' Education, Videos of Teaching, Video-Research

1. Theoretical framework

Video-research for initial teachers' training has been analysed for a long time. The early attempts of this methodology, called *microteaching*, had place at Stanford University (Allen, 1966); then, video contents were used to enhance *teacher effectiveness* (Orme, 1966) and lately they have been used for teachers' initial and ongoing training (Blomberg, Stürmer & Seidel, 2011; Santagata & Guarino, 2011). The diffusion of digital technologies has increased the number of research on this important methodology, overcoming the operational critical points of first generation technologies. The latter showed problems in video storage thus preventing from spreading this technology in the teachers' initial and ongoing training.
Video-research for teachers' training is a common protocol in the United States and France: here, video contents play a critical-reflective training role used in order to train young teach-

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[1] This article has been developed jointly by the three authors. **Loredana Perla** wrote paragraph 1; **Nunzia Schiavone** wrote paragraph 2; **Ilenia Amati** wrote paragraph 3.

ers so that they could consider education from different perspectives (Lin, 2005). Santagata and collegues (2007) demonstrated that teachers in the making enhance their expertise by using video-analysis and sticking to appropriate training protocols. The management of transferring this expertise from theoretical/simulation to practical contexts has not been analysed yet; surely, there is a proven and excellent feedback about practical experience of pre-service teachers' skills. In this sense, Santagata (2011) provides two examples of protocols which can be used to develop these skills: "Lesson Study" and "Video Clubs". *Lesson Study* is a Japanese training framework that considers teachers' meetings focused on class planning; here, one teacher delivers a lesson while the others observe him/her. The session is often video-recorded. Teachers then meet in order to analyse the involvement of students. *Video Clubs* are made up of teachers' groups that meet in order to analyse short video contents recorded by the teachers involved in the project, with particular emphasis on the analysis of students' reasoning and learning. In both cases, recent studies demonstrated that video contents facilitate teachers' learning allowing them to analyse in depth the students' reasoning processes, as during the traditional interaction teacher-student they may not be taken into consideration. Video techniques are versatile methodologies and they may be used in several training and research studies with different aims:

a) learning practices;

b) the enhancement of teachers' disciplinary knowledge, observation, peer comparison, documentation of results and educational processes.

Video contents may be also used to analyse and meditate on some specific contexts and actions: video footage, if analysed together with researchers may represent a valuable starting point to favour both explicit and auto-assessment processes[2]. In this sense, it has to be underlined that video-analysis as a multi-methodology practice and an interdisciplinary field of study (Goldman, Pea, Barron & Derry, 2007) is useful to provide an answer to complex educational phenomena, as well as it provides tools and technologies with an high potential of description and understanding of different phenomena. Both researchers and teachers may benefit from this methodology. Using video contents increases the possibilities to learn, understand and interpret phenomena; it stimulates intuitions on both implicit and explicit variables of educational practices; it represents educational processes, in particular inclusive ones (Perla, 2013), stimulating metacognitive and reflection-based aspects towards educational practices.

All studies on the use of video contents for teachers' initial and ongoing training highlighted the need of a guide to the video analysis process. This analysis aimed at guiding teachers towards specific characteristics of recorded school-life; otherwise, a possible risk is that only surface situations of educational situations are taken into account. During the observation of the different stages of the training protocol of video analysis, there are some variables to be considered (Perla, 2010):

1. *finalisation variables,* which consider educational aims (socialisation, metacognition);
2. *technical variables*, that is the "professional actions" and all designing, assessment, organisation features;
3. *communicative variables* conveyed by verbal and non-verbal codes;
4. *contextualisation variables* connected with the so called "school culture";
5. *relational variables*, including all educational practices: guiding, care, personalisation, listening.

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[2] For further considerations, see Tochon (2009) and also Perla and Schiavone (2013).

There are also other students' variables which can be analysed by means of questions focused on students' learning and on questions dealing with progresses and/or regressions that can be identified during video analyses. Each of these variables can be analysed through observation protocols which can enhance teachers' educational strategies (Rossi & Rivoltella, 2011).

As mentioned above, new technologies fostered new methodologies for teachers' training such as educational video documentation.

2. Examples of narration-oriented video-research.

Given the above-mentioned framework, we tested a video-research project aiming at fostering an autobiographical approach for intercultural education; the project has involved 22 classes of different education levels (pre-school, primary and secondary school) from Bari and its district. The following is a quick description of the video analysis testing stages of this research.

The creation of digital audio-visual contents involved the designing and the realisation of specific operational procedures. In detail, here are the stages of the research protocol:

- Videorecording of workshop sessions. Video footage included the beginning of workshop sessions (recreational activities and sharing of the "autobiographical agreement"), writing sessions (pupils are stimulated to recollect relevant autobiographical events), reading sessions (pupils read and shared their texts with the class), return sessions (analysis of written texts carried out by teachers) and the final session (end of workshop activities).
- Video editing. The editing process allowed the creation of a product in which different communication codes are included: voice blends in words, pictures are both steady and dynamic. The criterion was to develop a "collage" of "perceptual occasions" (Anichini, 2012) that could give teachers the chance to analyse their own educational methods (videorecording) in order to identify critical and *hidden* elements.
- *Triangular* video analysis. Triangular video analysis is made up of three stages.

The first stage implies a reflective setting: here, teachers watch a video and fill in a related *video analysis sheet*, that is a self-training complement tool developed by the authors in order to make teachers independent during the different stages of phenomenological description of educational processes carried out in class.

Stage 2 implies a reflective setting that involves both researchers and teachers. Here, an interview is made *after* watching a video.

Stage 3 implies a co-explicit setting and a shared analysis process (teachers-researchers) on the multi-dimensional nature of educational practices which can be gathered from the video analysis sheet.

As for the analysis device is concerned, the *video analysis sheet* is an ex-post documentation tool that allows teachers to describe and analyse the multi-dimensional nature of educational practices together with researchers. In detail, the analysis allows teachers to assimilate all observations deriving from videorecorded contents focusing his/her attention on some relevant characteristics or on any latent content. The aim is to give teachers the chance to describe and analyse the multi-dimensional nature of educational practices (Altet, 2006). Video analysis is made together with researchers, the latter having already watched all video contents. This task allows teachers a focused analysis of contents and it is a suitable technique to examine and discuss specific, education-related topics. During this stage, contents are carefully chosen. These operations allow the development of *implicit* contents (e.g., non-verbal behaviour), making them information snippets which can be used for broader considerations (Perla,

2010). This is an effective device for self-clarification of educational practices. A first selection deals with the elements to be highlighted by means of the observation of different stages such as some workshop situations (beginning, writing stage, the role of teachers, class interaction, inclusive dynamics). The last stage is carried out by teachers who arranges all observations he/she has gathered.

SECTION I **Personal details** Class Educational topic Module subject Workshop duration	In this section, teachers fill in the following information: class average level, teacher's educational field, module subject, workshop duration
SECTION II **Class description** **Index 1 -** Managing workshop sessions **Index 2 -** Class setting **Index 3 -** Communication	Questions to be answered: how are the workshop sessions organised? What kind of educational devices have you used? What kind of learning methodologies educational devices refer to? What kind of communication teachers and students have established? Is the class setting organised so that it is functional to the proposed educational activities? During workshop sessions, what is the prevailing communicative style? In the communicative process there is a preponderance of non-verbal communication codes (body language, gestures). What are the most recurrent interaction schemes?
SECTION III **Intervals in which** **learning activities are favoured** **Index 1 -** Explanations **Index 2 -** Solicitations **Index 3 -** Educational strategies	In this section, teachers indicate time intervals in which the narrative process was favoured. All indicated indexes would guide teachers in the selection of time intervals in the sheet.
SECTION IV **Choices made by teachers** **considered relevant in order** **to understand** **teachers' educational attitude** **Index 1 -** Beliefs in teaching **Index 2 -** Beliefs in learning **Index 3 -** Beliefs in discipline	In this section, teachers explain all educational choices they think are relevant in order to understand their educational attitude. For this purpose, teachers together with researchers will reflect on three aspects: implicit beliefs in educational practices; beliefs in teaching, learning, discipline.
Section V **Explication of problematic issues** Knowledge planning stage Teaching activities	In this section, teachers will explain any criticality arisen during workshop sessions, both from an educational and disciplinary point of view as well as all inclusion-related dynamics which can be originated by means of all proposed activities.

TABLE 1. Sections taken from the "Video analysis sheet".

The device has two sections: documentation/personal information and analysis/explanation. In the first section, teachers fill in class-related information, educational topic, subject matter and duration. In the second section teachers, together with researchers, develop a reflective narration arising from a series of analysis domains that correspond to some indexes. Indexes are used to support the explanation of *hidden* features of educational practices carried out in class. The writing process carried out by means of this device is used to re-build, analyse, organise the educational experience in order to enhance the understanding of one's own educational practice and learning & teaching processes performed during a class. For its documentation value, video analysis sheets make all audio-video contents a valuable starting point to favour both explicit and self-assessment processes (Table 1).

3. Preliminary results

Being an ongoing research project, only preliminary results can be drawn. A certain trend indicates that video-recorded contents allow teachers to learn a permanent reflective and self-assessment *habitus* that can be applied to their daily school activities. In this sense, watching their own practices creates a "vicious circle" in progress. The content they watch depends on what they actually do; the more class-related variables are questioned while watching videos, the more structured and deep is their competence in interpreting one's own daily practice. Another relevant element is the "unveiling of beliefs" in teaching by means of self-assessment sheets. As attested by a research on "teachers' thoughts" (Clark & Peterson, 1986; Nespor, 1987), *beliefs* are an important, implicit cognitive domain which can exert an influence on learning practices. Nevertheless, even considering the difficulty to make these statements objective, the Italian teaching-related research has been investigating it only in recent times and focusing its attention on some disciplinary fields (such as mathematics – Zan, 1998), ethical beliefs (Damiano, 2007), identity-related and professional beliefs (Perla, 2008).

The Anglo-Saxon scenario, considering a considerable literature on this field, aims at analysing the predictive role that these system-based statements have on the ways a teacher in the making will perform practices but also on the ways they will assess all the different aspects of education. Being influenced by emotional aspects and highly subjective, systems of beliefs are less likely to be deconstructed. This is why training protocols have to be developed, so that beliefs may be explained more easily, as "to enhance teachers' actions, we have to face teachers' subjective beliefs". Video-training methodologies are quite useful because unlike observation in person or one's own reflection with no video support, educational actions can be watched more than once, focusing on some details.

The last element to be considered deals with the co-constructive dimension of practical knowledge, the latter arising from video analysis procedures. All that teachers perceive as missing or being present in a video does not relate on audio-video content itself. When watching or listening, we "develop" senses (Erickson, 2009, p. 209), that is why videos become a source of important data in order to build a practical action which plays an important role in teachers' professional competence (Perla, 2011).

References

Altet M., Le competenze dell'insegnante-professionista: saperi, schemi di azione, adattamenti ed analisi. In L. Paquay, E. Charlier, P. Perrenoud (Eds.), *Former des enseignants professionnels. Quelles*

stratégies? Quelles compétences?, De Boeck, Bruxelles 1996 (It. trans. *Formare gli insegnanti professionisti. Quali strategie? Quali competenze?*, Armando, Roma, 2006).

Anichini, A. (2012). *La didattica del futuro.* Milano: Pearson.

Blomberg, G., Stürmer, K., & Seidel, T. (2011). How pre-service teachers observe teaching on video: Effects of viewers' teaching subjects and the subject of the video. *Teaching and Teacher Education, 27*, 1131-1140.

Clark, C.M., Peterson, P. (1986). Teachers' Thought Processes. In M. Wittrock (Ed.), *Handbook of Research on Teaching* (3rd ed.) (pp. 255-296). New York: MacMillan Publishing Company.

Damiano, E. (2007). Ethos. Una ricerca sulle pratiche morali degli insegnanti. *Oppi Informazioni*, *103*, 14-15.

Goldman, R., Pea, R., Barron, B., Derry, J.S. (2009). *Videoricerca nei contesti di apprendimento. Teorie e metodi.* Milano: Raffaello Cortina Editore.

Lin, P.J. (2005). Using research-based video-cases to help pre-service teachers conceptualize a contemporary view of mathematics teaching. *International Journal of Science and Mathematics Education, 3*, 351-377.

Nespor, J. (1987). The Role of Beliefs in the Practice of teaching *Journal of Curriculum Studies*, *19*(4), 317-328.

Perla, L. (2008). L'incidenza dei saperi pre-riflessivi nella pratica didattica degli insegnanti novizi: prime risultanze di un'indagine sulle credenze attraverso l'uso delle metafore. *Quaderni del Dipartimento di Scienze Pedagogiche e Didattiche*, *7*(X), 249-267.

Perla, L. (2010). *Didattica dell'implicito. Ciò che l'insegnante non sa.* Brescia: La Scuola.

Perla, L. (2011). La formazione dell'insegnante attraverso la ricerca. Un modello interpretativo a partire dal "Teacher's Thought" (pp. 157-180). In G. Elia (Ed.), *Percorsi e scenari della formazione*. Bari: Progedit.

Perla, L., & Schiavone, N. (2013). *Quels dispositifs de documentation de l'implicite dans la formation des enseignants*? Atti del Secondo Convegno Internazionale IDEKI 2013.

Santagata, R. (2011). Un modello per l'utilizzo dei video nella formazione professionale degli insegnanti. *Form@re*, *79*(12), 58-63.

Santagata, R., & Angelici, G. (2010). Studying the Impact of the Lesson Analysis Framework on Pre-service Teachers' Abilities to Reflect on Videos of Classroom Teaching. *Journal of Teacher Education*, *61*(4), 339-349.

Santagata, R., & Guarino, J. (2011). Using Video to Teach Future Teachers to Learn from Teaching. *ZDM the International Journal of Mathematics Education*, *43*(1), 133-145.

Tochon, F. V. (2009). Dai video-casi alla video-pedagogia. Una cornice teorica per il video-feedback e la riflessione con i video nella pratica di ricerca pedagogica. In R. Goldman, R. Pea, B. Barron, & S.J. Derry (Eds.), *Video-ricerca nei contesti di apprendimento. Teorie e metodi*. Milano: Cortina.

Zan, R. (2007). *Difficoltà in matematica. Osservare, interpretare, intervenire*. Springer-Verlag.

Learning how to "incorporate" technologies in ordinary classroom teaching.
The ongoing multidisciplinary experiences carried out by the DidaSco research project group[1]

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Abstract
This contribution shows some possible reifications provided by technologies in classroom teaching on the basis of the TPCK framework (Koehler & Mishra, 2005), which in turn derives from L. Shulman's PCK framework (1986); this model analyses any possible interconnection between interdisciplinary content, pedagogic management of contents and technology. This work aimed at creating an ICT expertise-based network in some schools of Apulia starting from some systemic modifications introduced in the didactic programming. The preliminary results of this study & research project are here showed: the first one deals with hypermedia co-planning which can set up interdisciplinary learning towards competence-based teaching methodologies; the second one introduces "Flip-Book - Don Chisciotte" (Don Quixote), an e-book with a LMS system with remote interaction modes which can allow synergic planning or autobiographical writing; the last one deals with an author-based framework of self-production contents in language teaching.

Keywords
Educational Technologies, Teacher Training, Didactics of Writing, ICT, Digital Skills

1. Theoretical Framework

The introduction of technologies in classroom teaching is one of the most challenging issues in educational research (Messina, 2012; Falcinelli, 1995, 2005; Rossi, 2009, 2011; Rivoltella, 2005; Limone, 2012; Baldassarre, 2013), the latter aiming at investigating the *autopoietic* potential of technologies which, in this perspective, are examined not only as simple tools used in specific training courses both for students and teachers, but as integrated knowledge of the so called "pragmatic knowledge" (Perla, 2010) created by teachers by virtue of their epistemic role (Tochon, 2000). This knowledge has to be framed and should work depending on the specific learning aims, that is the focal point of classroom teaching. These new digital skills acquired by students − or the future "active citizens" − implied a proper "step up" in incorporating technologies in ordinary classroom activities. H. Jenkins (2010) affirms that the inte-

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[1] This article has been developed jointly by the three authors. **Loredana Perla** wrote the paragraphs 1, 2; **Viviana Vinci** wrote the paragraphs 3, 4.

gration of classroom teaching by means of technological mediators is not the only solution: access, understanding technology and creating new communication forms and contents should be deeply fostered, thus mastering the endless and expressive potential offered by technologies in classroom. In this sense, one of the most innovative frameworks is represented by TPCK (Koehler & Mishra, 2005), which in turn derives from L. Shulman's PCK framework (1986); this model analyses any possible interconnection between interdisciplinary content, pedagogic management of contents and technology.
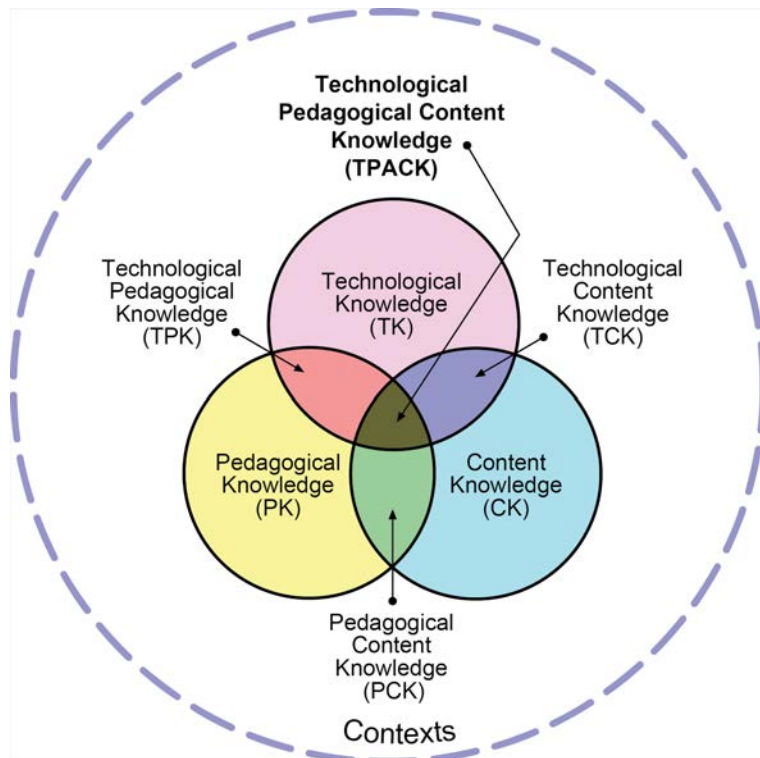
FIGURE 1. Technological Pedagogical Content Knowledge (TPACK):
reproduced by permission of the publisher, © 2012 by tpack.org

This framework represented the basis of the project that is being carried out for two years, DidaSco (*Didattiche Scolastiche*), that aims at creating combinational tools in classroom procedures, with particular emphasis on the emotional-social dimension triggered by practice (unlike the TPCK framework suggests) and focused on specific, cognitive features which are typical of new technologies (Messina, 2012).

2. Goals

The aims of this research are the following:
-   creating an ICT expertise-based network in Apulian Schools starting from some systemic modifications introduced in the didactic programming;
-   creating interactive, cooperative and open learning environments that foster interaction among teachers (in the planning stage) and between teachers and students (in classrooms);

-   using some technological tools to overcome disciplinary barriers, thus concentrating
    on an interdisciplinary interaction among different knowledge systems;
-   valuing the resulting experiences which are shared in different research & training ex-
    perimental projects between DidaSco and Apulian teachers.

3. Experiences

There are three practical achievements[2] within this research framework.

a) The co-planning of an hypermedia called "Moby Dick Prezi", created at the end of the re-
search & training project *I Nuovi Licei. Una guida a partire dalle pratiche* and meant as a tool
that can generate interdisciplinary learning for a competence-based teaching methodology
(Damiano, 2004, 2007; Maccario, 2006; Perla, 2013), thus intertwining all the involved disci-
plines. MoBy Dick Prezi is an interactive e-book that allows the creation of multidisciplinary
learning units on the basis of Melville's tale; it is made up of both macro-subjects and micro-
units which can be chosen from a menu/map.

Moby Dick Prezi has been planned in cooperation by 6 teachers with the supervision of Di-
daSco research group; even though it is based on Melville's novel, it is a product that can be
reproduced on any learning content; it can be designed by multiple authors and it may repre-
sent a valid classroom teaching tool as some blank zones (visually represented by notepapers)
may be filled in by students and teachers with information, texts and multimedia content.
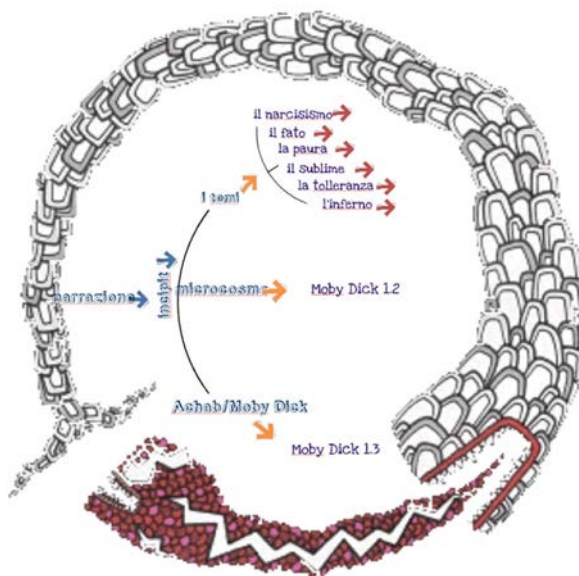
FIGURE 2. Moby Dick Prezi's structure: map of universal themes.

Moby Dick Prezi is like a map, in which the key concepts are represented by universal themes
found in the novel; they are very conceptual, therefore they can be adopted by any teacher of
any specific discipline. For instance, the first theme encountered in this map is the beginning
of Melville's tale, that is the concept of travel as a knowledge experience; starting from this
universal theme, teachers have created their personal module-based project for their disci-
plines. All disciplinary analyses are mutually intertwined within the map; teachers can view

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and edit any content (in the designing stage); the same functions are enabled for students, thus creating knowledge together with teachers.

Moby Dick Prezi, created at the end of the first year of a research & training project, will be practically tested in the network of the teachers who are part of the research group at the beginning of the second year of the project.

FIGURE 3. Moby Dick Prezi: module-based disciplinary in-depth analyses.

b) FlipBook - Don Chisciotte (Don Quixote), created during the planning stage of a Master called *La scrittura: insegnare le pratiche.* It is an electronic book (e-book) with a LMS system (a forum in which a continuous interaction and debate between text & contents and users can be carried out) used for remote interaction among participants and to allow collaborative functions or autobiographical writing sessions. FlipBook - Don Chisciotte, like Moby Dick Prezi, includes some indexed macro-subjects; in this way, a great number of disciplines may be involved in the creation of contents, ranging from European Literatures to History of Art, but also Philosophy, History, Religion, Cinema. Both tools include forums in which teachers and students may cooperate, add tasks, in-depth analyses, personal and group writings on a given domain thus intersecting different disciplines and fostering new competences.

FIGURE 4. FlipBook - Don Chisciotte: start screen.
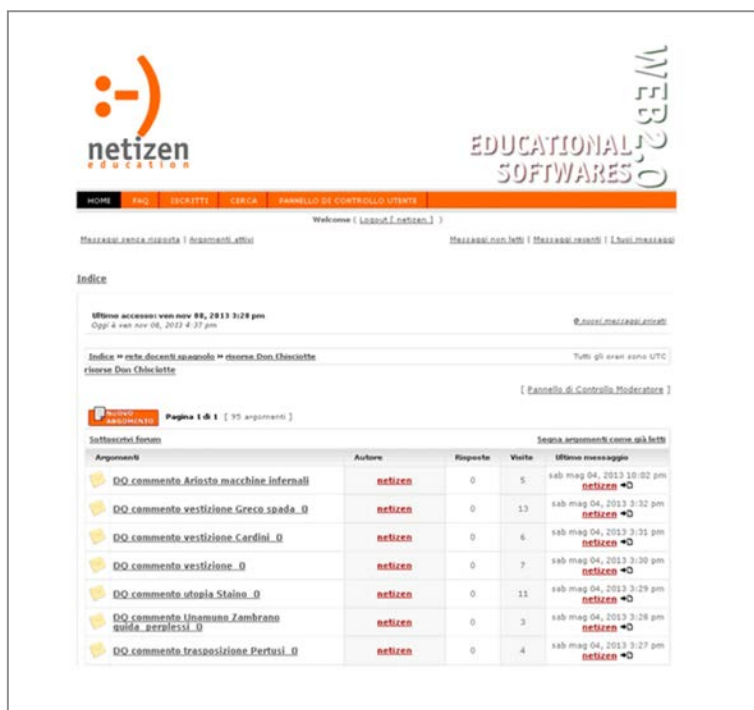
FIGURE 5. Moodle Forum linked to FlipBook - Don Chisciotte.

FIGURE 6. *FlipBook - Don Chisciotte's* structure: indexed macro-themes.

FlipBook - Don Chisciotte has already been implemented in classroom teaching: it has been used in a 5th grade class, Spanish course, *Liceo Linguistico "Federico II", Altamura (Bari).* The prologue of Cervantes' novel, in which the creation of a work is discussed, has represented a valuable starting point for the project's activities, as it retraces the same problem students have when facing a task to be carried out. The first classroom activity was represented by a composition in Spanish about FlipBook - Don Chisciotte's macro themes which have been examined in depth by using further interdisciplinary texts and multimedia contents. Students could deliver their assignments using the LMS platform which in turn was linked to FlipBook; an electronic log allowed teachers to assess students' works by using numerical marks. FlipBook - Don Chisciotte can be used as a daily teaching tool: being connected to the

platform *Moodle*, it has two modules, that is a forum used to plan and design contents among teachers and the electronic log, which allows students to be assessed.
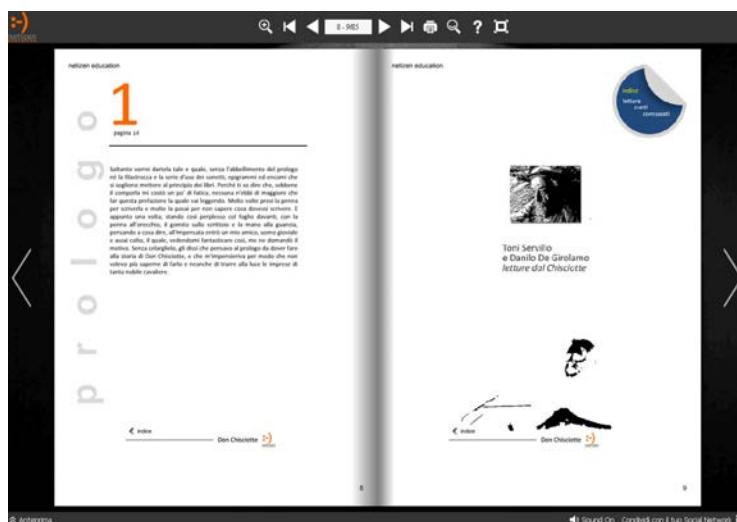
Figure 7. A sample of *FlipBook - Don Chisciotte's* text interface.

FIGURE 8. A sample of *FlipBook - Don Chisciotte's* video interface.

c) the creation of an author-based framework of self-production contents in language teaching, commissioned by INDIRE: The "new" European teacher of languages: a profile. The reference theme was *Competencias según el MCER.* The proposed assignments deal with reading and writing skills in Spanish, and aim at enhancing the global understanding as well as writing and multimedia skills of the texts introduced in the project. Google+ was the blog used by the class to share information and to solve any doubt among students and between students and their teacher; Google Docs forms with the integration of Flubaroo, a script that records all activities performed by students, thus assessing their actions, allows teachers to keep track of students' tests, thus making Google Docs a sort of LMS platform. An open source tool like Google+ was used to design forms and structured assignments, but also to share information and to keep track of students' activities. Exercises of text production and comprehension were created on the basis of the OCSE PISA international indexes, in

compliance with the framework indicated in the *Programa para la Evaluación Internacional de los Alumnos OCSE.*

FIGURE 9. Start screen.

FIGURE 10. A sample of language texts/exercises.

4. Main conclusion

In conclusion, what kind of advantages does the incorporation of technologies in classroom activities bring?

First of all, there is the possibility to involve several disciplines when macro-themes are triggered (European literatures, History of Art, Philosophy, History, Religion etc.); each environment has its own forum in which both students and teacher co-operate, write assignments, in-depth analyses, personal and group writings on a given domain thus intersecting different disciplines and fostering new competences.

Secondly, these tools can be connected to Moodle, therefore some useful features − such as forums for co-operated planning among teachers and the electronic log used to keep track and to assess students − can be used.

References

Baldassarre, M. (2013). *La transmedialità per l'educazione. Progetti, ricerche e didattica*. Roma: Carocci.

Damiano, E. (2004). *L'insegnante: identificazione di una professione*. Brescia: La Scuola.

Damiano, E. (2007). *Il sapere dell'insegnare: introduzione alla didattica per concetti con esercitazioni*. Milano: FrancoAngeli.

Falcinelli, F. (1995). *Audiovisivi e tecnologie nella pratica didattica*. Roma: Anicia.

Falcinelli, F. (2005). *E-learning. Aspetti pedagogici e didattici*. Perugia: Morlacchi.

Jenkins, H. (2010). *Culture partecipative e competenze digitali*. Milano: Guerini.

Koehler, M.J., & Mishra P. (2005b). What happens when teachers design educational technology? The development of Technological Pedagogical Content Knowledge. *Journal of Educational Computing Research. 32*(2), 131-152.

Koehler, M.J., & Mishra, P. (2005a). Teachers learning technology by design. *Journal of Computing in Teacher Education. 21*(3), 94-102.

Limone, P. (Ed.) (2012). *Media, tecnologie e scuola. Per una nuova cittadinanza*. Bari: Progedit.

Maccario, D. (2006). *Insegnare per competenze*. Torino: SEI.

Messina, L. (2012). Integrare le tecnologie nella formazione degli insegnanti, in prospettiva istituzionale e cognitiva. In P. Limone (Ed.), *Media, tecnologie, scuola. Per una nuova cittadinanza digitale* (pp. 65-93). Bari: Progedit.

Mishra, P., & Koehler, M.J. (2006). Technological Pedagogical Content Knowledge: A Framework for Integrating Technology in Teachers' Knowledge. *Teachers College Record*, *108*(6), 1017-1054.

Perla, L. (2010). *Didattica dell'implicito. Ciò che l'insegnante non sa*. Brescia: La Scuola

Perla, L. (2013). *I Nuovi Licei alla prova delle competenze. Per una progettazione nel biennio*. Roma-Bari: Laterza.

Rivoltella, P.C. (2005). *Media education: fondamenti didattici e prospettive di ricerca*. Brescia: La Scuola.

Rossi, P.G. (2009). *Tecnologie e costruzione di mondi. Post-costruttivismo, linguaggi e ambienti di apprendimento*. Roma: Armando.

Rossi, P.G. (2011). *Didattica enattiva*. Milano: Franco Angeli.

Shulman, L. (1986). *Those who understand: Knowledge growth in teaching. Educational Researcher*, *15*(2), 4-14.

Tochon, F.V. (1993). *L'enseignant expert*. Paris: Nathan.

Tochon, F. (2000). Recherche sur la pensée des enseignants: un paradigme à maturitè. *Revue Francaise de Pédagogie*, *133*, 129-157.

Dyslexia and *young* adults.
A case study: from assessment to intervention with Reading Trainer software

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Abstract
This paper presents a case study designed to assess and improve reading fluency in a young woman with the use of the computer platform "Reading Trainer Professional Edition", designed by Patrizio Tressoldi (2011). The research shows the combined use of qualitative and quantitative data analysis in a case study and to evaluate the chances of recovery in the adult subject, with the same tools used by pupils of school age. The study describes the pre-evaluation step, the training of reading skill and the post-evaluation step and shows an analysis of the results. The study aimed to identify the critical elements in the use of the software, providing some insights into the use of technology in the re-enabling of adults readers.

Keywords
Dyslexia, Adults, Technology, Reading Trainer, Intervention

1. Introduction: dyslexia and adult age

The *Dyslexia* is a specific difficulty that refers to the ability to read accurately and fluent and which is often characterized by poor writing skills. The dyslexic subjects have great difficulty in learning to read, reading is slow, laborious, and usually inaccurate. The ability to read is struggling to become an automated task and continues to require a major investment of cognitive resources.

The reading disabilities affects about 3-5% of Italian children (Stella, 2001) and it is the most prevalent of all learning disabilities. Developmental dyslexia is diagnosed by specific difficulties in reading that cannot be explained by intelligence or lack of educational opportunities (Lyon *et al.*, 2003). About the aetiology of dyslexia, the research confirms a large extent the genetic predisposition of dyslexia that is present in the early stages of child development, it finds its evidence during school age and accompanying the person into adult age.

The world of dyslexic adults is a relatively new subject of study and an extremely varied phenomenological reality. Although the problem of diagnostic tools is not easy to solve, even for the different systems and levels of compensation that are spontaneously activated, neuropsychological characterisation of dyslexic adults is of great interest, especially for the social and psychological consequences that dyslexia can trigger in the person. Dyslexia in fact, may affect the professional and occupational choices of a person and his emotional experience (Pizzoli *et al.*, 2011).

The functional difficulties related to dyslexia (difficulty with short term memory, concentrating and orientation), have an impact on many working activities, are cause of errors, and sometimes promote styles of woks execution that requires a longer time and additional tools.

In the workplace, the frequent changes in procedures and work programs, and the difficult to quickly learn and automatized new routines, puts a strain on the people who have learning disorders.

In addition, international studies show that despite dyslexics overcoming their difficulties, slow reading speed and slow processing, problems with expressive writing and difficulty in spelling and in tasks of short-term memory, persist across the life span (Hatcher *et al*., 2002).

The Italian Law 170 of 8 October 2010 *New rules on specific learning disabilities*, has contributed greatly to a process of social closeness, understanding and support to people with dyslexia at school, university and community. The Law 170/2010 provides for the first time the possibility to provide college students support measures to ensure the right to education. At the university level it is expected that each university will ensure equal opportunities for students with Specific Learning Needs as well as a tutoring service, the activity of mediation with the faculty and the use of tools for the purpose of sustaining the curriculum examinations.

2. The case study research. Characteristic of the subject

The case presented in this paper, exposes the investigation and remedial intervention whom the protagonist was F., a 27 years old young woman graduate student at the Faculty of Educational Sciences of the University of Salento. The survey was conducted during the 2011-2012 academic year. The student had become aware of some studies on dyslexia in adulthood, which were conducted at the Center of new technologies for disability and integration of University of Salento, so she proposed herself as a volunteer for an observation.

The case study began through a process of observation of reading and writing skills of the candidate. Alongside this, experiences are recorded through a semi-structured interview and autobiographical stories. These stories describe a "*hard educational"* schooling, a common path in many young adults with dyslexia. A reality of ups and downs; of suffering and sorrow; made up of scorn and shame until a teacher/professor more sensitive to their needs, or a more suitable course of study, will enable them to develop (reach) their potential.

Since primary school, F. experienced such difficulties: she cannot stay attentive in class and cannot "understand" what is written in textbooks. However, despite these difficulties she still managed to exceed the compulsory school curriculum. When she arrived at high school, her parents put pressure on her to subscribe to a technical linguistic school as they thought it would be useful for her future career. However, foreign languages were not her strength and F. ended up postponing the second year, when she then decided to change her course of study. She started university in 2005. Same of her fellow students provided lecture notes. Fortunately, more than 80% of the exam was oral. In this context the motivation was reinforced, with obvious effects on the student's sense of self-efficacy. At the same time, she had received from her classmates what we now call "compensatory support" in study, using mp3 recorders for capturing lectures and cognitive maps and notes of classmates (fellow students), thus, providing the support that she needed. Furthermore, the oral tests did not scare her and she was able to get quite high marks. The difficulty in reading remains, but the academic career chosen enabled her to reach her potential, graduating with honours.

The first observation of reading is followed by a second assessment made possible through the ADCL (Adult Dyslexia Check List). This is a questionnaire formulated by M. Vinegrad, presented for the first time in July 1994 in the journal "Educare". This is still widespread in

Britain as a self-diagnosis service, available online on the websites of the main universities and associations in the UK.

This questionnaire is designed to detect the most common difficulties for dyslexic people. The questionnaire consists of twenty questions, specifically pre-coded dichotomous items (Yes/No). M. Vinegrad states that it is necessary to evaluate the results and select the questionnaires with at least 8 affirmative responses, among the twenty questions, as a sign of "trouble". Then you have to compare the questionnaires selected, i.e. those which include eight or more positive responses, with 12 questions that are most significant for Vinegrad (1994) among others.

The questionnaire has been used in a previous survey conducted with 628 students at the University of Salento (Pinnelli, 2010). Following a discussion of such statistical data and through the application on ADCL of the Discrimination of item Index (Mucciarelli *et al.*, 2002)[3] revealed that the questionnaire of the 20 item states by Vinegrad, the items most discriminated for the audience of university students are not always aligned with what is indicated by the original questionnaire, the analysis of the ability of internal discrimination has been issued a new list of 15 most discriminating items.

Analysing the results of the questionnaire of our subject (F.) with the results of D Index calculation, it is clear that F. got positive results among the 15 items most discriminatory and would have had 3 with the original version of Vinegrad and therefore she would pass in a routine administration of the group, easily overlooked.

Following the first screening, as indicated by the Consensus Conference (2011), the reading test of non-words has been used for the evaluation of reading difficulties, which is particularly relevant to the adult population. This test in fact was relevant for both dyslexic adults and/or compensated, both in a study in a not transparent (opaque)[4]. Spelling language such as English (Ben & Dror, 1991) and in a study conducted in semi-transparent language such as Swedish (Svensson, 2006). The dyslexic subjects are significantly slower and less accurate in the reading of non-words than that of words. The evaluation of the reading ability of F. was made possible by the administration of the Reading Test of the Italian Foundation Santa Lucia's research team. Specifically, we administered the *Reading Words and Non-Words Test*, and the *Test of reading passages for high school.*

	NO-WORDS SHORT	NO-WORDS LONG	HIGH FREQUENCY SHORT WORDS	HIGH FREQUENCY LONG WORDS	LOW FREQUENCY SHORT WORDS	LOW FREQUENCY LONG WORDS
Errors	0	1	0	1	2	2
Time/Seconds	24.24	48.67	17.89	23.19	22.08	33

TABLE 1. Results Reading Words and Words Not Pre-intervention.

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[3]This index provides a measure of performance for each element of the test. That indicates for each question as the group under examination is divided. To calculate this value the full group was divided into two groups. The first group includes individuals who are placed below the first quartile, with a score between 0 and 2. The second group includes, subjects that are placed above the third quartile, in correspondence with the score from 5 to 18. They are considered discriminating the items that return a value greater than or equal to 0.50.

[4] The clinical expression of specific learning disorder is a function of the orthographic complexity of written language. This feature differentiates the language "opaque" (e.g. English), characterized by a complex and unpredictable relationship between graphemes and phonemes, the language" transparent (e.g. Italian), characterized by a predominantly direct relationship bisection between phonemes and corresponding graphemes. It also affects the processes used to read, assessment tools and clinical pathways rehabilitation (Consensus Conference, 2011, p. 7).

The results of the *Reading Words and Non-Words Test* are presented in Table 1 above.
Referring to the normative data of the instrument used (*ibid.*) with regard to the accuracy of the reading, the score of F. is between 1 and 2 SD (Standard Deviation)[5] for Low Frequency Short Words, while for High Frequency Long Words and Low Frequency Long Words the score is between the average 1DS, while for all the others the score is between the Average and -1 DS. Additionally it is noted that the girl's score stands near the 5th percentile for High Frequency Long Words and Low Frequency Short Words, taking as normative sample students of the 3rd years of the middle school (12-13 years old).
As regards the parameter of reading speed, the score of F. is between the average and +1 DS for Not Long Words, Words High Frequency Long, Low Frequency Court Words, Words and Low Frequency Long, while the average is between -1 and DS for not Keywords for this Court and the High Frequency Words Court, taking as norm sample students of the 3rd years of middle school (12-13 years old).
In *Test of reading passages for high school* (Judica & De Luca, 2005), F. achieved the following scores:

	1ST PASSAGE	REFERENCE VALUES (FOR UNIVERSITY LEVEL)	2ND PASSAGE	REFERENCE VALUES (FOR UNIVERSITY LEVEL)
Reading Time (in seconds)	140	----------------	152	-------------
Reading Speed (seconds per syllable)	0,24	*Average 0,17 SD +1 0,02*	0,25	*Average 0,18 SD +1 0,02*
Reading Speed (syllables per second)	4,07	----------------	3,9	-------------
Accuracy (scores of mistakes)	2	*Average 2,77 SD +1 1,83*	5	*Average 4,62 SD +1 3,23*

TABLE 2. Results of *Test of reading passages* - Pre-Intervention.

Regarding the speed parameter, the score of F. lies above 2 SD from the average value for both passages, while as far as the accuracy the score of F. is normal and is among the average value -1SD for the first passage, and between the average and +1 SD for the second passage.

3. Design and experimental intervention

The main aim of the intervention was to evaluate the scopes for improvement in terms of speed and accuracy in the reading of the words of F. through the use of a technological devices, and at the same time to evaluate the functionality of the instrument Reading Trainer, a software designed to develop interventions for pupils of school age.
The study consists of a pre-test, a training phase, and a post-test, approximately one week after the last training session. The main aim of the intervention was to improve the accuracy and the reading speed of the girl. It is well known that the expected increase in the reading of a passage, for natural development, in a year, is .3 syll/sec. (Tressoldi, Stella & Fagella, 2001). Based on the evidence reported by Tressoldi and collaborators, the study investigated the

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[5]Standard Deviation is a range within which the media can swing into account some parameters standardized reference. For diagnostic definition, if the reading speed of a subject is different, negative, 2 standard deviations from the mean, then the subject can be certified as dyslexic (Consensus Conference, 2011, p. 19).

possibility of an improvement in reading speed of at least .3 syll/sec after a treatment period of 3 months in an adult subject.

A previous study (Pinnelli & Sorrentino, 2013) has further highlighted the effectiveness of intensive treatments, with technological devices, to improve the fluency of reading in a school-age child. Based on that result, it was investigated the usefulness of technological tools, especially the Service Reading Trainer, even in subjects no longer of school age as F. This service has been designed by Patrizio Tressoldi (2011) and has been available on the website of the Cooperative Anastasis until 2013, starting from 2014 Reading Trainer has become a part of a more complex internet platform namely RidiNet.

Referring to the guidelines of Reading Training software, was calculated the starting speed of reading: it was of two minutes for a text never read before on a book (in that case was used a university book). This procedure was repeated twice with another passage from the same text. Even if there were committed errors, the latter speed (5.2 syll/sec) was initially considered the starting speed.

(61 seconds) reading speed 5 syll/sec (1st passage)
(35.86 seconds) reading speed 5.2 syll/sec (2nd passage)

Although the texts were new to F, it is also true that they referred to a field of study and to a lexicon, humanistic, quite familiar to the student. The texts were chosen by Reading Trainer chapters of the book "The classmate".

Also in the Test of reading passages for high school of Judica (Table 2), and in particular in the second passage she obtained a score of 3.9 syll/sec., quite different from the previous.

So it was opted for a starting velocity equal to 4.4 syll/sec, the average reading speed between the first and second passage of Test of reading passages for high school of Judica *et al*.

The training phase lasted three months from May 2012 to July 2012, with a session in September for a total of 9 intensive sessions except the first one where the girl familiarized with the device. At the beginning there were two sessions for week, but often they became weekly or fortnightly because of work commitments of the girl. Each session had a duration of a minimum of 45 minutes up to a maximum of 90, of which at least 15 minutes of actual exercise of reading, depending on the motivation of the subject. It is estimated that on average the girl read for 19 minutes per session. The reading exercises were interspersed with some breaks to avoid overloading the attention of F. It is also useful to point out that there have been long periods of absence from the sessions due to work commitments and holidays.

4. Exploring the software Reading Trainer

The "Reading Trainer" is a 2011 dated software developed by the Tressoldi's research group finalized to work in dyslexia and it is the result of ten years of reliable studies. Another reason of the choosing of the software is that the platform design allows: an easy access to the reports of each session, an option to change the parameters of speed, accuracy immediately and flexibly for each session.

The Reading trainer presents a series of passage and "divided into chapters, clicking the name of the passage it is possible to see the list of chapters and the list of tags [...] clicking on the chapter it will open the card details of the texts where there are indicated: the number of words, the number of syllables, the readability index Gulpease [...] that lets know immediately the difficulty of the text in terms of vocabulary and sentence structure" (Tressoldi, 2011).

Generally texts that have a readability index ranging between 80 and 100 are easy to read for primary grade school student, the student of middle school can read texts with an index between 60 and 100, while high school students read easily texts with an index between 40 and 100 (Diodati, 2007).

As regards the setting of parameters the learning outcomes in terms of accuracy and speed, they can be chosen from the educator according to the student's reading profile. There are some options that can be settled: the highlighting of the reading unit (sentence, word, syllable), self-adapting of speed and other formatting functions. In response to the reading profile of the subject, it was decided to use a combination of the lexical and sub-lexical /sub-syllabic model of reading through the online software "Reading Trainer Professional Edition", but with some modifications to the motivational feedback for the reasons cited above.
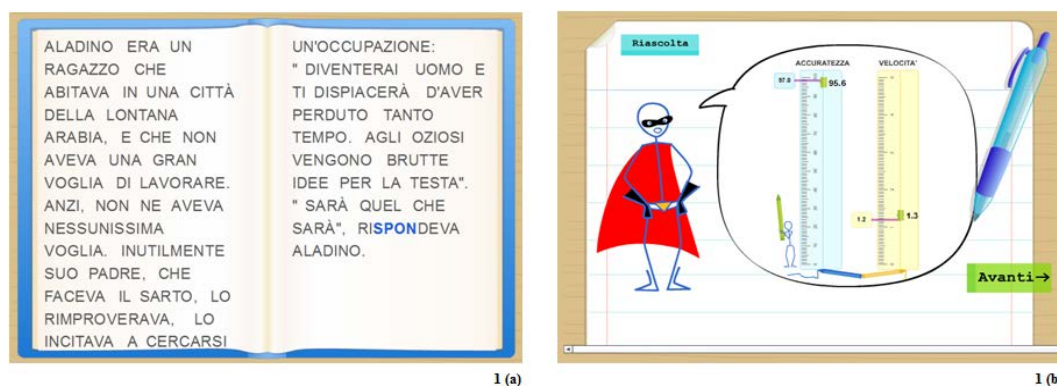
FIGURE 1. How the software works.

As the Figure 1 shows the software has 1(a) Sub-syllabic exercise. The reading go on with the highlighting of syllable. In this case we applied the sub-lexical model of reading. The highlighting of the syllable let the subject to focus on it. 1(b) The feedback for the performance: this figure shows how the screen appears to the subject after a performance. The bar at the left indicates the performance in terms of accuracy while the bar at the right indicates the performance in terms of speed. A voice of an animated character accompanies the description of the performance encouraging the user or congratulating with him for the results obtained.

"A reading session begins with the child access to the website of Reading Trainer. After the reading starts, the PC screen shows a text that the child [...] must read." (Tressoldi, 2011). During the reading, an educator should press [Enter] key on the keyboard to signal the reading errors committed. It can choose to display the errors as "marks" at the right of the text.

The Reading Trainer software offers the opportunity to be used to distance. The educator or the specialist of rehabilitation can prepare the background (set parameters) on which the subject will practice. The software needs only an adult who reports the errors in the reading by pressing [Enter] key.

As described in the technical manual (*ibid.*), the software has different options in order to reach the different types of difficulties that you may encounter in the work with individuals with dyslexia. The Reading Trainer can working in the processes of visual-perceptual and attentional in the phonological processing and in automating the processes of association between phonology and orthography. In this work were used some passages already present in the platform as well as some new ones added later that related to topics of particular interest to the girl. It is important to consider that between readings the girl had the possibility to comment the content or discuss about the features of the text, or ramble on about other sub-

jects not directly linked with the reading. All this in order to create a comfortable environment, in order to see the reading an activity for relaxing and not be evaluated.

The data analysis was conducted with the "Results" tool available by the software. In general it is clear an improvement in performance as regards the speed and for what concerns the accuracy.

Working with dyslexic adults presents on one hand the positive aspect of interacting with subjects often motivated and willing to improve the performance, on the other hand, we must avoid the risk of trivializing the intervention and reducing it to a simplistic use of the technological device. In addition, the adults do not need a lot of rewards as motivational feedback typical of the software dedicated to subjects in childhood, and in some cases are even counterproductive. Therefore it is necessary to pay close attention to the use of appropriate phrases based on the age of the subjects and improving the software according to this issues.

5. Results

The analysis of the results of the words and non-words reading test of Judica *et al.*, immediately highlights that before the intervention, the score of F. for Low Frequency Short Words for the accuracy parameter, was between 1 and 2 DS and between the average and +1 DS for the speed. However, after the intervention, the score was between the average and +1 DS for the parameter accuracy and between the average and -1 DS regarding the speed, thus demonstrating the significant improvements in both parameters.

F. also has a better performance in the Low Frequency Long Words before treatment. Before the intervention she showed a performance that was between the average and +1 DS for both parameters, while after treatment her score is between the average and -1 SD.

	NO-WORDS SHORT	NO-WORDS LONG	HIGH FREQUENCY SHORT WORDS	HIGH FREQUENCY LONG WORDS	LOW FREQUENCY SHORT WORDS	LOW FREQUENCY LONG WORDS
Errors	0	1	0	1	1	0
Seconds	21.12	45	17.04	21.08	17.99	28.1

TABLE 3. Results Reading Words and Pseudo Words After the intervention.

Another statistic that is useful to emphasize, is the improvement of the performance of F. in High Frequency Long Words. In fact, before the treatment she showed a performance that was between the average and +1 DS for both parameters, while after treatment her score is between the average and -1 SD, leaving the risk area. With regard to the non-words, there are improvements in terms of speed, however the score of F. continues to be placed between the average and +1 DS for Long No-words and between the average and -1 DS for Short Pseudo-words.

The analysis of the results in the test of reading texts shows more useful results to determine the productivity of the treatment.

As regards the speed parameter, it can be noted from the above tables, that in the test of reading passages, both before intervention and after intervention the performance of F. ranks above 2 SD from the average for both passages. However, as suggested by Tressoldi, we use as a unit of measure the number of syllables read per second. Therefore, it can be noted that in

	1° text	2° text
Reading time (in seconds)	129	149
Reading speed (seconds per syllable)	0,22	0,25
Reading speed (syllables per second)	4,43	4,1
Accuracy (score errors)	2	0,5

TABLE 4. Results of Reading Passages Test of Anna Maria De Luca, Judica After-Treatment.

the 1st Passage, F. reached the target speed because she passes from a reading speed equal to 4.07 syll/sec to a final speed of 4.43 syll/sec, surpassing the level of improvement of .3 pre-determined at the beginning of the treatment. On the other hand the improvement in the 2nd Passage is of 0.2 syll/sec. However, in this second passage a surprising result is the decrease in the number of errors that goes from 5 to be 0.5. Most probably a more accurate reading of low frequency words (longs and shorts) has had a negative impact on the reading speed.

The improvement of .3 syllables per second at the end of the treatment is also evident from a graphical reworking of the results recorded by the Reading Trainer software.
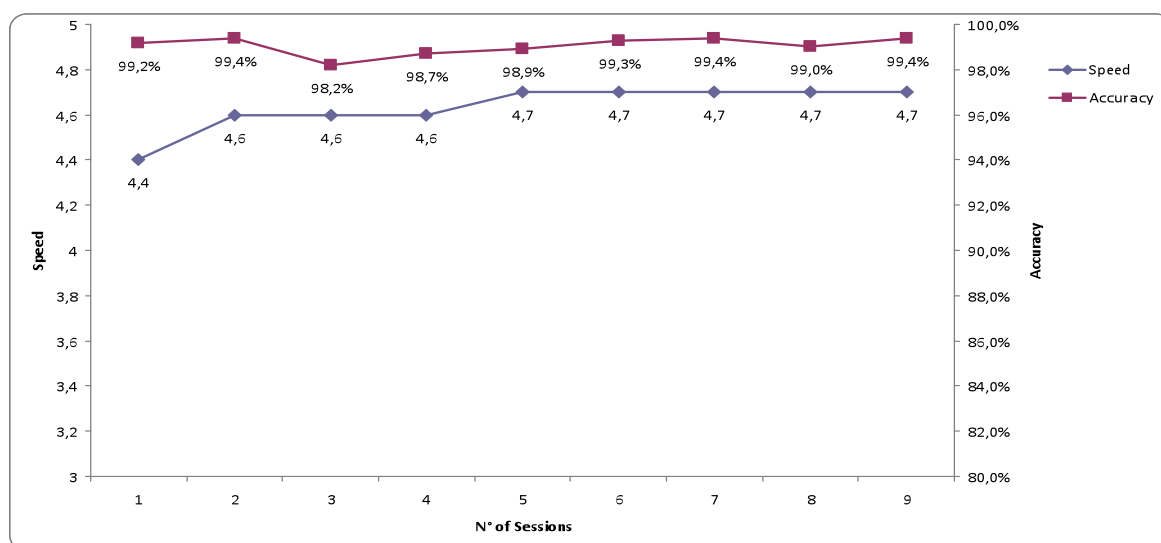
FIGURE 2. Evolution in the reading of F. The figure shows the trend in the speed and accuracy of reading of the subject during each treatment's session with the Reading Trainer software.

At the conclusion of the strengthening intervention, further data was collected through an interview aimed to explore "The motivation towards reading" after the treatment and the "role of the educator" in the intervention. In addition, the interview was able to pick up some advice for using the software with adult subjects and tips that can be transferred to the use of technology in general.

With regard to the motivational aspect, it seems that the use of Reading Trainer has increased "enough" the desire to read a passage. The role of the educator has also been investigated in a previous study (Pinnelli & Sorrentino 2013) that stressed its importance for the smooth running of an intervention. Also in this study, it was "very" important for F. to be guided by an educator during the treatment.

The intervention with F. has also led to the increased sense of security in the reading of passages aloud. This data is a factor of considerable importance, as it allows us to hypothesize that the use of technology within a rehabilitative approach leads to the containment of the

sense of learned helplessness. This is because the subjects may have a visual feedback of the improvements they make along the sessions, thus increasing the situations of perceived effectiveness.

6. Conclusions

The clinical/educational interest in dyslexic subjects focuses in the majority of cases on the study and treatment of young people and children. However, research on the adult population shows that even subjects already at a postgraduate level may continue to experience problems in the accuracy and especially in the speed of reading. The side effects of dyslexia can include lack of confidence, low self-esteem and increased level of frustration that (produce) further limit a good, and above all functional reading performance (Riddick, 1996). Dyslexia also affects the quality of life of adults, for example the reading of documents during a job search or the preparation for exams. All these issues clearly highlight the need for services that can meet the specific needs of adults, by providing objective assessments of their ability to read as well as treatment options.

In this paper we evaluated the effectiveness of the technological device Reading Trainer with adults. The findings of the present investigation show it seems to be a reliable tool in the rehabilitation of reading, even in adult individuals. Appropriate changes to the software could be considered to make this software more suitable for people of this age group. One suggestion would be to shift the provision of feedback depending on the age of those who use it, and place a greater focus on the prosody.

The use of technology into adulthood remains a necessary but not sufficient tool for the re-education of reading. Predominately in adulthood it is revealed that there is a need to work on the side effects of dyslexia, in other words an educational plan that takes into account the emotional aspects, for example, and that can work on the learned and consolidated helplessness.

Dyslexia, along the arc of life, "assumes different degrees of expressiveness depending on its severity, the cognitive characteristics of the subject and the educational or relational opportunities that he receives" (Martin *et al.* 2011). In the case of young woman F. the helpfulness of her colleagues in the organisation, the management of academic material and the support from some academics has been the way out of a lack of motivation to study. This was also aided by the choice of a different course of study during and after college that highlighted her potential. However what happened to F. unfortunately is not common, and the relationship between dyslexia and the phenomenon of early school leavers is an example of this situation. In conclusion, all these issues have highlighted the importance of qualified professionals in the school, who can support and guide the student in his formative and professional life

References

Allamandri, V., Brembati, F., Donini, R., Iozzino, R., Riccardi Ripamonti, I., Vio, C., Mattiuzzo, T., & Tressoldi, P.E. (2007). Trattamento della dislessia evolutiva: un confronto multicentrico di efficacia ed efficienza. *Dislessia*, *4(2)*, 143-162.

Bandura, A. (Ed.) (2000). *Autoefficacia: teoria e applicazioni.* Trento: Erickson.

Coltheart, M., Rastle, K., Perry, C., Langdon, R., & Ziegler J. (2001). DRC: A dual route cascaded model of visual word recognition and reading aloud. *Phsychological Review, 108(1)*, 204-256.

Consensus Conference (2007). *Disturbi Evolutivi Specifici Di Apprendimento. Raccomandazioni per la pratica clinica*. Montecatini Terme, 22-23 settembre 2006.

Consensus Conference, (2011). *Disturbi Specifici Di Apprendimento*. Ministero Della Salute, Roma.

Cottini, L. (Ed.) (2004), *Didattica speciale e integrazione scolastica*. Roma: Carocci.

Facoetti, A., Trussardi, A.N., Ruffino, M., Lorusso, M.L., Cattaneo, C., Galli, R., Molteni, M., & Zorzi, M., (2010). Multisensory Spatial Attention Deficits Are Predictive of Phonological Decoding Skills in Developmental Dyslexia. *Journal of Cognitive Neuroscience*, *22*(5), 1011-1025.

Hatcher, J., Snowling, M.J., & Griffiths, Y.M. (2002). Cognitive assessment of dyslexic students in higher education. *British Journal of Educational Psychology*, *72*, 119-133

Lyon, G.R., Shaywitz, S.E., Shaywitz, B.A. (2003). A definition of dyslexia. *Annals of Dyslexia*, *53*, 1-15.

Pinnelli, S., & Sorrentino, C. (2013). Un approccio combinato computerizzato per migliorare la fluenza in un lettore dislessico. *Dislessia, 10*(1).

Pizzoli, C., Lami, L., Calmieri, A., & Solimando, M.C. (2011). Dislessia e fattori psicosociali: percorso accademico e benessere psicosociale di due campioni di giovani adulti. *Psicologia clinica e dello sviluppo*, *1*.

Riccardi Ripamonti, I., Truzoli, R., & Salvatico, T. (2004), Analisi di efficacia dell'approccio fonologico lessicale nel trattamento delle difficoltà di letto-scrittura. *Dislessia*, *1*(3), 309-338.

Riddick, B. (Ed.) (1996). *Living with dyslexia. The social and emotional consequences of special learning difficulties*. London: Routledge.

Stella, G. (Ed.) (2001). *In classe con un allievo con disordini dell'apprendimento*. Milano: Fabbri Editori.

Tressoldi, P.E. (Ed.) (2011). *Reading Trainer Professional*. Bologna: Anastasis Società Cooperativa.

Tressoldi, P.E., Iozzino, R., & Vio, C. (2007a). Efficacy of an intervention to improve fluency in children with developmental dyslexia in a regular orthography. *Journal of Learning Disabilities*, *40*, 203-209.

Tressoldi, P.E., Iozzino, R., & Vio, C. (2007b). Ulteriori evidenze sull'efficacia dell'automatizzazione del riconoscimento sublessicale per il trattamento della dislessia evolutiva. *Psicologia Clinica dello Sviluppo*, 27-37.

Tressoldi, P.E., Stella, G., & Faggella, M. (2001). The development of reading speed in Italians with dyslexia: a longitudinal study. *J Learn Disabil*, *34*, 414-417.

Tressoldi, P.E., Vio, C., Lorusso, M.L., Facoetti, A., & Iozzino, R. (2003). Confronto di efficacia ed efficienza tra trattamenti per il miglioramento della lettura in soggetti dislessici. *Psicologia Clinica dello Sviluppo*, *7*(3), 481-493.

Vinegrad, M. (1994). A revised Adult Dyslexia Checklist. *Educare*, *48*, 21-23.

Vio, C., & Tretti, M.L. (2008). Il trattamento del disturbo della lettura. Evidenze dell'efficacia di un intervento di automatizzazione della decodifica attraverso il software abilitativo Occhio alla Lettera. *Dislessia, 5*(1)*, 45-62.

Zoccolotti, P., De Luca, M., Di Filippo, G., Judica, A., & Spinelli, D. (Eds.) (2005). *Prova di lettura di parole e non parole*. Roma: IRCCS Fondazione Santa Lucia.

Collaborative Learning Design:
university teachers interactions to support quality teaching in blended courses[1]

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Abstract
Teaching practices in higher education (HE) are not aligned with latest findings of educational research on quality teaching; partially, this is due to the fact that there is little reflection within the HE cultures about quality teaching, and quality procedures imposed through prescriptive models tend to fail. In this article the authors contend that a strategy to promote quality teaching could be based on *collaborative learning design* (CLD). Within the process of collaboration indeed, the values attached to the pedagogical practices and assumptions can be negotiated towards the improvement of quality. To illustrate this assumption, a process of CLD, based on the interactions within an academic staff to improve a blended course is presented. Such collaborative process triggered a number of discussions as part of *negotiating* the own quality perspective on teaching towards integrated, expanded *quality teaching* perspective that supports academics engagement with a *quality culture.*

Keywords
Learning Design, Quality Teaching, Collaboration, Academic Staff

1. Introduction: the quality problem in Higher Education

The trends of research emphasize the notion of quality as a participatory process, where the learners and users vision are fundamental, as part of dialogue within an organizational and learning process (Ehlers, Helmstedt, & Bijnens, 2011) supporting the generation of a "quality culture" and of "peer reviewed" quality (Ehlers & Joosten, 2009; Auvinen & Ehlers, 2007). In fact, Ehlers' refers to a "Quality Culture", which goes beyond evident quality procedures (Ehlers, 2007, 2009)*;* this is based on 4 elements of the organizational culture, namely: structural element (the visible quality system of an organization), enabling factors (the

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tools/engines that allow the implementation of quality systems), quality culture (the values, symbols, heroes and rituals linked to the idea of quality) and transversal elements (the forms of participation, communication and trust that maintain a certain quality approach). According to Ehlers, the model of Quality Culture cannot be changed/improved if stakeholders are not aware of these elements at least partially. He further emphasizes that quality systems implemented as *exogenous* (mostly based on structural elements) tend to conflict with the organizational culture and hence to be applied superficially; whereas *endogenous* quality systems take into consideration actors participation and awareness of the quality system, governing processes and production. This form of stakeholders information, skills, and ability to transfer into practice the quality values, is called by the author "*quality literacy*"*,* a concept that is further divided into four important dimensions: quality knowledge (to know what about quality), quality experience (to have the necessary instruments to implement quality); quality analysis (to evaluate – and understand the evaluation – of quality); quality innovation (to modify actively what is necessary to promote better quality).

To expand Ehlers' idea, in our research we took into consideration the socio-constructivist meaning of the term *mediation* (Wertsch, 2007) as approach that implies offering tools that would support the processes of negotiating the many values lying behind a *quality culture.* According to this theoretical reference, *mediation* could encompass a learning process where stakeholders can enter a process of change, being guided *across the zone of proximal development,* from an initial position (i.e. *outsiders* of quality) to a new position (as *insiders* of quality or active agents of change) (Ghislandi, Raffaghelli & Yang, 2013).

This approach cannot be considered *prescriptive,* that is, based on a number of instructions to operate. Instead, it is contextual and based on the type of professional/institutional practices within the learning culture.

These research approaches were thoroughly adopted by the ENQA (European Association for Quality Assurance in HE)[2], in the elaboration of an European framework for quality, but their implementation along the several national quality systems and within the single institutions could encompass discrepancies that are connected to the organizational values and interests, as it is particularly the case of Quality Teaching, where in spite of the several educational research advances and recommendations for quality pedagogical practices, the tradition remains.

2. Quality teaching in Higher Education

Quality teaching must face challenges that start from learning outcomes but go beyond this, regarding the development of Higher Education Institutions as key players in a territory and within expanded institutional networks (Hénard & Roseveare, 2012, p. 3). These soft elements require types of intervention that go beyond "informing" on quality practices, even *research-based* information. Instead, as Laurillard (2012) puts a *design thinking* approach to teaching should be considered, that exposes the teachers to educational problems and processes of Learning Design like planning, creation of solutions, implementation and reflection, and systematic representation of solutions. This process could be the base of deconstructing and re-constructing pedagogical beliefs in line with educational research advances and hence, with *quality teaching.* However, even if Learning Design has been frequently associated with the teacher as *solo player,* the reality is that *designing* (in the general sense of the term, in

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2 http://www.enqa.eu/

areas such as engineering and architecture) is a social process (Cross, 2011). In the educational field, some researchers have also highlighted the social nature of designing, where communication within a process of joint, collaborative problem solving is the key (Cox & Osguthorpe, 2003) furthermore, team design communication patterns have been identified (Rapanta, Maina, Lotz & Bacchelli, 2013). Design as social and collaborative process can be considered in line with our initial formulation of quality teaching: it encompasses the negotiation of values and beliefs for a contextualized problem solving, within a professional community. The process of collaboration is hence a crucial activity of *peer-learning* that *mediates* quality.

In this article we focus the *academic staff* activities for *quality teaching;* this last in time is to be linked to pedagogical innovations (like collaborative learning and use of technologies), significant content taught (like knowledge tightly connected to research in a disciplinary field) impact on effective learning (like better achievements in key competences). We contend that a strategy to promote quality teaching emerges from interactions and collaboration for learning design, being the base to think about teaching processes solving the several problems linked to a contextualizing design. Within this collaborative process the academic staff:

a) improve their knowledge/understanding on issues that are connected to learning design as part of quality teaching.
b) experience the new quality principles in their process of *learning design.*
c) analyze/reflect on the quality achieved within the new *learning design* adopted.
d) implement concrete innovations to the own *learning design* practices according to the achieved quality principles.

Our attempt is to show how the *collaborative learning design*, based on the principles of *design thinking* works as instrument of mediation, letting the values attached to the pedagogical practices and assumptions to be negotiated towards the improvement of quality.

3. Methodological approach: a teachers-led inquiry process

Having conceptualized our approach to quality in Higher Education, we attempted to explore one of the perspectives of quality analysis: *teachers' collaborative design for learning*. Furthermore, we focused the level of intervention on a blended course quality. Our guiding research question was: Can *collaborative learning design* mediate the process of achieving *quality literacy* for *quality teaching*?

Based on a qualitative epistemological approach, the methodology chosen was that of the *teacher-led inquiry,* which is a new perspective in the processes of research on teaching. The teachers-led inquiry is an approach that relates learning design, teaching as *design science* (Laurillard, 2012) and a self-conducted process of inquiry where the same teacher/ trainer/academic staff reflects on the effectiveness of innovations introduced as a result of the *learning design.* Within the Teacher-led inquiry approach the teacher is more than the technician that implements the educational research findings. It encompass teachers' engagement, reflection and deep understanding of teaching and learning processes, through design based research activities, which impact is expected both in the pedagogical practices as well as in continuing professional development (Ashburn, 1995). The teacher is in fact at the centre of a dynamic process of goal setting, analysis planning, analysis execution, reflection and communication (Dana & Yendol-Hoppey, 2008).

The elements of our teacher-led inquiry were:

a)   The problem requiring a design-thinking approach: the quality of the learning design for a higher education course, which was based on a face-to-face approach for 3 editions, and was in the process of being transformed into a blended course with an important percentage of networked learning activities envisaged in the new approach.

b)   The context of intervention: spatial and temporal coordinates of the unit being analyzed, that is, a study along 3 months of time (from September to December 2012) about Psychology and Cognitive Science Department of Trento University. The study was conducted in the context of a national research project (PRIN[3] 2009-Italy), denominated "Evaluation for the improvement of educational contexts. A research involving University and local communities in the participatory development of innovative assessment models". The above mentioned project is established with the cooperation of five Italian universities (Verona, Milan Catholic University of Sacred Heart, Trento, Milano-Bicocca, Pavia). The project aimed at find the points in common in evaluation processes that qualify educational processes in new formal and informal learning environments; indeed, it regards the idea of rethinking evaluation to improve quality through socio-constructivist approaches (Mortari, Bondioli Bettinelli, Ghislandi, Riva, & Viganó, 2009). In this context, the University of Trento unit devoted the energies to analyze how quality of eLearning is introduced in the changing institutional context of higher education. This study was linked to the prior experience of the research unit (from 2002 on) in the implementation of an institutional body and a further lab for the analysis and support of innovations in pedagogical approaches with educational technologies and eLearning in the context of the University of Trento.

c)   The participants approach to higher education quality of and, in this context, to eLearning quality. The participants of this study were 5 integrants of an academic team implementing an undergraduate course. The team was composed by two professors, two eTutors and an instructional designer. The aim of the group was re-designing an already implemented course in search for improvements regarding the prior edition.

d)   The institutional culture (values, meanings, beliefs) about quality in higher education. One of the most important characteristics regarding the team was the diversity of professional profiles and roles played in the process of designing for learning, representing different perspectives of quality. In the "results" section, the profiles are further described.

The body of data collected was composed by several types of data:

a)   4 audiotaped and 1 videotaped working session. The sessions were aimed at discussing and advancing in the process of learning design. The components of the team were not always present during the sessions; the two professors responsible for the course (co-teaching) were present in 1 audiotaped and in the only videotaped session. The rest of meetings were done between the instructional designer and 1 of the professors.

b)   201 email exchanges within the working team.

c)   5 MEMO written by the instructional designer accompanying the process of learning design, after every session.

The data, collected in Italian, was transcribed and a thematic analysis was applied in the same language. Within this, the discourse in the texts was codified and organized in 4 groups/categories consisting in the 4 quality dimensions established as part of the theoretical framework of analysis. A member-check analysis of the results was done inviting some of the team members to search for the coherence/adjustment of the themes/strings of discourse se-

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[3] Progetti di Ricerca di Rilevante Interesse Nazionale, Ministero dell'Università, l'Istruzione e la Ricerca, Projects of National Relevance, Ministry of University, Education and Research of Italian Republic.

lected with the categories. Later on, for the purposes of this article, the excerpts of discourse were translated into English.

All data is protected against the identification of participants. For this reason, details on the topic of the course, as well as professional fields of research are not mentioned.

4. Results

As explained in the section above, the team was composed by 5 members playing different roles. However, the most important interactions had place between the two professors, responsible for the content and the pedagogical approach of the course.

[P1] Professor 1 was the main responsible for the course, being expert in the content.

[P2] Professor 2 was the second responsible for the course, being expert in pedagogical approaches and eLearning.

[eT1] eTutor 1 was responsible for communications and students' guidance during eLearning activities. He was expert in the content/knowledge taught.

[eT2] eTutor 2 was responsible for introducing students to the networked learning approach, adopting technological tools like wiki and video/audio recording, as well as collaborative learning environments

[ID] Instructional Designer was responsible for giving feed-back regarding the process of learning design and design-based research, assisting P2.

The main interests driving the team collaboration were to do adjustments to innovate in the pedagogical approach to an already established course. This was going to be done through the interdisciplinary collaboration between P1 and P2. However, eT1 and eT2 played crucial roles in defining and supporting operationally the decisions taken by P1 and P2; while ID supported P2 in the analysis of the whole process of teacher-led inquiry. Her role was metaphorically identified by the team as that of a *mirror for the learning design process.* To accomplish her task ID should annotate, synthesize and recall the rest of the academic staff's significant issues emerged during the collaborative and conversational process of learning design.

Table 1 introduces some excerpts of discourse taken from team design "conversations" (synchronous exchanges during design sessions, as well as asynchronous exchanges by email). The discourse selected (column 3) relates to the four general quality dimensions (column 1) as well as the specific teaching dimensions that are discussed and negotiated in order to improve the quality of the course.

Quality Dimensions	Quality Teaching aspects negotiated	Discourse
Improving knowledge/ understanding: The negotiation of approaches for quality	- discuss about the use of technologies - improve the contents - supporting collaboration between students - giving sense to the course in the context of the career and institutional culture.	*"I'm concerned about the number of rejected students the last year, when we implemented the first blended course…This course was based in 3 years of prior experience of mine on the topic: so it "inherited" my work on the refinement of contents; as well as P2 networked learning approach…but we have to adjust many issues…"* (Session 1/P1: COD3) *"Then I saw that the number of rejected was within 30%, as in other university courses. Yet I believe there are issues to improve since the course is still an hybrid between your and my*

Quality Dimensions	Quality Teaching aspects negotiated	Discourse
		type of teaching approaches" (Session 1/P1: COD4) *"I think there are topics that require a glossary, clear definitions of concepts and terms for the students. I know I could be schematic but we need to underpin key concepts, since this is a very difficult course in our institutional context"* (Session 1/P2: COD7) *"So you are saying that the sense of the course is not well understood by many students…"* (Session 1/ID: COD8) *"…the other epistemological approach prevails and I can see many students have prejudices about this field of research"* (Session 1/P2:COD9) *"they simply don't see the type of skills they can achieve…"* (Session 1/P1:COD11) *"this module on networked learning can be confusing, for there are other completely different laboratorial activities relating to the specific content, this is on the process, not the content…but I agree that students wouldn't understand the value of collaborating without it"* (Session 1/P2:COD23)
Experiencing quality principles: The tools for achieving quality	Some of the tools that have been adopted by the team to support the learning design process	*"I can prepare the course schedule and the syllabus, so we can understand where do you intervene. I need you to focus some topics that are in tight connection with your discipline, while there are other that I think is better I take over…"* (Session1/P2:COD41) "*So the syllabus, that you have to prepare for the students, crystallizes all your process of negotiation of contents and pedagogical approach*" (Session 1/ID:COD46) *"I simplified the networked learning approach module; I removed the issue of the video presentation, and prepared a simplified presentation for the adoption of collaborative forum…Guess this is the minimum for the proposed collaborative approach"* (Mail123/eT2) *"I prepared a table with the division of roles for the evaluation, since we are three people working together, apart eT2 that was with us initially"* (Mail137/P2) *"We have to revisit our questions for the written examinations. I propose the following divi-*

Quality Dimensions	Quality Teaching aspects negotiated	Discourse
		sion of labour…eT1 could you take a look to the "Jolly" (questions proposed by the same students) I guess there are questions that are not pertinent on the light of what we have done with students this semester"* (Mail87/P1)
Reflecting on the quality achieved: the process for quality.	How the initial problems for the design are adjusted	*"here is the* tank *of instruments we are about to use. Guess it reflects our conversations and last changes to the current design"* (Mail3/P2) *"In this new plan we solved the problem of a balance between the networked learning approach and the contents; however the raise of numbers of students is a variable we cannot adjust and the laboratorial and collaborative approach depend highly on this"* (Session3/P2:COD16)
Concrete innovations to the own learning design practices: the impact of quality	Innovations emerging from the new learning design	*"I'm in front of two minds and two souls, in their generative and dialogic space. I don't think they could do this alone…their result is about negotiation, and the final representation of the design in the syllabus is the product of two views of the pedagogical practices…"* (MEMO4/ID) *"I can see the groups are quickly entering in the collaborative process for the first module. I guess how it will be for the Module 7, where we have a lot of practice…"* (Mail107/eT1) *"I don't think this group is properly collaborating. Very few interventions and this is reflected on their joint assignments.."* (Mail114/eT1) *"In the end I think the assessment system we considered is fair with specific knowledge the students must have, but also with the idea of the collaborative learning"* (Session5:P1, COD3) *"This course could be the beginning of something bigger. I think we can package it and prepare a post-lauream course like a Master Degree, for the contents we are re-elaborating and the approach would be innovative in our (national) context"* (Session5/P2:COD7)

TABLE 1. Dimensions of Quality (general) and Quality Teaching (speficic) as process of negotiation and the relating evidence collected

5. Discussion: Gaining quality through collaborative learning design as process of *mediation*

The analysis introduced above allowed us to explore and find concrete evidence for the process of *mediation*, in terms of knowledge shared relating to different perspectives on quality; experimentation of tools/approaches for quality; reflection and expansion/innovation for a new perspective of quality. What emerged clearly is that the process implies tight collaboration and negotiation of the participants' agency. Design is here negotiation of initially different points of view; one focused on the learner and the pedagogical processes, as well as the adoption of educational technologies; the other centered on the excellence of the content; each of the participants is beholder of a perspective on the quality that is deeply rooted from their own personal point of view and history of teaching and making research.

Both P1 (supported by eT1) and P2 (supported by eT2) launched the process on the basis of issues that were attempting against the quality:

- Contents of the course: the problems expressed by the students regarding a "too fluid" "vast" "contradictory" content, and not easy to match with the own professional profile.
- The translation of lab activities from a highly face-to-face approach to a blended system.
- How and where introducing collaborative learning and networked learning activities with students.
- Examinations: A concern on the way grades are attributed that fairly reflects the essential knowledge the students must display after having attended the course, as well as the skills developed through collaboration and participation. If there is a quality value within design, the examination system must show to which extent this has been covered.

The focus of quality within design can be different and even conflictive, as we can see in the tensions between P1 and P2 to negotiate the initial perspective on quality (P1 on the content and P2 on the pedagogical process, Session 1/P1: COD3; Session 1/P2: COD7). However, the collaborative process leads to a combination of perspectives on the quality (MEMO4/ID), which in time determines an expanded vision on quality based on better knowledge, adoption of tools, try out, innovation (Mail107/eT1; Mail114/eT1; Session5/P2:COD7), that is the acquisition of *quality literacy*. The mediation (process of achieve quality literacy) occurs as symbolic change of personal positionings; indeed, this expanded vision of quality is part of moving from an external positioning regarding a quality perspective (for example the reluctance about the use of networked learning and of collaborative learning activities within the module), to a internal perspective (the approval and adoption of them). There is an intersemantic process that can be seen clearly in the expression of eT1 and P1 (Mail114/eT1; Session5: P2, COD3): the importance of collaboration as part of the focus of quality is achieved, beyond the initial position where the focus of quality was the production of contents. But it is also present in the agreement, by P2, to better balance the activities on the networked learning approach to support the focus of crucial content about the subject taught. The ID Memo quoted shows also this impression on the process of negotiation and meaning making, that is, the *mediated quality*.

A very interesting result, to be highlighted, is the way the *design (inter)thinking* process mobilizes the academic staff interdisciplinary reflections regarding the field of research that is at the base of the knowledge taught. Indeed, the improvement on the quality results in generating a space for academic work in order to anchor terms and approaches, further conceptualizing the field of research, in order to have better examples of research and a clearer body of knowledge to be transmitted to students.

6. Conclusions

Our initial research question was: Can *collaborative learning design* mediate the process of achieving *quality literacy* for *quality teaching*?

 We tried to bring evidence underpinning the way in which collaborative learning design (and in this case the re-design) of a course is an operation that mediates the acquisition of quality literacy, along a process were the participants improve their understanding on the quality problems; introduce and experience tools supporting the quality process; reflect on the quality achieved; and implement concrete innovations for quality. Our approach works mostly in what Ehlers has denominated the *potential quality* which is to say, ground for a final outcome of quality, going beyond a *prescriptive* model on quality. As this author claims, "*a* comprehensive empirical validation of the described concepts has so far not been undertaken. Therefore we suggest empirical research questions*" (Ehlers, 2007, pp. 106-107). Our effort has been in fact put on the implementation of a conceptual model (*mediated quality)*, regarding the specific issue of quality teaching. As we emphasized initially, quality teaching is a key piece of the modernization in higher education, but it is equally difficult to achieve due to the lack of attention and the disconnections between educational research and the level of teaching practice. By connecting this problem with the need of considering the teaching profession as *design science,* we attempted to introduce a way to align educational research with practices, as a base for quality teaching. Furthermore, we showed evidence supporting that expanding the own perspective on quality (achieving quality literacy and hence becoming a quality *insider*) is tightly connected with the a personal experience and reflection on quality in a space of negotiation with peers that are holders of different disciplinary and pedagogical conceptions of quality.

This concept of quality as a *participatory* meaning making process connected to an organizational *quality culture in higher education* (Ehlers & Schneckenberg, 2010) is growing quickly, but more evidence (micro-cases and qualitative analysis) on the way the several learning cultures (particularly in higher education) deal with this type of approach, as well as large quantitative studies analyzing the impacts of quality analysis and rankings, will lead to clearer pathways for a quality process of modernization of higher education.

References

Ashburn, E.A. (1995). Teacher-Led Inquiry: A Compelling Direction for the Education of Teachers. *Action in Teacher Education*, *17*(3), 79-86.

Auvinen, A., & Ehlers, U. (2007). *Handbook of Quality Management of Peer Production QMPP.* EFQUE. In http://cdn.efquel.org/wp-content/uploads/2012/03/QMPP-Handbook_ver099.pdf?a6409c

Cox, S., & Osguthorpe, R.T. (2003). How do instructional design professionals spend their time? *TechTrends*, *47*(3), 45-47.

Cross, N. (2011). *Design Thinking: Understanding How Designers Think and Work*. Oxford: Berg Publishers.

Dana, N.F., & Yendol-Hoppey, D. (2008). *The Reflective Educator's Guide to Classroom Research: Learning to Teach and Teaching to Learn Through Practitioner Inquiry*. Corwin Press.

Ehlers, U. (2007). Quality Literacy - Competencies for Quality Development in Education and e-Learning. *Educational Technology and Society*, *10*, 96-108.

Ehlers, U. (2009). Understanding quality culture. *Quality Assurance in Education*, *17*(4), 343-363.

Ehlers, U., & Joosten, J. (2009). Quality evaluation of eLearning through an international peer-review community, *elearning papers*, 1-8.

Ehlers, U., & Schneckenberg, D. (2010). *Changing Cultures in Higher Education: Moving Ahead to Future Learning*. Berlin: Springer.

Ehlers, U., Helmstedt, C., & Bijnens, M. (2011). Shared Evaluation of Quality in Technology-enhanced Learning. White Paper developed in the Framework of the SEVAQ+ Project, 25. In http://wikindx.ens-lyon.fr/biblio_vst/index.php?action=resource_RESOURCEVIEW_CORE&id=8316

Ghislandi, P., Raffaghelli, J., & Yang, N. (2013). Mediated Quality. *International Journal of Digital Literacy and Digital Competence*, *4*(1), 56-73.

Hénard, F., & Roseveare, D. (2012). *Fostering Quality Teaching in Higher Education: Policies and Practices*. In http://www.oecd.org/edu/imhe/QT policies and practices.pdf

Laurillard, D. (2012). *Teaching as a Design Science: Building Pedagogical Patterns for Learning and Technology*. London: Routledge.

Mortari, L., Bondioli Bettinelli, A., Ghislandi, P., Riva, M., & Viganó, M. (2009). *Project PRIN "La valutazione per il miglioramento dei servizi formativi. Una ricerca Università-territorio per la costruzione partecipata di modelli innovativi di assessment"*. Roma: Università di Verona - MIUR.

Rapanta, C., Maina, M., Lotz, N., & Bacchelli, A. (2013). Team design communication patterns in e-learning design and development. *Educational Technology Research and Development*, *61*(4), 581-605.

Wertsch, J. (2007). Mediation. In H. Daniels, M. Cole, & J. Wertsch (Eds.), *The Cambridge Companion to Vygotskij*. Cambridge University Press.

Section 2
Short
Communication

"Those who can, teach":
pedagogy and the pivotal role of the teacher
in the Information and Communication Technologies (ICT)
in the learning environment

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Abstract

The pedagogy today presents itself as a science whose field of investigation would characterize a very wide articulation of new topics related to training and education, issues that require specific reflections and a new proposal. The Pedagogy especially regards the procedures for teaching and its critical pursuit is delegated both to a constructive task (integrate knowledge, connect them to the current problems, developing a common horizon solutions) and to a review, control and voltage regulating task, and therefore, of meaning, of the educational process. A Pedagogy, the current one, which in front of the explode of so many new knowledge, especially with technology, must contain:

- the idea of a knowledge which seeks to promote and facilitate the emergence of subjectivity of the person;
- the idea of giving meaning to build meanings refuting ethical valences, expressions of responsibility toward themselves, others and the common good, which is the foundation of democracy;
- the idea of the project and a projection toward the future, which contrasts with which avails itself of the fleeting moment and tip the unpunctuality with regard to the past. A project that should guide the knowing how to make training and therefore the teacher professionalism toward the old and new skills and direct to produce improvements in the behavior.

Keywords

Pedagogy, School, Teacher, Competence, New Technologies

1. Introduction

The history of the humankind is also the history of education and training. The History that in time has been building up the quantitative and the qualitative trends determined by the input of knowledge and by the technologies more and more new and innovative competences. The pedagogy, which is the general science of education and training has been having the task of interpreting them (even if it is not always easy) know them and inform them. Today it is, once again, important to carry out this task so difficult and problematic in that and it must deal with the needs of men and women, boys and girls living in a society constantly evolving, for this, for many, it is not always understandable and manageable.

The pedagogy for this reason presents itself as a field of investigation characterized by a very wide articulation of issues related to education that a reflection on the new proposals. The pedagogy must necessarily leads the school (one of the primary places in which pedagogy pursued and still exerts a strong formative action and educational) toward the guarantee, to the

young generations, of "knowing what to do" to avoid the rise of new forms of exclusion and of new illiteracies and the presence of innovative technologies could generate in those who are not able to use them. A know-how that must not be the result of only one transmission of specific technical knowledge, but of "knowing how to be", that is, to know how to use in a conscious way, significant and custom tools and innovative technologies. Above all to be able to do this, it is necessary to rely on a long life learning which could predict an axis centered on the use of technologies in order to qualify the teacher professionalism which must require the teachers changing on their perception of their role and their identity as adults. We deal with individuals of a well-defined cognitive identity and professional, from which they derive consolidated learning strategies (and, in our case, even teaching), the change of which requires, as adults, a strong motivation. A motivation that must base its *raison d'être* on learning for an end that has to be clear and that should be able to hear his psychologically as need-desire for the roles that exercises, for the objectives that pursues, for the challenges that wants to win, for the problems that cannot resolve. Therefore the integration of ICT (Information and Communication Technologies in the English acronym) in educational practice as ordinary means (and not exceptional or experimental), must request, in the first place, the teachers themselves to use these tools to their own cultural and professional training up to hear their own, to choose you as such. We need to go beyond the vision of the use of ICT as a necessity to which the school should focus on the significance of learning professor, in the knowledge that this may explain the valence didactic of these technologies and especially their educational purpose, i.e. the acquisition of autonomy, the personal development through integration with the more general context of learning and the type of relationship with the other components of this context, teachers *in primis*. Only at the moment in which for the teacher the use of ICT will be familiar and significant, we can talk about integration of the same in his cultural and professional and they may expect that (organizational structures permitting) the face their own in his "doing school" daily. But this is still not enough. We must overcome a model of technology education-linear that leaves him to himself the teacher after a more or less massive training intervention aimed the notorious "computer literacy". The presence today of supporting figures who will support the teacher in changing, provide to him interventions as "educationally relevant" and "pedagogically oriented". These actions help the teacher to move toward the of use relevant skills to emphasize the importance of the educational function of his own: for example a CD-ROM is not enough to change the school and will not be the ECDL certification to change the teacher!

2. The teacher and the new skills

The National Italian Plan Teacher Training must be read on Information and communication technologies when it recommends that the definition of training paths for teachers of the new technologies should not be reduced to a simple acquisition of the skills of a technical nature but it is important to appreciate the threefold valence of ICT (Information and Communication Technologies) as support tools:
- at the organization and management of its professional activity;
- to its cultural activity, with particular reference to the possibilities of the Internet;
- forthe improvement and for the facilitation of the learning process of discipline on the part of their students.

We must not forget that students today are often at the technological level and they know more tools than teachers, because they learn to use the ICTs in the "Iper-school" (Calvani,

2006; 2013), thanks to TV, PC, with games, but also at home, at cultural centers, at libraries all the times they use or are immersed in new environments or tools. This requires that teachers realize that it is necessary:

a) to modify the content of subjects, also in relation to social evolution, social, cultural, technical;
b) to learn how to use the modern communication technologies, in their work and also a teacher in teaching;
c) to acquire specific skills are applied if you do not want to provide a successful teaching.

But before this, it is necessary that the teacher puts questions to know how to be:

- what do you experience and how you are making new experiences (from video games to the network). Deal with that is, with empathy, the emotional aspects and relational of the relationship with the technologies;
- how to bring the understanding of critical cultural news and educational induced by the same through the technologies;
- why improve and facilitate update the processes of learning disciplinary and interdisciplinary through technologies;
- how to choose, to build and to adopt new learning environments, communication experience.

In the light of these considerations a learning linked to a single mode of transmission (the lesson) is confined to a single space (the house), today risk alienating the children from school and increase processes of early school leavers. It is necessary that the teacher discovers:

a) new ways of teaching, for example related to the analysis, the construction of paths,
b) new experiences communication, collaboration and cooperation,
c) a plurality of places of work and experience: by laboratories, classrooms. But wherever the technologies you can bring (by district in the world).

Only on the basis of these pedagogically oriented premises can derive a cooperative teaching and collaborative, linked to the construction of models, products, environments, highly interdisciplinary. It is because the boundary (artificial) between the disciplines and increasingly difficult leads teachers together to bring with different skills. The essential aspects for example of social constructivism, as regards the learning area:

- the educational value of the interactions between the various actors involved in educational processes;
- knowledge interpreted as allocation of shared meanings, facts and events in a dialogical practice that by consciously results provisional and contingent;
- a teaching focused on who learns (learned centered) and on his needs cognitive, social and affective;
- the design of the class as a community that builds knowledge (Knowledge Building Community);
- the students consider as active builders of knowledge (Knowledge Builders) and of the teacher as expert involved within the processes of knowledge.

Only on the basis of these pedagogically premises a cooperative and collaborative teaching can derive which is linked to the construction of models, products, environments and highly interdisciplinary. These are the new skills that the teachers should be able to put in the field. Certainly, technical knowledge to use the machines of the packets and educational software. Certainly disciplinary competence should be analyzed more in depth, in particular, how to change the subject, the conceptual field of the discipline, the teaching and learning of the subject with the ICT, but only if supported by:

- relational skills, interpersonal skills (what happens between kids who collaborate, between boys and lecturer, between boys and technologies, between teacher and technology);
- interdisciplinary skills and inter-planned;
- collaborative skills (with the young, with my colleagues, with animators and new figures in teaching);
- organizational skills: knowing how to organize work situations new teaching and processes that focus on products.

The teacher today, therefore in addition to the ability to manage programs (particularly in the school of the obligation) to:

- deal with the cultural aspects (what changes us around);
- also deal with the formative aspects, relational and emotional (what changes in the relations between us and within us);
- know how to choose, use, evaluate environments and products;
- able to organize and manage experiences (often open) of experience, communication, learning.

3. Concluding remarks

We can say that the Italian policies on education and training system are often marked by a clear distance with respect to teacher reflections on the impact that ICTS are intended to have on the school. A distance has not been denied by the interventions aimed at providing educational institutions with new technological instruments or to promote the production of the books text books in mixed form, digital and hardcopy as students, teachers, and families does not say why, with such as objectives, within which new educational strategies from 2009 schools are equipped with as many interactive multimedia whiteboards. And so what is the direction and the meaning of the new way of doing school. There is no explanation, in addition to a lightening of the backpacks and perhaps expenditure of households, what benefits can be derived from books partially downloaded from the internet. As in the past, the introduction of new technologies is presented as a policy provided in itself with inevitable innovative effects and also the training activities of teachers about new chalkboards (LIM) seem oriented toward essentially the familiarization with the use of the instrument. Passages both necessary, of course, and that is the purchase of both new features and instructions for use, but that may not prevent the risk of replication of what has already happened, that is a widespread utilization of new technologies, their frequent confinement within laboratories and projects dedicated, and, in any case, the tendency to purpose of sterilizing or reduce their potential innovative by adapting the use the traditional organizational procedures and educational. They continue to fail, the rest, the basic ingredients of a program on school and ICT capable to involve teachers in the search for new working hypothesis. The detailed examination and the debate over the whole body of professional results of the plans have been activating, since the eighties, the realization of surveys in the field with a direct contribution of teachers to observe how children and young people face the new alphabets and what changes arising from this learning styles and in relations with the learning in school, the provocation of a debate cultural, pedagogical and anchored to the international. In fact part of the public discourse on the school focuses, in this stage, on the other issues. It is also not very encouraging, for the purposes of a debate on the future of the school, the growing fortune between the institutional decision-makers and the public of nostalgic visions of a school of past that, it may have had a time

good results, you configure but for many reasons such as a model not recommendable for the school of today and tomorrow. Even if in Italy, however, it is gained the attention on the experts of the future educational systems in the new reality produced by the diffusion in every sphere of social life and professional of the new information technologies and communication. For this reason the competition for teachers banished in 2012 provided for the compulsory knowledge and the application of ICT among the skills required for the teacher, is still a long way to go. If one tried to talk about the experiences that develop in school even on this ground, you might find interesting harmony with the international debate, citation of excellence, but also reads concrete and pragmatic of the conditions that impede innovation, and to those that might encourage it. However, relevant comments from those who, on the subject of skepticism or of the resistances that there is no doubt that one of the teachers there are, and not only in Italy, they point out that if undoubtedly has its weight the poverty of empirical surveys on how to move during the school the digital natives, contributes to the low availability to enter the ICTS in everyday didactics also by the lack of completed educational theory of reference. At the moment there is an abyss between the maturity reached by technological means and the immaturity of the conceptual elaboration on how, and for what purpose, may be used the processing means in the context of educational practice. And there is not even a Piaget or a Vygotskij that, on the basis of a careful observation of the new possibilities sense-limited mobility, communication and cultural, cognitive and social made possible by intelligent use of the computer and the network, propose authoritatively a new educational concepts, thrown open the doors to a new developmental psychology, cause a profound rethinking the didactics. The educational reflection of what the learning processes we are told in the neurosciences. So also the teachers who, realizing the urgency of the change, approach the debate on the use of digital tools in the school learning, are at risk for the most to lose.

References

Biondo, G. (Ed.) (2009). *LIM, A scuola con la lavagna interattiva multimediale*. Firenze: Giunti.

Calvani, A. (2006). *Tecnologia, scuola, processi cognitivi. Per una ecologia dell'apprendere*. Milano: Franco Angeli.

Calvani, A. (2013). *I nuovi media nella scuola. Perché, come, quando avvalersene*. Roma: Carocci.

Cantoni, L., & Di Blas, N. (2006). *Teoria e pratica della comunicazione*. Milano: Apogeo.

Frabboni, F. (2008). *Manuale di didattica generale*. Roma: Laterza.

Gage, G. (2006). *How to use an interactive whiteboard really effectively in your primary classroom*.London: David Fulton Publisher.

ISTAT (2008). *L'uso dei media e del cellulare in Italia. Indagine multiscopo sulle famiglie "I cittadini e il tempo libero"*. Roma: ISTAT.

Laneve, C. (2009). *Modelli formativi e processi tecnologici*. Lecce: Pensa MultiMedia.

Laneve, C. (2010). *La scuola educa e istruisce o non educa e non istruisce?*. Roma: Carocci.

Mantovani, S. & Ferri, P. (Eds.) (2006). *Bambini e computer*. Milano: ETAS. (Collana Fondazione IBM).

Mayer, R., & Moreno, E. (2003).Animation a san aid to multimedia learning.*Educational Psychology Review*, *14*.

Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A Framework for teacher knowledge. *Teacher College Record*, *108*(6), 1017-1054.

Parisi, D. (2000). *Scuola@.it, come il computer cambierà il modo di studiare dei nostri figli*. Milano: Mondadori.

Scurati, C., & Zanniello, G. (1993). *La ricerca azione*. Milano: Tecnodid.

Limone, P., & Baldassarre, M. (Eds.) (2014). *ICT in Higher Education and Lifelong Learning. SIREM 2013 Conference Proceedings, November 14th-15th, Bari (Italy) (2nd ed.)*. Bari: Progedit.

Smith, F., Hardman, F., & Higgins, S. (2006).The impact of interactive whiteboards on teacher pupil interaction in the National Literacy and Numeracy Strategies.*British Educational Research Journal*,*32*(3), 443-445.

Valenti, M.S. (2002). The black box theatre and AV/IT convergence, Creating in the classroom of the future.*EDUCAUSE Review*, *37*(5), 52-62.

School, University, informal contexts and ICT: is lifelong learning addressing teachers towards new professional skills today?

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Abstract
Our era is characterized by a very complex global situation marked by economic uncertainty and volatility, instability of social roles and political and governmental institutions. In this situation, critical factors are the divergence between school and employment, the explosion of ICT in study and life contexts, and the radical changes in the distribution and managing of knowledge through people, means, organizations and society. These aspects offer a perspective that is open to two different interpretations: while we are all faced with an unprecedented wealth of learning opportunities, we also run the risk of being excluded, because today's challenge is that of complex knowledge, and only good training and professional guides can enable individuals to run meaningful pathways in Lifelong Learning. In this sense, a key figure is that of the teacher, who is now forced to reconsider his/her own professional identity.

Keywords
Life Long Learning, Teacher Training, ICT

1. The current situation

Our era is characterized by a very complex global situation marked by economic uncertainty and volatility, instability of social roles and political and governmental institutions. In this context the need for investment to improve the training of young people and strengthen the quality of research & development (r&d) is perceived more keenlythan ever. However, in recent years, teaching has undergone a progressive de-legitimization and witnessed the erosion of its reputation. In both schools and universities, changes to policy have been constantly made in the last decade, making it impossible to verify the effects of these measures and to acquire the necessary information to implement educational reforms to carry out improvements based on evidence.
Another cogent concern is certainly traceable to the divergence between school and employment. The labour market, which reflects an economic and social model that is unable to offer hope and prospects for the future, clearly undermines the motivation to study and learn, transforming the school into an increasingly inadequate and inefficient place to prepare young people for future life. On the other hand, by reducing the role of training to the transfer of skills that are immediately marketable in work, there is a risk that we may jeopardize the

ability of the school to launch young people into scientific research, stimulating them to put into play not so much their receptive, but rather their critical and creative skills.

A further element, which is extremely important for understanding the present, concerns the explosion of ICT in study, work and life experiences. This revolution has re-defined not only the alphabet but also the grammar and the syntax of the school and university as we traditionally understood them, forcing educators and teachers to acquire new competences for integrating skills (didactic, disciplinary, digital) and learning contexts (formal, not formal, informal), and to guide young students through a critical and knowledgeable use of technological media. Today we often use engaging expressions such as "digital school", "classes 2.0", "a tablet for every student", with the risk of leading to the conclusion that innovation lies in technical and instrumental skills and not in the teaching methods to improve learning and especially in the correspondence between educational means and ends, and projects and results (Iavarone, 2013).

Moreover, as regards the distribution and managing of knowledge, we are faced with a plurality of contexts and means in which the global social and cultural reality is manifested (the school, the university, the agencies of non-formal education and various informal contexts), and a multiplicity of identities expressed by individuals today (the student, the school teacher, the expert, the researcher). Each of them can be teacher, student, chat friend or member of the same learning community at the same time, breaking down and confusing barriers among categories of people (and of positions about knowledge) that had held firm for decades (That-Camp, 2010).

2. Opportunities and risks for lifelong learners

All aspects above-mentioned offer a perspective that is open to two different interpretations, one positive and the other negative, which are not necessarily mutually exclusive. Our era offers a very rich context of learning/teaching opportunities, in which the boundaries between fields of knowledge are blurred. These opportunities, however, may also be perceived as a disorderly crowding of elements that invalidate the organizational stability of the means of transmission/propagation of knowledge. A student may be undecided about which information is important to remember in relation to a specific topic: the information provided by the teacher during the preparation for a museum visit or the different views just expressed by the museum guide? Additionally, they may further confuse ideas with regard to content: why was it different? Such an ambivalent situation requires making a choice: choosing which information to remember and which to ignore, which teacher to follow as the principal guide and which to consider as complementary in the hierarchy of one's own references; which cognitive strategy to adopt, how to move in the field of opportunities with reference to different evaluation criteria that may be used in different contexts and by different people. The inability or impossibility of making the choice hides the danger of confusing styles and directions; the nebulous nature of epistemological overlaps; the vagueness of the very goals of learning emerges: from whom should I learn, what and why? The great field of learning occasions − which is much greater, richer and more multifarious than before − opens before us, with opportunities to select, sort in order of priority, benefit from and reformulate to create what will be our own personal knowledge. But we can also end up with an unfortunate lack of knowledge as we work through the dazzle and confusion in facing that nebulous of opportunities for learning. This may result in our opting out as we reject not so much the content but rather the means of learning (the means of learning, we note, and not just that of teaching).
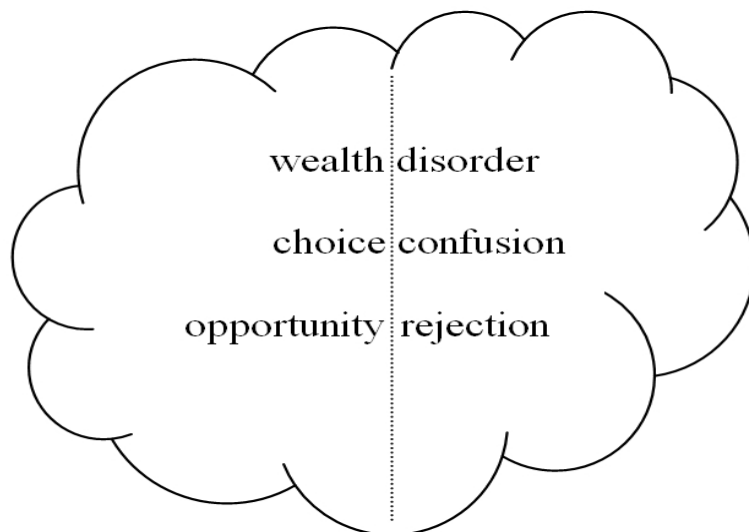
All this is represented in Figure 1:

FIGURE 1. A very rich context of learning/teaching opportunities.

3. A new profession for teachers

In summary, while we are all faced with an unprecedented wealth of opportunities, we also run the risk of being excluded, because today's challenge is that of complex knowledge. This is why all the syllabus guidelines of school and university in many countries place complexity at the top of factors conditioning knowledge and identify the school as the first agent – perhaps only after the family, in the specific case of childhood – in decoding and interpreting the complexity in which knowledge today is hidden (in books and in the various tangible and intangible media that convey it).

In this situation, a key figure at the crossroads of formal, non-formal and informal opportunities for learning is that of the teacher who is now forced to re-consider his/her own professional identity. Now, like it or not, he or she is a member of a learning community – the school – that is contaminated by other learning communities that have reached it and perhaps overcome its pervasiveness: the family, peers, members of the same volunteer association, viewers of the same educational television program, followers of the same YouTube channel. The teacher need to be transformed from a transmitter of content to a critical guide for pursuing the multi-linguistic, multi-sensory, multi-media, multi-ethnic paths of acquisition, creation and development of knowledge. It is no coincidence that pedagogical post-cognitivist approaches place emphasis on the reduction of the asymmetry between the roles of the teacher and that of the student: in the *contextualist* and even more *culturalist* visions of the learning group, the teacher takes on the role of co-builder of learning, the content and modality of which are the result of a work of mediation in which the teacher collaborates and sometimes guides, but not always in a predominant position.

In conclusion, we may argue that teachers have to be trained to become primarily responsible for allowing and encouraging their pupils to investigate opportunities for learning in the field, to make their own choices and to play the "game of the knowledge". The complexity of the relationships and links between the formal, non-formal and informal learning contexts in which educational research and teaching experiments (also with regard to ICT) move today,

can be managed only thanks to the role of these teachers, with their function of harmonizers of contexts, means and opportunities. This teacher is a mediator between the inside world (inside the school, inside the university) and the external one: in this sense he/she has to become teacher of lifelong learning.

References

Campanino, M. (Ed.) (2007). *Conoscere il suono, la natura, l'universo. Comunicare, apprendere e valutare in ambito non formale*. Napoli: CUEN.

Campanino, M. (2013a). Lesson 4: Educational Activities. In A. -M. Bruyas, & M. Riccio (Eds.), *Science Centres and Science Events. A Science Communication Handbook* (pp. 91-95). Milano: Springer.

Campanino, M. (Ed.) (2013b). *Science@School. Educational Networking between Schools and Non-Formal Contexts*. Roma: Carocci.

Iachini, T., Iavarone. M. L., & Ruotolo, F. (2013). Toward a teaching embodied-centered: perspectives of research and intervention. *REM. Research on Education and Media*, *V*(1), 57-68.

Iavarone, M. L. (2013). School Systems and Technologies Today: Challenges and Threats. In M. Campanino (Ed.), *Science@School. Educational Networking between Schools and Non-Formal Contexts* (pp. 23-25). Roma: Carocci.

Rivoltella, P. C. (Ed.) (2008). *Digital Literacy.Tools and Methodologies for Information Society*. Hershey, PA: Igi Global.

ThatCamp (2010). *Manifesto for the Digital Humanities*. In http://tcp.hypotheses.org/411

Touch-screen-based assessment of fine motor skills for handwriting: a pilot study

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Abstract
The acquisition of spatially encoded concepts related to basic geometric shapes appears as a fundamental element for the development of handwriting skills and represents an important educational issue. The focus of this work rotates around conceptual node formed by the interaction of body, space, motor control, motor equivalence and technologies in the acquisition of fine motor skills functional to handwriting. This project aims to develop software for the assessment of handwriting and spatial coding skills. The software is natively designed for use on touch screens and is intended for use by children in kindergarten (age between the three and six years). By extension, the software also addresses subjects at a later age that present specific learning disabilities in the context of handwriting. The software developed so far adds an interactive layer upon an image, allowing the finger to follow the suggested path.
The software records in xml format the drawing made by the user and the time taken, and verifies what points are adhering to the proposed route and which ones differ significantly.

Keywords
Handwriting, Motor Control, Motor Equivalency, Natural User Interfaces, Touch Screen

1. Introduction

The scientific literature that has dealt with the study of movement and motor control has identified structural and coding elements shared for the execution of specific classes of movements (Latash, 1998). This seems to confirm as "the geometry of the motion is determined in a very general manner" (Berthoz, 2011) and how space can serve as the "common code" (*ibid.*) through which such geometries are structured. In this sense, writing can be considered

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[1]Principal investigator
[2] Software designer
[3]Scientific coordinator

as "gesture in the space that spatializes an idea or a material fact" (Berthoz, 2011; Di Tore, 2012).

The spatial coding is virtually independent from effectors and tools. As for the writing, for example, "although we talk about 'hand' writing, it is evident that writing style is the same if movements are produced by the arm, rather than by movements of the thumb and fingers. For example, letters have the same form when written on a blackboard several centimeters high, too large for the range of movements produced by the digits. There are a number of fundamental differences between the movements involved in writing on a blackboard and on paper: thus, when writing on a blackboard, the muscles that subserve the action are different than when writing on paper; the torques required for larger body segments are much greater (and do not simply scale with letter height); and gravity introduces an asymmetric load on up-strokes and down-strokes. But despite these differences, in terms of the written product, the outcome of action is the same. Thus there is constancy of the 'movement product' despite major changes in motor implementation" (Wing, 2000).

The acquisition of spatially encoded concepts related to basic geometric shapes appears as a fundamental element for the development of handwriting skills and represents an important educational issue. The focus of this work rotates around conceptual node formed by the interaction of body, space, motor control, motor equivalence and technologies in the acquisition of fine motor skills functional to handwriting (Carlomagno *et al.*, 2013). Before proceeding in reflection, it is appropriate to try a functional definition of "body"; an instrumental meaning sees the body as that on which I exert motor control. A prosthesis definitely falls into this vision (Di Tore *et al.*, 2012). If, from a conceptual point of view, the pencil or pen can be considered extensions of the body on which I exert motor control, from a functional point of view. We still need confirm that "from a motoric standpoint… it is a lot easier to do something just with the hand than to do it with a tool" (Clark, 2013). From an educational point of view, we are, in short, in front of a loop: To use the pencil or pen I need to have developed fine motor skills. Consequently, at least in the first schooling, the pencil and the pen are not functional because the acquisition of the fine motor skills constitutes a prerequisite for the use of these tools. The same, by extension, that is for the most common input devices in technology, such as mouse and keyboard. The spread of Natural Interfaces in technological tools present in schools (LIM, Tablet) is one possible way out of this loop: "touch-screen technology offers a learning platform without the barriers presented with mouse and keyboard systems, which require fine motors kills" (Ly-ann, 2013). In the words of Bill Buxton, "[w]e are witnessing a shift towards systems employing direct manual input where the user interacts directly with the display, rather than indirectly, as with the mouse and cursor of traditional GUI's" (Hinckley *et al.*, 2010).

2. Fine motorskills, and handwriting: pencil VS touchscreen

The long practice of writing has led us to believe that the ability to encode from a spatial point of view a form is one with reproducing it. The scientifically validated tests for visuomotor integration, such as VMI (Beery, 2004), propose a series of tasks that provide for the recognition of a shape and its reproduction. Such reproduction is by the pen or pencil tool. Not surprisingly, the VMI belongs to the category of paper-and-pencil test. The international literature, however, shows that the level of fine motor skills and ergonomic factors play a decisive role in the acquisition of the combined skills of handwriting.

"Handwriting is a complex perceptual motor skill which is dependent upon the maturation and integration of cognitive, perceptual, and motor skills. According to research, handwriting involves visual perception skills which enable the child to distinguish visually among graphic forms and judge their correctness. In a closed 1oop model of motor control, feedback of the sensorimotor system during performance is also considered important, especially feedback from the tactile axle kinesthetic senses. Moreover handwriting is carried out with a variety of coordinating movements which require motor planning and execution, and the child must be able to control spatial, temporal, and force requirements of the task. Visuomotor integration also influences performance of this skill as the child copies or reproduces various symbols. Further, cognitive/verbal and behavioral predisposition, as well as the instruction and guidance provided, affect handwriting performance. Poor handwriting can be influenced by any of these factors or by some combination" (Maeland, 1992).

"Early developmental skills and milestones work together to provide a solid foundation for the more integrated motor skills required in upper grades. These higher-level skills include being able to write fluently and focus on writing content (such as conveying information, thoughts, and ideas) rather than on the mechanics of writing, which involves pencil grasp, letter formation, spacing, and sizing" (Brook *et al.*, 2006).

Several "classic" studies have shown "that various designs of writing instruments have different effects on writing performance. Other experimental research indicated the need for designing various writing tools for children of different sexes and age categories for use in learning handwriting skills and that different pen point shapes also significantly affected the writing performance of adults" (Kao, 1976).

In particular, some motor skills are propaedeutic not only to the reproduction of graphic forms but also to the management of the instrument (pen or pencil) used for reproducing. The type of instrument, and familiarity with it, contribute to determine the individual characteristics of handwriting. The concept of motor equivalence − for experimental evidence see Raibert, 1977 − provides an explanation to the invariant characteristics of handwriting, independent from effector used, from activated muscle patterns, from tools and supports.

The production of tools for the assessment of motor skills in handwriting that disregards the complexity related to the use of ancillary tools, therefore, represents a new challenge made possible by the widespread natural interfaces (Sibilio, 2011).

3. Touch-screen-based assessment of fine motor skills for handwriting

This project aims to develop software for the assessment of handwriting and spatial coding skills. The software is natively designed for use on touch screens and is intended for use by children in kindergarten (age between the three and six years). By extension, the software also addresses subjects at a later age that present specific learning disabilities in the context of handwriting. The base is made up of some activities for pregraphism developed by TES Editorial TSL Education Ltd, "a set of simple images that can be imported into any tablet, iPad, mobile device, touch screen device or IWB and used to help develop fine motor skills. The images are the basis of simple activities for tracing over with finger or pointer" (TES, 2013).

The software developed so far adds an interactive layer upon the image, allowing the finger to draw following the suggested path.

The software records in xml format the drawing made by the user and the time taken and verifies what points are adhering to the proposed path and which ones differ significantly.
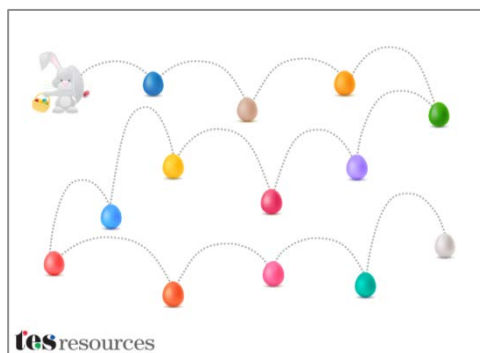
FIGURE 1.Collect the Eggs Activity by TES.

FIGURE 2.Drawing on the image using touch screen.
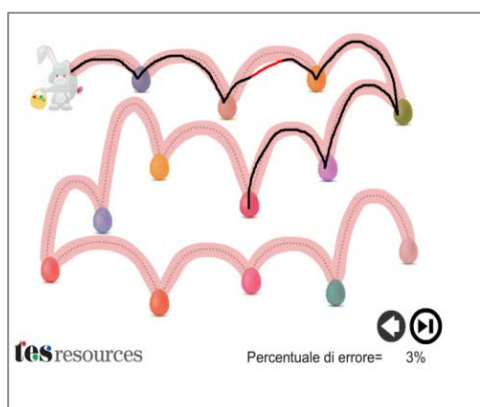
FIGURE 3.User performance analysis.

The user performance can be reviewed graphically or in tabular form. The tolerance range can be specified by the person administering the task. The result is returned to the user as a percentage: error = out of range pixels / total pixels.
The software, developed for both Android and Windows, can be used on tablets than on IWB.

4. Future works

The testing, understood as a stage of reliability and usability tests of the software, will be launched during the school year 2013/2014 and will mainly focus on the last year of kindergarten.

References

Beery, K.E. (Ed.) (2004). *The Beery-Buktenica Developmental Test Of Visual-Motor Integration*, *(Beery Vmi-5)*. Minneapolis: Ncs Pearson.

Berthoz, A. (Ed.) (2011). *La Semplessità*. Torino: Codice editore.

Brook, G., Wagenfeld, A., & Thompson, C. (2006). *Fingergym Fine Motor Skills School Readiness Program (Us Edition)*. Bowen Hills: Australian Academic Press.

Carlomagno, N., Di Tore, P. A., & Sibilio, M. (2013). Motor Activities Teaching And Complexity: A Reversal Of The Classical Description Of The Mechanisms Of Perception And Action. *Journal Of E-Learning And Knowledge Society*, *9*(3), 55-66.

Clark, J. (2013). Motor Skill Development Through Children's Touch Screen Usage Is Both Praised And Critiqued. 150/07/2013. In Http://Miriam-Mos.Blogspot.It/2012/12/Motor-Skill-Development-Through.Html

Di Tore, S. (2012). Gesture & Shapes Recognition Per La Didattica Inclusiva. In M. Sibilio(Ed.), *La Dimensione Pedagogica Ed Il Valore Inclusivo Del Corpo E Del Movimento*. Lecce: Pensa MultiMedia.

Di Tore, S., Aiello, P., Di Tore, P.A., & Sibilio, M. (2012). Can I Consider The Pong Racket As A Part Of My Body? Toward A Digital Body Literacy. *International Journal Of Digital Literacy And Digital Competence (Ijdldc)*, *3*(2), 58-63.

Hinckley, K., Yatani, K., Pahud, M., Coddington, N., Rodenhouse, J., Wilson, A., & Buxton, B. (2010). *Manual Deskterity: An Exploration Of Simultaneous Pen+ Touch Direct Input.*CHI 2010: I need Your Input (pp.793-2802). Atlanta, GA, USA, April 10th-15th, 2010.

Kao, H. S. (1976). An Analysis Of User Preference Toward Handwriting Instruments. *Perceptual And Motor Skills, 43*(2), 522-522.

Latash, M.L. (1998). *Neurophysiological Basis Of Movement.* Champaign, IL: Human Kinetics.

Ly-Ann, T. (January 20, 2013). *Children using touch-screen technology.*South China Morning Post. In http://Www.Scmp.Com/Lifestyle/Family-Education/Article/1131050/Children-Using-Touch-Screen-Technology

Maeland, A.F. (1992). Handwriting And Perceptual-Motor Skills in Clumsy, Dysgraphic, And "normal" children. *Perceptual And Motor Skills, 75*(3f)*, 1207-1217.

Raibert, M.H. (1977). *Motor Control And Learning By The State Space Model*. In ftp://publications.ai.mit.edu/ai-publications/pdf/AITR-439.pdf

Sibilio, M. (2011). *Ricercare Corporeamente In Ambiente Educativo*. Lecce: Pensa MultiMedia.

TES (2013). Fine Motor Skills Activities For Touch Screens/Iwb. In http://Www.Tes.Co.Uk/Teaching-Resource/Fine-Motor-Skills-Activities-For-Touch-Screens-Iwb-6318689/

Wing, A.M. (2000). Motor Control: Mechanisms Of Motor Equivalence In Handwriting. *Current Biology,10*(6), R245-R248. Birmingham: Cell Press.

Social reading.
An opportunity for new ways of learning

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Abstract

The ICTs, and the network environments that are affecting most of the forms of social relations and knowledge sharing, are powerful architectures for the participation of users, posing new challenges to education systems. Technology is only a variable among many others: it is certainly an empowering and habilitating factor, but educators' attention has to stay focused on sharing activities and collaborative practices related to user's engagement within the interconnected digital media ecosystem. The contemporary media landscape – in which education and communication are two sides of the same problem – is increasingly dependent on network practices, DIY culture, knowledge sharing, etc. In this context, are reading activities changing? In the last two years, the Laboratory of Audiovisual Technologies (LTA) at the Roma Tre University has experimented different social reading platforms for academic learning paths, and its members are currently developing a prototype of a new social reading platform. The paper aims to show how technology and social media can contribute to improve the way we read, unleashing opportunities for new ways of learning.

Keywords
Reading, Social Media, Technology, Learning

The ICTs and the network environments that are affecting most of the forms of social relations and knowledge sharing are powerful architectures for the participation of users, posing new challenges to education systems. The pervasiveness of our media landscape − an interconnected digital ecosystem − is constantly changing and requires a rethinking of traditional categories and devices we use in educational institutions.

Reading is institutionally considered a solitary activity (when not solipsistic, cfr. Ong 1982), but technology can be a factor of transformation. For many years now, the activity of writing has mainly been conducted on digital devices, but it's not the same for reading activities. Just recently the paper book (as well as periodical publications such as newspapers and magazines) has seen affected for the first time its primacy as a characterizing medium (Bolter, 1984, p. 19) for reading practices.

In recent years, reading has become more and more *digital reading*, for both information and publishing products. The data on the publishing industry in the world (North America, Europe, Asia and South America, albeit with some differences) show the steady decline in sales of paper products and the gradual increase in eBook sales. On the technological side, a similar trend is evident in the decline of the world market for personal computers registered in Q3/2012, together with an increase in sales of multipurpose mobile devices such as smartphones and tablets, and e-reader devices specifically dedicated to digital reading.

Beyond the immediate benefits − such as low cost of books, light weight and ease of storage and transportation − the added value of digital reading for education does not lie in the mere

digitization but in the possibilities opened up by network technologies.

With the term *social reading* some authors (such as Bob Stein, from the Institute for the Future of the Book, who also proposed a taxonomy) generically indicate the activities of shared reading: informal face-to-face discussions with friends and acquaintances, discussions between readers and fans (book club), as well as the formal discussions in class at school or university. In addition to these offline interactions, other interactions must be added: online discussions on specialized sites dedicated to readers (as Shelfari, Goodreads, LibraryThing etc.) and the ones promoted by reading devices (e.g. Amazon Kindle or Kobo). These represent different levels and different ways of sharing, all referring to a place other than the book: people read the book (on paper or on a digital device) and then comment it elsewhere, in dedicated environments and on social networks.

In the last years many social media platforms for book lovers were born, designed for cataloguing, recommending, reviewing, discussing and discovering books that people are currently reading, have read, or are planning to read (Mennella, 2011). Many readers still get their book recommendations from newspaper reviews and traditional media, but an increasing number of book lovers are turning to their friends and social media contacts for recommendations (Hartley, 2010). Social media is redefining what reading and sharing literature means, "catalyzing conversations and perspectives from eager readers who want to share their thoughts to a broader world" (D'Andrea, 2010, p. 11).

A more appropriate definition of social reading, suggested here, proposes *the text as a social place and as an environment for interaction*. A book (or an article, an essay etc.) can be read, discussed, commented and therefore increased or augmented by readers. Technology shows itself, once again, as a proper enabling factor: the most innovative practices of social reading are processes that would be impossible without the material structures that guarantee their existence. In other words, social reading is only possible thanks to the infrastructure of the network and in relation to its logical communication.

Unlike environments such as wikis (created for collaborative writing) and blogs (where comments appear below the author's text), social reading platforms − CommentPress, DigressIt, BookGlutton − include highlights of the readers in the text and comments directly within the margin − a dynamic margin − of the text. The interaction design makes conversation an integral part of the text, thus redefining the concept of "content" itself, now expanded to the discussion that arises from the text.

Social reading is the set of possibilities that enriches the experience of reading electronic texts and books. It is the result of putting capable and connected devices together with books and adding some aspects of social networks such as sharing and conversation.

Ebooks make sharing users' reading experience easier. Bookmarks, progress notes from readers through a book, plus the ability to save, share, email and store the whole experience of reading: to read together with friends and contacts, or a reading group.

Social reading has to do with social features and reviews − added to web pages or eBooks pages, and also through specific applications − which allow readers to comment paragraph by paragraph in the margins of a text. Annotate, gloss, workshop, debate: everything users want to share while reading an eBook. They can select the text and send it to a contact, or they can choose to send the read data for reading social services or social networks.

Social reading activities can be very useful in education: teacher and students can take notes on an eBook, share and also import notes from other readers. They can also add links, images, sounds, videos. Through social reading services users can create virtual bookshelves containing all the books they read; some services also allow readers to switch between different reading devices, thanks to automatic synchronization of position and bookmarks.

Social reading is managed mainly through cloud services: all activities can be shared and stored online. If users accidentally delete some eBooks, their reading experience, bookmarks and annotations are safe, as they are stored separately: cloud services record all bookmarks, notes and comments so that users can search for and get back to them whenever they want.

In the last two years, the Laboratory of Audiovisual Technologies at the Roma Tre University has experimented different social reading platforms for academic learning paths, and its members are currently developing a prototype of a new social reading platform. The book "History and Pedagogy in the media", by Roberto Maragliano and Mario Pireddu, is now published in Brazil (Annablume), where appears to be the first place of experimentation for social reading and an opportunity for new ways of learning.

References

Abruzzese, A., & Maragliano, R. (Eds.) (2008). *Educare e comunicare. Spazi e azioni dei media*. Milano: Mondadori Università.

Benkler, Y. (2004). "Sharing Nicely": on shareable goods and the emergence of sharing as a modality of economic production. *The Yale Law Journal*, *114*, 273-358.

Bolter, J. D. (1984). *Turing's Man: Western Culture in the Computer Age*. Chapel Hill: The University of North Carolina Press.

Bonk, C. J. (2009). *The World is Open. How Web Technology is Revolutionizing Education*. San Francisco: Jossey-Bass.

Collins, A., & Halverson, R. (2009). *Rethinking Education in the Age of Technology: The Digital Revolution and Schooling in America*. New York: Teachers College Press.

D'Andrea, D. (2010). Reading 2.0: From Solitary to Social. *School Librarian's Workshop*, *31*(1), 11-12.

Dredge, S. (2011). *Kindle gets more social with public notes and sharing features* [Web log message]. In https://www.mobile-ent.biz/news/read/kindle-gets-more-social-with-public-notes-and-sharing-features

Hartley, M. (December 2010). *Social media invades book world*. National Post. In http://www.nationalpost.com/arts/Social+media+invades+book+world/3950884/story.html

Hew, K.F., & Hara, N. (2007). Knowledge sharing in online environments: A qualitative case study. *Journal of the American Society for Information, Science and Technology*, *58*(14), 2310-2324.

Jenkins, H., Purushotma, R., Weigel, M., Clinton, K., & Robinson, A. J. (2009).*Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*. Chicago: The MacArthur Foundation.

Johns, J. (2010). *The meaning of social reading and where it's headed* [Web log message]. In http://e2bu.com/the-meaning-of-social-reading-and-where-its-headed/

Johnson, S. (June 19, 2010). *Yes, people still read, but now it's social*. The New York Times. In http://www.nytimes.com/2010/06/20/business/20unbox.html

Mennella, A. (2011). *LIS 768: Participatory Services and Emerging Technologies*. In http://www.scribd.com/doc/57754227/LIS-768-Participatory-Services-and-Emerging-Technologies-Social-Reading-Research-Paper

Ong, W. J. (1982). *Orality and Literacy: The Technologizing of the Word*. London: Methuen.

Shirky, C. (2008). *Here comes everybody. The power of organizing without organizations*. New York: Penguin.

Weinberger, D. (2007). *Everything Is Miscellaneous: The Power of the New Digital Disorder*. New York: Henry Holt.

Wesch, M. (2009). From Knowledgable to Knowledge-able: Learning in New Media Environments. *Academic Commons - New media technologies and the scholarship of teaching and learning*. In http://www.academiccommons.org/commons/essay/knowledgable-knowledge-able

The use of social networks in public bodies: a research direction, between laws and praxis

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Abstract
The research studies the use of social networks by the Italian public administration, especially in its legal, social and pedagogical profiles. Its aim is to verify how these tools facilitate the interaction between citizens and decision-makers.

Keywords
Public Administration, Social Network, Policy, Engagement, Citizens

1. Scenario

The society at the beginning of the third millennium, the society of the "third industrial revolution", is defined by the massive use of information and communication technology, that became the main subject in all public policies – EU, national, local – while it is also analyzed as a tool to get citizens closer to these public policies.

It has been a while since public administration, due to those two just underlined causes, started a process thought to rule and commit the use of information and communication technologies, moving from online presence: indeed, on the first side, it created – like most of privates did – dedicated websites to show its structure and its activities, where it developed citizen-based services; on the other hand, public administration plunged into mainstream social networks, which became a natural place where any user could have a confrontation, converse, interact and show his/her needs.

Social networks are "terms that have now entered the everyday lexicon" (Riva, 2010) and are actually becoming fundamental instruments for the public administration and the citizens to communicate (Cogo, 2010), both politically and administratively. It is sure that the increasing diffusion of new technologies in all the phases of work – so even in political and administrative places – took a great part in this change, in a process where both citizens and public bodies are engaged, as content creators/users.

However, it often happens that the use of social networks is strongly subjected to extemporization: finding web skills in the public administrations, indeed, is as unusual as providing a well-structured work of mass literacy, in a way good enough to lay the foundations – technical/practical and theoretical – of a process aimed to make the use of social connections online – first of all *Facebook* and *Twitter* − truly successful pursuing the purpose to develop new, effective types of dialogue between administration and citizen, hoping for the scheme drawn up by *open government* policies.

It cannot be denied that tech literacy and digital skills are needed to carry forward innovation process: on this perspective, talking about lifelong learning into and of public bodies, as well as of citizens and corporate, becomes mandatory, like to some extent – but only in part – provided for by the relevant laws.

In this cognitive/innovative procedure, it is unavoidable, even for the public sector, to study, understand and sort out specific ways to use each instruments and, unescapable transition, to develop its own *social media policies*: during this learning process, indeed, the public administration resolves to give itself its own organisation for *social media* use, doing that not only by creating a system with well-prepared employees – educated trough a special learning path, never left to the single public body's improvisation – but also explicitly mentioning which should be the modality of use of the new instruments for public sector's workers themselves, getting over the prevailing restrictive opinion dominating up to this moment, since many public bodies forbade, for instance, the use of internet to their employees.

Creating the *policies*, a set of rules will regulate the specific modalities of use of those new tools. At the same time there will be basic provisions concerning unavoidable survey elements and profiles, out of such a research: inter alia, issues relating to copyright over contents, to the use of formats and open data, to the privacy, among the most frequent themes.

Those last mentioned profiles more and more highlight the interdisciplinary nature of this topic, which envelops not only the law field, but also the public communication one, the pedagogy, the sociology, the psychology, due to its own character.

For each one of these themes, a brief theoretical analysis of the subject comes before claiming which use/solution the considered administration opted for.

2. Research hypothesis

The aim of the research is to check, on the one hand, if and how the citizens-public bodies relationship could be improved, systematically using social networks. The relevant hypothesis, of course, does not affect just quantity; it surely deals with checking the capacity of social networks to increase communication (Vademecum PA, 2011) and public bodies-citizen relation, but, overall, it wants to verify if the use of disintermediate instruments – i.e. the ones that allow a direct wireless relationship between citizens and administrations – could untie "the bureaucratic knot" and could make this relation more profitable.

At the same time, on the other hand, the research aims to check how much the use of social networks by Italian public bodies is conscious, organised and "ruled" – as well as if there is an adequate relevant legislation – testing social media policies along with related administrative statutes and documents, which now become key issues of the research.

Observations, carried out in this way, allow to paint a clear enough portrait about the use of social networks in the Italian public administrations and to clarify if and how much that use could improve listening ability of PA, as well as, mostly, both the virtue of the offered services and the active participation of citizens to the management of the State.

3. Goals

Research goals are therefore various:

- first of all, taking a census of *social network* tools used by Italian public bodies – *Facebook* and *Twitter* (Smith & Brenner, 2010), but also *YouTube, LinkedIn, Google+, Pinterest* – checking its use by quality and quantity, viewing them either as instruments of direct interaction with citizens and as tools useful to help the public employee every day. In order to do that, research starts form PA's websites (LineeGuida per isiti web della PA, 2011) such as "housing" of contents, services and

applications, and then analyses *social media* PA use (Arata, 2012). This kind of research – it is obvious – does not allow to take a census of all public administration, but it only refers to few precise ones, particularly regional administration – even shifting focus on Apulian provinces – as well as to central public bodies, so that they can be compared. However, possible similar studies about local authorities will be mentioned.

- Once the census of tools is done, a legal analysis of relevant administrations' websites will be made. This test basically consists of three phases: in the first one, the Author will check the enforcement of the laws concerning public websites; then, social media used by the listed public bodies will be enumerated, examining for each instrument the manner and purpose of use; eventually, the Author will search for policies of use, where provided, and check the compliance.
- Finale evaluation, in the end, will allow to highlight specific items of the interaction via social networks, even testing related issues, both external and internal.

4. Methodology

This research will make use of classical instruments of legal query; analyzing enforceable laws, judicial review, relevant jurisprudence examination. The research will focus either on papery reference material and online-available material, either on relevant blogs and websites, but it will also be done across the analyzed social networks themselves, as well as through a direct study and test of public administrations' accounts.

This analysis, quantitative and qualitative, will be completed through a census and an empirical observation of the use of social networks by public bodies, cataloging their types and the way they are utilized; in this phase, methodology seeks for use of automatic tools for *social media analysis*, so that users conversations and interactions will be under control. Another methodology profile is selecting some "best practices", held by administration which already chose to get closer to citizens across new technologies: among them, few ones will be emphasized for choosing a real *social media* "strategy", analyzing policies and pertinent statutes and documents. When necessary, there will be a comparison with other Countries experience – for instance, USA – where *open government* policies have already been widespread for many years, together with a public-directed use of social networks.

5.Data collection tools

The typology of this research and the predominant use of digital or web-based resources demand a specific approach: therefore, the Author chose to avoid tradition data collection tools – such as survey or interview – in order to give more space to network analysis software – thought to massively analysis of tweets and posts – even across *sentiment* analysis – which lies in positive or negative *mood* extraction among several post or tweets – that enables even a qualitative evaluation of citizen-PA interaction. *Software* use will be mediated trough empirical observation, because human interpretation still is a basic ingredient, especially in the field of *sentiment* analysis – which is not truly reliable when automatized. The tools and software to be used, preferably open source where available, will be chosen at the beginning of 2014.

6. Hoped results

Research activity will provide a reliable monitoring about types of used *social networks*, about virtue of their use, about related choices made by public administration. This will allow to comprehend relationship between PA and new technologies, either in the relation with citizens and with public bodies, and eventually even into single administration itself. Furthermore, analysis of legal issues tied to the use of *social networks* will allow to have a good picture of Italian PAs general situation about compliance with legal duties related to use of new technologies. Also, will identify a policy model to be used within each public administration to regulate the use of social networks.

References

Arata, G. (2012). *Social PA 2012*.

Cavallo, M., & Spadoni, F. (Eds.) (2010). *Social network: come internet cambia la comunicazione*. Milano: Franco Angeli Editore.

Cogo, G. (Ed.) (2012). *I social network nella P.A*. Santarcangelo di Romagna: Maggioli Editore.

Formez (2011). *Vademecum Pubblica Amministrazione e social media*. In http://www.formez.it/notizie/online-il-vademecum-pubblica-amministrazione-e-social-media.html

Ministero per la Pubblica Amministrazione e la Semplificazione (2011). *Linee Guida per i siti web della PA*. In http://www.funzionepubblica.gov.it/lazione-del-ministro/linee-guida-siti-web-pa/presentazione.aspx

Riva, G. (Ed.) (2010). *I social network*. Bologna: Il Mulino

Smith, A. & Brenner, J. (2012).*Twitter Use 2012.* In http://www.pewinternet.org/2012/05/31/twitter-use-2012/

University as an extended context
for the "dispersed communities"
and for lifelong learning

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Abstract
University is facing big challenges related to open and lifelong learning and must think about how to adapt to technological changes, turning into an integrated and blended environment in which attendance and distance, methodology and contents, individual and collaborative learning may coexist and improve the opportunities for each student to take part actively in the learning process.
In order to rise to these challenges, the University of Bolzano is working to develop a method of "blended learning", which I like to define as an "extended learning context" in which technology is used as an opportunity both to give a flexible and open access to students who are usually cut out from the learning process for different reasons, and to offer participatory learning opportunities, which are necessary to fulfil a co-constructive dimension of knowledge.

Keywords
University, Lifelong Blended Learning, Digital Scenarios, Opportunities, Extended Contexts

1. Introduction

The information and communication society has developed new educational needs consisting in the necessity of choosing, elaborate and use information looking forward to developing discrimination skills, metacognitive strategies and the ability to respond to the challenges arising from complexity in an innovative way (Loiodice, 2011); all these abilities can be summarised in the competence of competences, that means the competence of "learning to learn" (Delors, 1996).
Therefore a new learning dimension is taking shape, which is based on an open, inclusive and flexible access to knowledge aimed at the active participation of students in their different phases of life. This prospect represents a learning process that may be diachronic (lifelong learning), but also pervasive, namely synchronic, and distributed throughout the different contexts of life (lifewide learning) (Loiodice, 2011). In this context technological evolution, especially the internet and the interactive dimension of web 2.0, play an extremely important role, since they constitute the conditions necessary to expand the educational context, going beyond the distances produced not only by socio-economic conditions, but also by time, space, age, gender and ability limits (scattered communities).
The scenario within which universities are acting is therefore concerned to think about how to change not only the time and space of learning, but also the goals of the context structure, which must be student-centred. This way, through dialogic and collaborative relationships and

through processes based on action, reflection and negotiation with peers, the students are able to acquire competences that may be useful to face current cognitive, ethical and social challenges looking forward to a continuous learning process.

2. Redesign of contexts

The challenges that university is facing are therefore various and, in order to rise to them, it is necessary that universities are conceived as the drawing power of continuing education (Unesco, 1998) and as a place of collaboration, experimentation, reflection and innovative creation (Morin, 2000).

The main aim is the design and creation of extended and collaborative learning contexts, integrating the technological dimension, which may help to overcome problems related to space and time as well as the inside-outside and attendance-distance dichotomies thanks to the internet and to net technologies; using an incisive metaphor Lèvy defines this process as "Moebius effect" (Lévy, 1997, p. 127). The technological dimension will enable us to design learning environments in which the students can build "lifelong competences" through the interaction in form of real and virtual conversation and practical activities within the net community (Baldassarre in Loiodice, 2011, p. 62).

Indeed the constructive, collaborative model, inspired by the capability approach, becomes the purpose and the horizons of meaning of the university courses provided, which use co-operative learning also as a method of activating positive interactions among the various components of the structure of the institution itself.

3. The research

This research intends to investigate how far and in which terms an institution like the University of Bolzano, located in a territory characterised by the presence of specific resources and problems, such as great difficulties to move from one place to another due to the mountainous character of the region, is able to take up the challenge of extending and realising lifelong and collaborative learning paths through the integration of real and digital environments (blended learning); another purpose is to explore how the whole process engages and how it is perceived and managed by the different professionals involved in the process.

What this work tries to do is to observe the procedure subsequent to the decision to open a blended master degree programme in order to put into focus the needs, perceptions, beliefs, problems, reasons for resistance or openness, risks and opportunities that underlie the possibility of understanding and handling a really innovative process; this kind of process is inspired by the capability approach and it is open to the needs of the new students thanks to the flexibility, openness, effectiveness and quality of the courses provided.

From this point of view, the institution ought to be perceived as a cultural and social subject that has to be able to organise contexts aimed at change (Dewey, 1929) in which learning is a continuous experience focussed on the development of personal empowerment processes within a framework of constructive and responsible participation which, in turn, could promote further changes.

4. Theoretical and methodological frame

The theoretical reference frame concerns the dimensions of collective and connected intelligence (Levy, Siemens) as to lifelong, situated interactionist and collaborative learning (Delors, Alberici, Lave, Wenger, Slavin), as well as the ethical and social dimension of inclusion, equal access and capability approach (Universal design, Sen, Nussbaum).

In a post-graduated course in which most of the students are working students, we have to refer to the Knowles principles (1973), which are focussed primarily on discussing and reflecting about experiences and real problems rather than on the transmission of contents.

The theoretical framework also refers to e-learning, online learning and specifically blended learning in Higher Education (Galliani, 2005; Calvani, 2005) and to concept of teaching as a "design science" (Laurillard, 2012).

Another huge phenomenon is taken into account: it is the so-called Mooc (Massive Open Online Course), which is dramatically increasing in the Higher Education field (NMC Horizon Report, 2013).

The research is of qualitative type and therefore it tries to achieve a comprehensive understanding of phenomena (holistic approach) through the method of case study. It follows an inductive process intending to use specific observations to create more general patterns for the interpretation of the phenomena.

The sources are represented by all the stakeholders involved in the process: chancellor, dean, e-learning manager, lecturers of the course, students, technicians, administrators, library manager, consultants as well as the external professional working in the local services interfacing with the University.

Research design has developed through three phases: stakeholders' survey, design of learning setting, monitoring and evaluation of teaching and learning in blended and extended environment.

5. First Findings

The findings of the survey (Phase 1) are collected in three categories representing three directions to understand the stakeholders' perception of the blended perspective in Higher Education:

1. SOCIAL: Openness and accessibility
    a. Extension of the learning environment anytime and anywhere - Opportunity for dispersed communities and lifelong learning
2. PEDAGOGICAL-DIDACTIC: Open questions
    b. Participation? Educational relationship? Self-management study/tools?
3. INSTITUTIONAL resources/policies
    c. Leadership supporting the process (vision)
    d. Human resources and technologies ready to start
    e. Acknowledgment of the time that is necessary to design learning setting and to plan lessons

The first results of this survey emphasize the benefits of the blended format in a course designed for working students and for students who, for different reasons, are far from the campus, increasing the opportunity to access Higher Education and, in this way, to update their knowledge continually in a lifelong learning perspective.

The findings also suggested that the purposes of adopting ICT in Higher Education are not

only flexibility and openness, but also the creation and provision of conditions that may improve active and participatory relationships and allow students to "learn to learn" (Delors, 1996).

The following Phase 2 regarded a process of co-design of a blended learning setting that is represented by an extended learning environment consisting in an integration of three different classrooms

      o   Physical classroom

      o   Online classroom (through videoconferencing software)

      o   Asynchronous (Moodle) classroom

The process of co-design has been developed with contributions of several professionals such as leadership, teachers, technicians and students, as well as researcher as participant observer.

The research is work in progress; in the next phase the research will be improved by monitoring the learning and teaching processes within the provided blended environment, in order to understand their real capability to develop participation, autonomy, empowerment of talents and to "promote the opportunity to choose and change" (Alberici, 2008).

6. Conclusions

As repeatedly remarked during the presentation, the study aims to provide knowledge and to promote a culture of innovation according to an internal point of view based on listening, reflection, afterthought and co-construction of guidelines, being aware that a renewal process cannot be imposed, but must be perceived, negotiated and co-constructed by all the professionals and stakeholders involved. This way it is possible to activate the need to create a collaborative learning context in which the institution "learns to make innovations", and it subsequently starts "making innovations to learn" in a virtuous circle which does not aim to technological innovation or market, but rather to a transformative approach towards tangible sustainability of human and cultural development, equity and social cohesiveness.

The expected outcomes are also that of exploring the potentialities of the innovative digital format in order to provide new learning environments that could move from the students' attendance to an active participation within their learning path.

References

Alberici, A. (2008). *La possibilità di cambiare. Apprendere ad apprendere come risorsa strategica per la vita*. Milano: Franco Angeli.

Ardizzone, P., & Rivoltella, P. C. (2003). *Didattiche per l'e-learning. Metodi e strumenti per l'innovazione dell'insegnamento universitario*. Roma: Carocci.

Bruner, J. (1997). *La cultura dell'educazione. Nuovi orizzonti per la scuola*. Milano: Feltrinelli.

Calvani, A. (2005). E-learning nell'Università: quale strada percorrere?.*Journal of e-Learning and knowledge Society*, *1*(3), 341-350.

Ciraci, A. M. (2008). *E-learning e equità. Didattica online e nuove opportunità*. Roma, Anicia.

Delors, J. (1996). *Nell'educazione un tesoro*. Roma: Armando.

Dewey, J. (1929). *Le fonti di una scienza dell'educazione. Traduzione a cura delle studenti dei corsi di laurea Pedagogia Generale II, Corso di Laurea in Scienze dell'Educazione e della Formazione, Dipartimento di Psicologia dei Processi di Sviluppo e Socializzazione. Sapienza, Università di Roma, prof.ssa Anna Salerni*. In
http://www.disfor.unict.it/Public/Uploads/links/Le%20fonti%20di%20una%20scienza%20dell'edu

cazione%20nuova%20traduzione%20onl.pdf

Galliani, L. (2005). *E-learning nella didattica universitaria*. Napoli: Edizione Scientifiche Italiane.

Knowles, M. (1973). *Quando l'adulto impara*. Milano: Franco Angeli.

Laurillard, D. (2012). *Teaching as a Design Science: Building Pedagogical Patterns for Learning and Technology*. New York: Routledge, Taylor & Francis Group.

Lèvy, P. (1996). *L'intelligenza collettiva. Per un'antropologia del cyberspazio*. Milano: Feltrinelli.

Lèvy, P. (1997). *Cybercultura. Gli usi sociali delle nuove tecnologie*[It. Trans.EditedbyDonata Ferol-di/Shake]. Milano: Feltrinelli.

Loiodice, I. (2012). *Università, qualità didattica e lifelonglearning. Scenari digitali per il mutamento*. Roma: Carocci.

Magni, S. F. (2006). *Etica delle capacità. La filosofia pratica di Sen e Nussbaum*. Bologna: Il Mulino.

Margiotta, U. (2012). Dal Welfare al Learnfare. Le migrazioni dell'apprendimento adulto. In N. Lupoli (Ed.), *Liberi, riflessivi, pensosi. Nuovi orizzonti della LifelongEducation*(pp. 83-100). Milano: Franco Angeli.

Morin, E. (2000). *La testa ben fatta. Riforma dell'insegnamento e riforma del pensiero.* Milano: Cortina Raffaello.

Rossi, P. (2009). *Tecnologia e costruzione di mondi, Post costruttivismo, linguaggi e ambienti di apprendimento*. Roma: Armando.

Scurati, C. (Ed.) (2004). *E-learning e Università, Esperienze, analisi, proposte*. Milano: Vita e pensiero.

Siemens, G. (2008). New structures and spaces of learning: The systemic impact of connective knowledge, connectivism, and networked learning. *Actas do encontrosobre web*, *2*, 7-23.

Slavin, R. E. (1996).Research for the future. Research on Cooperative Learning and Achievement: What We Know, What We Need to Know. *Contemporary Educational Psychology*, *21*, 43-69.

Trentin, G. (2008). *La sostenibilità didattico formativa dell'e-learning*. Milano: Franco Angeli.

Unesco, *The virtual University. Models and messages*.In
http://www.unesco.org/iiep/virtualuniversity/home.php

Valentini, E. (2008). *Università nella rete-mondo Modelli teorici e casi di e-learning nelle università straniere*. Milano: Franco Angeli.

Wenger, E.(2007). *Coltivare comunità di pratica, prospettive ed esperienze di gestione della conoscenza*. Milano: Guerrini Associati.

Romany children:
digital culture and educational experiences

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Abstract
The Romany question is considered from a historical, anthropological, social and cultural
point of view. Difficulties in integration and social interaction are extremely high. We
must ask ourselves if the sharing of common digital languages, which characterises the
modern age in a social, professional and educational context, could be the beginning of a
way to develop an intercultural approach, not only at school but in a wider social context.
Our research put forward the hypothesis that even a basic foray into the field of digital
language could assist them to not feel enclosed in a subculture on the margins of society.
The research project focussed on the learning methods and recognisable connections in
groups of young Romany from primary and secondary schools from the area of the Santa
Candida canal (in Bari), who were given the opportunity to use a personal computer (pro-
vided by the research group) outside school hours.Starting with basic literacy, their needs
were based on their individual motivation.The theory of digital learning initiated and or
facilitated the development of skills relative to their educational level and provoked an
improvement in the learning abilities of the young Romany.

Keywords
Romany, Digital Learning, Skills Development, Education

1. Background

The Romany question is considered from a historical, anthropological, social and cultural point of view. Difficulties in integration and social interaction are extremely high. Among the various Romany camps in the city of Bari, the one on the canal of Santa Candida (on the outskirts of the Poggiofranco area) presents particularly complex perspectives when compared to the other Romany camps situated on the outskirts of Bari.The camp is composed of 40 families with an overall total of 152 inhabitants, of whom 30 are under 18 years old.They all belong to evangelical or Pentecostal religions and are from the city of Sucheava in Moldova. For the past 13 years they have been living illegally in a makeshift camp, which was originally part of an olive grove.Their living conditions are dire with the shacks being made from discarded materials.There is neither running water nor electricity and numerous rodents. This meeting of diverse cultural realities calls for a mutual understanding. We must ask ourselves if the sharing of common digital languages, which characterises the modern age in a social, professional and educational context, could be the beginning of a way to develop an intercultural approach, not only at school but in a wider social context. Our research put forward the hypothesis that even a basic foray into the field of digital language could assist them to not feel enclosed in a subculture on the margins of society.

2. The theory behind the project and the objectives of the research

The research project focussed on the learning methods and recognisable connections in groups of young Romany from primary and secondary schools from the area of the Santa Candida canal, who were given the opportunity to use a personal computer (provided by the research group) outside school hours. Starting with basic literacy, their needs were based on their individual motivation. The theory of digital learning initiated and or facilitated the development of skills relative to their educational level and provoked an improvement in the learning abilities of the young Romany (the framework of the research will be evaluated in the Italian language).To summarise, the research operates on 2 levels: firstly that of learning how to use a computer and ascertaining the incremental socialisation and secondly improving the knowledge, in this specific case of Italian, through the use of a computer.

3. Timetable

The project started in September with the aim of finishing at least the first phase by the following July.

4. The composition of the group and the research methodologies

The group was composed of 8 Romany children between 6 and 16 years of age (6 male and 2 female) from primary and secondary schools in Bari and of a team of 6 researchers (2 of whom belonged to the department of education, psychology and communication from the University of Bari "Aldo Moro"). Three personal computers were made available. The team was made up of L. Santelli, L. Carrera, A. Cassano, G. De Vito, R. Ferro, A. Fornasari. The methodology used included analysis of the Romany children who were given use of a per-

sonal computer (after a brief 3 hour introduction by the research team), a weekly observational session of the children at the camp, monthly meetings with the teachers and the participants, 3 focus groups with the children from the camp, informal group and individual interviews with the family members and adults of the camp every 3 months and 3 monthly interviews with the teachers of the group.

The research focussed on examining 5 principal aspects:

a) the time spent and methods of use of the computer
b) the dynamic relationship in terms of quantity and quality between the group and their peers and adults of the camp
c) the ways the computer was used in the class and laboratory
d) the dynamic relationship in terms of quantity and quality between the group and their classmates and teachers
e) the level of Italian.

Points c, d, and e were analysed in close collaboration with the group's teachers. The first problem which presented itself, after having presented the project and agreed the day and time of our meeting in the camp with the person in charge, was how to present ourselves in the camp in small groups of not more than 2 or 3 people so as to be able to interact with the Romany children. A large amount of attention was focussed on how to create a correct relationship with the young people and the different members of the community. With the young people we adopted a more playful approach which allowed us to involve them more closely and directly but which was strongly backed up by an educative message. The method of research used up to now has been that of "observer participant" which, as has been noted, let us conduct fact-finding missions into the situation and dynamics without interfering in the relationship of the participants (we had already noted that the only one of us in the group who had been taking notes was seen as a disturbance by the children and adults) and also a diary was used as a technique of observation.

5. Initial observations

During the weekly meetings we observed the a) dexterity b) the level of interest c) the attention span d) the questions put to the researchers e) the interaction amongst peers f) the operative choices (where the children chose to look at), e.g. video-games, social networks, watching films etc g) the use of Italian h) the approach of adults in the camp. The game of choice expressed by the participants veered towards the use of Paint (a drawing activity) by M. (6 and ½years old) to Memory (memorising cards) and Load Runner (completing a maze) by D (12 years old) and MI (13 years old).The older children (15 and 16 years old) inclined towards social networks whose navigation was unfortunately hampered by the slow internet connection. One particular problem was highlighted by the female children. They approached the computer hesitantly and when they did, it was only for a few minutes and without using it. They remained distant and secluded, a stance strengthened by the tradition which dictates that female members of the family should only be interested in matters concerning the home and family. Up to now contact has been limited to 2 females, E. 15 years old who sporadically attends the 3 year of middle school and L., 14 years old, who has recently arrived from Romania and has no knowledge of Italian.A very interesting aspect for the research, with regards to maintaining educational possibilities for the girls, was the helpful approach of the school T. Fiore and the headmaster L. Posito who allowed the laboratory to be used on Saturday mornings not only by the 3 Romany pupils who attended the school (among them E. And L.)but

also by other Romany children who attended neighbouring schools. We are currently ascertaining if we can use the facility, even partially, during the coming months to alternate Saturday mornings at the camp with ones in the school. If we have sufficiently high numbers of people interested in using the computers we can continue the project in an environment with an adequate amounts of computers for all participants in the research and sheltered from winter temperatures but also facilitating the rapport between the young people, researchers and teachers and supporting their education more effectively through socialisation and learning. During the weekly meeting we observed that only 2 participants had constantly attended (D. 12 years old and M. 6 and ½).The interest expressed in the use of the computer was moreover highlighted in the usage time, the 2 hours planned for the weekly meetings soon proved to be insufficient to satisfy the curiosity of the young people. The weekly meetings were seen to be too infrequent "a week is a long time to wait" said D. at the end of one meeting.

6. Possible further development

"If there were always a computer in the camp we wouldn't waste any time" observed A., 16 years old, who said this phrase as if he were speaking about an impossibility. The interest shown in this research project has been incontrovertible and is proved by the recent construction of a wooden hut (the only one in the camp where, as previously stated, all the materials didn't come from discarded materials).The person in charge of the camp informed us that we could use this during the winter months in order to be under cover with the computers. His wife added that the new construction was meant for the use of the 2 young newlyweds who were due to have a child soon, but M. hinted that "in 5 or 6 months the young people wouldn't use it any more". Recently our group has been using a table set up in front of the hut of the person in charge of the camp. This project has stressed the need, which was not one of our initial considerations, of a permanent place with the Romany camp (if the necessary funds are found) for 1 or 2 computers and a printer to be located in this small construction which has optimistically been called "the computer hut" by some people and could allow all people from the camp (not only children) to familiarise themselves with computers and perhaps feel less marginalised.

References

Arci Solidarietà Onlus (2013). *C'è un posto all'ultimo banco. Guida alla scolarizzazione dei bambinirom*. Milano: DeriveApprodi.

Argiropoulos, D. (2013). *Spigolare parole, Rubare sguardi*. Firenze:Polistampa.

Bachmair, B., &Bazalgette, C. (2011).The European Charter for Media Literacy.Meaningand potential.*Research in Comparative and International Education*, *2*(I), 1-25.

Baldini, D.,& Zago, M. (Eds.) (2010).*Il mosaico Rom. Specificità culturali e governance multilivello*. Milano: Franco Angeli.

Buckingham, D. (2002). *The electronic generation?Children and the new media*. In L. Lievrouw, &S. Livingstone (Eds.), *The Handbook of New Media.*London:Sage.

Cassano, A. (2011).*Le nuove tecnologie per il rafforzamento del pensiero narrativo e dell'intelligenza linguistica: possibili sperimentazioni*, Didamatica 2011, Torino,May 4th-5th-6th, 2011.In http://didamatica2011.polito.it/index.php/content/download/337/1306/version/1/file/Short+Paper+CASSANO.pdf

Cornoldi, C.,& Zaccaria, S. (2011).*In classe ho un bambino che....* Firenze: Giunti.

Ignazi, S., &Napoli, M. (Eds.) (2004).*L'inserimento scolastico dei bambini rom e sinti*.Milano: Franco Angeli.

Jenkins, H. (2006). *An Occasional Paper on Digital Media and Learning.Confronting the Challenges of Partecipatory Culture.Media Education for the 21st Century*. Chicago: The John D. and Catherine T. Macarthur Foundation.

Livingstone, S.(2005). *Critical debates in internet studies. Reflections on an emerging field*.In J. Curran, &M. Gurevitch (Eds.), *Mass Media and Society* (pp.9-28). London: Sage.

Santelli Beccegato, L. (2007*). Media education: su alcune questioni di fondo*.In P. Limone (Ed.), *Nuovi media e formazione* (pp. 1-25). Roma: Armando.

Ulderico, D.(2005). *Norme a favore dei Rom. Definizioni e stereotipi dell'alterità nella legislazione italiana sui Rom*.In M. Zecchini (Ed.), *Oltre lo stereotipo nei media e nella società*. Roma: Armando.

Reflecting on prior learning in higher education.
Using an e-portfolio with students
in the post-secondary age group

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Abstract
Higher Education is facing new challenges related to lifelong learning, as many students, even in the traditional post-secondary age group, are involved in working experiences. This paper therefore presents the construction of a portfolio based on the reflection and demonstration of prior learning in a first cycle university degree program. Students were asked to make explicit what they had learned in each significant experience, then to identify the most appropriate strategies to demonstrate the acquisition of their competences. The use of an e-portfolio allowed to improve building the students' network of learning resources in the framework of competence logic and assisted the teacher to properly post feedbacks to help the students to reach the goals previously fixed.

Keywords
E-Portfolio, Lifelong Learning, Higher Education, Competence, Informal Learning

Higher Education is evolving in order to open itself towards a public more diversified than the traditional post-secondary age group, and is therefore facing new challenges related to lifelong learning. First, the proportion of adult learners is not negligible anymore: in 2011-2012, the "over 25" newly registered students in Italian Universities reached a 9,50% in "humanities" courses[4]. The needs of these students are peculiar as they go through more and more fragmented professional paths, with critical "transition points" (Feutrie, 2011, p. 59); as the Lisbon Strategy claims: "Member States should encourage Universities, education/training institutions and other relevant organizations (e.g. research institutions) to implement systematically measures aimed at the assessment and recognition of non-formal and informal learning" (European Commission, 2001, p. 17). According to those procedures, students will be asked to *demonstrate* their competences[5] on an individual basis (Di Rienzo, 2010; Alberici & Di Rienzo, 2011; Galliani, Zaggia & Serbati, 2011).
But, lifelong learning, as the EC Memorandum says, "sees all learning as a seamless continuum *from cradle to grave*" (European Commission, 2000, p. 7) and therefore it poses a broader issue for universities; Italian university students, even in regular age, actually are

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[4] Source: *Ministero dell'Università e della Ricerca - Ufficio di Statistica. Indagine sull'Istruzione Universitaria.* We are considering "insegnamento", "letterario", "linguistico", "politico-sociale" e "psicologico" disciplinary groups.
[5] As in EQF (European Parliament and Council, 2008, p. 4), *Competence* means "the *proven* ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development". There are similar concepts expressed in the Italian law (L. 92/2012) that deals with this issue.

mostly working students – about 80% in some "humanities" disciplinary groups[6] –, even though their working experiences are often occasional and their biographies are various. They should start reflective processes about their learning, wherever it takes place, on a continuing basis. This can maintain a learning continuity in their life path, and, at the same time, can enhance the "learning to learn" key competence (European Parliament and Council, 2006).

To this aim, we recall the competence theory of Le Boterf (1994; 2008): a competent person is able to mobilize an appropriated combination of resources in a problematic situation. Those resources – knowledge, abilities, attitudes, behaviors, ways of thinking etc. – and can be developed in many learning environments, either formal, non formal or informal. Such construct answers to the changing of professions, of the situations and activities linked to them, that are more and more complex and impermanent. We can find this approach within the university meta-outcomes, the so called Dublin Descriptors (EHEA, 2005).

To implement such an approach, we have proposed a portfolio model for first cycle higher education students, focused essentially on three logics: the reflective logic, the demonstration logic, the competence logic. When constructing their portfolio, individual students should first make explicit what they learned in each significant experience, then they have to identify the most appropriate strategies to demonstrate the acquisition of the competence, and finally they are asked to describe a particular situation in which they have mobilized a combination of his resources. In the context of this paper it is important to notice that we focus on the portfolio construction process rather than on the portfolio itself. According to Rossi (2006, p. 24), this is within a conception of *formative* portfolio, rather than a *certification* portfolio; the portfolio is more a tool to become aware of one's own learning path than a documentation of one's working or learning credits. According to Aubret (2010, p. 27) the "competences portfolio" demarche is a reflective demarche of analysis and synthesis of the education received and of the personal, social and professional experiences, in order to make visible the knowledge and competences that these experiences generated, to "codify" such knowledge and competences in a language that allows to memorize their content, for oneself or for others, to find and capitalize in a personal dossier the "proofs" that can attest their effectiveness within social negotiation, for employment, validation or certification of competences.

We will then present an experience related to a first cycle university degree program[7], in a course called "Evaluation of Security Competences". We asked the students to construct a small competences portfolio, as part of the course assessment[8]. A first experience was led in the year 2011-2012, when those portfolios were realized using common office automation software (mainly MS Powerpoint and MS Word), a second one was led in the year 2012-2013, using an e-portfolio (Mahara). A deep qualitative analysis of those portfolios is presented in a previous work (Ugolini, 2013), while the aim of this paper is to compare the two solutions, especially on how the use of an e-portfolio eased and improved the construction process.

The use of Mahara was driven by reasons both at theoretical and practical level. First, the structure of a PowerPoint presentation, even if it can embed some hyperlinks, is mainly sequential, while an e-portfolio is an hypertext[9]. According to Rossi (2006), there is a strong

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[6] "Insegnamento": 81,6%; "Politico-sociale": 80,6%. Source: Almalaurea, 2013.

[7] Scienze per l'Investigazione e la Sicurezza, Università di Perugia.

[8] Students were evaluated for the construction process and not for the content of their portfolio.

[9] Some other experiences (Ajello & Belardi, 2007) rather adopt a web developing environment. We preferred not to choose this solution because the technological problems can overtake the methodological issues, also in virtue of a "1.0" view that lies within this kind of software while Mahara structure is more similar to Web 2.0 social software (Giannandrea & Sansoni, 2011).

link between the concept of network of resources as described by the theory of competences (Le Boterf, 1994) and the concept of network of documents as showed in a portfolio. Moreover, an e-portfolio allows students to interact and grants a better portability of a portfolio across Internet.

At practical level, submitting a PowerPoint portfolio – often via mail or pen drive – is subject to many technical problems (network, compatibility etc.). The teacher should post several feedbacks, and e-mail is not the most reliable way to exchange heavy files several times within a short period of time. Moreover, and with an e-portfolio a feedback can be posted on the same page it refers to.

In both experiences, an initial survey confirmed us a strong relation between students and work, even in the "regular" age group: in the second one, 77,7% of attending students who answered to the questionnaire, declared they already had working experiences. Moreover, almost half of them had a significant experience of sports at competitive level (this is probably due to the specificity of this course) and also half of them participate to association activities.

A Mahara account was set for each attending student, and for those non attending students who asked for it[10], at the end of March 2013, and a compulsory first deadline was set at the end of April 2013, to deliver the portfolio. Meanwhile, the regular lessons took place and a textbook and some documents were available. In order to overtake the initial technological difficulties, the students were given a detailed documentation that explained how to realize the first tasks, namely:

- create three collections, one for each kind of learning (Formal, Non formal, Informal);
- create a page and associate it to a collection;
- set the access rules.

The latter is a very important issue. As they upload many personal materials (e.g. the secondary school diploma), the students must keep the complete control of their sharing policies. Of course the teacher must be granted the reading rights, and the possibility should be given to him to write a feedback in the student pages. But each student should feel free to share his portfolio with every other student, with his "friends" or only with the teacher.

Giannandrea and Sansoni (2012), noted "a general lack of autonomy among students, who were not able to manage an open task individually" (ivi, p. 247); their research addressed secondary school students while this problem should be less important in an higher education context. Nonetheless, the task we presented to the students in our experience, starts with a more guided and detailed stage (finding out the relevant learning experiences and categorizing them into formal, non formal, informal learning collections) while the most significant ones – finding out the most proper demonstrating strategies, describing a problematic situation in which competences have been mobilized – are often been addressed after the teacher's first feedback.

171 portfolios have been delivered at the first deadline. 24 of them already reached the requested outcomes. A second non compulsory deadline was set at May 15th, after a first feedback from the teacher; at this stage 66 further portfolios reached the goals. 25 of them only needed to be refined; 10 of them were in lack of demonstration logic: for instance, many students inserted photos in their portfolio, but only few of them clearly understood that these pictures should work as proofs of a competence. We had to write many times in feedbacks that each picture needs a proper caption describing which competence it is demonstrating and how[11].

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[10] We gave to non attending students the possibility to realize their portfolio via MS PowerPoint or MS Word.
[11]Mahara has two ways to do so: one can either set a description on the document, to be showed in the page, or simply add a further textbox under or alongside the picture into the page. The latter is preferable if one intend to

20 portfolios were lacking of competence logic; we asked the students to describe a problematic situation (either usual or extraordinary) in which they had mobilized a combination of their resources (preferably, if these resources should come from different learning contexts). In this stage, students were asked to change their point of view, from what they learned during their experience to what they are now able to do with what they have learned (Wiggins, 1993) in a situated context. This one is the last step, and it is not surprising that it brings some difficulties for a big part of the students.

The last deadline was set at May 21st: the portfolios were then evaluated in view of the session of exams in June. 46 further students fully reached the learning outcomes. In the end, only 29 to 171 didn't reach the full marks in this task.

From our point of view, then, using Mahara was effective because we were able to bring the great majority of students to reach the outcomes, which was not so easy while dealing with a great numbers of them (171). From the students' perspective[12], most of them highlight the importance of the teacher's feedback. Regarding the use of Mahara, a few of them noted some difficulties at the beginning but, as one of them said, "once you understand how it works, it's easy to use". On the other hand, the social features were used only to a small extent: more often, as attending students, they prefer to interact face-to-face rather than using the technological tool.

References

Ajello, A. M., & Belardi, C. (2007). *Valutare le competenze informali. Il portfolio digitale*. Roma: Carocci Faber.

Alberici, A., & Di Rienzo, P. (Eds.) (2011). *I saperi dell'esperienza. Politiche e metodologie per il riconoscimento e la convalida degli apprendimenti non formali e informali nell'università. Secondo rapporto di ricerca PRIN*. Roma: Anicia.

Almalaurea (2013). *Profilo dei laureati 2012*. In www2.almalaurea.it/cgi-php/universita/statistiche/tendine.php?LANG=it&anno=2012&config=profilo

Aubret, J. (2010). Les compétences entre le monde de la formation et le monde du travail. In E. Felisatti, & C. Mazzucco (Eds.), *Le competenze verso il mondo del lavoro. Formazione e valutazione* (pp. 17-30). Lecce: Pensa MultiMedia.

Di Rienzo, P. (Ed.) (2010), *Il riconoscimento e la validazione degli apprendimenti non formali e informali nell'Università. Primo rapporto di ricerca: politiche e modelli in Europa*. Roma: Anicia.

EHEA (2005). *A framework for Qualifications of the European Higher Education Area*. In www.bdp.it/lucabas/lookmyweb/templates/up_files///Processo_Bologna/Doc Qualification Framework.pdf

European Commission (2000). *A Memorandum on lifelong learning*. In www.bologna-berlin2003.de/pdf/MemorandumEng.pdf

European Commission (2001). *Making a European Area of Lifelong Learning a Reality*. In eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2001:0678:FIN:EN:PDF

European Parliament and Council (2006). *Recommendation of the European Parliament and of the council of 18 December 2006 on key competences for lifelong learning*. In eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:en:PDF

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reuse the same document in more than one page (more than one "view" addressing more than one kind of reader).

[12] We submitted a final questionnaire with few open questions after the first session of oral examinations: 30 students answered.

European Parliament and Council (2008).*Recommendation of the European Parliament and of the council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning*. In eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=oj:c:2008:111:0001:0007:en:pdf

Feutrie, M. (2011). L'université entre autonomie, qualité et responsabilité. In L. Galliani (Ed.), *Il docente universitario. Una professione tra ricerca, didattica e governance degli atenei. Tomo I: relazioni invitate* (pp. 47-61). Lecce: Pensa MultiMedia.

Galliani, L., Zaggia, C., & Serbati, A. (2011). *Adulti all'università. Bilancio, portfolio e certificazione delle competenze*. Lecce-Brescia: Pensa MultiMedia.

Giannandrea, L., & Sansoni, M. (2011). L'introduzione di un ePortfolio nella scuola primaria: un'esperienza con Mahara. In T. Minerva, & L. Colazzo (Eds.), *Connessi! Scenari di innovazione nella Formazione e nella Comunicazione* (pp. 469-475). Milano: Ledizioni.

Giannandrea, L., & Sansoni, M. (2012). Mahara in secondaryschool. The introduction of an ePortfolio to foster oral skills and socialization. In S. Ravet (Ed.), *Proceedings of ePIC 2012, the 10th International ePortfolio and Identity Conference* (pp. 245-251). Poitiers: ADPIOS.

Le Boterf, G. (1994). *De la compétence. Essai sur un attracteurétrange*. Paris: Les Éditionsd'Organisation.

Le Boterf, G. (2008). *Repenser la compétence. Pour dépasser les idées reçues: 15 propositions*. Paris: Eyrolles - Les Éditions d'Organisation.

Rossi, P.G., & Giannandrea, L. (2006).*Che cos'è l'e-portfolio*. Roma: Carocci.

Ugolini, F. C. (2013). Riflettere sulle competenze informali all'Università in una logica di dimostrazione. Una proposta di portfolio. In F. C. Ugolini (Ed.), *Apprendimento informale. Aspetti multidisciplinari e prospettive di ricerca* (pp. 37-96). Lecce-Brescia: Pensa MultiMedia.

Wiggins, G. P. (1993). *Assessing Student Performance.Exploring the Purpose and Limits of Testing*.San Francisco, CA: Jossey-Bass.

Lifelong and lifewide learning online and offline: informal 2.0 education university teaching for Permanent Learning

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Abstract
The new framework for permanent learning, as further defined by Italian National Law 92/2012 and the Legislative Decree of 13/2013 involves not just a rethinking of internal institutional and organizational arrangement, but also of that which regards teaching and evaluation in universities. The need to promote the extension of access to academic courses, the increase in enrolment numbers on the part of mature students in employment and the universities' need to qualify training with a view to accreditation (ava), make it essential that teaching includes research for efficacious learning processes, both *in situ* and at a distance, also for mature students.
In this regard, the form of experimentation called "lifelong and lifewide training, online and offline" comes into being, to promote the possibility of creating systemic and integrated interaction between paper publishing and the web through recovery of active and narrative methodologies in informal education 2.0.
The text *Formarsi lifelong e lifewide* (Unicopli, 2013) becomes a pre-text for the creation of Narr@, a blog devoted to informal education both *on* and *within* university teaching for adult students.

Keywords
Informal Education, Lifelong Learning, Teaching, University

In the wake of European Directives regarding Lifelong Learning, from the Lisbon strategy to the present time, the Italian National Law 92/2012 and the relative Legislative Decree 13/2013 attribute permanent learning as an institutional task of Italian Universities.

Italian Universities, which have already been profoundly changed by the Ordinances Reform in the passage from Ministerial Decree 509/1999 to Ministerial Decree 270/2010 and Legislative Decree 19/2012, are further re-designed, both on the level of organization and planning and on that of teaching and evaluation.

In the light of recent accreditation procedures for Universities introduced by ANVUR (Ministerial Decree 47/2013) and with respect to individual students of various kinds (school leaving age, male, female, adult, employee etc.), there emerges a need to rethink teaching for adults also, to introduce, experiment and consolidate, in those spheres where they already exist, active and innovative methodologies which can recuperate the centrality of the individual and guarantee quality, excellence and reliability in university learning processes.

The need for renewal of methodology in educational processes for adults at the university opens up a space for reflection on existing forms of teaching practice, which are often proposed as being innovative, but which, in effect, remain distant from the adult learner and the idea of a learning University.

Learning activities, above all for adults, need to be differentiated and calibrated in terms of their interests, their motivations and their personal experiences, as well as their initial learning requirements.

Technologies of the self (Foucault, 1992), those of life (chosen by the adult in everyday life and for entertainment) and those for learning (used for reasons of study) must be integrated synergically (Hosein, Ramanau & Jones, 2010), in respect of that continuum which is our existence.

Methodologies active in this sense acquire a significant role in the new university scenario of "doing training" for adults. It is evident that every methodological approach, whether active or not, online or offline, needs to be arranged in a responsible manner (Colazzo & Celentano, 2008), and it must be strategically oriented towards the achievement of learning outcomes.

Information and Communication Technologies (ICTs) constitute a great opportunity in university teaching from a lifelong learning perspective (Galliani & De Waal, 2009), if these are understood not in terms of an increase in the means involved in learning but as an opportunity for empowerment of learning processes.

Media Education, from a lifelong learning point of view, can contribute to the passage from a perspective based on teaching to one based on learning; from training which is exclusively formal to that which also includes the non-formal and informal. Permanent Learning 2.0, even if informal, should involve a technological re-engagement and a re-positioning which is aware and sustainable in relation to the individual and respectful of his/her self-regulated learning.

It is in these reflections that the experimentation of "Lifelong and Lifewide Training online and offline" finds its origin. The experimentation is conducted by the BioSelfLab (*Centro di formazionebiografico-progettuale per l'occupabilità*, financed by the Region of Apulia) and by the Department of Languages and Educational Sciences at the University of Calabria, with the support of the University of Salento, promoter of the initiative in the context of a new policy for Lifelong Learning.

The aim is to promote university teaching for adult students based on the real centrality of the individual, both present or at a distance, respecting that autonomy which is a prerogative of lifelong and lifewide learning (Knowles, 1993). In operational terms, the idea is to experiment the recuperation of integrated active methodologies with those which are narrative in nature,

in a systemic interaction between Web 2.0 and paper publishing, giving emphasis to training in an informal context using blogs.

In a learning society which endorses informal learning in a marked fashion, to the extent that its certification becomes necessary (see National Law 92/2012 and Legislative Decree 13/2013) the online world itself is an informal modality for the acquisition of knowledge and competencies. Practices of self-teaching, consultation of databases or services, and choice of tools, permit the construction and planning of digital artefacts for self-expression, narration and learning and are, in effect, training initiatives which are part of informal education. Through web activity one learns to converse, interact, create, edit, and share textual, visual and audio content (Selwyn, 2012).

The text *Formarsi Lifelong e Lifewide. Narrazione Innovazione e Didattica nell'Università dell'Apprendimento Permanente* (De Carlo, 2013), published by Unicopli, thus becomes an occasion for planning and re-creating a computer environment devoted to informal education *in* university teaching for adult students.

The book defends the magic of learning without becoming a substitute for the digital. Made available through the platform, the book takes on the role of a faithful companion for "virtual journeys and explorations", in which, one is freed from structural confines, constraints and limitations in learning via web, and, also, *Key competences* (2006/962/CE) are promoted, reducing the gap between knowing, knowing how and knowing how to become.

In the dialectical relationship between the book and the digital platform, the adult-teacher learns alongside the adult-student. This is an experience in which stories intersect, co-found (Di Fraia, 2005) and transform themselves (Mezirow & Taylor, 2009), while knowledge is "researched, constructed and discovered socially, shared and lived" (Galliani, 2007, p. 2).

In terms of teaching and methodology, through use of the Narr@blog platform, the aim is to encourage a diversified use of multimedia enriched by different web tools which reflect the imperatives of Web 2.0: Share, Participate, Collaborate and Create! The authoring tools at the service of the active methodologies integrated with the narrative help to stimulate the mind and its creativity, becoming mental activators, involving the organization of memory (Colazzo, 2010) and favouring learning environments in which it is possible to have the co-presence of several codes and logical and analogical processes with respect to different styles of intelligence (Gardner, 1987).

The ICTs favour exchange and interaction on the "information highway", yet they cannot completely substitute the "warmth" and the emotion of an encounter, that need for community beyond the screen, those silences which can communicate more than words and which tell stories which are an indelible part of the soul of an individual (De Carlo, 2013).

To begin, or to begin a course of study again as an older person is, however, a "peak experience" (Maslow, 1971) which is often "traumatic" for the adult, who approaches the experience with many doubts and uncertainties, lost as he is more than ever in the encounter with a new world (Albert, Gallina & Licthner, 1998) and with a level of access and diffusion of Web 2.0 which, however, cannot always be taken so much for granted.

The integration of active with narrative methodologies and the use of an environment which "prepares for the Web 2.0 platform", permits them to engage in an authentic and efficacious course of learning.

In the course experience of *learning to learn,* the narrations help one to "not to forget one exists" while learning (Demetrio, 2012).

Innovative processes in university teaching come about also through use of the web, but above all through research, the professionalism of the teacher and the manner in which narra-

tive thought is cultivated (Quaglino, 2011), it being guarantee of the centrality of the individual and of the appreciation of his visible and invisible resources, formal and informal.

Informal education 2.0, in this sense, can contribute to sustaining a continual action of rethinking and planning of teaching policies, which, in an age of constant becoming, must always be choices which are well thought out and aware, never obvious, never predictable and never definitive. This is the weakness of lifelong and lifewide learning, but also its greatest strength (De Carlo, 2013).

References

Alberici, A. (2012). La possibilità di cambiare: l'apprendimento permanente come risorsa strategica per la vita. In L. Dozza, & G. Chianese (Eds.). *Una società a misura di apprendimento. Educazione Permanente tra teoria e pratiche* (pp. 19-28). Milano: Franco Angeli.

Alberici, A., & Di Rienzo, P. (Eds.) (2011). *I saperi dell'esperienza*. Roma: Anicia.

Alberici, A., & Di Rienzo, P. (Eds.) (2013). *Riconoscere le competenze informali. Il caso della formazione sindacale CISL.* Roma: Edizioni Lavoro.

Alberici, A., Catarsi, E., Colapietro, V., & Loiodice, I. (Eds.) (2007*). Adulti e Università: sfide edinnovazioni nella formazione universitaria e continua*. Milano: Franco Angeli.

Albert, L., Gallina, V., & Lichtner, M. (1998). *Tornare a scuola da grandi*. Milano: Franco Angeli.

Altimari, F., Plastina A. F., Cronin, M., & Caria*, M.* (2013). *Personalizing language learning/teaching in PerLe: an open-source dynamic approach.* Atti del convegno "WorldCALL2013". Glasgow, July 10th-13th.

Bruner, J. (1990). *Acts of meaning*. Cambridge: Harvard University Press.

Colazzo, S. (2010). Per una pedagogia della memoria. In *In Media Res. Studia Resoviensia in Lingua et Litteris* (pp. 105-124). Wydanie I. Rzesrow: Wydawnictwo Promar International.

Colazzo, S. (Ed.) (2009). *Apprendimento esperienziale, apprendimento per metafore, outdoor training*. Melpignano (LE): Amaltea.

Colazzo, S., & Celentano, M. G. (2008). *L'apprendimento digitale. Prospettive tecnologiche e pedagogiche dell'e-learning*. Roma: Carocci.

Crook, C. (2008). Theories of Formal and Informal Learning in the World of Web 2.0.In S. Livingstone (Ed.).*Theorisingthe Benefits of New Technology for Youth: Controversiesof Learning and Development*. ESRC seminar series: The educational and social impact of new technologies on young people in Britain. March 12th, 2008 (pp. 30-34). Oxford, UK: University of Oxford.

De Carlo, M. E. (2011). *Rileggere le competenze invisibili. Percorsi narrativi e prospettive narratologiche nella formazione continua*. Milano: Franco Angeli.

De Carlo, M. E. (2013). *Formarsi Lifelong e Lifewide. Narrazione Innovazione e Didattica nell'Università dell'Apprendimento Permanente*. Milano: Unicopli.

Demetrio, D. (Ed.) (2012). *Educare è narrare*. Milano-Udine: Mimesis.

Di Fraia, G. (2005). *Storie Con-fuse. Pensiero narrativo, sociologia e media.* Milano: Franco Angeli.

Foucault, M. (1992). *Tecnologie del Sé.* Torino: Bollati Boringhieri.

Galliani, L., & De Waal, P. (2009). Learning Face to Face, in action and on line: Integrated Model of Lifelong Learning.In U. Bernath, A. Szucs, A. Tait, & Vidal, B. (Eds.), *Distance and E-learning in Transition. Learning Innovation, Technology and Social Challenges*. Budapest: ISTE-Wiley.

Gardner, H. (1987). *Formae mentis. Saggio sulla pluralità dell'intelligenza*. Feltrinelli, Milano.

Hosein, A., Ramanau, R., & Jones, C. (2010). Learning and Living Technologies: A Longitudinal Study of First-Year Students' Expectations and Experiences in the Use of ICT. *Learning, Media and Technology*, *35*(4), 403-418.

Knowles, M. (1993). *Quando l'adulto impara*. Milano: Franco Angeli.

Kolb, D. A. (1984).*Experiential learning.Experience as the source of learning and development*. Englewood Cliffs: Prentice Hall.

Manca, S., Vanin, L. (2011). Models and strategies to support students' initial socialization in web-based learning environments. In F. Pozzi, & D. Persico (Eds.).*Techniques for Fostering Collaboration in Online Learning Communities: Theoretical and Practical Perspectives* (pp. 82-98). Hershey, PA: IGI Global.

Martiniello, L. (Ed.) (2011). *Multimedialità tra comunicazione e formazione*. Napoli: Guida.

Mezirow, J., & Taylor, E.W. (2009).*Transformative Learning in practice*.San Francisco: Jossey-Bass.

Quaglino, G. P. (2011). *La scuola della vita*. Milano: Cortina.

Schőn, D. A. (2006). *Formare il professionista riflessivo*. Milano: Franco Angeli.

Selwyn, N. (2012). I Social Media nell'educazione formale e informale tra potenzialità e realtà. *TD Tecnologie Didattiche*, *20*(1), 4-10.

Spears, A., Kofoed, J., Bartolo, M. G., Palermiti, A. L., & Costabile, A. (2012). Positive uses of social networking sites Youth voice perspectives. In A. Costabile, & B. Spears (Eds.), *The impact of technology on relationships in educational settings*. London: Routledge.

Tramma, S. (2009). *Che cos'è l'educazione informale*. Roma: Carocci.

Zara, V., & Degli Atti, F. (2010). Le trasformazioni del sistema d'istruzione superiore in Italia: prospettive e rischi. In R. Moscati (Ed.),*Come e perché cambiano le università in Italia e in Europa.Nuove politiche dell'istruzione superiore e resistenza al cambiamento.*Napoli: Liguori.

Section 3
Experience

eLearning experiences at University of Turin

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Abstract
In this contribution are analysed two e-learning experiences at the University of Turin in courses organised for University employees. One course focuses on the use of virtual conference for teaching in Photoshop classes and the other course wants to develop assessment culture for organization and management models. The use of new techniques and innovative tools allowed in either or both experiences to reach a wide customer base and making courses replicated in multiple editions.

Keywords
Life Long Learning, Learning By Doing, Web Conference, Moodle, FAD

1. Experience 1
Advanced Photoshop

Objectives, target user and features
The course is organized by the Training Center of the University of Turin and is addressed to technical and administrative employees and PhD working at the Institute for Cancer Research and Treatment at Candiolo (IRCC), 25 participants.
The course prerequisite is basic knowledge of Adobe Photoshop (software for editing digital images).

Course goals
The course covers all stages of the process of correction and retouching of images and focuses on the tools and capabilities needed for that goal. The final goal is to manage digital images for scientific publications and web dissemination.

Course Features
The course is organized in 3h for frontal lesson (introduction of the course); 16h in web conference (divided into 4 sections using Virtual Room) and 5h for homework and exercises.
The course includes a final examination with assessment.
The course uses the e-learning open source platform, Moodle, for sharing materials, exercises

and final paper and the web conference platform, Virtual Room (in use for University employees), for FAD lessons.

The 25 participants attend classes together in a classroom where the teacher shared-desktop is projected on a large screen and the voice amplified.

In addition, a classroom tutor (expert in the content) supports participants during the lessons and plays an essential role in communication between participants and teacher.

The web conference lessons are updated with materials (Power Point slides, web links and exercises) on the platform Moodle and structured in 5 teaching units; each unit consists of:

- teacher handouts (slides in pdf format), with the description of tools and functionality of lessons through the use of screen capture accompanied by a short text;
- video tutorial (audio and video) made by the teacher with Camtasia software;
- case studies and exercises are offered through short tutorial;
- link to video tutorials (audio and video) found on web;
- guided exercises with "step by step" instruction and an image to work on;
- lecture recording, created by web conference system (audio and screencaptures).

Training Model

The entire course is based on the principle of "learning by doing". Each lesson alternates moments of theory in which the teacher "shows" how to use a tool or feature in times and moments of applied theory on images provided by the teacher. In this way the learner can immediately correct and understand the right procedures. During the lessons guided exercises are used with the editing of an image given by the teacher. The learner is accompanied step by step in achieving a particular outcome: the final image, also given by the teacher to compare his work with the correct output. Video tutorials are useful because they examine the most common problems and show the procedure to achieve the best solution. The recorded lectures are an invaluable aid to review the lectures and exercises: the student can consolidate his knowledge and add details that may be missed.

Strengths

- use of web conferencing delete time and transportation costs for both the lecturers and the participants. In future it will be interesting to provide courses with users in different locations distant from each other, but all connected at the same time for the course;
- Virtual Room platform allows the recording of lessons, then possibility to review the entire lesson (screen capture and voice);
- use of teaching materials found on the net;
- re-using teaching materials (handouts, tutorials, exercises, and recorded lectures) can be an issue of self-learning course;
- ability to follow and perform the exercises step by step with the teacher who can also control learner's desktop to guide the procedures and use of tools;
- delivery and evaluation of examination papers through the Moodle platform.

Weaknesses

- the classroom tutor is preferable as to coordinate learners questions during the lesson. It would be useful, but "expensive", the presence of a second expert teacher to assist the master teacher during the course (ex. chat with students in real time);
- making tutorial and guided exercises takes a lot of time for the teacher, even though it has great advantage for being reusable in other courses;

- a good network connectivity is needed to avoid the risk of losing the connection (teacher / user) during the lesson.

2. Experience 2
Introduction Assessment and Performance Measurement System and Assessment Culture

Objectives, target user and features
The course, organized by the Training Center of the University of Turin and is addressed to all University personnel (technical and administrative and Professor); it was attended by 713 participants.

Course goals
The whole University personnel have to know the Assessment and Performance Measurement System and the Performance Plan 2012. The main goal is to develop awareness of the importance of a quality system in the University organization, spreading the culture of assessment and enhance the skills in quality and assessment.

Course Features
The course contents are addressed and developed not only in their theoretical aspect, but also taking into account the different roles that they act within the University. The course focuses on organizational and management models, using measurement and assessment systems.
The experiential way to treat different aspects of the subject promotes the dissemination and contextualization, making this training enjoyable and replicable with the development of the system within the university.
The course was delivered in blended mode:
3 hours in the presence intended for presentation of the Assessment and Performance Measurement System of the University (SMVP) and Performance Plan 2012 and 9/12 hours online with final test.
The materials and video of the presentation in frontal lesson (Module 0, 3 editions on April and May 2012) are followed by a training path on the open-source platform Moodle, structured into 3 modules; the first two modules have self-evaluation test while, after the third module there is the final test that has to be done online.
The modules are divided into sections containing different teaching units and each teaching unit consists of:
  - video lessons/interventions;
  - downloadable handouts (slides in pdf format);
  - video products;
  - bibliography/webliography;
  - test (self-evaluation + final evaluation).

MODULE 1 (3 sections, 11 teaching units)
The context and the logic of continuous improvement:
  - The context and the management process
  - Systems of quality management: models and tools
  - Self-evaluation tests.

MODULE 2 (4 sections, 12 teaching units)
The assessment of performance and psychology in the evaluation:
- The evaluation of the performance
- The psychology in the evaluation
- Bibliography modules 1 and 2
- Self-evaluation tests.

MODULE 3 (sections 3, 8 teaching units)
Quality management system: experiences in kingdom:
- Evidence of ISO certification in our University
- Blob "About Quality"
- Links.

Final evaluation test (10 multiple choice questions).

Strengths
- effectiveness of learning;
- using new ways of learning (L2L system, video interviews, video lessons);
- increase in investments.

Weaknesses
- difficulty on following the course during working time;
- problems with Hardware or Software installed on PC.

References

Calvani, A., & Rotta, M. (Eds.) (2000). *Fare formazione in rete*. Trento: Erickson.

Murphy, F. (1999).Developing a culture of evaluation.*The Journal. TESOL France, 6*. In http://www.tesol-france.org/articles/murphy.pdf

Trentin, G. (Ed.) (1998). *Insegnare e apprendere in rete*. Bologna: Zanichelli.

Trentin, G. (Ed.) (2001). *Dalla formazione a distanza all'apprendimento in rete*. Milano: Franco Angeli.

Trentin, G. (Ed.) (2004). *Apprendimento in rete e condivisione delle conoscenze*. Milano: Franco Angeli.

Trentin, G., &Repetto, M. (Eds.) (2011). *Faculty Training for Web-Enhanced Learning*.Hauppage, NY: Nova Publishers.

Trentin, G., &Repetto, M. (Eds.) (2013). *Using Network and Mobile Technology to Bridge Formal and Informal Learning*.Oxford: Chandos Publishing.

Trinchero, R., & Todaro, P. (Eds.) (2000) *Nuovi media per apprendere. Principi di formazione a distanza in rete*. Torino: Tirrenia Stampatori.

Webliography

Moodle website. https://moodle.org/

University of Turin, Virtual Room.
http://www.unito.it/unitoWAR/page/istituzionale/main/P568002857012760906280 12?path=/BEA %20Repository/2898007

Recognition of informal competences.
The Slp Cisl trade-union education case

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Abstract
This paper presents a reflection on methodological aspects linked to the recognition of the prior experiential learning, acquired by adult learners employed at Poste Italiane, who have held a position as trainer within the Slp Cisl trade-union.

Keywords
Lifelong Learning, Adults, Prior Experiential Learning, Competences Recognition, E-Portfolio

1. Informal competences and lifelong learning perspective

There is a growing attention within education and work institutions towards non-formal and informal learning. The international debate, more and more centred on competences acquired not only in formal education, but also at work, in voluntary activities and in life experiences in general, focuses on the development of pathways between the formal education systems and the non-formal and informal learning systems (European University Association, 2008). This is necessary in order to establish procedures for the recognition and accumulation of past knowledge and to facilitate physical and professional mobility within European systems (Alberici& Di Rienzo, 2011; Corradi, Evans & Valk, 2007). For adults in particular, the possibility to benefit from such pathways between the different systems has a main positive effect on motivation and on participation in lifelong learning activities (Alberici *et al*., 2007).

The valorisation of competences becomes crucial in a lifelong learning-oriented system, including higher education institutions, such as universities. The new economic scenario emphasises individual learning and the different ways and places where it occurs (Di Rienzo, 2012).

A lifelong learning paradigm gives value to all kinds of learning, whether formal, non-formal and informal. Recognition of non-formal and informal learning forms a cornerstone in the lifelong learning strategy (Alberici, 2008). Learning outcomes should be recognised and valued, regardless of where and how they are achieved. Such themes are developed and systematised in the European Guidelines for the Validation of Non Formal and Informal Learning (CEDEFOP, 2009).

The national normative framework includes the recognition of non formal and informal learning as a strategic tool for the valorisation of human resources. There is also a general

interest to take a broader approach providing the implementation of new technology-based tools (Alberici & Di Rienzo, 2013).

This is the framework of the Project discussed here, developed by Roma Tre University in order to meet the education requirements of the 30 workers of the Slp Cisl Italian trade-union: adult students employed by Poste Italiane, who have held a position as trainers within the union.

Therefore, the general purpose of the educational project, during 2011-2012, was the development of capabilities and competences related to tools and a procedure for the recognition of prior learning experiences. This final objective was divided into the following specific objectives, developed in phases 1 and 2, and aiming at:

- Developing the analysis of the fundamental themes about the process of recognising experiences and professional competences: the notion of experience, of experiential learning, of competence, specifically in constructivist models, in the reflexive approach, and in the case of the French model of *Validation des acquis de l'expérience* (Vae) and *Validation des acquis professionnels* (Vap).
- Acquiring the competences related to procedures and tools useful to the orientation phase of the recognition process.

The adopted methodology refers to the model of research-action, meant to deepen certain theoretical knowledge while analyzing a specific field of experience with the aim of bringing improvement. At the same time, the adopted methodology also focuses on the experience acquired by the people involved (Mertens, 1998). The project adopted learning-by-doing techniques based on a qualitative approach. These qualitative techniques regarding the process of creating new meanings and re-elaborating one's own life and educational experiences became deeply relevant in the educational context of the project. Indeed, learning intended as a change-process aims at the attribution of meaning to experiences, as stated by the Kolb theory (Kolb, 1984), which implies a constructive modality where individuals are required to participate, within contexts mainly characterised by the social nature of the practices carried out (Bruner, 1990).

The phase 1 was characterised by modular courses of learning, developed in a blended approach. The Moodle e-learning platform has been organised to promote a dynamic learning environment, such as the forum and the wiki, and to promote the learning objects related to the theme of the competences recognition.

In the second phase laboratory activities were carried out following the models of accompanying and guidance to enable each student to define a project of recognition of competences, which had to be coherent with his/her professional and personal experience (Pouget, 2007).

2. The laboratory activities

The second phase project aims to apply some quality methods to the recognition of non-formal and informal trainer prior learning.

The methods are: the BIOGRAPHICAL-REFLECTIVE and the E-PORTFOLIO workshops.

The two setting workshops provide forms and methods conducting activities carried out in person and online.

The BIOGRAPHICAL-REFLECTIVE WORKSHOP refers to an accompanying activity supporting the processing of a dossier for the recognition of prior learning, of professional and experiential competences (Pineau & Le Grand, 2003).

The autobiographical recollection a straining method in adult education deserves special attention, it implies a dynamic and linked to processes vision of being adult, this vision is not defined once for all, but it is continually re-viewed (Cambi, 2002). Demetrio (2007) emphasizes how we learn from our history analysis, we learn from ourselves. Formenti (2005) identifies several motives enclosed in educational autobiographical practices, which can be read as educational objectives and are crucial in adult education.

The age range for the 6 participants was from 30 to 45, some of them had an initial trainees experience while others were trade-union education experts.

Meetings were held in person, on a monthly basis and focused mainly on theory while devoting part of the meeting to debating the topics being discussed. A practice online session followed up on a dedicated platform.

Used tools were:

- the semi-structured interview;
- the curriculum vitae (in Europass format);
- the table of learning (an analytical description tool of prior learning);
- the development of the participants' profile.

The platform use allowed to maintain constant the relational component in the work group, despite it was involved in a predominantly individual activity, it was able to find here an important and significant support and shared participation setting.

The platform used allowed to maintain constant the relational component in the work group; although it was involved in a predominantly individual activity, it was able to find here an important and significant support and shared participation setting.

The workshopon COMPETENCIES E-PORTFOLIO involved 8 participants.

In education and training context, thecompetencies e-portfolio indicatesan organizedcollection of dataand information, in the form of dossier and personal file, covering the educational and professional history of a person and the obtained competencies (Galliani, Zaggia & Serbati, 2011).

The competencies e-portfolio can represent an analysis and an auto-analysis situation, finalized to get a sense of own educational, vocational and personal path, of own results in terms of competencies acquired; it can be integrate in a *bilan des compétences* and, finally, it can be useful in a recognition and validation of prior learning.

The e-portfolio has a double value: of assessment and of guidance.

The e-portfolio examination can offer useful information about results and level reached by the person who processes it; it enables the examiner to express a more aware and prove based judgment. But his particular value is to be a self-learning tool, thanks to his guidance potential and developing reflection dimension. So we can say the e-portfolio is arises by an authentic assessment and it is finalized to a significant learning. It interacts with the didactic planning, it combines with competencies acquisition practices and it finally requires an active and conscious subject participation (Rossi, 2005).

The e-portfolio supports person on several levels:

- *personal level*: it allows to be conscious of own competencies, especially tacit ones, it helps to recognize own value, own resources, interests, and needs and finally to clear own personal and professional developing path. Finally it enables to reorganize these elements in clear and realistic objectives;

- *vocational level*: it allows to re-writing own curriculum vitae in a more efficient way; it offers possibility to introduce oneself in an original way, giving visibility to own professional results;
- *institutional level*: it can represent a starting base for a recognition, validation and certification non-formal and informal prior learning process.

The e-portfolio is a multimedia dossier, which should be shared online. Video, images, photos, projects and certifications can be inserted to prove declared competences.

All the workshop activities have been carried out exclusively online.

We asked participants to reflect on their competences as trainers.

Used tools were:

- Moodle platform (forum, chat, personal messages, shared file area);
- eXe-learning software (to process the e-portfolio);
- offline tools: e-mails and Skype conferences.

The role of tutor was fundamental to accompany and support all the process.

Workshop phases were:

- information and guidance;
- preliminary activities (writing of Europass format cv and life story);
- processing of the e-portfolio (with eXe-learning software).

3. Conclusions

Participants have shown a high level of interest and participation in the activities.

On several occasions, in both in-person and online classes, participants have praised the benefit they believed they would have on a personal and professional level.

Some of the assignment results have shown a positive effect on learning and some of the individual choices made after taking part in the experiment (e.g. going back to university) can be seen as a consequence of the autobiographical recollection process in the laboratory.

Data shown in the learning matrix reveal participants recognize the importance of analytical memory recollection in order for their experience and competences identification.

References

Ajello, A. M., & Belardi, C. (2007). *Valutare le competenze informali. Il portfolio digitale*. Roma: Carocci.

Alberici, A. (Ed.) (2001). *La parola al soggetto. Le metodologie qualitative nella ricerca e nella didattica universitaria*. Milano: Guerini e Associati.

Alberici, A. (2002). *Imparare sempre nella società della conoscenza*. Milano: Bruno Mondadori.

Alberici, A. (2008). *La possibilità di cambiare. Apprendere ad apprendere come risorsa strategica per la vita*. Milano: Franco Angeli.

Alberici, A., & Di Rienzo, P. (2010). Recognition and validation of non-formal and informal learning for adults re-entering universities, in the lifelong learning perspective.The Italian context.*Journal of Educational, Cultural and Psychological Studies*, *1*(1), 129-141.

Alberici, A., & Di Rienzo, P. (Eds.) (2011). *I saperi dell'esperienza.Politiche e metodologie per il riconoscimento e la convalida degli apprendimenti non formali e informali nell'università*. Roma: Anicia.

Alberici, A., & Di Rienzo, P. (Eds.) (2013). *Riconoscere le competenze informali.* Roma: Edizioni Lavoro.

Alberici, A., & Serreri, P. (2009). *Competenze e formazione in età adulta. Il Bilancio di competenze*, Roma: Monolite Editrice.

Alberici, A., Catarsi, C., Colapietro, V., & Loiodice, I. (2007). *Adulti e università. Sfide ed innovazioni nella formazione universitaria continua.* Milano: Franco Angeli.

Andò, M., L'Imperio, A., & Serreri, P. (2011). Riconoscere saperi e competenze esperienziali nel contesto universitario: il contributo del Bilancio di competenze. In A. Alberici, & P. Di Rienzo (Eds.), *I saperi dell'esperienza: politiche e metodologie per il riconoscimento e la convalida degli apprendimenti non formali e informali nell'università: secondo rapporto di ricerca Prin, 2010.* Roma: Anicia.

Antonietti, A. (2005). *Progettare il portfolio delle competenze*. Roma: Carocci.

Becker, H.S. (1970). *Sociological Work: Method and Substance*.Chicago: Aldine.

Bertaux, D. (1999). *Racconti di vita. La prospettiva etnosociologica*. Milano: Franco Angeli.

Bruner, J. (1990). *Acts of Meaning*.London: Harvard University Press.

Cambi, F. (2002). *L'autobiografia come metodo formativo*. Roma-Bari: Laterza.

CEDEFOP (2009).*European guidelines for validating non formal and informal learning*.Luxembourg: Office for Official Publications of the European Communities.

Chianese, G. (2011).*Il piano di sviluppo individuale. Analisi e valutazione di competenze.* Milano: Franco Angeli.

Corradi, C., Evans, N., &Valk, A. (Eds.) (2007).*Recognising Experiential Learning: Practices in European Universities*.Estonia: Tartu University Press.

Costa, G., & Gianecchini, M. (2005). *Risorse umane*. Milano: McGraw-Hill.

Daniele, L., Lichtner, M. (2011). Il laboratorio biografico per il riconoscimento e la validazione degli apprendimenti pregressi. In A. Alberici, & P. Di Rienzo (Eds.), *I saperi dell'esperienza: politiche e metodologie per il riconoscimento e la convalida degli apprendimenti non formali e informali nell'università: secondo rapporto di ricerca Prin.* Roma: Anicia.

Demetrio, D. (1986). *Saggi sull'età adulta. L'approccio sistemico all'identità e alla formazione*, Milano: Unicopli.

Demetrio, D. (2007). *Raccontarsi. L'autobiografia come cura di sé*. Milano: Raffaello Cortina Editore.

Denzin, N. K. (1978). *The Research Act.A Theoretical Introduction to SociologicalMethods*.New York: McGraw-Hill.

Di Rienzo, P. (Ed.) (2010). *Il riconoscimento e la validazione degli apprendimenti non formali e informali nell'Università*. Roma: Anicia.

Di Rienzo, P. (2012). *Educazione informale in età adulta. Temi e ricerche sulla convalida dell'apprendimento pregresso nell'università.* Roma: Anicia.

European University Association, (2008).*European Universities' Charter on Lifelong Learning*.Brussels: EUA.

Formenti, L. (2005). *La formazione autobiografica. Confronti tra modelli e riflessioni tra teoria e prassi*. Milano: Guerini Scientifica.

Galliani, L., Zaggia, C., & Serbati, A. (2011). *Adulti all'Università. Bilancio, portfolio e certificazione delle competenze*. Lecce: Pensa MultiMedia.

Knasel, E., Meed, J., & Rossetti, A. (2002). *Apprendere sempre. L'apprendimento continuo nel corso della vita*.Milano: Raffaello Cortina Editore.

Kolb, D. A. (1984).*Experiential Learning.Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.

Le Boterf, G. (1994). *De la compétence. Essai sur un attracteurétrange*. Paris: LesÉditions d'organisation.

Lichtner, M. (2008). *Esperienze vissute e costruzione del sapere. Le storie di vita nella ricerca sociale*. Milano: Franco Angeli.

Mertens, D. M. (1998).*Research Methods in Education and Psycology.Integrating Diversity with Quantitative & Qualitative Approaches*.Thousand Oaks, CA: Sage Publications.

Pellerey, M. (2000). Il portafoglio formativo progressivo come nuovo strumento di valutazione delle competenze. *Professionalità*, *57*, 5-20.

Limone, P., & Baldassarre, M. (Eds.) (2014). *ICT in Higher Education and Lifelong Learning. SIREM 2013 Conference Proceedings, November 14th-15th, Bari (Italy) (2nd ed.)*. Bari: Progedit.

Pineau, G., & Le Grand, J. -L. (2003), *Le storie di vita*. Milano: Guerini e Associati.

Pouget, M. (2007).Pedagogical and Social Aspects of APEL. In C. Corradi, N. Evans, & A. Valk (Eds.), *Recognising Experiential Learning: Practices in European Universities.* Estonia: Tartu University Press.

The school Dumas:
the narrative between past, present and future

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Abstract
Starting from the experiences of creative writing as theoretical framework, this paper shows how the laboratory activities based on the exercise of creative writing improve the writing and the learning of different, innovative and culturally stratified writing styles (multimedia writing, journalism, advertising etc.). In particular, this paper is focused on the methodology used in an online course about creative writing www.scuoladumas.it; it also reports the results achieved by the students.

Keywords
Creativity, Laboratory, Narratology, Online Education

1. From creative writing to creative writing workshops

The term *creative* characterizes this writing and appeared for the first time in the University of the United States with John Dewey. He decided to standardize the American educational system to make it more democratic and progressive (Pedace, 1997). To achieve this objective, he developed a pedagogical approach based on practice.

After 1915, the first courses of literary writing were established in American Universities. Over the years, these courses were change into a *creative writing* courses and officially recognized as autonomous theme in the University of Iowa, the first in the United States (1922). Then the phenomenon of *writers in residence* spread over. Numerous literary departments invited and sponsored poets and novelists to compose poetry and short stories on their computers and as a reward they gave lectures and followed the creative work of the most promising students.

The success of these courses pushed, in the following years, many Universities to organize courses and workshops in literary writing. The basic principle of this initiative was founded on the writing experience: learning for writing requires practice. Not surprisingly, these courses had on an experimental approach the poets or writers were invited to reside in the university to devote to their business and offered their practical experience to those who followed the courses.

Pedace (1997) said "the most important innovations both in terms of teaching than on the organization of courses and schools were introduced in the postwar period" (ivi, p. 200, our translation).

In this period, the narrative is the focus of literary and European novelist and fictions writers entered in universities.

The creative writing became a style in the Universities "a continuous interweaving of academic and pedagogical reasons, literature, publishing industry, fashion and cultural styles".

The writer Richard Ford represents an example: he said that he became a writer through the delivery of his *short stories* during Howard Babb's course in California, learning and then unlearning as he said.

The creative writing allowed many writers to reach a high level of productivity and technique: O'Connor, Caver, Gardner, Paley, McInerney, Ginsberg, Ford and many others who wrote books using the experience of creative writing. The spread of courses and workshops on creative writing produced a significant impact on the economic and cultural development. Creative writing with universities and publishers has been an explosion in economic literary scene.

The experimental nature of such courses has generated innovative models of variously writing culturally stratified (writing advertising, journalism, media etc.).

The diffusion of this type of course also allows a greater number of interested public to attend them and learn new ways of writing.

New technologies and the definition of new jobs the types of writing and encourage the related industry to specialize in new jobs.

2. The methodological approach

The teaching methods used in the courses of creative writing are closely linked to pedagogical theories elaborated by John Dewey that developed a pedagogical approach based on experience.

The educator highlights the importance of the quality of the experience: "The central problem of an education based on experience is to choose present experiences that will live fruitfully and creatively in the experiences that will follow" (Dewey, 1949, p. 13, our translation).

For this reason, it's important to analyze, study and introduce learning methodologies that encourage the acquisition of knowledge by experience.

One type of approach that privileges the experience is the workshop that inspired the creative writing. The laboratory addresses the educational objectives promotes the creative thinking thought inventive thinking and imagination.

Franco Frabboni (2004) says that the laboratory "is a training environment that leaves the logic of knowledge repositories (notional and encyclopedic) to travel along the paths of heuristic knowledge (from investigate, reconstruct the time). So in the heuristic workshops we normally train the intelligence and imagination to win the prestigious Dewey's milestone double learning to think and learning to create" (ivi, pp. 93-94, our translation).

The laboratory actives paths of knowledge, research and training through the risks of extemporaneous and the randomness of the fragmentary nature of the work carried out (learning to think).

At the same time it is also a driver of innovation (how to create). In the laboratory it is possible to experience creativity. According to John Dewey, in USA, creativity is not equivalent to adapt to standardized and ambiguous, behavior standardized but rather to free the intelligence of the routine (Dewey, 1957).

This form of intelligence gives flexibility to adapt to different contexts, to find new solutions and not to follow established patterns of design.

Howard Gardner (2006), in the volume *Five Minds for the Future*, describes forms of intelligence deemed essential to the future: discipline, concise, creative, ethical and respectful intelligence. About creative intelligence, the author writes: "proposes new ideas, poses unfamiliar questions, invents new ways of thinking, provides unexpected answers" (ivi, p. 13,

our translation).

Therefore, there are no strict rules within the creative writing workshops. They reproduce the methodology of the American creative writing courses.

Mario Iannacone says "it may seem strange, does not exist in the Italian publishing a series of texts devoted to the analysis of the great novels of the modern tradition, which seeks to *dismantle* using an approach narratological, rhetorical, thematic, genre, not only suitable to the needs of the student, but also to those aspiring writer" (Forestieri, 2011, our translation).

3. A case study: *Dumas* school

Among the various schools of creative writing, this paper analyzes the methodology used at the School of Writing "Dumas" in Milan.

This school was the subject of study by the National Research Council for the project and *e-ruralnet* - realized in 2010 (Network promoting e-learning for rural development, as part of the Lifelong Learning Programme, Transversal projects - ICT) in which CNR-IBIMET is partner with agencies belonging to other 11 countries. The objective of the study was to explore the market of e-learning for rural areas and identify innovative example to improve the opportunities for training, development and networking in rural areas.

The school used the narratological approach of Joseph Cambpell (1904-1987), essayist and historian of religions inspired by the theories of Carl Gustav Jung.

Cambpell's thinking summarizes the study of comparative psychology and analytical psychology that found evidence of archetypal figures in the collective unconscious.

Campbell's *The Hero With a Thousand Faces* is a kind of secret code of the story, the theory of the Hero's journey narrative that could be a tool to bring down the costs of unsuccessful attempts and endless rewrites of scripts.

The Hero's journey is something more than a simple description of patterns hidden in mythology, it is a suitable guide for life, especially writer's life.

American screenwriter Christopher Vogler was influenced by Campbell's studies, he analyzed the structure of the myth used by writers of fiction and film industries and found the elements that drive the journey of a hero. For this reason, Vogler argues that Campbell has found the tools that have withstood the test of time. The model of the hero's journey describes the model present in myths and fairy tales, and is also a detailed map of the area that must be followed to grow as writers. Writing is a journey often dangerously introspective, to explore the depths of one's soul and bring the Elixir of experience: a good story.

The pedagogical significance of the narrative on the writing process is important because "to acquire a knowledge of conventional writing is not enough to dominate mechanisms such as transcription of the spoken language in graphic form but must capture rules of composition of the text becoming competent in the management of a series of processes of cognitive activities that have sense and meaning if supported by structures a narrative (listening and production of stories) in which acquire consistency of emotional valences" (Petrucco & De Rossi, 2009, p. 39, our translation).

At a time when the narrative beyond the concept exclusively rational (reading comprehension) to be open to emotional processes and reflexive (interpretive understanding) between the act of writing and reading it builds an unbreakable bond of communication (Eco, 1979).

Additionally, the School of Writing Dumas integrates the narratological models offered by Campbell and Vogler with others, inferred from modern classics and contemporary French

literature and Anglo-American. Driven by these thematic analysis, other architectures are identified as narrative partly consistent with those proposed by Campbell and Vogler, partially more innovative and alternative to them.

4. Results

Interviewing Mario Iannacone (school teacher) showed the following results. Among the participants, 70% refer writers a publisher 30% professionals with the objective improve their skills and competences in professional written communication.
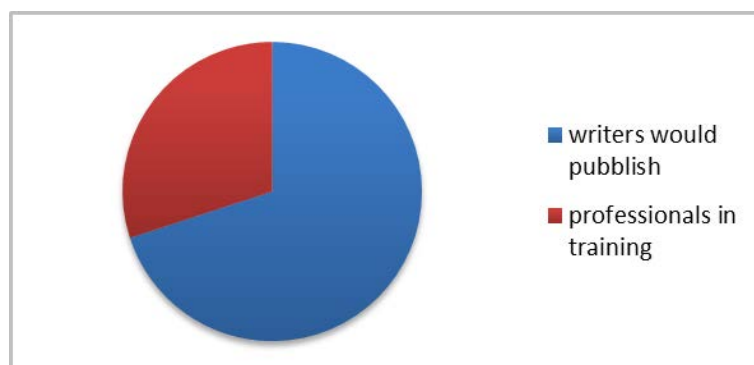

FIGURE 1.Members at the school Dumas.

In the group of 70%, 15% are writers who publish 40% of candidates who are in the course of about 2 years (corresponding to 2 cycles of 12 meetings each laboratory in which the teacher corrects and gives guidance on the totality of books of medium length) greatly increase the writing skills but leave this publication or for various reasons can not find the way publishing itself, 9% other roads vanity press or self-publishing. Of this 70%, a 6% is the way of the publication "important" medium-sized publishing houses, small or large without request for funding. Of these, half have published with editors of major groups: Rizzoli, Mondadori, GMS or joints.
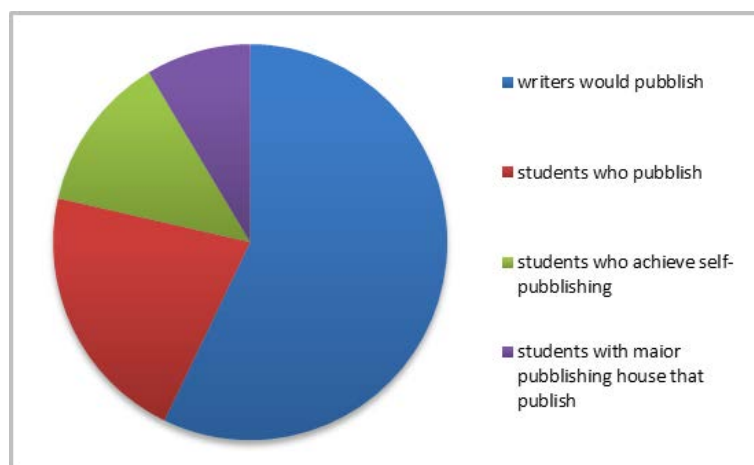

FIGURA 2. Members at the school Dumas

In two cases, two authors have come in the top 50 books, with an essay reserved for young adults and another with a fantasy novel. Members are constantly increasing and the school

aims to be crafted, with direct relationships between the principal teacher (Mario A. Iannaccone), and all written why does not use serialization and replication of the experience of teaching by teaching students as happens in other schools.

References

Dewey, J. (1949). *Esperienza ed educazione*. Firenze: La Nuova Italia.

Eco, U. (1979). *Lector in fabula. La cooperazione dei testi narrativi*. Milano: Bompiani.

Forestieri, F. (2011). *La scrittura tra arte e tecnica*. [Interview to Mario Iannacone]. In http://www.sulromanzo.it/blog/la-scrittura-tra-arte-e-tecnica-intervista-a-mario-arturo-iannaccone

Frabboni, F. (2004). *Il Laboratorio*. Roma-Bari: Laterza.

Gardner, H. (2006). *Cinque chiavi per il futuro.* Milano: Feltrinelli.

Lepri, L. (Ed.) (1997). *I quaderni di Panta. Scrittura creativa*. Milano: Bompiani.

Petrucco, C, & De Rossi, M. (2009). *Narrare con il Digital Storytelling a scuola e nelle organizzazioni*. Roma: Carocci.

Tablet pc: an educational experience in Emilia Romagna higher school

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Abstract
The paper presents the first results of the monitoring carried out for the "Insegna Digitale" project (ID), an educational experience focused on the didactic use of Tablet pc in higher school in Emilia Romagna. This contribute underlines the fundamental importance of the didactic models in the design of teaching experience mediated by ICTs, either the strategic relevance assumed form the initial and on the job training of teachers. At the end of the paper the authors formalize some educational "tips" which could help teachers to significantly introduce the Tablet in classroom.

Keywords
Tablet Pc, Didactic Model, Education, Inclusion, Teaching/Learning

1. Introduction

Recent transformations of the socio-cultural context that characterize the so-called "knowledge society" requires a redefinition of the education concept and its relationship between formal and non-formal learning. On the one hand ICTs represent tools to support the teaching and learning methods, on the other hand they bring into question the ways in which knowledge is constructed and negotiated by individuals and communities (Fabbri *et al.*, 2010). The Italian school system is involved in many educational initiatives in order to influence the effectiveness and the efficiency of teaching and learning methods. Since the 2009, the Italian Ministry of Education, University and Research (MIUR) has promoted pilot projects under the umbrella of the so-called "Scuola Digitale" plan (*ibid.*). These projects generally aim to:
- provide digital competences to the teachers involved in these initiatives;
- introduce a new hardware in the school system such as the wide diffusion of Interactive White Board (IWB);
- increase the use of the network services;
- promote a more effective placement of ICT in ordinary teaching practices.

Other projects are locally developed in collaboration with the Regional Schools Departments and they aim to use in the most incisive way the resources provided by public and private institutions (Italian and international). The resources are invested to support the services training of teachers. Finally, other initiatives are set up by private interests of single schools

and they introduce new hardware and software to catalyse teaching activities in the classroom setting.

2. The relevance of the teachers' training

The analysis of contemporary literature in the field of education and ICT new jointed with the study/reflection of school practices are still showing a widely trend of teachers, managers, researchers to consider technology as a drive of changing and innovation (Guerra, 2002; Lankshear & Knobel, 2006; Selwyn, 2012; Calvani, 2013).

However, our experience reveals that after the introduction of technologies in the classroom, the "myth" − above described − is quickly dispelled. Indeed, one of the most common difficult experienced by teachers is the lack of governability of ICTs during the teaching activities in the classroom. In other words, it is important that the teacher guide the tool and not vice versa. To avoid these difficulties, it is crucial to raise teachers' awareness about the "cultural model" programmed in the machine. In the education reflection, it is necessary to give back the dignity and the value to the issues of teacher education and training in order to avoid the gap related to the effective impact of technology in the mainstreaming system. Baldacci (2001) argues that the introduction of technology at school should go together with the educational action research. The following features could be included in training plan well-designed to improve not only the digital competences of teachers but also to enhance the cooperation between school and university:

- the initial and in service training for teachers (blended learning) should provide a ministerial accreditation path in order to certify the digital competences acquired;
- the establishment of networks (communities of practice) throughout the territory, starting from the national, regional and local, public and private networks already implemented;
- the identification of pilot schools in order to set up advanced projects (action research) to take on as a transferable model of good practice.

3. The "Insegna Digitale" projects

The aim of "Insegna Digitale" (ID) is to introduce and experiment the educational use of the Tablet Pc in the mainstreaming school. The project involved one class composed by 10 students, of the high school "Istituto Salesiano Beata Vergine di San Luca" (BVLS) in Bologna. The long term goal is to create, formalize and share educational models related to the use of Tablet pc, enhancing the possible connections between traditional teaching models and teaching models-mediated/amplified by the use of ICTs.

In the context briefly described, the Department of Education Sciences (University of Bologna) and the BVLS have been signed an agreement – valid for the 2012-2013 school year – to monitoring and support the didactic actions in the project. The following paragraphs present the educational models assumed during the experimentation and then the results of the first monitoring carried out in March 2013. Each model, following a "problematic" theoretical approach (Bertin, 1975), take into account both different learning and socialization prospective and several methodological proposals and tools (Guerra, 2002; 2010). For each of these models we have designed several teaching *sceneggiature* (Barca, 2011) intended as possible sequences of actions through which the teacher can introduce the Tablet pc during

the lesson. The three didactic models identified were respectively named: Tablet and ordinary teaching, Tablet and inclusive teaching, Tablet and in/out school environments.

Tablet and ordinary teaching
In this model, the Tablet can be seen as a "transversal tool" for all the disciplines. The Tablet can sustain students both in archiving, storage, sharing content processes and in further stages of elaboration, synthesis, creation (i.e. conceptual maps, video editing and collaborative writing). In this model the main function of the Tablet is to support the study methods before, during, at the end of the teaching session.

Tablet and inclusive teaching
In this model, the Tablet can be seen as tool to support teachers in the design of integrated and customized individual educational paths. Through its specific utility the Samsung Smart School Software (screen sharing, opportunity to view the contribution of the individual student) allows to constantly monitoring the learning processes of each student. Teacher, therefore, will be able to calibrate the further activities on the bases of the learning outcomes achieved during the lesson. Instead, they will be able to calibrate their teaching actions both on the individual educational needs (which may include not only disabled, migrant, social and cultural disadvantage student but also the promotion of excellence one) and the global needs of the all students ensuring the possibility to follow different paths to achieve common goals (Baldacci, 2002). In this model the main function of the Tablet is to facilitate the monitoring/reflection of the students' learning process.

Tablet and in/out school environments
In this model, the Tablet can be seen as a tool to support the teacher in the well-design of teaching experience in a strong connection with different learning environment placed in and out of the school (museum, cities, library etc.). The Tablet could be used to document an experience (i.e. taking digital photos, doing interviews or videos etc.) and to elaborate the knowledge through a "peer to peer approach": as Booud (2001) states students learn a great deal by explaining their ideas to others and by participating in activities in which they can learn from their peers. They develop skills in organizing and planning learning activities, working collaboratively with others, giving and receiving feedback and evaluating their own learning. In this model the main function of the Tablet is to facilitate/enhance the processes of documentation and re-elaboration of knowledge.

4. The results of first monitoring

At the end of this paper we explain some results picked up from the first monitoring carried out in March 2013. The ten students that took part for the first time in a project based on the ICTs in the classroom. The majority of students already own a Tablet in their families, and in this context the Tablet has been used to study (memorization of notion and concepts), communicate (prevalently via chatting) and play online games. On the contrary, the use of the Tablet during the teaching activities in classroom has been made, prevalently, to support study methods through the creation of conceptual maps, taking notes or doing online exercises.
The first analysis related to the students' perception about the educational use of the Tablet underlined that the use of this tool seems:
-    to strengthen in a significant way both the process of knowledge reproduction

(memorization of notion and concept) and the curiosity about the subject learned;
- to mildly develop skills such as autonomy and responsibility during the learning activities and acquisition/refinement of the cooperative skills;
- to moderately influence the study methods and the inclusion of students with learning difficulties.

5. Conclusion

As a lesson learn we found that the most important impact identified from the educational introduction of Tablet (student perspective) were a greater motivation to learn, an increased peers communication, a more immediately sharing of learning resources and a better relationship between students and teachers. On the negative side, we noticed an eyestrain during the study and a lack of app for education purposes. At the end of this paper we formalized some educational "tips" which could help teachers to significantly introduce ICTs (and Tablet) in classroom. It is necessary to:
- avoid to follow the technology trends and to focus the didactic innovation in a unique tool (Tablet, IWB, Smartphone etc.);
- create training paths where teacher can acquire the necessary competences to design integrated learning environments in order to develop possible alliances between multimedia and not (on line and offline) multimedia tools.

Our vision emphasized that the "innovation" is facilitated from an approach that seen the introduction of technical equipment not as a replacement perspective (i.e. eBook reader as a substitute of printed book, the IWB as a substitute of Blackboard etc.) but as an implemented one.

References

Baldacci, M. (Ed.) (2001). *Metodologia della ricerca pedagogica*. Milano: Bruno Mondadori.

Barca, D., & Ellerani, P. (Eds.) (2011). *Andiamo alla lavagna!*. Bologna: Zanichelli

Bertin, G.M. (Ed.) (1975). *Educazione alla ragione*. Roma: Armando editore.

Boud, D. (2001). Introduction: Making the Move to Peer Learning. In D. Boud, R. Cohen, & J. Sampson (Eds.),*Peer Learning in Higher Education: Learning From & With Each Other*(pp. 1-17). London: Kogan Page.

Calvani, A. (Ed.) (2013). *I nuovi media nella scuola. Perché, come, quando avvalersene*. Roma: Carocci.

Fabbri, M., Guerra, L., & Pacetti, E. (2010). Monitorare siti condivisi: una proposta di scaffolding. *Ricerche di Pedagogia e Didattica,5*(2), 1-49.

Fabbri, M., Pacetti, E., & Ferrari, L. (2013). Cl@ssi 2.0: experience in Emilia Romagna. *Ricerche di Pedagogia e Didattica,8*(1), 47-60.

Guerra, L. (Ed.) (2002). *Educazione e Tecnologie. I nuovi strumenti della mediazione didattica*. Bergamo: Edizioni Junior.

Guerra, L. (Ed.) (2010). *Tecnologie dell'educazione e innovazione didattica*. Bergamo: Edizioni Junior.

Knobel, M. (Ed.) (2006).*New Literacies: Changing Knowledge and Classroom Learning*. Buckingham, UK: Open University Press.

Selwyn, N. (2012). I Social Media nell'educazione formale e informale tra potenzialità e realtà. *TD Tecnologie Didattiche*, *20*(1), 4-10.

How to develop learning and competence for an audio-visual-kinetic expression.
Case study of video-filmic writing lab teaching in the Master of Science in Theory and Methodology of e-learning and media education (E-Media)

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Abstract
This case study is meant to describe, analyse and submit a history of didactics and teaching in the field of media education. This experience is the "heir" of interlaced theories, on-field researches and teaching experience developed from the fifties and seventies by the University of Padua (Master of Science in Learning Technologies). This history has been developed depending on various teaching methodologies. Beginning from the 2008-2009 academic year, for as much as the Online Master of Science in Theory and Methodology of e-learning and Media Education (E-Media) is concerned, it has reached its specific formulation blended with lab teaching, that we contributed to create and that we currently use. The goal of this case study, besides retracing the history of this teaching activity and methodology, is to define the pattern of this didactic and formative process, recording the incredible learning value of the audio visual – kinetic language through video making. This is a best practice that can be taken as an example, diffused and adopted also by other social, learning and cultural institutions.

Keywords
Media, Education, Video-Making, Audio-Visual-Kinetik Language, E-Learning

1. Quantitative data of experience

First of all we want to submit some quantitative data in order to demonstrate the general relevance of this didactic-formative experience. These data relate to the didactic experience of the five years' course of the MEAM (Master of Science in Audio Visual and Multi Media Education) (Luciani, 2005), and afterwards in the five years' of the E-Media Master of Science[1], in blended mode oriented to the online teaching.

52 students have experienced this method during their MEAM studies, and 16 videos have been made, of various lengths and documentary genres. For as much as the E-Media course is concerned, being the focus of this case study, 330 students have been involved, divided in 59 working groups of about 5/6 students per group. 59 complete videos have been made, of various duration and genre, with a different given theme for every academic year (division per

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[1] The same type of lab activity has been carried out even for ten years without interruption (from the academic year 2000/2001 to the baladmic year 2010/2011) within the course of Image Teaching of the Master in Science of Primary Formation of the University of Padua: the activity has been carried out in shorter times and with different, more 'spontaneous' and less "professional", camera equipment.

academic year: 5 groups/I; 30 groups/II; 5 groups/III; 11 groups/IV; 8 groups/V).

The number of lab experiences done so far is 8, the difference with the number of academic years being related to the necessity of making double or triple labs for years with an elevated number of students.

Every lab experience has duration of about five weeks of online work, with a two days' full immersion work with the teacher. The direct experience with the teacher presence, depending on the availability of spaces and personnel, has been arranged for a maximum of 30 students at a time. For as much as the online part is concerned, the number of tutors varies from 1 to 3 depending on the number of enrolled students of a given academic year.

This data are meaningless if not related to the educational and cultural success of this didactic-formative method, proven by the good results obtained by the students in the various pre-production phases of the video making activities, and by the videos themselves. The results obtained during these years give further value to this experience.

2. New ways of communicative interactions: from the pattern "in presence" to the pattern "blended"

The transition from a teaching pattern "in presence" to the online one, has forced us to redefine the general structure of the communicative interaction between the leading actors of this process (teachers, tutors, students). The didactic method of "media crossing" has been kept unvaried and based on the integrated pattern of media teaching of reading and writing (Galliani, 1979; 2002).

The new situation of asynchronous educational communication, available in the Open Distance Learning, allows the identification of learning processes (Galliani, 2005a; Salmon, 2002) and has therefore determined a different timeline dimension of the learning experience. The modular structure of teaching distribution has been redefined, some multimedia didactic materials and contents have been revised, but above all the communicative dynamic between the leading roles of the process has been reconsidered.

The online didactic and communicative mediation is built upon the Moodle platform of communication. This implies an active communicative dynamic, thanks to asynchronous devices as the thematic forums inside each formative pattern, and the essential coordination activity on the field of the tutors. These people are expert mediators, that because of the cooperative dynamics inherent to the ODL (Galliani, 2005b; Salmon, 2002), must have important communicative skills, competence, knowledge, both related to the formative processes, and to specific disciplinary contents. These essential reference figures of the online communication educational process, have the role of mediating and stimulating in the frame of a community of peers where "the study and group work area highlighted thanks to an integrated process of communicative and learning actions, regarding the contents transfer + community work" (Galliani, 2005b, p. 25). Within the limits, the whole action is permeated by the aim of the personalization of the formative experience (Galliani, 2005a; Salmon, 2002).

The goal of the thematic forums is to stimulate the communicative-formative skills of thinking over the didactic materials and contents, and on the proposed themes. Besides, the forums aim to engage the participants in the activities to be done, to stimulate a personal involvement, a cooperative confrontation to identify and revaluate their previous knowledge, experiences and competences. The forums allow also the actual logistic organization of the students for the practical part with the teacher.

The writing tool wiki, in the pre-productive online phases, already contains the cooperative dynamics that distinguish this experience.

The online didactic material, most of the time taken from the internet, have replaced the collective interaction moments with the teacher, allowing to introduce the students to the audiovisual-kinetic research to be used in the video making activity.

3. Didactic-organizational structure

The video lab in blended mode has duration of four to five weeks for the online part and of two full immersion conclusive days "in presence".

The online part is divided into two sub parts. The first part, has a duration of 7 to 10 days, and is dedicated to an insight of the general theme of the video to be created, to the rethinking of the audiovisual formats, to a direct video making experience (screenplay of a brief video), and to a technical supervising. The second part, that has a duration of 21 to 25 days, is dedicated to the pre-production phases of the video to be made (video ideation and subject; screenplay with technical decoupage; storyboard; working plan and inspections). In the second part students are divided into working groups, each with the task of devising and making the actual video.

The experience ends with a two days' full immersion work "in presence". These days, besides the work in groups, aim to retrace together the formative meaning of the lab experience in the frame of E-Media, introducing the students to the technical tools that they are going to use.

4. Didactic-formative methods

This experience relates to the active part of the formative action. In the development of the educational process, the leading role given to students and the collaborative-cooperative dimension of learning by doing[2] are deemed to have a fundamental importance. The practises of working and studying, and of evaluating and stimulating of the whole of the educational process, and the related communicational dynamics, are based on didactic-cognitive actions of a cooperative type. This path is permeated by a reflexive educational dynamic, thanks to the tools supplied by the communicative platform in the frame of the Open Distance Learning: this allows highly performing learning results (Dewey, 2012). These learning dynamics are related to the expressive and cognitive actions performed by the students: their productive and communicative activities are immediately subject to answers, observations, arguments, new proposals from their community of peers.

This reflexive action has its counterpoint in the "meta-reflexive" action in the lab activity. The modular online development of the lab activity is a didactic-formative process aimed at a very performing objective, engaging, full of responsibilities, that is the video making. This objective determines a great personal involvement in the students, with an active participation of co-construction in every single step of this process.

If the pedagogical paradigm that inspires the lab activity is closely related to the media reading through writing, sessions of thorough study dedicated to the reading of the media

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[2] Meaning to activate creative-expressive experimental processes as defined by John Dewey (2012) when he states that "activity on its own does not establish experience. It is dispersive, centrifugal, dissipating. Experience as a try implicates a change, but change is no more than a meaningless transition, unless it is consciously related to the inner resulting consequences." (ivi, p.151)

texts is highly recommended. For this reason the lab activity is part of the E-Media and it is closely related, constituting a unique teaching, to the "Theories and Techniques of the Radio and Television broadcasting language"[3].

The socio-communicative contextualization of the broadcasting media texts happens in the frame of this theoretic teaching, both on the semantic-pragmatic plan, that on the historic-evolutional one. A part of this teaching is also devoted to technological issues, thoroughly studied and applied in the lab part "in presence", and to the structure of the audio-visual-kinetic language on the syntactic plan.

Thanks to its didactic organization in time, it can be preceded by two theoretical teachings, highly interconnected as to contribute to the relevance of the audio-visual media reading: Semiotics of the audio-visual and multimedia texts and Cultural and Educational Formats of the audio-visual production. This is a highly specialized Master in Science, therefore all the theoretical and lab teaching preceding and following this one are reflected and mutually interconnected, both on the theoretical contents plan, that on the experimental one.

The "added value" of this particular active formative activity and of this original didactic and media learning process consists in the didactic aim that motivates it, that is the creation of a complete video, made through personal ideation, project and production, according to the indications of the Dublin Descriptors on the learning expected results (Zaggia, 2008).

The subjects on which the development of video-films are based, proposed for every academic year, are usually of a meta-reflexive type, meaning they are mainly related to the contents of the Master itself, aimed at the achievement of the maximum level of awareness of the formative process in which students are leading actors.

5. Formative goals

One of the main goals of lab teaching is that of allowing students to know the structure of the audio-visual-kinetic language forming the syntactic basis of every video-filmic expression, in relation to the development of their technological and expressive competences. Therefore compositional codes of images in motion (framing, camera angles, camera movements, cutting codes, sound codes) are actively experienced and used.

Another key goal is that of the progressive and logic structuring of the video-filmic text, through exploring and directly activating all the pre-productive phases, both on the expressive and technical plan (ideation, subject, screenplay, story board, working plan/schedule, shooting, cutting, socialization). From a technical and technological point of view all the different necessary knowledge of the digital making are dealt with: codec video and audio, video formats, cameras, tripod with fluid head and other tools to make camera movements, essential elements of audio and video shooting, essential elements of lighting technique, software for video cutting) (Reisz & Millar, 1981; Galliani, 1984; Costa, 1985; Luchi, 1988; Parent Altier, 1997; Luciani, 2002, 2004).

To this main goals we can add the development of technological competence and knowledge. This happens when the "lectures about techniques" are aimed to the attainment of the students' awareness of their media action being related and made concrete as "processing technology" (Galliani, 2000a), that is when they are aware of being an active part of an aimed didactic-formative process flow. In the end this is all about the five processes proposed by Galliani (1979; 1988; 1994) as the foundation of visual and audio-visual language pedagogy

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[3] The radio broadcasting writing lab completes the whole of the teaching.

(processes of language structuring of texts; processes of logic structuring of texts; processes of psychological functionalization of texts; processes of didactic functionalization; processes of tools use, together with processes of working on audio-visual texts).

Other formative goals are those related with the attainment of a greater awareness of the anthropologic and cultural dimension of the collective understanding (Levy, 1994) and of the systematization of all these paradigms and constructs offered today by Henry Jenkins (2006) with his definition of "convergence culture". The whole of these theories is aiming to achieve the students' critical awareness, from the socio-cultural, linguistic, expressive and procedural point of view, activating their skills in collocating the video-filmic expression in the media system of the contemporary dynamics of the communicative development. Therefore at the same time we allow the citizenship dimension to develop making it active thanks to the fact that the technological media evolution enables "the transformation of users in communication manipulators, that can customize their own media" (Galliani, 2000b, p. 47). Furthermore, today we can say that users finally are able to express themselves completely in personal means and forms, becoming true communication "authors".

A YouTube dedicated channel has been created in order to watch and comment some of the video-film made by the students in the last few years: http://www.youtube.com/user/emediaunipd.

References

Amplatz, C. (2000). Il video: analisi del linguaggio audivisivo e usi didattici. In L. Galliani, R. Costa, C. Amplatz, & B. M. Varisco (Eds.), *Le tecnologie didattiche* (pp. 95-125). Lecce: PensaMultiMedia.

Costa, A. (1985). *Saper vedere il cinema*. Milano: Bompiani.

D'ArcaisFlores, G. (1984). Prefazione. In L. Galliani (Ed.), *La progettazione audiovisiva nella scuola*. Pavia: editrice M.C.M..

Dewey, J. (2012). *Democrazia e educazione*. Milano: Sansoni (Original work: *Democracy and Education*, The Macmillan Company, New York, 1916).

Galliani, L. (1979). *Il processo è messaggio*. Bologna: Cappelli editore.

Galliani, L. (1983). Audiovisivi e Università: l'esperienza di Padova. *Quaderni di comunicazione audiovisiva*, *3*.

Galliani, L. (1984). Il film-making. In L. Galliani (Ed.), *La progettazione audiovisiva nella scuola. Quaderni di comunicazione audiovisiva-monotematico* (pp. 179-186). Pavia: editrice M.C.M..

Galliani, L. (1988). *Educazione ai linguaggi audiovisivi*. Torino: SEI - Società Editrice Internazionale.

Galliani, L. (2000a). Tecnologie didattiche, scuola e società. In L. Galliani, R. Costa, C. Amplatz, & B. M. Varisco (Eds.), *Le tecnologie didattiche* (pp. 11-34). Lecce: PensaMultiMedia.

Galliani, L. (2000b). I media della comunicazione educativa. In L. Galliani, R. Costa, C. Amplatz, & B. M. Varisco (Eds.), *Le tecnologie didattiche* (pp. 39-59). Lecce: PensaMultiMedia.

Galliani, L. (2002). Note introduttive - Appunti per una vera storia dell'educazione ai media, con i media, attraverso i media. *Studium Educationis*, *3*, 563-576.

Galliani, L. (2004). Introduzione. E-Learning dall'università, all'impresa, alla scuola. In L. Galliani (Ed.) *Formazione in rete. Indicatori di qualità e buone pratiche*. Napoli: Tecnodid.

Galliani, L. (2005a). Introduzione. In L. Galliani, & R. Costa (Eds.), *E-Learning nella didattica universitaria. Modelli, ricerche ed esperienze della Facoltà di Scienze della Formazione dell'Università di Padova* (pp. 9-18). Napoli: Edizioni Scientifiche Italiane.

Galliani, L. (2005b). Linee di ricerca educativa sulle TIC. In L. Galliani, & R. Costa (Eds.), *E-Learning nella didattica universitaria. Modelli, ricerche ed esperienze della Facoltà di Scienze della Formazione dell'Università di Padova* (pp. 21-34). Napoli: Edizioni Scientifiche Italiane.

Limone, P., & Baldassarre, M. (Eds.) (2014). *ICT in Higher Education and Lifelong Learning. SIREM 2013 Conference Proceedings, November 14th-15th, Bari (Italy) (2nd ed.)*. Bari: Progedit.

Galliani, L., & Costa R. (Eds.) (2005). *E-Learning nella didattica universitaria. Modelli, ricerche ed esperienze della Facoltà di Scienze della Formazione dell'Università di Padova*. Napoli: Edizioni Scientifiche Italiane.

Galliani, L., Costa, R., & Bernardinis, M. (1994). *Immagine continua*.Padova: CLEUP.

Jenkins, H. (2006). *Convergence Culture: Where Old and New Media Collide*. New York: University Press(It. Trans. *Cultura Convergente*, Apogeo, Milano, 2007).

Levy, P. (1994). *L'intelligence collective. Pour une anthropologie du cyberspace*. Paris: Éditions La Découverte(It. Trans. *L'intelligenza collettiva. Per un'antropologia del cyberspazio*, Giangiacomo Feltrinelli Editore, Milano, 1996).

Luchi, F. (1984). Cinema e didattica. In L. Galliani (Ed.), *La progettazione audiovisiva nella scuola. Quaderni di comunicazione audiovisiva-monotematico* (pp. 143-161).Pavia: editrice M.C.M..

Luchi, F. (1988). Scrivere con l'immagine: il film. In L. Galliani (Ed.), *Educazione ai linguaggi audiovisivi* (pp. 143-156). Torino: SEI - Società Editrice Internazionale.

Luciani, L. (2002). Laboratorio di scrittura video-filmica per insegnanti ed educatori. *Studium Educationis*, *3*, 715-734.

Luciani, L. (2004). Segni in movimento: il video-film making. In L. Messina (Ed.) *Andar per segni. Percorsi di educazione ai media* (pp. 271-301). Padova: CLEUP.

Luciani, L. (2005). Convergenze comunicative, digitali, formative: il MEAM-Master in Educazione Audiovisiva e Multimediale. In L. Galliani, & R. Costa (Eds.), *E-Learning nella didattica universitaria. Modelli, ricerche ed esperienze della Facoltà di Scienze della Formazione dell'Università di Padova* (pp. 265-277). Napoli: Edizioni Scientifiche Italiane.

Luciani, L. (2009). Dalla Mediateca Didattica alla Biblio-Mediateca: alle radici di un percorso comune di media education. *Giornale Italiano della Ricerca Educativa*, *2/3*, 105-119. In http://www.sird.it/index.php?option=com_phocadownload&view=category&id=14:studi&Itemid=97

Luciani, L. (2010). YouTube Education: il social software di condivisione online di video nelle dinamiche didattico-formative dell'educazione mediale. In C. Petrucco (Ed.) *Didattica dei social software e del web 2.0* (pp. 269-299). Padova: CLEUP.

Parent Altier, D. (1997). *Approche du scénario*. Paris: Éditions Nathan(It. Trans. *Introduzione alla sceneggiatura*,Lindau, Torino, 1997).

Reisz, K., & Millar, G. (1981).*The Technique of Film Editing*. Butterworth and Company.

Salmon, G. (2002).*E-tivities: the key to active online learning*. London: Kogan Page Limited.

Zaggia, C. (2008). *L'università delle competenze*. Milano: Franco Angeli.

An experience of collaborative construction of rubrics with adult university students

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Abstract

This work presents the experience of a project work performed during the course of "Evaluation of process and system", developed during the third year of the on line degree program in "Vocational Training Sciences". The programme has been developed during the years 2009-2013, at the former Faculty of Educational Sciences (University of Padua), in collaboration with Isfol.

The students are mainly trainers with a diploma but not yet graduated, who work in training centers, employment centers and schools. The course allowed them to experience a collaborative learning by designing a rubric on generic competences for a lifelong learning and citizenship competences.

The rubric was chosen because it encourages in the students the comprehension of the theoretical construct of competence, it prepares as well the step to approaching a new assessment, expliciting the real nature and quality of the processes that support the students' performances. Generic competences was chosen to make the students (involved in evaluative practices) think and develop their professional ability about evaluation process as wider judgment on learning (or better on the critical thinking skill, on the problem solving skill, on metacognition and on the group work skill).

Keywords

Educational Assessment, E-Learning, Rubric, Adult Education, Open Resources in Higher Education

1. Contest

The contest of the teaching experience which follows is a three year on line programme in Professional Training Sciences (L.19, M.D. 270/2004) at the University of Padua, former Faculty of Education al and Training Sciences, now School of Human and Social Sciences and Cultural Heritage. The programme has been held in an experimental phase during the period 2009/13, in collaboration with Isfol (National Institute for Vocational Training), having as goal to train the vocational trainers without academic degree, who work in training structures, employment centers, private-social agencies and schools. The aim of the course was to qualify the knowledge and the skills of the ones who work in the professional training field, to face the scientific and technological innovation and encourage the development of a high cultural and professional identity. The three year course ran on line except for the presentation day and for the exams days. The e-learning model adopted provides continuous support during the learning path, with access at specific multimedia materials, and a repertory of teaching interactive activities, individual or in collective, mediated by a personal computer and leaded by expert technological and contents tutors (Galliani & Costa, 2005).

2. Experience description

This experience concerns the "Evaluation of educational process and system" course, run in the third year of the programme. The course aims at studying in deep the evaluation issue in its pedagogical dimension determined by the originality of the educational experience for adult that who have to develop competences already practiced. The course was structured through multiple learning tools: videolessons with the presentation of the main teaching topics; comparison and discussion forum; comprehension tests during the course; power point slides; work group for the construction of a assessment tool. The two months course is structured in seven phases: in the first days students are asked to use the first *socialization forum* to present themselves and suggest a short and personal definition of evaluation based on their own experience, afterwards commented with the teacher. The following five phases are focused on teacher's videolessons and teaching materials. After video lessons listening and reading materials, the students start working in groups. They (76 in the first year and 74 in the second one) are organized into groups of 7-8 people according to their profession or similar working fields. The aim of this project work is to allow them to experience a collaborative learning, in which the students could create an assessment tool, such as the rubric, useful in the comprehension of the most recent theoretical constructs of the educational evaluation and for their professional context.

3. Why the rubric

The rubric is an assessment tool within the recent Anglo-Saxon evaluative approaches (new assessment, alternative assessment, authentic assessment), undergirded by the constructivist paradigm (Galliani, 2009).The new assessment approach focuses on the once who learns, pursuing the intent to facilitate not only the cognitive, but also metacognitive learning, that increases knowledge and self-assessment strategic abilities, self-monitoring and self-management of the learning process. The attention is focused on the real nature of the processes that support the students (Varisco, 2004). The evaluation has as its aim the accurate identification of improving levels and their documentation, becoming pervasive, continuous and intrinsic in learning-teaching processes.

An evaluation system that wants to be more authentic should allow to express a wider judgment on learning, namely on "critical thinking, problem solving, metacognition, efficiency in tests, group work, reasoning and permanent learning" (Arter & Bond, 1996 in Comoglio, 2002). For this reason we asked to the adult students to collaboratively work for the construction of rubrics, having as focus the generic competences. We think that the rubric construction allows to address to the complex construct of competence, which is a discussed topic in their working contexts, understanding its dimensions and how to evaluate it.

4. What is the rubric

The rubric is a tool that allows to evaluate the quality of the products and of the performances in a specific context, explicating the mastery level of a competence and the expected results; identifying moreover the excellent performance, to be taken as model and the minimum acceptability threshold. It is then a tool that articulates the specific competence in indicators

or specific tasks that describes the competence itself, so as to obtain an effective training and a reliable evaluation (Nicoli, 2008).

5. Group work structure (Project Work)

In the detailed online area for the group work a folder has been created with the specific information material concerting what a rubric is and how to build it, with examples, bibliography, a deepening on the construct of competence. There is as well a space in which every group could interact with forums and wiki. The students has been asked to choose a generic competence (in that case referring to the European key competences for a lifelong learning and to the citizenship key competences) or a subject-specific, on which elaborate a rubric facing a specific class (high school or vocational training), or a group of adult people in lifelong training (example Table 1). The dissertation of the project work included the development of various topics: the description of the chosen context; the description of the competence; the filled rubric; the bibliography and used website; a final reflection on the group work (work phases, difficulties and learnings). Among the 17 groups that have worked in the two year course, the most frequent competence chosen were: *learning to learn, collaboration and participation, entrepreneurship, communication*.

DIMENSIONS	CRITERIA		INDICATORS	LEVELS OF MASTERY		
	KNOWLEDGE	SKILLS		DEVELOPING	PROFICIENT	ADVANCED
Information research	*Methodologies and tools of information research*	*Recognizing reliable and unreliable sources*	He/she recognizes reliable sources from unreliable ones	With the help of the teacher, recognizes reliable sources from unreliable ones between those knows	He/she recognizes reliable sources from unreliable ones between those known	He/she evaluates the reliability of different research tools and of the various information sources, and their correspondence with the indicated criteria
		Using different methodologies, tools and sources to extract useful information for the aim	He/she uses different methodologies, tools and sources to extract useful information for the aim	He/she uses the tools specially prepared by the teacher, and with his/ her support, collect the useful information for the aim	He/she uses search tools provided by the teacher to obtain useful information for the aim	He/she individually uses different methodologies, tools and sources to obtain information that he/ she is able to select according to the criteria of relevance and usefulness

Method of study and organization of their learning	Strategies for organizing time, priorities and resources	*Structuring an assigned project in phases, planning them over the time, identifying the priorities of actions, available resources, available information and the missing ones*	He/she structures a project in phases and plans them	He/she defines, with the teacher, the logical-temporal sequence of the actions to perform in order to complete the task and uses it as a reference procedural	He/she follows modality, timing and procedures of an assigned project	He/she recognizes the phases of an assigned project, plans them over time, identifies the priorities, the available resources, the available information and retrieves the missing ones
	Strategies of study and memorizing	*Comparing and identifying relationships between information from different sources and acquired in different areas*	He/she compares the new information with those already in his/ her possession, and identifies relationships and connections	With the help of the teacher he/she connects the information extracted from specially prepared documents to personal situations experienced firsthand	He/she connects new information with those already in his/ her possession to derive the most obvious connections	He/she connects in an original and coherent new knowledge to the information already in his/ her possession (acquired in formal, informal or non-formal context), highlighting the most significant relationships and connections
		Choosing information	He/she chooses, between the information in his/ her possession, those most suitable for the aim	Supported by the teacher, he/she classifies the specially prepared information on the basis of relevance and topic of investigation	He/she classifies the information provided by the teacher, on the basis of relevance and makes a choice consistent with the aim	He/she classifies the information collected in different environments and contexts and makes the choice most consistent with the aim
		Summarizing, schematizing and memorizing information	He/she summarizes and memorizes the study contents using different methods of synthesis (summary, diagrams, concept maps etc.)	With the help of the teacher he/she summarizes the studied contents summarizing discursively the essential information and memorizes the main "keywords"	He/she revises and summarizes the main studied contents discursively summarizing or writing simple summary patterns that he/she uses to memorize	He/she revises and summarizes the study contents through the writing of discursively summaries, summary patterns and /or concept maps to memorize them
		Interpreting information	He/ she interprets information	With the help of the teacher he/ she understands simples texts and deduces the most relevant information	He/she interprets studied contents conventionally combining the knowledge and exposing it clearly	He/she appropriately interprets the information and reworks them making personal contributions

	Methodologies and tools for organizing information	*Writing various types of texts*	He/she writes papers, reports, exhibitions and / or simple multimedia presentations	With the help of the teacher he/she writes simple texts containing essential elements of the research conducted	He/she writes reports that expose the main contents of the research conducted.	He/she writes reports, presentations and summaries and reports which expose with clarity and completeness the investigated topic.
		Reporting verbally what learned	Reports verbally the content learned	Refers in a comprehensible way the essential studied content	Reports verbally the studied contents using simple, clear and correct language	Refers the studied contents with self-confidence and appropriate language
	Self-assessment and self-regulation strategies	*Monitoring, evaluating their own work and adjusting their own actions based on internal and/ or external feedback*	He/she checks and evaluates his/ her work modifying, if necessary, his/ her own paths of action based on internal and external feedback	He/she follows the suggestions of corrections indicated by the teacher	He/she understands and follows the suggestions of correction from the teacher's feedback	He/she reads and correctly interprets the feedback coming from the outside and from its own self-assessment, for the aim of self-correction
Problem solving	*Different ways to place themselves in the problem situation (problem posing)*	*Being able to place their selves in the problem situation in a spirit of initiative and proactively*	He/she analyses and faces the problematic situations during the work with initiative and proactively	With the help of the teacher identifies the problems that interferes with the proper performance of the work and follows the solution strategies proposed by the teacher	He/she identifies and faces the problems during the work by adopting strategies he / she notes	He/she identifies, analyses and addresses the problems during the work with initiative, creativity and proactively
	Modalities for the analysis and solution of problems	*Drawing on the personal experience and using own information to face problems and solve them trying different solutions and choosing the most convenient*	He/she elaborates, using the information in his/ her possession and drawing on personal experience, one or more strategies to solve a problem and choose the most convenient one	He/she follows the suggestions provided by the teacher to identify the solution of practical - operational problems	He/she adopts the solution to him / her more convenient to solve practical-operational problems	He/she researches, also drawing on personal experience, and uses the information needed to perform tasks, manage situations and find solutions to problems

Interazione sociale Social interaction	*Communication modalities specific to the context in which it operates.*	*Interacting, communicating and understanding different points of view of the group members.*	He/she expresses his/her points of view and tries to mediate his/her ideas with those of the others	He/she understandably expresses his/her ideas	He/she clearly expresses his/her ideas and listens to those of others	Express their ideas and points of view, listens, reworks and evaluates those of others, identifies the possible elements of sharing and proposes solutions to mediate between the various positions
	Modalities of collaboration and cooperation	*Actively collaborating in group activities. Cooperating with availability and proactively.*	He/she dynamically collaborates in the group activity cooperating with availability and proactively.	He/she participates in group activities by performing easy practical-operating tasks	He/she collaborates in group work properly performing the duties entrusted to him/her and sharing his/her own work with others	He/she collaborates and actively participates in the group activities, bringing a personal and original contribution to the collective work
	Main rules of civil society: respect for oneself, others, things, environment	*Observing the interaction rules (roles, times and shifts of interventions, listening, relevance etc.).*	He/she respects the rules of interaction (roles, and time shifts of the interventions, relevance, listening etc.)	In some structured situations that emotionally involve him / her in a positive way, he/she adequately relates with others	He/she positively interacts with others in every situation of school life	He/she respects the interaction rules and helps to establish and maintain positive relationships within the group
Emotional involvement and self-confidence	*Concepts of motivation, self-confidence, responsibility and diligence, choice.*	*Completing the tasks demonstrating curiosity and motivation for in-depth analysis.*	He/she completes the tasks demonstrating curiosity and motivation for in-depth analysis	If supported by the adult, he/she completes the assigned task	He/she completes the task with diligence	He/she completes the tasks demonstrating curiosity and motivation for in-depth analysis and self-confidence
	Techniques of self-analysis for the identification of aptitudes, potentialities, strong points and weak points	*Recognizing their own abilities / potentialities and limitations.*	He/she recognizes his/her abilities / potentialities and limitations	If supported by the adult, he/she reflects on his/her potentialities and limitations	He/she reflects on his work and is able to recognize his/her qualities and to identify the mistakes, the unused possibilities and / or the untaken opportunities / potentialities	He/she is aware of his/her skills / potentialities and limits and, reflecting on his/her work, knows how to use them to put in place appropriate action strategies aimed to the improvement

TABLE 1. Rubric on the competence "learning to learn" for first year students in administration vocational training (authors: Daniele B., Federico C., Aronne C., Oriana D., Barbara G., Mauro M., Laura M., Simona P.).

6. E-tutor's role

The tutor helped every group, with educational and subject specific support, supervising and running collaborative activities like: forum, wiki, project work in group, thus to provide students of punctual feedback on process and contents questions (Galliani & De Waal, 2005). Aware of the importance of the affective aspects of the communication to reduce the anxiety levels and to encourage learning, it was crucial that the tutor knew how to interact with the students to support them and to encourage them. Definitions of indicators and levels of the rubric required continuous feedback in progress by the tutor to stimulate students on elaborating their critical considerations and on creating a precise, clear, valid, true and reliable comment (Castoldi, 2009).

7. Group reflections' results

The final script required a final group reflection in which to explicit all the troubles encountered and the developed learning. From the students' report, it results that the critic points are related to: a) in the start up, the management of the dynamics within the work group, the contact among members, the maturation of new concepts and concepts; b) during the development of the project work the difficulties found concerned the asynchronous communication in platform, the concomitance with other teachings and the elaboration of rubric indicators. In terms of learning, the project work has been considered stimulating and enriching for many aspects: from a professional point of view, to experiment a useful tool in their working context; the reflection over generic competences fundamental for the students in developing social abilities. It has been considered an important experience for the development of communicative and collaborative skills, as well as participated leadership. Important factors that contributed to the successful experience have been: the role of group coordinator as a moderator; the precise schedule and deadlines; the creation of homogeneous groups formed according to professions.

8. Conclusions

The adult students who work on training and educational areas- involved in training during the degree course in Vocational Training Sciences, carried out a project work for the creation of a rubric. This experience let them develop their own learning method, based on the interactivity and flexibility of the communication with colleagues and tutor, creating an integrated system of collaborative and cooperative practices: these practices supported their active role in the learning process, the responsibility of each person to the group achievement, the sharing of knowledge. The creation of the rubric allowed: the deepening of the construct of competence; the learning about planning and structuring a assessment tool acknowledged as useful for the trainer's activities; the understanding of the importance of using new assessment methods based on competences; a positive impact and change in the student's workplace.

References

Calvani, A., & Rotta, M. (2000). *Fare formazione in internet*. Trento: Erickson.

Castoldi, M. (2009). *Valutare le competenze*. Roma: Carocci.

Castoldi, M. (2011). *Progettare per competenze. Percorsi e strumenti,* Roma: Carocci.

Comoglio, M. (2002). La valutazione autentica. *Orientamenti Pedagogici*, *49*(1), 93-112.

Comoglio, M. (2004) *Insegnare e apprendere con il portfolio*. Milano: Fabbri.

Ellerani, P., Gentile, M., & Mottinelli, M. S. (2007). *Valutare a scuola, formare competenze.* Torino: SEI.

Galliani, L. (Ed.) (2002). *Tecnologie informatiche e telematiche per la Facoltà di Scienze della Formazione.* Lecce: Pensa MultiMedia.

Galliani, L., & Costa, R. (Eds.) (2005). *E-learning nella didattica universitaria: modelli, ricerche ed esperienze nella Facoltà di scienze della formazione dell'Università di Padova.*Roma: EdizioniScientificheItaliane.

Galliani, L., & De Waal, P. (2005).*Learning Face-to-Face, In action and On-line: Integrated Model of Lifelong Learning.* European Distance and E-learning Network Proceedings(pp.25-29).Helsinky: EDEN.

Galliani, L., & De Waal, P. (2005a). *Verso un nuovo modello didattico per la formazione degli e-tutor.*Atti del 2° Congresso Nazionale della Società Italiana di e-Learning (Sie-L), Firenze.

Galliani, L. (Ed.) (2009). *Web ontology della valutazione educativa: dalle comunità accademiche alle comunità di pratica.* Lecce: Pensa MultiMedia.

Galliani, L., Bonazza, V., & Rizzo, U. (2011). *Progettare la valutazione educativa*. Lecce: Pensa MultiMedia.

Knowles, M. (1993). *Quando l'adulto impara: pedagogia e andragogia*. Milano: Franco Angeli.

McTighe, J., & Wiggins, G. (2004). *Fare progettazione. La "pratica" di un percorso didattico per la comprensione significativa*. Roma: LAS.

Mezirow, J. (1991). *Apprendimento e trasformazione*. Milano: Raffaello Cortina.

Nicoli, D. (2008).*Il modello comune di didattica delle competenze*. In AA.VV., *Alternanza Scuola e Lavoro e didattica per competenze: per una formazione efficace*. MIUR 2008 - USR del Veneto. In www.piazzadellecompetenze.net

Pellerey, M. (2004). *Le competenze individuali e il portfolio.* Milano*:* Nuova Italia.

Rogers, C. R. (1993). *Un modo di essere. I più recenti pensieri dell'autore su una concezione di vita centrata -sulla- persona.* Firenze:Martinelli.

Rotta, M., & Ranieri, M. (2005). *E-tutor: identità e competenze*. Trento: Erickson.

Varisco, B. (2004). *Il portfolio. Valutare gli apprendimenti e le competenze*. Roma: Carocci.

The Euro-Mediterranean Intercultural Dialogue Laboratorio (E-MIDIA LAB Project)

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Abstract
How successful is intercultural communication in cyberspace? Intercultural education can take advantage of new technologies of information and communication. In this article, the online Euro-Mediterranean Intercultural Dialogue Laboratorio (E-MIDIA LAB) is presented. In the Italian tradition, the word "Laboratorio" derives from the Latin "labor" that means work, and so "Laboratorio" is seen as a place where the people learn by doing. The final aim of the E-MIDIA LAB is to provide to young people the opportunity to exploit the differences in order to find common roots, without deleting the different elements of the socio-cultural identities.

Keywords
Intercultural Education, E-Learning, Virtual Environment, Online Communication, Cultural Conflicts

1. The E-MIDIA LAB Project

The Euro-Mediterranean Dialogue Laboratorio (E-MIDIA LAB) is an e-learning platform aiming to create a virtual space for intercultural education in European and Mediterranean Countries, in order to establish the best conditions of acceptance, sharing, participation and development of different identities and cultures.

The Mediterranean area still suffers a high rate of conflicts; on the other side, European Union has a fragmented identity: we need a common space to exploit the differences in order to find common roots, without deleting the specific elements of the socio-cultural identities.

In the Italian tradition, the word "Laboratorio" derives from the Latin "labor" that means work, and so "Laboratorio" is seen as a place where the people learn by doing. In the Department of History, Society and Human Studies (University of Salento – Lecce, IT) is already running a "Laboratorio" of Intercultural (www.laboratoriointercultura.it): an e-learning platform for training in intercultural education and also a virtual space for sharing

ideas and projects among many – teachers, students, professionals from NGO – involved in dialogue processes among different cultures.

The specificity of the E-MEDIA lies in the creation of a network of Intercultural Laboratories in Mediterranean area, aiming to act as a permanent factor of growth and transnational development.

The Existing Network:

- Anglia Ruskin University (Erasmus Agreement)
- University of Valencia (Erasmus Agreement)
- Orebro University (Erasmus Agreement)
- Lower Silesia University (Erasmus Agreement)
- Information and Technology Institute - Egypt (International Cooperation Agreement)
- University of Jordan (International Cooperation Agreement)
- University of Algeria (International Cooperation Agreement)
- Comenius Association: a network of European institutions of higher education specialized in Teacher Training and Social Education (agreement to be signed).

At present, our project aims to widen the Network of Euro-Mediterranean Intercultural Laboratories also participating to EU funds programme bids - with the following goals:

- allowing young people to attend on line training courses and laboratorial activities for the acquisition of intercultural skills, in order to support their future professional activities;
- promoting a stable process of cultural exchanges and students and researchers mobility, aimed at improving intercultural dialogue and collaborative creative activities (through Erasmus Mundus and Tempus Programme);
- supporting Euro Mediterranean cross-border cooperation and intercultural dialogue through the establishment of a Euro-Mediterranean Intercultural Network of Laboratories (through Enpi CBC-Med Cooperation Programme);
- creating one or more communities of study, action and training for the dissemination of news, contents and protocols for intercultural training (Marie Curie Staff Exchange Programme);

A future goal (in collaboration with Anglia Ruskin University of Cambridge) will be to create a 3 dimensional learning environment (a "Virtual" world) designed to facilitate and support the exploration of intercultural difference by students. The building of the environment starts with the construction of an outer shell, within which the project partners will develop a series of culturally specific contexts. Our project partners will populate the inside of the shell with culturally rich media, narratives and artefacts that student groups see as representative of their home country culture.

2. Learning Model

E-MIDIA LAB was designed as a space to promote a constant attitude to research in intercultural education. Learning paths allow students to deepen their theoretical reflection through practical activities, gaining intercultural abilities and skills.

It's founded on the "learning by doing" paradigm, considering learning as a social and experiential process (Kolb, 1984). The learning model is based on the cultural (Bruner, 1986) and social constructivist approach (Vygotskij, 1990). It considers culture as a complex system

of elements and social construct. We offer a set of learning paths requiring the learners active participation.

E-MIDIA LAB is a work in progress learning environment. So is possible, for the learners, its continuous review and building additional steps. The proposed tasks are open to multiple solutions, stimulate the process of decision making and divergent thinking (Guillford, 1950).

3. Learning methodologies

1. *Simulation*. On-line learning can be facilitated introducing a simulation system supporting teaching and learning (Alessi, 2000; Lane &Ogan, 2009; Simone, 2004). The designed activities are based on the analysis of some critical intercultural situations − even in the form of "cultural shock" (Oberg, 1960) – and on the application of specific operational strategies for their resolution.
2. *Role playing*. Just as happens in many programs of intercultural education at the international level (Landis, Bennett & Bennett, 2004), in E-MIDIA LAB we used role playing strategy, intended as an experiential learning and teaching methodology.
3. *Webquest* is useful to enhance the collaborative dimension of learning and research (Thombs*et al.*, 2009).

4. Contents

A set of learning paths, webquest and learning objects are available for learners:
- Help me, I'm changing!: a webquest in order to experience new identities;
- What the pictures tell us?: a learning path through the images to find out how stereotypes and prejudices run in everyday life;
- One Thousand and one fairy tale: for primary school teachers, a learning paths to mix fairy tales from all over the world, discovering different characters, values, settings;
- More and more peace: a webquest on "peace" and its meanings;
- Cultural shock: What it means to be a stranger in a new country?
- International conference: a webquest on the meaning of sustainable development;
- What about you music?: a learning path to discover how to express one's own identity through music;
- We are all migrants: a learning object to understand the phenomenon of migration;
- How many differences!: for parents and primary school teachers, a learning object to explore the concept of diversity through children's books and pictures;
- How to create my enemy?: A learning object to discover that all we need an enemy in order to affirm our identity.

5. Resources

- Bibliography: a selection of the international literature on intercultural education;
- Glossary: the main keywords for intercultural education;
- Webliography: a set of educational website and resources on intercultural issues;
- Anthology: selected readings and short essays;
- Video library: a selection of movies and videos on intercultural issues.

6. Design and technology of E-Lab MIDIA

As for the technological aspects, all the resources and activities offered by the E-MIDIA LAB are managed through the open source platform Moodle.

The choice of an LMS like Moodle is given by:
- stability even in the presence of a large amount of data exchanges;
- features and tools constantly improved due to the developer community;
- a wide dissemination in educational settings;
- high levels of versatility for educational purposes.

Moodle's tools allow many activities: in addition to digital resources management, it is possible to activate many cooperative and collaborative tasks, enhancing the cognitive, personal and social dimensions of the learners.

The availability of key information on the homepage and the use of an intuitive interface, makes users easily understand the learning paths and resources, even for inexperienced ones.

For learning tasks based on webquest model, we used ExeLearning, a web-based authoring environment, open source application that allows to create Learning Object self consistent in compliance with the SCORM standard.

Articulate Professional software was also used to create complex learning objects, enriched by a pleasant graphics and video/audio files. It also allows to create mechanisms of branching (i.e., navigation guided by the user's choice) and to export and publish the Learning Object both as a podcast and for mobile devices.

Compliance with the standard SCORM of the authoring software used allows the learning objects to be interoperable within different LMS, reusable in other training courses, accessible and easy to find through the use of metadata as search keys.

E-MIDIA LAB website is made with Wordpress, an open source platform; its intuitive, customizable CMS is constantly optimized through the use of plug-in provided by the developer community.

References

Alessi, S. (2000). Designing Educational Support in System-Dynamics-Based Interactive Learning Environments.*Simulation& Gaming*, *31*(2), 178-196.

Anceschi, G., Botta, M., & Garito, M. A., (2006). *L'ambiente dell'apprendimento. Web design e processi cognitivi*. Milano: McGraw-Hill.

Avellone, A., Cislaghi, M., & Colonese, E. (2010). *Collaudo e qualità del software*. Trento: UNIService.

Belz, J. A. (2002). Social dimensions of telecollaborative foreign language study. *Language Learning & Technology*, *6*(1), 60-81.

Bertini, P., & Trevisan, M. (2003). *Accessibilità & Tecnologie*. Milano: Pearson Education Italia.

Bruner, J. (1996).*The culture of education*. Cambridge, MA: Harvard University Press.

Byram, M., Gribkova, B., & Starkey, H. (2002).*Developing The Intercultural Dimension In Language Teaching. A Practical Introduction For Teachers.*Council of Europe, Strasbourg.In http://lrc.cornell.edu/director/intercultural.pdf

Callahan, E. (2005). Interface design and culture. *Annual Review of Information Science and Technology*, *39*(1), 255-310.

Davis, N., Brown, A., & Ferdig, R.E. (2005). Developing international leadership in educational technology: Strategies to promote intercultural competence. In P. Nicholson, J. B. Thompson, M. Ruohonen, & J. Multisilta (Eds.), *E-Training practices for professional organizations* (pp. 247-254). Boston: Kluwer Publications.

Furstenberg, G., Levet, S., English, K., & Maillet, K. (2001). Giving a virtual voice to the silent language of culture: The Cultura Project. *Language Learning & Technology*, *5*(1), 55-102.

Guilford, G. P. (1950). Creativity. *American Psychologist*, *5*(9), 444-454.

Gunawardena, C. N., Wilson, P.L., & Nolla, A. C. (2003).Culture and online education. In M.G. Moore, & W.G. Anderson (Eds.), *Handbook of distance education* (pp. 753-775). Mahwah, NJ: Lawrence Erlbaum Associates.

Gunawardena, C. N., Walsh, S. L., Reddinger, L., Gregory, E., Lake, Y., & Davies, A. (2002).Negotiating "Face" in a Non-Face-to-Face Learning Environment. In F. Sudweeks, & C. Ess (Eds.), *Proceedings, Cultural Attitudes Towards Technology and Communication* (pp. 89-106). Université de Montréal, Canada.

Hargittai, E., & Shafer, D. (2006). Differences in actual and perceived online skills: The role of gender. *Social Science Quarterly*, *87*(2), 432-448.

Kinasevych, O. (2010). The Effect of Culture on Online Learning. In F. Sudweeks, H. Hrachovec, & C. Ess (Eds.), *Proceedings of the Seventh International Conference on Cultural Attitudes Towards Communication and Technology* (pp. 420-427). Murdoch University, Australia.

Kolb, D. (1984).*Experiential Learning*. Englewood Clipps, NY: Prentice-Hall.

Krug, S. (2006).*Don't me Think! A common Sense Approach to web usability*. Milano: Tecniche Nuove.

Landis, D., Bennett, J. M., & Bennett, M. J. (2004).*Handbook of Intercultural Training*. Thousand Oaks, CA: Sage.

Lane, H. C., &Ogan, A. (2009).*Virtual Environments for Cultural Learning*. Proceedings of the Workshop on Culturally-Aware Tutoring Systems, 14th International Conference on Artificial Intelligence in Education. Brighton, UK. In http://chrisharrison.net/amyogan/files/Lane-Ogan-CATS09.pdf

Martin, J. N., & Nakayama, T. K. (2000). *Intercultural communication in contexts*. Mountain View, CA: Mayfield Publishing Company.

Newhouse, C.P., & Clarkson, B.D. (2008). Using Learning Environment Attributes to Evaluate the Impact of ICT on Learning in Schools. *Research and Practice in Technology Enhanced Learning*, *3*(2), 139-158.

Nielsen, J.,& Tahir, M. (2002).*Homepage Usability – 50 siti web analizzati*. Milano: Apogeo.

O'Dowd, R. O. (2002). Intercultural learning via videoconferencing: A pilot exchange project. *ReCALL*, *12*(1), 49-63.

Oberg, K. (1960). Cultural shock: Adjustment to New Cultural Environment. *Pratical Anthropology*, *7*, 177-182.

Perucca, A. (2008). Competenza interculturale e professionalità. Un'esperienza internazionale di formazione. In C. Sirna(Ed.), *Tempo formativo e creatività* [volume I]. Lecce: Pensa MultiMedia.

Raybourn, E. M., Kings, N., & Davies, J. (2003). Adding Cultural Signposts in Adaptive Community-Based Virtual Environments. *Interacting with Computers*, *15*(1), 91-107.

Raybourn, E. M., McGrath, A., Munro, A.,&Stubblefield, W. A.(2002).Research directions in designing intercultural interactions in collaborative virtual communities. *SIGGROUP Bulletin*, *21*(1), 3-5.

Simone, M. G. (2004). Simulazione al computer in ambito didattico. Potenzialità, criticità e scaffolding. In S. Colazzo(Ed.), *Di pietra in pietra. Viaggio attraverso le pietrefitte salentine*. Castrignano dei Greci (LE): Amaltea.

Street, B. V. (1993). Culture is a Verb: anthropological aspects of language and cultural process. In D. Graddol, L. Thompson, & M. Byram (Eds.), *Language and Culture:Papers from the Annual Meeting of the British Association of Applied Linguistics Held at Trevelyan College, University of Durham, September 1991* (pp. 23-43). Clevedon: Multilingual Matters.

Tella, S. (2011).*Introducing international communications networks and electronic mail into foreign language classrooms. A case studies in Finnish senior secondary schools*. Helsinki, University of Helsinki. In http://www.helsinki.fi/%7Etella/95.pdf

Thombs. M., Gillis, M. M., & Canestrari, A. S. (2009), *Using webquests in the social studies classroom: a culturally responsive approach*. Thousand Oaks, CA: Corwin Press.

vanHeerden, A., & van Greunen, D. (2006). *Culture and the information architecture of web-based learning*. Proceedings of the Conference on information technology in tertiary education. Conference on information technology in tertiary education, Pretoria(South Africa), September 18th-20th 2006.In

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.95.8729&rep=rep1&type=pdf

Vygotskij, L. (1962).*Thought and Language*. Cambridge, MA: The MIT Press.

Zaltman, G. (2003). *How customers think. Essential Insights into the mind of the market*. Boston, MA: Harward Business School Press.

The Mahara platform
at the core of a professional training course
for teachers in "trial" year[1]

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Abstract
During the past school year a pilot course was held aimed at teachers in their trial year as an alternative to the usual training provided by Indire. The project intended to combine professional development goals with the e-portfolio creation's process. The Mahara platform was chosen to support the project. Preliminary findings seems to indicate the effectiveness of the training course due to the level of engagement demonstrated by participants and to the quality of the e-portfolios developed.

Keywords
Teacher Professional Development, E-Portfolio, PLE, Self-Awareness ,Analysis Of Practice

1. Introduction

During the past school year a pilot course entitled "In Search of the professional self: the use of e-portfolio to promote the teaching professionalism" was held in Piacenza aimed at teachers of primary and secondary school in their trial year. The course was configured as an alternative to the usual training path (provided by Indire) and was supported by USR of Emilia Romagna and by UST of Piacenza.
The group of participants was formed by 24 teachers from six different institutions, some of them situated in Piacenza and others in the surroundings. The teachers, all with prior teaching

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[1]A teacher, at the end of the trial year ("anno di prova" in Italian language) and after the final examination will become permanently employed.

experience, were distributed almost equally between primary, secondary first level and secondary second level schools.

The course was designed by the team led by prof. Pier Giuseppe Rossi at the Faculty of Education of the University of Macerata in the context of the research it carry on about teachers professionalization.

Considering the specific context we decided to propose a training course strictly oriented to the participant's professional practice in order to foster the achievement of a greater self-professional awareness.

Activities of teacher's practice analysis, narrative of experiences and individual and collective reflection have been arranged together in line with the development of a teacher e-portfolio. A competence's profile has been provided to support teachers self-assessment activities at the beginning and at the end of the training course.

The plan was designed as part of a research-training project (Montalbetti, 2005) in the perspective that considers training as an action for the promotion of authentic personal change (Quaglino, 2011).

2. The course design: (re)starting from the teachers' professional development

The action of teachers is almost always governed simultaneously − although in different proportions depending on the context − by rational thinking, that is knowledge acquired, and by the reaction to the context that is ruled by (less conscious) schemes rooted in the personal and professional experience (Magnoler, 2011).

According to this view, to carry on a discourse on professional development it is necessary to invite teachers to look at and consider in depth one's experience in order to reach an understanding of their own schemes and their passage under rational control. This requires a considerable self-awareness and a strong disposition to monitor one's action and to make cross-checks based on collections of evidence gathered in a systematic way, paying attention to personal bias (Eraut, 2004). A virtuous cycle that promotes critical transformation of schemes in procedural knowledge should lead teachers to the position of expert "of interactive regulation" (Altet. 2006).

In this perspective a professional training course should first focus on shifting the process of reflection from the pragmatic pole (*"I reflect to find the solution to a problem"*) to the identity pole (*"I reflect to improve my professional identity"*) (Magnoler, 2008).

In designing the course we also considered the following portfolio practice guidelines (Rossi, Magnoler & Giannandrea, 2008):

- to provide both mandatory and non-mandatory activities;
- to use software that provides flexible and redundant tools so that the author can choose on the basis of his/her own style the media and the language suitable to carry out the activities;
- to design an accompanying path that is consistent with the objectives of the portfolio itself;
- to reckon on the presence of experts (teachers, tutors, coaches) in order to provide the necessary scaffolding.

The course lasted about six month and provided five on-site meetings. Generally these meetings were conducted by professors to give feedback, to present and discuss the assignments, to develop group work and to provide theoretical insights.

The Mahara platform provided participants a (virtual) place where: uploading assignments, organizing their e-portfolio, sharing artifacts and, of course, communicating with tutor,

teachers and peers.

3.The e-portfolio: some key elements

There are two main types of e-portfolios, the first is the *developmental portfolio* that is used in the educational context to document the learning process of the learner. It is based on the thesis that fostering students reflection on learning increase their autonomy and self-regulation. The second type is the *showcase portfolio* (or *competence portfolio*) that recalls the more traditional professional portfolio intended as annotated collection of artifacts that demonstrates the possession of one or more competences (Rossi & Giannandrea, 2006; Smith & Tillema, 2006).

We could say that in the first case, the portfolio is used to show a "growth", a development, a learning while in the second to show the "best self".

In many countries the e-portfolios are used at higher education level, particularly in the fields of health care and education (Smith & Tillema, 2006; Klenowski *et al.*, 2006; Saltman *et al.*, 2012; Aalderink & Veugelers, 2007) where academic lectures are strictly combined with fieldwork (such as stage, internships etc.) but also for academic career development (Seldin *et al.*, 2010; Jones, 2010). The e-portfolios are also applied in the context of job orientation, particularly within projects for workers' retraining and to support novice workers (Gauthier, 2011; Cambridge, 2008).

Speaking about the teacher e-portfolio (sometimes also called teaching portfolio), most of the applications reported in the literature concerns the pre-service teachers training (Hallman, 2007) to support teacher novices or more in general, but in smaller numbers, as part of in-service training. Finally there are also experiences of career development (in countries where this is allowed) (Smith & Tillema, 2006).

The e-portfolio model adopted in our project, which aims to overcome the duality described above, is the widely recognized Helen Barrett model that is summarized in the following picture (Barrett & Wilkerson, 2004; Rossi, 2006):
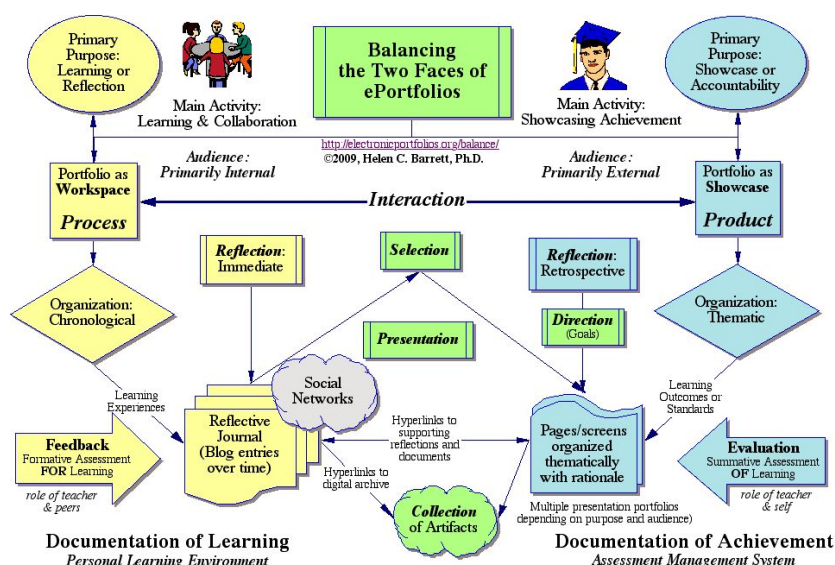

FIGURE 1. Helen Barrett portfolio model.[2]

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[2]http://electronicportfolios.com/

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4. The Mahara platform

A "right" technological choice contributes to promote learning and to increase the learners engagement (Yancey, 2009). Regarding e-portfolio Yancey, among others, emphasizes the importance to give the ownership of the e-portfolio to its author and not to the institution that delivers training. This means that the owner can decide what to show depending on the audience. This is one of the features of Mahara, the platform we chose to develop the training course.

Mahara is an open source platform released in 2006 by a consortium of universities on behalf of the Ministry of Education of New Zealand. Since July 2007 its development is being carried on by Kineo Pacific (a workplace learning company) together with Catalyst IT (IT company) and is supported by a lively community (http://mahara.org).

Mahara is conceived as a specific environment for the creation of e-portfolios in a social virtual setting but it could also be considered a platform for the development of Personal Learning Environment (PLE) (Barrett, 2009; Attwell, 2007). Mahara is learner-centered, each user maintains ownership of its artifacts that become visible to others only through a sharing mechanism. There are four different sharing levels: (1) with the group/s of belonging, (2) with "friends" (i.e. single platform users), (3) with all registered users and (4) open to all the Web users.

The artifacts sharing takes place by means of the *views*, pages composed by users for connecting artifacts internals and externals to the platform. A user can compose any number of views: this allows him/her to decide what to show and how, depending on the kind of audiences (for example, an evaluation committee or a peer group or a potential employer).

Views are built through a guided sequence of steps that allows: to define the look and feel, to select artifacts (or portion of them) from one's repository and to add external resources such as videos, RSS feeds, Google Apps. Videos and images appear directly into the views.

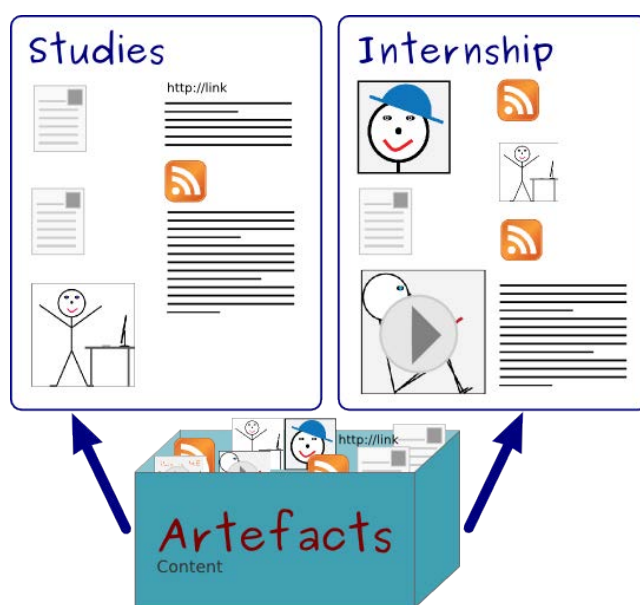The process of views creation is synthesized in the image below.

FIGURE 2.The view creation process.[3]

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[3] http://manual.mahara.org/en/1.7/portfolio/pages.html. Image under Creative Commons Attribution-Share Alike 3.0 unported licence (http://creativecommons.org/licenses/by-sa/3.0/)

To collect artifacts users are provided with: a file repository where uploading and organizing digital materials; a blog; a mask (resumé builder) for composing a structured curriculum; plans to register tasks and activities and a sort of notebook. The social networking component provides the possibility to set up/belong to one or more groups and to create a circle of friends among registered users. Each group has a set of resources including a forum, a file repository and group views (in our course we produced group views by collecting material such as videos, images and documents related to the on-site meetings).

There are also other communication facilities that permit to send messages to one or more users and to give feedback related to a single artifact or a view.

Mahara permits to export the e-portfolio (or part of it) in two different ways: as standalone HTML web site, as Leap2A standard format.

Finally, Mahara is a stand-alone system but it can be also integrated into the Moodle e-learning platform.

5. Preliminary findings

The training course was developed between January and June 2013. During this period teachers were requested to perform different activities centered on their usual practice. The core activity was to plan, act, monitor and document a didactical action. We provided a guide to support teachers to reflect in action and on action (Schön, 1993) to make explicit the consistency or the discrepancy between the stated and the acted and for investigating the reasons and the strategies acted by teachers in facing the unexpected events. Participants were invited to document the action in classroom using different media, such as video and audio recording, taking pictures of students and artifacts, gathering didactical materials in order to give account of the lesson's development process.

All the artifacts produced composed one's teacher e-portfolio. The final step was the creation of one or more views to show during the examination. Before this step teachers were asked to write a final reflection going back through the entire path.

All participants successfully completed the course and passed the trial year by submitting their e-portfolio to the evaluation committee of their institutions.

From the research point of view, although the process of analysis of the data collected is in progress, we can already draw some reflections:

- the engagement level was high on average; one of the evidence is that about half of the participants decided voluntarily to video recording their lessons. In our opinion this fact reveals the positive attitude of the teachers if we consider the emotional involvement and the technical organization requested to perform that action, which is not even a usual practice in the Italian context.
- the Mahara platform has actually proved to be easy to use even in the case of participants with low technological skills. We didn't provide any specific initial technological training preferring to give support step by step and on demand; all of them have been able to manage their e-portfolio.
- in many cases the e-portfolio views reflect a rich and original interconnection of artifacts as you can see in the examples shown below.
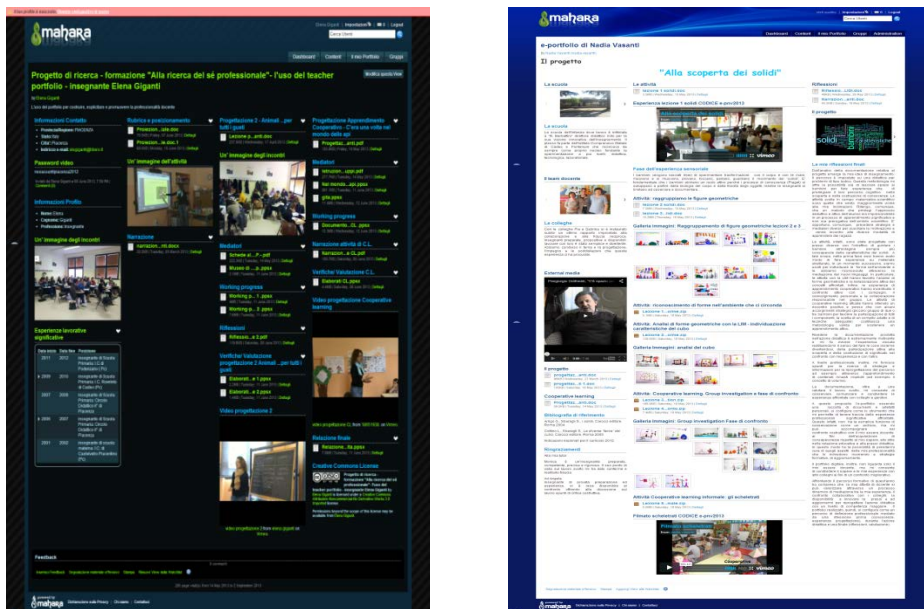
FIGURE 3. Views created by participants.

On the basis of these preliminary findings we are led to conclude that Mahara is a valid option whenever the intent is to develop training programs that focus on the learners production ofartifacts, especially if you want to leave plenty of room for personal reflection and authorial creativity.

References

Aalderink, W., & Veugelers, M. (2007).*Stimulating Lifelong Learning: The ePortfolio in Dutch Higher Education.*In http://www.surf.nl/SFDocuments/Stimulating%20Lifelong%20Learning%20-%20ePortfolio.pdf

Altet, M. (2006). Le competenze dell'insegnante-professionista: saperi, schemi d'azione, adattamenti ed analisi. In M. Altet, E. Charlier, L. Paquay, & P. Perrenoud (Eds.), *Formare gli insegnanti professionisti. Quali strategie? Quali competenze?* (pp. 31-44). Roma: Armando.

Attwell, G. (2007). e-Portfolios–the DNA of the Personal Learning Environment?.*Journal of E-learning and Knowledge Society*, *3*(2), 39-61.

Barrett, H. C.,& Garrett, N. (2009). Online personal learning environments: structuring electronic portfolios for lifelong and life-wide learning. *On the Horizon,17*(2), 142-152.

Barrett, H. C.,&Wilkerson, J. (2004).*Conflicting Paradigms in Electronic Portfolio Approache*. In http://electronicportfolios.org/systems/paradigms.html

Cambridge, D. (2008). Audience, integrity, and the living document: eFolio Minnesota and lifelong and lifewide learning with ePortfolios. *Computers & Education,51*(3), 1227-1246.

Eraut, M. (2004).Informal learning in the workplace.*Studies in continuing education*, *26*(2), 247-273.

Gauthier, P. (2011*). Des usages du portfolio en Ressources Humaines?*In http://www.conferences-iae.fr/media/687/usages_du_portfolio_en_rh-phd_gauthier_26-05-2011.pdf

Hallman, H. L. (2007). Negotiating teacher identity: Exploring the use of electronic teaching portfolios with preserve English teachers. *Journal of Adolescent & Adult Literacy*, *50*(6), 474-485.

Jones, E. (2010). A professional practice portfolio for quality learning. *Higher Education Quarterly*, *64*(3), 292-312.

Klenowski, V., Askew, S.,& Carnell, E. (2006).Portfolios for learning, assessment and professional development in higher education.*Assessment& Evaluation in HigherEducation*, *31*(3), 267-286.

Magnoler, P. (Ed.) (2008).*L'insegnanteprofessionista. Dispositivi per la formazione.* Macerata: Eum.

Magnoler, P. (Ed.) (2012) *Ricerca e Formazione. La professionalizzazione degli insegnanti*. Lecce: Pensa MultiMedia.

Montalbetti, K. (Ed.) (2005).*La pratica riflessiva come ricerca educativa dell'insegnante*. Milano: V&P.

Quaglino, G. P. (Ed.) (2011) *La scuola della vita. Manifesto della terza formazione*. Milano: Raffaello Cortina.

Rossi, P. G. (2006). *Models, tools, ePortfolios.* ePortfolio Conference Proceeding 2006. In http://www.eife-l.org/publications/eportfolio/proceedings2/ep06/ep2006_papers/rossi

Rossi, P. G. &Giannandrea, L. (Ed.) (2006) *Che cos'è l'e-portfolio*. Roma: Carocci.

Rossi, P. G., Magnoler, P., &Giannandrea, L.(2008). From an e-portfolio model to eportfolio practices: Some guidelines. *Campus Wide Information Systems*, *25*(4), 219-32.

Saltman, D. C., Tavabie, A., & Kidd, M. R. (2012).The use of reflective and reasoned portfolios by doctors.*Journal of Evaluation in Clinical Practice*, *18*(1), 182-185.

Schön, D. A. (Ed.) (1993).*Il professionista riflessivo. Per una nuova epistemologia della pratica professionale.* Bari: Edizioni Dedalo.

Seldin, P., Miller, J. E., & Seldin, C. A. (2010).*The teaching portfolio: A practical guide to improved performance and promotion/tenure decisions*. San Francisco: Jossey-Bass.

Smith, K., &Tillema, H. (Ed.) (2006). *Portfolios for professional development: A research journey*. New York: Nova Publishers.

Yancey, K. B. (2009). Electronic portfolios a decade into the twenty-first century: What we know, what we need to know. *Peer Review*, *11*(1), 28-32.

Master of Laws in International Crime and Justice: an application of eLearning methods

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Abstract
The paper illustrates the application of e-learning methods for the master of laws in international crime and justice (LL.M.) program organized by the faculty of law at the university of Turin and the united nations interregional crime and justice research institute (Unicri). Specifically, it describes the characteristics of the program, the learning model, the tools used and offers a few concluding thoughts.

Keywords
Collaborative Learning, Online Learning, Lifelong Learning

1. Introduction

Collaborative learning is based on leveraging collaboration within a group of students, and takes place when there is a real interdependence between the members of the group in fulfilling a task, an explicit intention to create something new or different through a deliberate and structured collaborative process, and a sense of responsibility towards the group and its goals.

According to Kaye (1994) "a broad definition of collaborative learning would be the acquisition by individuals of knowledge, skills, or attitudes occurring as a result of group interaction, or put more tersely, individual learning as a result of group process".

The Master of Laws in *International Crime and Justice* program is based on a teaching approach that encourages active, collaborative and experiential learning resulting in the stable acquisition of specific skills and competence. Through on-campus work and distance learning activities, the degree program combines theoretical study with practical problem-solving exercises focusing on concrete cases. It includes periods of individual study as well as collaborative work that, through negotiation practices, promotes the social construction of knowledge.

2. Program characteristics, goals and addressees

The Master of Laws program aims to provide an in-depth knowledge of the theoretical and practical international instruments and tools for the prevention and punishment of international and transnational crimes. In particular, the program is designed for university graduates in Law, International Relations, Criminology, and young professionals seeking to specialize in international criminal justice.

The current program cycle is attended by 42 participants from all five continents, representing a rather heterogeneous range of ages and academic or professional backgrounds. The program, which provides a total of 1500 teaching hours in English, is organized into three periods:

- the e-learning module (November 2012 - January 2013), which provides the participants with a preliminary and uniform background through an e-learning platform that allows participants to work from their own countries;
- the on-campus module at the United Nations Campus in Turin (January - June 2013), which consists of theoretical lectures, seminars and practical exercises;
- preparation of the final research paper (July 2013).

3. The program's learning model

The program's goal is to promote a stable acquisition of skills and competence in the subject-matter on the part of the students. Competence (Le Boterf, 1994) is a process involving mobilizing the individual's resources (theoretical and procedural knowledge, experiential and social knowing-how). This process thus entails knowing how to act (or react) when faced with a given situation-problem, in a given context, in order to arrive at performance, which will be judged by others (superiors or colleagues). The program's learning model uses an experiential, problem-based approach designed to encourage a type of leaning which is motivating, relevant and pertinent to the professional context.

The Pfeiffer and Jones model, as taken up by Le Boterf (2000), represents the socio-cognitive dynamics triggered in the program's learning environment when a group of students faces a new problem for which a solution is to be suggested. When this communication is dynamically correlated with experience, analyses and new experience are developed in a virtuous learning cycle. The student − and problem − centred education method is the starting point of the learning process, and also the stimulus and the context for the learning process. The student learns by trying to solve the problem, and is responsible for his or her own learning.

Given the problem and everything necessary to solve it (literature on the subject, references, and so forth), the students begin experiencing the problem, individually and immediately. This is followed by the publishing stage, where students share their perceptions with the tutor and their classmates, and can thus lay the foundations for changing their thought patterns.

At this stage, each student submits assigned coursework to the tutor, expressing his or her interpretation of the practical case and receiving the tutor's comments and thoughts on the assignment. Afterwards, the group compares students' assignments and analyses the multiple interpretations they offer of the same case, exchanging views about the different "thought models".

This encourages the habit of applying legal reasoning to concrete cases, working in a group with people with different backgrounds and nationalities, or in other words in a context which

will become the norm both during the degree program and in the participants' future international work.

4. The e-learning activities

The degree program's e-learning activities are designed to promote active, collaborative knowledge-building through social negotiation, taking the relationships between formal, no-formal and informal education into account so that they can be used in synergy (Bonaiuti, 2006). The e-learning module is based on the participants' concrete and active experience, and includes practical exercises, individual study, in-depth theoretical investigation, exchanges between peers, group discussions and learning communities (Haughey & Anderson, 1998).

Program participants differ widely in age, as well as in academic and working experience. The main goal of the degree program's first two and one-half month e-learning module is thus to create a minimum common ground of knowledge for the students which will serve as a solid foundation for the following stages of the program.

All e-learning activities are carried out by students in their home countries using a learning environment based on the Moodle platform. Moodle, by promoting a social constructivist pedagogy, is a platform capable of supporting the learning model adopted for the program. E-learning activities are carried out in collaboration with the University of Turin's centre for IT services CISI.

Students are divided into three groups to facilitate exchanges among participants and between them and the tutors. In setting up the groups, an attempt was made to ensure that participants represented a variety of backgrounds and countries of origin, but that the groups were balanced and homogeneous. Each group follows a chronologically distinct educational path.

During the e-learning period, students work on three areas of study, each one separate and independent of the others. Every week, each group works on two of these three areas of study. Every subject is coached by two tutors. Activities for each subject vary from week to week.

In the first week, students are given an assignment which they must carry out individually using the recommended materials and reading matter. In the second week, students return to the same assignment in groups, using a forum and a wiki provided on the platform. At the end of this second phase, the tutors indicate their conclusions regarding the exercise and discuss them with the students, assigning grades.

Grades are assigned not only to the work submitted by the students, but also to their contributions to the forum and activities on the wiki. In addition, students are given a short multiple-choice test during the distance learning period, chiefly for self-evaluation purposes, but also to gauge the degree of commitment that the student has devoted to the subject-matter. During the second week after they arrive in Torino, students take a written exam on the entire e-learning course content, consisting of true/false, multiple choice and open questions.

The interdisciplinary team that designs and manages e-learning activities consists of:

- a coordinator who plans, guides and supervises the program;
- six tutors who provide students with continuous support with course content and methodological issues;
- UNICRI staff members who are available to assist students with all logistical and technical problems;
- CISI information technology staff, consisting of experts in e-learning and technicians who set up and manage the platform and propose innovative solutions.

5. Concluding thoughts

Now in its sixth cycle, the degree program has developed and deployed an educational model that encourages significant, active, collaborative and experiential learning, and which has yielded positive results to date.

Assessments of learning outcomes have shown that goals have on the whole been reached, and that students have acquired a common ground of knowledge as well as a spectrum of skills and competence which will prove useful in their future international work.

Students see e-learning as a positive experience. Though it is extremely demanding, they consider it to be an innovative, highly motivating method which encourages involvement and readies them for the lifelong learning process. The experience highlighted several areas in which future cycles of the program can be improved.

References

Bonaiuti, G. (Ed.) (2006). *E-learning 2.0. Il futuro dell'apprendimento in rete tra formale e informale*. Trento: Erickson.

Haughey, M.,& Anderson, T. (Eds.) (1998).*Networked learning: the pedagogy of the Internet*. Toronto: McGraw-Hill.

Kaye, A. (1994). Apprendimento collaborativo basato sul computer. *Tecnologie Didattiche*, *4*(1), 9-21.

Le Boterf, G. (Ed.) (1994). *De la competence. Essai sur un attracteuretrange*. Paris: Les Editions d'Organisation.

Le Boterf, G. (Ed.) (2000). *Construire les compétences individuelles et collectives*. Paris: Les Editions d'Organisation.

Ranieri, M. (Ed.) (2005). *E-learning: modelli e strategie didattiche*. Trento: Erickson.

University Orientation:
the experience of eLearning preparatory Courses
for the admission test to access the degree in Education,
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Abstract
The experience of preparatory courses for students enrolled in degree programs in Education and Training, Medical Sciences and Agricultural Sciences and Technologies is part of a wider initiative of the University of Foggia based on the current legislative directions of the Ministry of Education, University and Research.
The eLearning web-portal (www.elearning.unifg.it) created and managed by the ERID Laboratory (*Educational Research & Interaction Design*) of the University of Foggia hosts online courses aimed at developing knowledge and skills in subjects that are essential for accessing the above mentioned degree courses. The project started in 2011 with the primary objective of strengthening the educational processes of incoming students through distance learning and web 2.0 tools.
This paper describes the experience of these courses, examining and highlighting the educational opportunities of eLearning courses.

Keywords:
University Education, eLearning, Orientation, Digital Learning Environments

1.The framework

The circulation and the transmission of information happens nowadays through new learning and communication tools that represent a valuable resource for the dissemination of knowledge and the development of strategic skills which allow individuals to respond effectively to the challenges of knowledge society. In recent years, the issue of orientation, reviewed according to theories related to the concept of Lifelong Learning, has played a crucial role in the context of university education (Alberici, 2005; Loiodice, 2007). Orientation practice has changed with the introduction of digital technologies and resources offered by the web for the development of training and teaching activities. In this sense, the expansion of eLearning has led to new notions of learning because "a univocal relationship

with knowledge and its formation was no longer taken for granted, but the work online took into consideration [...] some variables that tended to be left out in face-to-face training" (Parmigiani, 2004, p. 77, our translation).

On the basis of these reflections, starting from the academic year 2010-2011, the ERID research laboratory in the Department of Humanities of the University of Foggia has designed and implemented eLearning training courses in order to prepare incoming students for the admission tests of the following degree programs:

- Degree in Medical Sciences (starting from the academic year 2010-11);
- 3-year Degree in Education (starting from the academic year 2011-12);
- 3-year Degree in Agricultural Sciences and Technologies (starting from the academic year 2010-11).

In these courses, the design of training activities represents a resource and a specific tool "for orientation, to promote the conditions for decision-making and planning for the professional (and educational) future" (Alberici, 2005, p. 12, our translation) with the aim of facilitating the learners' acquisition of transversal skills. The role of the University is therefore crucial and appears to be "that of using new technologies as a unique opportunity to rethink contents, work practices and relationships [...] to activate virtuous circles of cooperation" (Loiodice, 2012, p. 10, our translation).

Within these digital learning environments, the collaboration variable appears to be of fundamental importance (Rossi, 2006); new information and communication technologies play a very important role in the silent and global revolution creating new ways to build knowledge, which "is (will be) the most critical resource for social and economic development. New technologies allow to convey a huge amount of content and lead the mind to expand its capacity to absorb information, but also to stop its processing because of an overdose of rational and emotional information" (Orefice, 2007, p. 23, our translation). For this reason, it is important to enhance and strengthen educational programs that are able to create synergies between new technologies and traditional training. Technology can enable the construction of learning scenarios that highlight both the centrality of the individual (student), placing the learner at the centre of the training process, and that of the group, focusing on the creation of learning communities.

2. The experience of eLearning preparatory courses at the University of Foggia

The web-portal for eLearning of the University of Foggia hosts, as already described, three courses for incoming students that provide orientation and preparation for admission tests and vary in number of modules, registration procedures and types of users. Here follows the description of the course aimed at new students of the degree program in Education that, for its implementation and execution, can be considered as exemplary. The course is divided into four modules (Philosophy, History, Italian Literature, New Media Languages) held by university professors, each composed by teaching units that consist of a videolecture, a presentation of the videolectures and additional research materials, such as summaries, useful links and bibliography, handoutsandscientific articles.

In each module there are three forums:

- *News* (*News forum*), with notices and general news;
- *Chiedilo al prof* (*Ask the professor*), theme and subject-specific forum;
- *Quattro chiacchiere* (*Chitchat*), relational forum for students' socialisation.

The enrollment, which gives access to the courses, is free of charge and allows students (who have completed the degree program pre-enrollment procedures) to use the learning materials and the online spaces for sharing and socializing; the study of teaching materials is aimed at passing a test for the admission to the degree program: this initial skills test, however, is not selective (there are two sessions in September and December). The face-to-face orientation activities and the registration procedures to access the online platform are organized and implemented by two tutors (one working face-to-face and the other online) with the support of the professor in charge of orientation.

The number of students has grown over time (as shown in Table 1), both for the degree program enrolment increaseand for the greater promotion of theorientation activities by the University.

Academic Year	Number of students enrolled in the eLearning courses
2011-2012	120
2012-2013	180
2013-2014 (ongoing)	230

TABLE 1. Number of students enrolled in the preparatory courses for the Education and Training degree program in in the past three academic years.

A SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) of the course activities (Table 2) highlights its many strengths. The incoming students have the opportunity to get to know the university, some professors of their degree program and classmates before starting the learning activities contained in the study plan. Moreover, for students who enrolled after the beginning of the academic activities, or who plan to attend the second session of the admission test or who have not passed the test in the first session, it is essential to be able to have access to the online space at anytime and study (again) the available teaching materials. The teaching experience may lead to more significant results if a systemic participation of a larger number of university professors and Departments was planned, thereby creating a support network for new students.

STRENGTHS	WEAKNESSES
- Possibility to attend the courses and the academic lectures at the same time; - Possibility to consult the course teaching materials repeatedly over time; - Opportunity for new students to socialize before entering the university system.	- Lack of content personalization in the learning program; - Limited presence of monitoring activities; - Poor communication between tutors working face-to-face and those working online.
OPPORTUNITIES	THREATS
- Effective online involvement of professors in charge of different subject; - Involvement of the heads of Departments; - Development of a university system for implementing orientation and preparatory coursesto access the degree programs.	- Weak digital skills of enrolled students; - Acquisition of inert knowledge by students.

TABLE 2. SWOT analysis of the preparatory courses for the Education and Training degree program.

3. Conclusions

After the rediscovery of the opportunities offered by Web 2.0 technologies and the evolution of online learning environments in a knowledge based economy, the active participation of students is a fundamental requirement for the development of effective orientation programs. In this perspective, the preparatory courses represent a first initiative to develop reflections in the following areas:

- the development of teaching practices that ensure the participation of students in the learning process;
- the strengthening of the relationship and mutual commitment among all the students involved, which improved "their functional relationships, inducing the growth of individual skills" (Midoro, 2002, p. 5, our translation);
- the rethinking of educational interventions aiming at the personalization of the teaching-learning processes;
- the renewal of the tutor's role, both by overcoming resistance and difficulties in creating relational bonds and by fostering effective communicative interactions;
- the possibility to improve learning of specific topics of the course.

Furthermore, the process of design and implementation of these courses has made it possible to draw useful suggestions for a the definition of research projects that can enhance eLearning programs in university teaching such as reflections on the type of skills required by a department tutor working online and face-to-face or the definition of the most appropriate strategies and assessment tools for this type of preparation courses. In this sense, the present experience represents a significant opportunity in the promotion of eLearning activities for university education.

References

Alberici, A. (2005). Introduzione. In F. Batini (Ed.), *Manuale per orientatori. Metodi e scenari per l'empowerment personale e professionale* (pp. 11-13). Trento: Erickson.

Batini, F. (Ed.) (2005). *Manuale per orientatori. Metodi e scenari per l'empowerment personale e professionale*. Trento: Erickson.

Commissione delle Comunità Europee (2000a). *e-Learning: pensare all'istruzione di domani*. Bruxelles.

Commissione delle Comunità europee (2000b). *Memorandum sull'istruzione permanente e la formazione permanente*, Bruxelles.

Limone, P. (Ed.) (2012). *Media, Tecnologia e Scuola. Per una nuova Cittadinanza Digitale*. Bari: Progedit.

Loiodice, I. (2004). *Non perdere la bussola*. Milano: FrancoAngeli.

Loiodice, I. (Ed.) (2007). *Adulti all'università. Ricerca e strategie didattiche*. Bari: Progedit.

Loiodice, I. (Ed.) (2011). *Università, Qualità didattica e Lifelong Learning: scenari digitali per il mutamento*. Roma: Carocci.

Loiodice, I. (Ed.) (2012). *Università, Qualità didattica e Lifelong Learning: scenari digitali per il mutamento*. Roma: Carocci.

Meli, V. (2009). La Scuola come comunità di pratica. *Il Giornale dell'elearning*, *3*(2), 1-2.

Midoro, V. (2002). Dalle comunità di pratica alle comunità di apprendimento virtuali. In http://are.econ.univpm.it

Neroni, J., De Groot, R., & Kirschner, P. A. (2013). *Adult Learning Open University Determinants (ALOUD) study: Psychological factors associated with study success.* In http://dspace.ou.nl/handle/1820/4752

Limone, P., & Baldassarre, M. (Eds.) (2014). *ICT in Higher Education and Lifelong Learning. SIREM 2013 Conference Proceedings, November 14th-15th, Bari (Italy) (2nd ed.)*. Bari: Progedit.

Orefice, P. (2007). Introduzione. In F. Sabatano (Ed.), *La formazione del soggetto per lo sviluppo organizzativo*. Napoli: Liguori.

Parmigiani, D. (2004). *Tecnologie per la didattica: collaborare in classe con i media*. Milano: FrancoAngeli.