VIRTUAL LABORATORY FOR BETTER LEARNING ROMAN HISTORY

The critical approach for seeking out knowledge and quality through IL PUNTO Laboratory

Anna Baldazzi, Guia Venturoli. Università degli Studi “Guglielmo Marconi”, Rome, Italy

“In the moonlight the tower was so beautiful, was leaning so gracefully that the teacher stayed there staring at it in rapture and, at the same time, he thought: “How beautiful are sometimes the wrong things!” (G. Rodari, 1993)

“In culture the earliest form of learning which is essential to the person that becomes human is not so much the discovery as having a model” (J.S. Bruner, The Meaning of Education, 2012)

“To avoid mistakes is a poor ideal; if we cope with difficult problems, we are likely to make mistakes; the important thing is that we learn from our mistakes. The mistake that is identified and removed is the weak red signal which allows us to come out of the cave of our ignorance” (K. Popper, 1975)

“To understand is to understand oneself in front of the text” (P. Ricoeur, 1998)

ABSTRACT

The Virtual Laboratory in Roman History IL PUNTO aims at focusing the students’ attention on their own mistakes in order to improve their awareness and study method. Since Vittorino da Feltre, the children’s mistakes have been often assumed, at elementary and middle school level, as a starting point for moral change, and to strengthen the pupil’s character. At university level, on the other side, generally there isn’t much interest in the pedagogy of errors. On the basis of the Popperian theory of learning from our mistakes, and the Ricoeur’s hermeneutic circle that brings to re-cognize oneself as another, IL PUNTO takes advantage of the cognitive value of student’s mistakes for the human development of the person/student who faces a hard and complex subject of study.

KEYWORDS: Didactic research, Pedagogy of error, Roman History, Theory of knowledge, Virtual Laboratory

1. THE PEDAGOGY OF ERROR - A REINTERPRETATION

Since the time of Vittorino da Feltre the pedagogy of error has a privileged position in the epistemology of education. The pedagogy of error is regarded as an innovative approach in

1 Received: 25 March 2015 – Revised 8 April 2015
2 Dott.ssa Lisa Reggiani, the tutor of the course on Roman History, has gathered questions made by and answers given to the students throughout the duration of the course.
With the technical and production support of the instructional design team, software developers and graphic designers of the “Multimedia Educational & Creative Production” Department at Marconi University.
so far as the student rather than teacher, the individual rather than the pupil are at the core of the learning process. Basically, this approach focuses on the ethical nature of the activities aimed at building the character of the child rather at educating him, as well as at “accomplishing his liberation” (Montessori, 1950). The pedagogy of error, which is basically addressed to adolescents, has not been given much room in university teaching although the discovery of the error was the basis of the methodology of scientific research throughout the XX century - and since Galilei.

Not even adult teaching/learning has made much use of errors as a cognitive category in order to experiment with innovative teaching methods. Malcom Knowles’ theory of andragogy, or adult learning theory, has not resulted, in practice, in the creation of a successful model focused on the use of errors for teaching purposes, although it takes into consideration the adult student’s motivation to learn, his professional and personal experiences. Knowles has made an important contribution as regards adult learners by making a distinction between pedagogy and andragogy and then by underlining the basic difference between the reasons which spur the grown-ups to know and the traditional approach of “leading the child” into the varied world of knowledge. At a later stage, Knowles has smoothed out the differences between the pedagogical and the andragogic model in the name of a unitary theory of learning centered on motivational assumptions, on autonomy, motivation and desire to learn, on the opinion the learner has of himself, etc. (Knowles, 2005).

Many such categories are by now the foundation of the most recent theories of self-learning as well as of various applications in the e-learning best practices industry (Remenyi, 2004): the role of previous experiences, which is typical of the andragogic approach, is particularly important in the design of e-learning educational paths addressed to adult students. As a matter of fact, experience plays a major role in adult learning in so far as it is the ground on which new knowledge rests; at the same time, it is a cognitive basis which grows wider as time goes by. New learning processes, therefore, need to take into consideration and to become integrated in the adult student’s life experiences. Up to now e-learning has evidenced its interest in the learner’s experience by providing products linked to simulations, group discussions and collaborative activities, to problem solving activities based on Problem-Based Learning, to case studies and complex exercises in virtual laboratories, etc. But the mistakes made during the learning process are regarded as an experiential form of the learning process itself and, as such, they are used to improve objects and models without the explicit awareness and involvement of the learner who in no way becomes the co-author of the project/text. The reinterpretation of the andragogic model carried out by Knowles himself has not removed the rigidity of mental habits in adult learners who usually resist learning and the possibility of thinking in a different, alternative manner. As a matter of fact, while distance learning theories keep on improving and multimedia and interactive products for e- and mobile learning, or web learning, multiply and become more varied, the deep meaning of the purpose of teaching, most of all at the university level, is increasingly based on the idea that “if we teach a subject, it is not for purposes of creating small living libraries on this subject, but rather for purposes of teaching the student how to develop independent thoughts... how to participate in the knowledge building process. Knowing is a process, it is not a product.” (Bruner, 1967).

As for this objective, several didactic projects have been recently created to gather students
and create learning products. E-learning, modified in all its multimedia and interactive varieties, represents an important quality chance. Dortmund University for example, has replied to a governmental directive. It has launched the e-flashcard test: electronic interactive cards containing questions, answers and explanations on contents or lessons. E-flashcards, created by students, stimulate customized and active learning, as well as the use of didactic contents. All users can consult the cards in a specific area on the platform and, according to the difficulties expressed by each user, cards can be modified time by time. In the implementation, evaluation and correction process, the tutor has a fundamental filter role to assure the quality of the contents and all the learning process (Saatz, Kienle, 2013).

The University Dortmund project means that university teaching starts from a scientific subject in order to promote quality knowledge and the acquisition of a study method as well as to foster research. It means also tackling the risk of “short-lived” knowledge and providing the “raw material” of knowledge rather than “cooked” material which is useful only to pass an exam. The need of providing an education suitable for entering the labor market further prompts universities to take on the responsibility of building critical and flexible minds.

We believe that re-examining the mistakes made by the students provides a real creative opportunity for integrating knowledge and lack of knowledge in a unitary process, in a shared interactive e-learning model. In particular, we have reviewed the mistakes made by the students attending the course on Roman History, a subject which always proposes a very close relationship between the past and the present as well as an opportunity for reflection for the student that gets involved in dimensions that are not just time-related.

2. FROM POPPER TO RICOEUR: CONNAÎTRE ET RE-CONNAÎTRE SOI-MÊME

Against this background, two complementary epistemological approaches have been taken into account in conceiving, developing and creating an experimental learning path called IL PUNTO which relates to the Roman History course available in Italian. These approaches are the hypothetico-deductive model and the hermeneutic approach; obviously, the former was developed by Karl Popper (1902-1994), the latter by Paul Ricoeur (1913-2005), two contemporary philosophers which e-learning has not so far taken into due consideration. As regards the creative and play dimensions, the Project has taken into consideration Gianni Rodari’s pedagogy of errors according to which: “…errors are necessary, useful as bread is and also beautiful: for instance, the Tower of Pisa” (Rodari, 1964).

1.1 “WE LEARN THROUGH CONFUTATIONS…”

In the mid XX century, after the publication of Learning from Our Mistakes (1984) written by the American historian of pedagogy Henry J. Perkinson, the pedagogy of errors suggested a radically innovative educational perspective: “learning from one’s own mistakes and, as the subtitle reads, to carry out a reinterpretation of twentieth-century educational theory”. Such reinterpretation marked an epoch although only in recent years the mistake issue has succeeded in overturning firm beliefs in order to praise mistakes (Binanti, 2005; Gandi, 2009). This is a tardy praise, but it is still valid and stimulating as evidenced by Steve Jobs’ economic success errors (Segantini,
2011) or by the creative errors of science which have resulted in unexpected discoveries (INFN, 2014). As Rodari said, through his narrator character, in front of the Tower of Pisa: “Ah! How beautiful are sometimes the wrong things!

As a matter of fact, in Learning from Our Mistakes Perkinson starts from a reinterpretation of Karl Popper’s fallibility theory and, by overturning traditional pedagogical theories, includes errors in the wide range of educational possibilities; he, however, acknowledges the fact that “Popper’s philosophy has influenced physicists and biologists, statesmen, historians, psychologists, physiologists, anthropologists, economists... but not pedagogists. And yet his philosophy has major implications also in this field” (Perkinson, 1983). Also Perkinson, however, as earlier pedagogists, relates errors to the child who has to learn, to his development from childhood to adulthood; the American pedagogist points out that toy blocks is a child play which, although being mechanical and repetitive, is based on the experience of mistakes: by trying over and again, the child learns how not to make the same mistakes “When the child removes them from the block of wood and then tries to put them back in their holes, he understands the mistakes he makes in discriminating thick from thin” (Perkinson, 1984).

The theory of fallibility or of falsifiability, on the contrary, applies to knowledge as a whole, rather than to just one stage, in so far as it is the modality through which man acquires knowledge, carries out research and furthers science. This is an aspect to be promptly experimented in university teaching and, above all, in e-learning.

As a matter of fact, the classical mission of higher education and training and the production of new knowledge need to be continuously re-invented in view of both the fast-paced development of new technologies and the social and economic demand for multilevel higher education profiles and excellent-level participatory knowledge.

In his Autobiography, Popper tells us about a dream: “If I thought of the future, I dreamed that one day I would set up a school where one could learn without getting bored, and where one would be spurred to raise issues for discussion; a school where one would not have to listen to unsolicited answers to unasked questions; where one would not have to study in order to pass an exam” (Popper, 1983).

Let us make that dream our own dream and let us refer to Popper in order to develop an innovative approach to university teaching which should be based on a critical method and which should ensure the availability of widespread education opportunities in order to meet urgent social needs. These are the learning objectives committed to the project IL PUNTO.

Also Popper, like Perkinson and the pedagogists who attribute a positive value to mistakes, regards errors as a key experience for improving the degree of satisfaction that explanations provide; but such experience by itself does not engender knowledge (Popper, 1959); “Popper does not deny that we learn from experiences, but he has re-defined the role that experience plays in the growth of knowledge. Growth consists of the modification or refinement of existing knowledge. But we modify existing knowledge only when we discover that it is wrong. Therefore, growth depends upon experiencing mistakes, errors, inadequacies: growth comes out of negative experiences, the experience of frustrated expectations” (Perkinson, 1984). Rather “to avoid errors is a mean ideal: if we do not dare coping with problems that are so difficult that errors are almost unavoidable, there will be no development of knowledge. As a matter of fact, it is from our most audacious theories, including the wrong ones, that we learn more. No one
can avoid making mistakes; the important thing is to learn from such mistakes.” (Popper, 1975).

Errors are, therefore, the starting point for evolution and improvement; it is the initial step of an active and critical process which does not end with the identification of the wrong answer; it is the starting point which validates the need to proceed in so far as the primary hypothesis is falsified or refuted. Errors are a kind of hindrance in the analysis of a problem. Since “we do not study certain subjects, but problems” (Popper, 1969), it is the problem that needs to be reviewed from a critical point of view so as to reinvent the experience - in our case the learning education provided, more in general the discipline and more specifically the way to present just one or more issues – rather than just to repeat it. The inductive approach and the metaphor of the inductivist turkey have shown that inductive inference by enumeration does not lead to the truth as well as that they cannot but challenge the conveyance of uncritical knowledge. “Teachers - Perkinson writes, and also researchers according to Popper - convey information and theories asserting either explicitly or implicitly that what they say is the truth, the best available knowledge; they also strive to prove such truth and sometimes they defend it against students’ criticism. When such process is successful, teachers achieve the objective of turning their students into believers, into individuals who accept information and theories, who believe in history, in science, in geography as they have been taught to them, and who regard their teachers as intellectual authorities and ultimate arbiters of the truth... Such authoritarianism prevents the improvement of knowledge” (Perkinson, 1983).

To improve the student’s satisfaction rate and knowledge, we need to give value to his error instead. Making his error fake would be making hypothesis on the reason why the student has made that error; we should discover any deep cognitive knot with his participation, without frustrating the student. It is necessary for the student to know that all the knowledge comes from trials and mistakes. According to Popper’s suggestion: “Avoiding errors is a miserable ideal: if we do not face difficult problems that make the error almost inevitable, there will not be any development of knowledge. Indeed, we learn more from our most ambitious theories, even from the wrong ones. No one can deny errors; the biggest issue is to learn from them” (Popper, 1975).

The action by which evolving knowledge is conveyed, which is the responsibility of universities, needs to look at errors not as a denial of its authoritativeness or as an obstacle to its primacy in international ranking, but rather as an opportunity for qualifying and continuously re-qualifying its didactic activity in order to aim at building excellent knowledge with the involvement of the students based on the awareness that all those involved in the process are liable to make mistakes and that knowledge is never final. In such interaction between scientific ethics and didactics, errors do not give rise to final assessment or testing of definite and static knowledge. The teacher who keeps pace with research knows that the truth is fallible and this is the only educational certainty that has to be conveyed.

In this relationship between the student and the teacher, between the student and the other students, knowledge is cooperative and it actually puts at the center the talking student/student-reader who develops his own speech and who can understand himself as someone else. It is here that stumbling into Popper’s error meets with the process by which the self is turned into an individual, the core of Ricoeur’s hermeneutic proposal. This is the core of the anthropological thought from which we have drawn suggestions for developing an approach to teaching based on hermeneutics. In short, these are the basic topics we have derived and explored: the self/
ipse dialectic formation, that is, the focus on the individual; “the long process” towards self-understanding; oneself as another; distanciation as mediation of the pedagogy of errors (Ricoeur, 1985; 1986; 1990; 1998).

Paul Ricoeur developed a hermeneutic view of life starting from the existentialist and phenomenological investigations he carried out while in prison, from 1939 to 1943. This view is based on the endless and always incomplete process of dialogue/listening, of writing/reading, of explaining more for understanding better, the so-called hermeneutic circle, which allows him to move from the self to the other-from-the- self, from the self as paradigmatic text to the ontology of otherness, of action and of existence. Such categories provide the basis for the ethical priority of the development of the individual in its practical dimension of which the text, the action and history are the main experiential expressions which can be accessed through reflection. “In this context, a multidimensional meaning is attributed to and acknowledged in respect of the word individual. The relational and communication aspects of the human being come together in the individual, so that they have to be promoted and cultivated in order to become themselves” (Mollo, 2009). In Ricoeur’s experiential perspective the individual reads and narrates itself by continuously interpreting and re-assembling itself. As a matter of fact, “an early sign of the formation of the individual is its ability to make a distinction between the concepts of idem and ipse. It means having two different views of the I: as idem and as ipse. The permanence in time of the idem - the self so as to say - which represents the continuity of the identity - stems from such distinction; but, at the same time, that self is the becoming of the ipse, the temporary identity which undergoes continuous changes”.

From a pedagogical point of view, the oneself as another is a model of relational development in the plural, in which the interpretation and understanding include the I, the You, the He, etc., plurality and otherness. Otherness - of which the error or knowledge are one of the many and different components - is no longer objective or external; rather it is an integral part of the individual and its becoming, of the ipse. It is on the inner multidimensionality of the individual that the teacher establishes his relationship with the learner. It is the individual as a whole that stumbles in the mistake of the I, and in reading that text, that is itself, it re-defines itself by choosing to commit itself. With Ricoeur we move from Popper’s pedagogy of positive errors to the pedagogy of commitment or of responsibility of the learner who is, at the same time, the man who talks, who acts, who narrates, the responsible man who “aspires to an accomplished life, with and for the others, in suitable institutions” (Ricoeur, 1998). Four dimensions which allow us to design the framework of an adult pedagogy aimed at achieving a good life. Objectives that allow learning institutions to follow a learning path toward a relational humanism that listens to the young post-modern generations (Danese, 2005).

The human action, however - in particular, as regards the field we are interested in, that is, learning/teaching, pedagogy and didactics - unfolds unavoidably in time and in time it is to be read and re-read so that each time we achieve a wider and deeper understanding. According to Ricoeur, life, history, the self in its plurality unfold like a text, and it is in the double action of reading and narrating that the twofold process of understanding and understanding oneself takes place. “Like a text, the human action is an open work, the meaning of which is held in suspense. Since it opens up new references from which it receives a new pertinence, human acts are waiting for new interpretations as far as their meaning is concerned. All the events and
all the meaningful acts are, in this way, subject to this kind of practical interpretation thanks to the present procedure. Also the human action is open for those who know how to read (Ricoeur, 1986). And the action as text, the individual, his history and the many stories which develop from the relations of the I/ipse are very complex concepts which the pedagogy of commitment has still to go deeply into. It is in this respect that it is “the text [which] widens the reader’s life horizon”. Here the text is understood as speech fixed in writing. The hermeneutic meeting takes place at the language level where the mediation relation is exercised essentially by reading. Thus for us, for the teacher, the focus is on the student-reader-talking with the text. Writing in itself, Ricoeur underlines, does not reproduce the dialogue; reading, on the contrary, means listening to the text which speaks without being influenced by the author. The long interpretation process, which is the only way in which the deepest meaning of the text can be reached, takes place while listening to the narrative as if it were a distance dialogue. Distanciation thus becomes a privileged category of reflection.

And this is what we want to draw from Ricoeur’s hermeneutic thought. The space-time distanciation between writing and reading leads to true understanding: here, the explanation frees the text from the intentionality of the author - and, therefore, of the teacher - “from the internal dependence relations which are the statics of the text”; there, repeated reading gets itself free from the reader’s situational dependences; the decontextualized text is contextualized again along “a path of thought shown by the text itself... toward the orient of the text”. Explanation and understanding are continuously reassembled in the heuristic act of the long way. The hermeneutic method consists of such continuous re-approaching the text, which looks different every time you read it, but also the distance learning laboratory which redesigns the time of learning as narrated human time. Knowledge, errors, recognition intertwine in this distanced time; it is here that the long way of understanding oneself and of learning starts. Distance learning can explore new and more complex horizons.

Starting from Ricoeur’s epistemology, this project - Il PUNTO - is intended as a multimedia learning text, as a navigable path which is not afraid of the long way leading to relations of understanding.

3. IL PUNTO

IL PUNTO is born out of the desire of teaching by turning errors into a process of conscious personal growth aimed at developing a critical mind.

IL PUNTO is a text, in the way it is understood by Ricoeur; it is a complex and reticular learning path which, with reference to Roman History, aims at promoting and building a higher level of knowledge and commitment starting from the mistakes made by the students in respect of both contents and methodology.

More in detail, it has been designed with a quite complex and integrated structure, in which there are different interconnected environments that enable the student to acquire correct knowledge as regards contents, the acquisition of suitable study tools and expository mastery.

In view of its basic epistemology, IL PUNTO is, therefore, a multimedia learning path which can be implemented and personalized, because the original structure has just been created to
take into account the fact that new contents can be added not only by the teacher, but also by the student who makes a direct contribution to the building of critical thought as well as to the acquisition of a correct study method.

Starting from the Home page of IL PUNTO there is a “welcome video”\textsuperscript{3} in which the teacher explains the reasons why the course of study was born, by highlighting the main purpose of explaining more in order for the student to better understand and reach a higher level of knowledge and awareness.

In the welcome video multimedia environments and all the interactions are explained and illustrated, so that the student understands how to follow the path even alone during the navigation.

After the Welcome video, the first two macro-environments that the student meets when entering the path are: STUDY METHOD and STUDY TOPICS.

\textsuperscript{3} See the Appendix
3.1 STUDY METHOD

This environment provides tools, advices and ideal answers which enable the student to distanciate himself from the mistake, to re-assess his technical abilities, to re-interpret the learning path with a higher degree of intentionality which he has developed through the return study experience. The student-individual, with all his knowledge and experiences, will be led to discover his “…self as another…” thereby widening his subject-related competencies on the basis of his understanding of a complex text which he can explore as parts of the world.

There is not just one method which is valid and successful under all circumstances. However, it is possible to suggest, to guide, to direct, to monitor the student’s learning process through an active and effective teacher-learner relationship which supports the student in developing his skills and abilities as well as in the critical maturation of his self-effectiveness. The interaction of tutorial support, the mastery of tools, the distanciation from one’s own errors, the dynamic and personal practice of several advices as regards composition and exposition assist the student in developing self-esteem, self-understanding, firm commitment and sensible assessment of his own abilities, thereby positively changing his motivation to study.

In ADVICES, for instance, there is an interactive screen which shows, seemingly with no methodical or logical order, the list of advices (with related detailed definitions and explanations) for working out a correct answer, for developing a reflexive and critical thought process, for delivering or writing a systematic, clear and concise speech on a specific topic: the items “propriety of language”, “reasoning”, “exhaustiveness”, “processing”, “contextualization”, “relevance”, “do not copy” and “do not learn by heart”, refer the student to specific pages with detailed information, relevant description and examples.
The list of study advices is endless, but the only truly useful advice is to study steadily in order to acquire knowledge and a method to be used not just to pass the exam, but to cope with many different situations.

STUDY TOOLS, on the contrary, are multimedia information sheets in which the student is provided with brief information as regards the most common study tools. All the traditional physical means (handbooks, atlases, text books, etc.) or the innovative multimedia ones (video lessons, timelines, object learning, etc.) can be regarded as study tools together with the so-called mental or visual tools (diagrams, maps, notes, etc.) which are already available or which the student develops on his own in order to represent the knowledge he has acquired or he is in the process of acquiring.
At last, in THE IDEAL ANSWER the student finds key topics of Roman history as analyzed by leading historians who have deployed subject-specific methods and techniques in order to explain the results of their studies and their understanding of the issue itself to the scientific community or to their students. The purpose of this ideal answer is, therefore, to provide the students with actual examples of how to analyze a topic, with methods for thinking things over; such methods should be assimilated and personalized so as to be able to work out a good exposition of what has been studied. It is clear that there is not an absolutely ideal answer, but an answer which can be improved over time.
3.2 STUDY TOPICS

This section is an environment to which contents can be added; it focuses on problematic issues and contents relating to the course of Roman History. The topics which the students had difficulty in understanding are dealt with in specific topic-related sheets the title of which is BASIC POINT, that is, a portion of basic knowledge from which to start for reviewing wider related themes and relations. Errors in dating, the vagueness in the geographical placement of facts and events, the approximation and vagueness of the overall picture, the excessive simplification of the causal connections, the insufficient review of the consequences and repercussions of the narrated actions require additional and supplementary teaching.

This section gives the student the opportunity of reconsidering his mistakes with a kind of intellectual distance which enables him to go back to the narrated text with a more critical eye and more responsible attention.

The topic-related sheets included in this section are aimed at:

- Reviewing the topics which were more difficult to understand
- Fixing basic points of knowledge (concepts, basic notions, elements of criticism, etc.) which are absolutely necessary

These sheets are structured on the basis of clearly defined fields:

- The title identifies the topic
- The opening words generally refer to classical sources
The image adds specific cultural elements or contextualizes the topic from a geographical point of view.

The main part of the schedule – fixed part – introduces the topic again and outlines its basic points.

The next part – to which contents can be added – includes more detailed information about a basic point.

Cross-references re-contextualize the topic with reference to the syllabus (video lessons, timelines, intermediate exercises, etc.).

Specific bibliographic items suggest authoritative sources for a thorough study.

Specific links refer the student to the Terminology section where typical terms or expressions of Roman History are explained.

From this integrated environment the student can again access the didactic material (video lessons, timelines, etc.) in respect of which the student has had problems, either directly or indirectly, in his personalized relations with the tutor, during the exams or in doing the intermediate exercises which are provided for in the Virtual Campus platform.

IL PUNTO, therefore, establishes a dialectic relationship between the student who re-reads his mistake and his renewed personal commitment aimed at acquiring technical skills and specific knowledge in order to work out an ideal knowledge which stems from the awareness that knowledge is never final in so far as it has many varied facets which can be learned only by going a long way.

IL PUNTO has been designed and developed keeping in great consideration the value of
multimodality and inter-modality as a means which gives the student the possibility of thoroughly reviewing specific contents from several points of view and in various modalities in order to gain greater awareness; the main objective was to develop an approach based on accurate critical thinking. All the environments, the topic-related sheets and the cross-references references to additional material (lesson, timelines, etc.) are the result of a process which helps the student to study in greater detail and in a different way the same contents he has previously learned, but which he has not fully understood. The path - or even better the text in which writing interacts with the student-reader - is not just the grand total of a number of contents, but rather the re-examination and re-interpretation (born out of the actions, experiences and mistakes of the learners) which are necessary for achieving a deeper and thorough understanding of the subject matter: it is the acquisition of a critical and creative way of thinking; in this context, creativity means the contribution towards the development of non-conventional ideas for purposes of disrupting ordinary thought patterns in order to perceive, to grasp, to “think beyond”, leaving behind known and customary mental paths.

3.3 BIBLIOGRAPHY AND WEBLIOGRAPHY
The cross-reference to Bibliography and Webliography is absolutely necessary in such an integrated and composite learning path.

Bibliography, which is the information intellectual activity which describes the state of the art as regards a topic or an author or, generally speaking, “the best tool to measure the degree of civilization and literary activity”, of the cultural production of a Country, becomes, therefore, a fundamental tool for thoroughly studying specific topics as well as for starting a basic research. In IL PUNTO specific bibliographic information is given in respect of each basic point; the specialized webliography, on the contrary, gives the opportunity of accessing electronic repertoires, Latin classics which can be downloaded either in their uncut version or translated, etc. The bibliography can be accessed from both the main menu in the home page or from the various topic-specific sheets so that it can be easily looked up by the learner who navigates and explores the various areas of this refined learning path.

3.4 THE ROLE OF TECHNOLOGY
Information and telematic technologies have played various roles in this type of didactic project. The teacher has deployed these technologies in order to convey the contents of the course in a highly attractive manner by using images of authentic maps, films and animations which have made the topics even more interesting. The animated timelines of the course of Roman History have been perfectly integrated as cross-references in the various topic-specific sheets; the video lessons have been used as a cross-reference aimed at supplementing contents which had not been fully understood as evidenced by the mistakes made by the students. All of this would not have been possible without the support of these technologies.
In the design stage specific attention has been paid to the fact that the multimedia topic-specific sheets should not be too content-laden; in addition, images have been used and carefully chosen in order to help the student to get a better understanding of the relevant topic, also in view of the fact that memorization takes place also through images. Learning as an interactive process has characterized each and every stage in the design and development process of this project; the importance of visual and auditory perception in an effective learning process has never been overlooked. Images, colors and emotions help us to learn and to understand: in IL PUNTO there is an harmonious combination of these elements which are perfectly integrated in a non-linear path since it has been widely proved that linear and sequential learning processes are not the right solution due to the fact that this is not the way in which our mind works.

The purpose of IL PUNTO is to explain more in order to understand better, to explain more in order to fascinate the student both at the emotional and intellectual level since - as Umberto Galimberti wrote quoting Plato: “…Learning takes place because of intense love […] it is important to know how to attract at the emotional level. If, on the contrary, the emotional and sentimental dimensions are overlooked, then you cannot reach even their heads”.

Figure 7. IL PUNTO: the general mind map with some screen shots
3.4 THE INNOVATION OF IL PUNTO

In addition to the desire of experimenting with an e-learning path designed on the basis of such original and unusual theories, the true innovation of this project lies in the decision to teach by means of and thanks to the mistakes which provide the opportunity of re-designing the course which is integrated with additional more detailed information which has been selected on the basis of the mistakes made by the students. According to several studies carried out in the physiological, sociological and anthropological fields, we learn better those subjects which are closer to us and we are more interested in studying what is linked to our past experiences and memories; for this reason, it is possible to learn from our mistakes. This is the methodological and didactic challenge upon which the project IL PUNTO rests: to provide an effective learning path in which the student develops a critical way of thinking starting from the mistakes he has made. The objective is to develop a course which emotionally involves the student thereby increasing his motivation and interest in respect of the subject he is studying in view of the fact that “…one of the biggest obstacles to learning is the fact that people often do not study out of interest, but rather because they think they are forced to do it, for instance in order to pass an exam...” (Landriscina, 2005).
Welcome to IL PUNTO!

You are about to enter the course of study of Roman History. A multimedia and networked learning environment is at your disposal, where we want to explain more in order for you to understand better. Thus we propose to pause carefully on this space created by our reflection on the theories of the research and knowledge by two of the greatest philosophers of our time: Karl Popper and Paul Ricoeur.

We want to take you to a higher level of knowledge and awareness, starting from the mistakes you made during the tests and exams. We also want to clear up the doubts expressed during the meetings with the tutor.

IL PUNTO offers you some interconnected environments, STUDY TOPICS and STUDY METHODS, that make you achieve a correct knowledge, in terms of content and method. In order to master a suitable speech we suggest you to deeply think about the RIGHT ANSWER.

STUDY TOPICS is made of MILESTONES that will highlight those parts of the program in which you have shown some difficulty.

If you select a MILESTONE, you can have a look again at the basic texts (the lesson of reference, the related timelines, any in-depth analysis attachments etc.), you can see more times the mistakes you made. In this way, in the light of new clarifications and new motivations, you can compose again the contents to make a speech that is more aware.

In any MILESTONE, accompanied by emblematic images, the steps are identified by the navigation buttons.

You will find:

- in the section Errors, the list of the most common errors
- in the section Questions: the ongoing tests and the exam questions that have already been dealt with. Eventually, you will also find new assessment tests to carry out after having reconsidered your knowledge and skills
- in the section Clarifications you will find revisions and corrections useful to stress the attention on links and wrong or not clear transitions in your answers
- in Specific Bibliography you will have specific instructions regarding the MILESTONE you have selected
Pay also attention to the *key words* from which you can have access to the section *Terminology*, (you find it in the main menu too).

Among the tools in the upper right side, it is shown the bottom BIBLIOGRAPHY combining

- Specific topics of the subjects studied
- Specific instructions for the terminology
- General books of the subject according to thematic areas

Let’s now focus on the other section of IL PUNTO which is fundamental to learn how to study.

Here is the STUDY METHOD where you have TOOLS and SUGGESTIONS useful to your methodological training. In this section you can analyze your skills through an updated study experience.

Among the TOOLS there are all the traditional tools that you have already used: books, text books, or multimedia material as video lessons, timelines. Pay attention also to the personal and circular Messages; the tutor that gives you precious suggestions.

The SUGGESTIONS will take you to acquire a mental habitus, reflective and critical to make a coherent and synthetic speech.

To enter their description, we suggest you to order the suggestions according to a relevance scale. Do not be discouraged because you learn through tests and mistakes. Once the test is completed, you can see every single advice.

When you get to the end of this intense path where you have committed yourself and known other ways to express yourself, here it is the RIGHT ANSWER, an example of how some MILESTONES have been developed by distinguished historians.

The chosen examples that have been commented, represent models of reflection to integrate and customize, to make them yours, in order to make a good speech...

Treasure the explanations that have been offered to you step by step, do not consider them as a heavy luggage. You will feel like a different student, but I promise you that you are still you, just more confident and aware of your skills.

**Bon voyage!**
Binanti Luigino (2005), *Sbagliando s’impara. Una rivalutazione dell’errore*, Rome, Armando


Danese Attilio (2005), *Da Mounier a Ricoeur. Verso l’umanesimo relazionale*. Intervento al Convegno internazionale *Persona e umanesimo relazionale: eredità e sfide di E. Mounier nel Centenario della nascita* (1905-2005), Roma, 12-14 gennaio

Gandi Leonardo (1999), *Elogi dell’errore*


Landriscina Franco (2005), *Il Problem-Based Learning. Dalla pratica alla teoria*, Form@re 40

Mollo Gaetano (1999), *Aspetti pedagogici di Paul Ricoeur*, in “Pedagogia e vita”, n.5-6

Montessori Maria (1950), *Il segreto dell’infanzia*, Milano, Garzanti


Popper Karl (1997), *La ricerca non ha fine. Autobiografia intellettuale*, Roma, Armando


Ricoeur Paul (1990), *Soi-même comme un autre*, Paris, Seuil

Ricoeur Paul (1998), *La persona*, Brescia, Morcelliana


Rodari Gianni (1993), *Storie fantastiche, favole, filastrocche*, Torino, Einaudi

Saatz Inga, Kienle Andrea (2013), *Increasing Quality in large scale University Courses*, in “eleed”, n. 9

http://archiviostorico.corriere.it/2011/ottobre/07/capacita_imparare_dai PROPRI_ERRORI_co_9_111007010.shtml