

5.

The methodology of the good practice of the “Con-pari e generio” project. Analysis and proposals for adaptation

The “Con-pari e generio: Confrontation of Peers under a Gender prospective in compulsory Education and Training” project, i.e. the good practice that inspired the IPAZIA project, was promoted by Regione Emilia Romagna and co-financed by FSE. The project lasted from 2003 to 2005 and COFIMP, an Italian training and consultancy company, was the proposing party and the project leader.

The human resources professional development plan of Regione Emilia Romagna had identified teachers as key resources for the future of society and thus the “Con-pari e generio” project developed specific continuing professional development courses for teachers and guidance services to support student decision-making in compulsory schooling in order to promote the integration between the education system and the VET and labour systems.

Thus, the main goal of the project was to improve the guidance services provided in compulsory schooling in order to increase the employment opportunities for the economically active population also through the promotion of equal opportunities of men and women.

The outputs of the “Con-pari e generio” project are:

1. GENDER-SENSITIVE GUIDANCE PATH

Guidance paths to support students in their education-career choices. Tool: TEACHERS' LABORATORY – consisting of a training module and tools for training training professionals (teachers, tutors, trainers/guidance counsellors) based on the design and implementation of learning laboratories for transferring materials and methodologies for the provision of guidance to students.

2. PROPOSAL OF GENDER-SENSITIVE GUIDANCE PATHS FOR MALE AND FEMALE STUDENTS ENROLLED IN COMPULSORY SCHOOL EDUCATION – proposal of methodologies and tools based on the guidance-oriented teaching approach and on the pedagogy of difference for the provision of vocational guidance to compulsory school students and for the integration of a gender-sensitive perspective into the curriculum.

3. WOMEN, WORK AND FAMILY IN THE WESTERN CATHOLIC WORLD AT THE START OF MODERN ERA (1492 –1763) “HISTORY LEARNING MODULE FOR 4TH YEAR UPPER SECONDARY SCHOOL STUDENTS (guidance-oriented teaching)” – the History teaching module for upper secondary school students which was developed as a prototype for a discipline-specific gender-sensitive training path.

4. DIFFERENT WAYS OF IMAGINING THE PRESENT AND THE FUTURE

Narrative theatre piece and reflections on gender-sensitive guidance. The guidance paths current implemented in the schools of the Emilia Romagna Region – which is a DVD created as a support tool for the management of guidance paths.

5. SITUATION ASSESSMENT QUESTIONNAIRE

Analysis of the market through a gender perspective and analysis of the choices and motivations of students after the first year of upper secondary school. It is the basic tool for the initial analysis and re-assessment of the conditions for the application and transfer of the good practice identified during the brief exploration phase foreseen in the project.

During the second transnational meeting (June 19-20, 2009 - Porto, Portugal), Dr. Flavia Marostica, the expert working with our project partner COFIMP, illustrated and summarised the methodology of guidance-oriented teaching that was going to be used for the development of the history and scientific disciplines modules of the IPAZIA project.

Below is the presentation given by Dr. Flavia Marostica at the Porto meeting⁷.

7. This is an excerpt of Dr. Marostica's essay, which also includes an extended list of references.

Understanding the past to live the present and construct the future

Flavia Marostica*

1 The reference points from a general perspective

I. I. History, history of women, didactics of history

A discipline is a product of the elaboration made by academics (research specialists) over time; they have read and interpreted some aspects of reality on the basis of a specific epistemological stature which regulates and formalizes their research so that it has a solid foundation, it is acknowledged and is communicable. It is also a system of ordering of knowledge and comprehends that heritage of knowledge, information, concepts, ideas, logical and methodological procedures which are accepted as being essential to consign to the new generations (memory, identity).

Every discipline is therefore:

- A field of knowledge (the aspect of contents: what it deals with, the point of view from which reality is observed),
- A conceptual structure (the organisation of all the information/data, fundamental concepts), a togetherness of declarative type knowledge (the recognition of a specific object),
- A syntactic structure (the basic paradigms which organise the procedures, rules, means, instruments, operative phases all together, the “rules which govern the activities of who operates within this field of study”⁸: the specific method and language, but also the specific operations of elaboration of information and knowledge); a togetherness of knowledge of a procedural type (know-how), which are the notions which together, render the operations of knowledge or articulation of the experience possible and determine them, and which form the cognitive schemes of the mind (how you know, how you behave). Each discipline is, in fact, also a model of knowledge: it offers modalities of knowledge and instruments of comprehension of reality which set off processes of thought and emotions; in this sense, the syntactic structure is the most important part as regards teaching/learning, where its formative/orienting value lies. It serves as an instrument “to transform the acquisitions into mental development”⁹ and as a reference point in order to integrate in life; in other words, it is a powerful instrument of the comprehension of reality and one’s own self, so long as its potentiality as a whole is taken advantage of.

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8. Renato Di Nubila, *La valenza formativo-orientativa del sapere disciplinare* in Flavia Marostica (a cura di), *Orientamento e scuole superiori*, IRISAE ER, Synergon, Bologna 1995.

9. Renato Di Nubila, *op.cit.*

Every discipline is, therefore, a resource, in the sense that it contributes in the structuring of the thought, in constructing meanings, in producing models of rapport with reality, if and when its structures meet with the structures of thought and if and when young people are guided to operate on the disciplinary knowledge: the scholastic work consists basically, in making this meeting happen and in proposing a didactic knowledge aimed at rendering the cognitive structures of young people reactive. It is only in this way, that the discipline becomes a truly efficient formative instrument.

The disciplines, however, are very specialised and this aspect is functional to scientific research, but it must be superseded in the didactic practice: the internal order to the disciplines (which in any case must be held in consideration) is one thing, another thing is the order of the didactic proposals, if the aim is learning and orientation. There is a connection, but also a jump between the cognitive experience that every person has in every moment of their lives and the disciplinary knowledge: the former is rich, but untidy and is not uniform, the latter is formalised and coherent.

Every discipline is, therefore, formative not only for the declarative type of knowledge which it offers, but moreover for what it permits you to acquire:

- A modality of perception and expression of reality (language),
- A togetherness of interpretations of phenomena of perception and communication,
- A specific codification of the experience.

It is, therefore, necessary to allow space for the interpretation of reality in its various aspects from the point of view of the specific discipline, but it is also necessary to select the concepts of the discipline which are for the most part transferable; get young people used to being active and to look for solutions from a certain angle of a discipline. In this way it is also possible to speak in a more concrete way of multidisciplinary instruction as a formation in which the contribution of the different disciplines does not consist only in the sum, but of the combination/collaboration on which transversality is constructed starting from a specificity: the disciplines become different points of view from which it is possible to tackle the same problems and to hypothesise a hierarchy would make no sense in this case.

Learning becomes a process of “interiorisation of ways of acting, imagining and symbolising which exist in the culture (in the sense that it is a togetherness of formal knowledge, discipline, models of use) and that amplify the practical capacities of intervention of the individual. Furthermore, the formal knowledge generates meaning and also enriches the daily knowledge and experiences and is able to organise them: so in this way, they are substituted or are integrated with the communal sense and with the non formal and informal knowledge. A stronger connection between the scholastic culture and the daily life culture, of the participation in civil life, work and the professions, allow the school to become the place of awareness, the place in which you learn how to think, in which spontaneous learning meets with the learning of “ties”, of the disciplines

that can provide durable instruments and cultural competencies which can support and render people independent: in this way staying at school becomes significant, without being totalising. In this way, the disciplines and their ties become cognitive points of view, a vehicle of new cognitive freedom: an instrument which serves not only for those who have the “head” and the “will” to study, but for all, indispensable to take advantage of the right to culture and so as not to be emarginated.

In this perspective, every discipline is a powerful instrument to learn how to reason and analyse the world and oneself, using its instruments and therefore discovering inclinations, interests, talents, vocations, to learn how to learn and to independently construct one’s own future.

With the word history in Italian, it means:

- The facts and the events which have happened in the past,
- The description/reconstruction/narration of these facts and events and in this case stands for historiography.

The historian bases his research on what survives from the past (the traces which become available at a certain moment and are considered as “sources” and become documents), but starts from the need to know that it is the present and uses concepts, interpretative schemes, methodological principles (epistemological stature) that are also pertaining to the present, and in that case, takes advantage of the collaboration of other disciplines, scientific too and of the new technologies.

The cognitive operations (logical and methodological) which the historian carries out are: thematisation: the identification of the historical fact, the constitution of a series of information, constitution of maps of knowledge; temporal organisation: the distinction between the past, present and future, succession, contemporariness, period/periodisation, cycle, conjunction, distinction of the duration, chronology, dating; spatial organisation: localising, extension, distance, territorial distribution: the organisation of ties/relations: identification of permanence, changes, events, problematisations, explanations; the formation of texts: description, narration, considerations¹⁰. This means that not all the descriptions/reconstructions/narrations of the past are historiography.

The results of the research are not, however the objective reconstruction of the past, they do not reflect or photograph the objective reality of the past, because, as a time machine to go back in time is not available, you can no longer experiment what has already come about in the context in which it actually happened, and it is not possible to have direct awareness of it: “historiography is the art of establishing relations between phenomena which come about in time and which can have different time warps; these relations constitute the explanation”¹¹.

10. Ivo Mattozzi in storia in *Morfologia della conoscenza storiografica e didattica* (1) in Ivo Mattozzi (a cura di), *La cultura storica: un modello di costruzione*, Faenza Editrice, Faenza-Ravenna 1990.

11. Ivo Mattozzi, *Struttura della conoscenza storica e didattica della storia nella scuola elementare* (2) in Pasquale Roseti (a cura di), *Storia geografia studi sociali nella scuola primaria*, IRRSAE ER, Nicola Milano Editore, Bologna 1992.

Moreover, the research may be concentrated on different spatial/geographic contexts (world, European, national, local history etc...), in different aspects of human activity or reality (demographic, economic, social, political, military, diplomatic history, history of mentalities, of the imaginary, of the material culture, of the domesticating of plants and of animals, of nomads and sedentaries, of illnesses, etc...) so that, further to history, it is legitimate to speak about histories too.

It is, therefore necessary to distinguish between:

- Historical fact, “what actually happened”, object of the reconstruction, event, happening, phenomenon, something that has been part of the experience of someone in the past,
- Historiographic fact, the “representation of the former understood by means of a written text”, the recognised fact, the object of comprehension¹².

In order to be acknowledged, as a historical fact, it is necessary to follow a complex procedure, but it is only in this way, that it becomes comprehensive and permits the past to be known; it can be recognised in many different ways, even if scientific correctness imposes non falsification and omissions: it is the historian who, by detaching himself from the facts, goes through the operations of information organisation (through choosing), and attributes meaning (working with the mentality of his own time), constructs conceptualisations (not inherent in the facts or in the evidence) and produces a historiographic fact.

In order to construct a process of learning in history, it is necessary to have a good knowledge both of the contemporary epistemological statute of the discipline (logical and methodological procedures) both of the results of the latest historiological research (declarative knowledge).

In the globalised world in which we live, characterised by a rapid and continual transformation and by a growing flow not only of merchandise (trade), but also of people (immigration) from one country to another, in a multiethnic and consumer society, it is interesting, or rather essential to historiographically reconstruct on a world wide or at least on a very ample scale. There are some fundamental points of reference to note.

But, further to these general indications which could be taken as shared reference points, it is essential that each partner of the project conducts, perhaps in collaboration with the University, research for the identification of the texts of history of women (women who have excelled, who have succeeded), so as not only to find resources for the construction of modules which are suitable for the various territories, but also to appreciate these particularities to the full.

The use of historiographic texts like this, as a direct instrument for learning (in the secondary school educational institutes) or as a source for organising the didactic paths and using scholastic manuals in a selective manner, allows us to change over from: - difficult and boring history, subordinate to the set texts,

12. Ivo Mattozzi, *Formare il senso del fatto storiografico* (3) in Pasquale Roseti (a cura di), *op.cit.*

organised in a linear sequence and with continual thematic intermittencies, memorised, difficult, far from life today and which does not spark any interest, to history as an opportunity to construct personal/subjective/individual “resources” working with the rich and variegated ensemble of “resources” which it makes available.¹³

The two essential conditions for learning (cognitive apprenticeship) are in fact:

- The detailed and punctual identification of the instruments (sources) to learn, not indicated in a general way, but specifically and punctually; of different types (written, even historiographical texts, but also a vast iconographical repertoire as paper, tables, graphs, maps etc... logical schemes to use to communicate); if necessary reconfigured, always well structured (in sequences, units);
- The definition of the actions to learn (activities/experiences/exercises/practices), recurrent and continual, aimed at the construction of declarative and procedural, simple and complex knowledge, and of various abilities/competencies (vast use of logical schemes to elaborate the information and the writing of texts), accompanied by actions of conclusive recapitulation for the construction of competencies.

In order to bring about “meaningful” teaching/learning, it is also necessary to define the objectives, not only the declarative knowledge, but also, and above all the procedural knowledge, the abilities, the competencies which young people must acquire by working with the resources of the disciplines; it is necessary, furthermore, to identify the necessary teaching strategies and the most suitable, attentive and punctual project modalities.

1.2. Orientation, gender orientation, didactic orientation

In contemporary society of knowledge and of globalisation, the work path is often horizontal/transversal (from one job to another) rather than vertical (career development) and it is necessary, therefore to construct the necessary conditions for success (transition vertically) and also for the passage/adaption (transition horizontally). The chosen path is configured, so, in complex terms, one, because a good knowledge of the contemporary world is necessary and also full emotional control (self awareness), and two, because of the increase in the margin of uncertainty due to continual and rapid changes, young people and above all women are obliged, more than actually choosing their future to choose only a segment of it at a time, the nearest part first, and they are forced to operate, in the course of their (long) lives, to choose in a recurrent manner, sometimes through their own will, on other occasions through the will of others.

13. See EU's recommendations on history learning/teaching: Recommendation 1283 of the European Parliament of January 22, 1996 “*La storia e l'apprendimento della storia in Europa*”; the European Council Project “*Learning and teaching about the history of Europe in the 20th century, 2000*”; Robert Stradling, Teaching 20th-century European History, published by the European Council and included in the project “*Learning and teaching about the history of Europe in the 20th century*”, 2001; Consiglio d'Europa, “*The European Dimension in History Teaching: Plural Images and Multiple Standpoints*”, Bruxelles 2006.

In fact the expression life project which is found in many European documents should be used with extreme discretion and above all, should be put into the real context of how the present world actually works with its continual, rapid, radical and pervasive mutations which make long range future scenarios practically impossible to foresee; it is advisable, therefore, to focus attentively and clearly on what could be a reasoned future in the short term and sometimes medium term. This is true for all, but it is truer for women who must also (inevitably) consider the (demanding) choices connected to maternity and they cannot therefore project anything other than relatively brief segments of their life path (gender orientation). It becomes, therefore, more and more important to focus first of all and above all on the empowering, through intensive, but intelligent use of (all) resources of the disciplines, of the capacity of young people both on a cognitive/metacognitive level as well as an emotional/social level and of the education to flexibility and the habit of continual improvement/enrichment, in other words to construct and exercise competencies.

In order not to feel inadequate or disoriented, the subjects/people/individuals need to possess the necessary competencies to face the unexpected and to maintain a continual upkeep of the knowledge they are a carrier of, also because in the processes of integration, the extra-scholastic agencies are continually acquiring strength and one learns spontaneously and continually, even through modalities which are different to those of the school in which one works with the formal knowledge.

In this context, it is necessary to review orientation and the help actions (orientation) which are aimed at constructing/empowering/supporting the capacities of the subject to auto-determination (orientate oneself): "orientate means putting the individual into a position in which self-awareness occurs and the individual progresses towards adapting the study path and profession according to the changing necessities of life, with the double objective of contributing to the progress of society and reaching full development of the person".¹⁴ It is necessary to identify what it means today to orientate oneself and know how to govern one's formative and work experiences successfully, tackling uncertainty, the growing complexity of social life, the continual changes in the organisation and characteristics of work: a composite professional activity which continues throughout life with strong metacognitive and meta-emotional value in which an important role is played by: the image that each person constructs for the future, the project framework which is larger on the inside, in which the more specific orientation projects are placed, the sense of self efficiency and the more profound feelings and unconscious emotions.¹⁵

The activities carried out in schools are a great many and are often of high value, both in their ideation as well as in their activation through the specific

14. *Final recommendation on guidance*, UNESCO Conference, Bratislava, 1970.

15. See the *Memorandum on Lifelong Learning* of October 30, 2000, and one of the key messages entitled *Rethinking guidance and counselling*; the Draft Resolution of the Council and of the representatives of the Member States meeting within the Council on *Strengthening Policies, Systems and Practices in the field of Guidance throughout life in Europe* Europe of May 18, 2004; the Recommendation of the European Parliament and of the Council on *key competences for lifelong learning* of December 18, 2006.

teachers or external staff, even though it is often a case of actions of orientation which have been changed and adapted from other systems. But when the results are evaluated, there is often a vast difference between the investments made, the professional competencies and the financial resources invested and the actual results which have been obtained in the “paradoxical claim” to aim at the highest competencies, underestimating the fundamental importance of the basic or general orientation competencies, which are, in fact, the essential pre-requisites if the full potentialities inherent in the specialist actions of orientation are to be reached.

Therefore a process of personal research has been launched so as to identify – without renouncing the “other” complimentary actions, but using them to their utmost capacity and only if necessary – a path of orientation which can be followed by the school in its specificity (train and instruct) to offer young people the opportunity to construct/empower the necessary orientation pre-requisites which must be possessed by and guaranteed for everyone. These goals can only be reached by schools with the only instruments available, the enormous resources and discipline (so long as all of them are taken advantage of) through the orientation/orientative or formative orientation instruction. In Europe there have been some very important theoretical contributions in this process; in Italy, for example, those of Domenici who sustained the necessity to select some fundamental knowledge and cognitive and emotional instrumentation for auto-orientation in order to enable young people to face and govern problems posed by a society characterised by complexities, uncertainties and continual change¹⁶, and above all the fundamental elaborations of Pombeni¹⁷, who introduced the notion of orientation competencies, necessary for auto-orientation and distinguishable in:

- Specific orientation competencies which “are developed exclusively through intentional interventions managed by professional staff”, with the so called orientation actions (of monitoring and development)
- General orientation competencies “principally aimed at acquiring an orientation culture and methodology” (personal orientation) and “introductory” to the development of specific competencies”: these are acquired during the person’s natural evolution through time (school, training institutions, family), even though the modalities vary, or with “spontaneous experiences, in which the recognised objective is not that of contributing to the process of orientation”, informally and/or not formally, or with “intentional actions, aimed at developing a mentality or a methodology of orientation through formal knowledge (for example through orientation training)”.

It is, therefore, necessary to see orientation as a process which is present along the entire scholastic experience, from the first to the last day in practical daily

16. See Gaetano Domenici, *Manuale dell'orientamento e della didattica modulare* (1), Laterza, Bari 1998.

17. See, in particular, Maria Luisa Pombeni, *La consulenza nell'orientamento: approcci metodologici e buone pratiche* in «Professionalità» n. 65 settembre/ottobre 2001; Relazione introduttiva *Criticità e indicazioni strategiche per lo sviluppo di un sistema territoriale di orientamento al 1° Forum nazionale dell'orientamento*, Genova, 14-18 novembre 2001; *Differenziare le azioni e specificare le professionalità* in Anna Grimaldi (a cura di), *Modelli e strumenti per l'orientamento*, FrancoAngeli, Milano, 2002; *La definizione delle diverse tipologie di azioni orientative: i sistemi, i servizi, le professionalità* in «Professionalità» n.78/2003 e in *Orientamento al plurale*, Regione Emilia Romagna, Assessorato Scuola Formazione professionale, Università, Lavoro e Pari Opportunità Formazione, Bologna 2003.

didactics, in a continuum (Pombeni) in which orientation didactics is central for everyone, whilst the specific actions are only and exclusively reserved in response to needs and particular duties, but in which the common commitment is that of constructing/empowering the capacities of choice of young people, or rather their orientation competencies (self-orientation education), so as not to risk intervening only when the cows have fled the stable.¹⁸

The orientation/orientative didactics or diachronic formative orientation within the disciplinary curricula do not differentiate between the disciplines by attributing greater importance to one or another, in the sense that all of them, when the formal knowledge is available (declarative and procedural), can provide instruments and opportunities to identify one's own talents and improve one's knowledge/abilities/competencies so as to acquire significant learning and to mature one's attitude and a style of proactive behaviour in regards to the self management and awareness of one's individual orientation process.

The basic or general or introductory or transversal orientation competencies are, therefore, the ones which are essential to have in the specific actions of orientation and constitute the necessary conditions; they are acquired a little at a time through daily practice and lead towards self sufficiency, to the comprehension of oneself and the real world in which we live, to realising one's individual talents and inclinations and the opportunities which are actually reachable/available, to making responsible choices making decisions which concern one's own life.

They can be identified as life skills¹⁹ which are matured through education, both in the rational form (the use of information and metacognitive awareness, and also through intensive use of logical schemes and conceptual maps), as well as emotional one (awareness and self control) and consent : harmonious growth, the realisation of possibilities, the acquisition of coping procedures and the capacity to make useful decisions to tackle difficulties in a constructive manner, the promotion of "correct and significant relations with others" (personal and social abilities). In order, however, to identify what they are in greater detail, it is necessary to start off with the specific orientation competencies (of monitoring and development), find the necessary abilities as prerequisites, select the most suitable procedural and declarative types of disciplinary knowledge (for work and at work); furthermore, it is necessary to clarify the conditions which make their construction and empowerment possible (methods of teaching/learning and project models); only in this way it is possible to really understand the 4 cardinal points of formative orientation.²⁰ Finally. The documents and the research list many abilities/competencies, but they do not classify them; it has, however, proved to be important to conduct them into an interpretative scheme, deduced from the literature regarding learning, so as to evaluate what resources are made available by the disciplines, taking into account this interpretative scheme, and the expert knowledge available and then

18. Gaetano Domenici, *op.cit.* (1)

19. The WHO proposed them to school systems in 1993.

20. See Flavia Marostica, *La centralità della didattica orientativa nel processo di sostegno all'autoorientamento* in Maria Luisa Pombeni (a cura di), *L'orientamento tra passato e futuro: l'esperienza di Bologna*, Carocci, Roma 2008; *Competenze trasversali* in Giancarlo Cerini e Mariella Spinosi, *Voci della scuola*, vol. VII, Tecnodid, Napoli 2008.

to decipher the experiences necessary for their construction and transferability. The abilities can then be grouped into four big environments.

The communicative abilities

They are the capabilities which consent for the decodification/production of information (whether verbal or not), to make positive use of mass communication, to dominate the languages and the material instruments; these are procedural capacities of transposition of the mental operations into a form which allows one to establish a rapport with the outside world and to have models of reading into the context; it is very important to master:

- Daily language (informal and non formal, regulated by the social and uses and by the ambient) necessary to live in modern democracies, expressing/understanding the ideas and participating constructively in social life,
- The specific registers of the different disciplines (formal) necessary for learning and for decoding/codifying experiences,
- The logical languages (from tables to diagrams, to maps etc...), visible universal schemes applicable to all sectors of knowledge which consent both for the communication of information, even complex, in clear, precise, simple and efficient manner, as well as to elaborate knowledge, mixing numerous variables and establishing links,
- The languages which are nowadays more or less essential of the new technologies (from screenwriting to intelligent navigation in internet etc...).

These abilities – which are an activated interpretation of the traditional four basic abilities (reading, writing, listening, speaking) – are placed in first position in the sense that, as regards the modalities through which thought is perceptible/receivable by others too, they constitute a basic premise for all the others.

Cognitive abilities (logical and methodological)

They are the practical capacities which guide the research work of academics for the construction of professional expert knowledge (procedures, rules, means, instruments, operative phases, in other words cognitive operations and methods of work). Learning them equals understanding how the formal knowledge is built and how to acquire it, to master the logical and methodological procedures of each discipline so as to use them and to produce new knowledge, to use the mental faculties (operators) correctly and efficiently so as to understand and elaborate abstract thought (operations), to acquire a method of intellectual work, to act in an appropriate way to a situation and/or duty.

Some operations appertain to one specific discipline, others to numerous disciplines, others again are common to daily knowledge. More specifically, from the historical point of view, this involves operations which are identifiable through the acknowledgement and the correct use of the specific operators of the discipline²¹.

21. See the work of Ivo Mattozzi on cognitive operators in *Morfologia della conoscenza storiografica e didattica* (1), *op.cit.*

This ambient of ability is one which is exclusively disciplinary.

These procedural capacities which are learned gradually with practice become a habit of reading into reality and therefore, a solid instrument which is always possible to empower with knowledge of the contemporary world even in its daily unfolding.

The metacognitive abilities and strategies

These are the capacities which consent for coming to familiarise with the workings of the mind (one's own and other people's) and to decentralise thought towards the future (foresee and plan actions) and into the past (monitor and self evaluate), controlling the mental paths used to elaborate information, make decisions, carry out duties, resolve problems, "learn to learn", and being aware of the possible strategies to deal with situations (execution of duties and resolution of problems) "as a rule or set of rules, necessary to resolve a problem and sufficient-ly generic so as to be applicable to a wide range of situations"²².

In other words, they are the capabilities of being reflexive²³, of using thought in process and before an action in a conscious manner. Some consider these to be the only means of transference of knowledge in contexts which are different to those of learning, in as much as awareness, as opposed to mechanical execution, makes for situational awareness, the recognition of the possibility and suitability to transfer, provoke the intention and the power of choice to do it practically; they are, therefore, considered to be the conditions necessary for every competence. In this sense they can be seen as the highest level of knowledge (excellence) which allows for the control of actions by the subject and a continually higher level of independence (and also of self sufficiency). They are useful both for the person in difficulty who can improve, as well as for those who are already good who acquire flexibility and creativity.²⁴

In reality, we are dealing with concrete operations which we carry out on a daily basis and continually in life, even though there are many levels of complexity: when we carry out something, even the most banal thing, we are led, almost spontaneously to observe what we have done and to think once again about the modality by which we arrived at that point, whether the action has been successful or not. It is, in fact, particularly useful and fruitful, especially in prospective, to reason in parallel upon the product and the process and take into consideration, on the one hand, all the characteristics and the components of the product, and on the other hand, the different process factors which are the set of elements, which are often not very visible, which condition the product. So that we spontaneously monitor but also self-evaluate because we try to identify the aspects

22. M.T. Chi, *Changing conception of sources of memory development* in «Human development» n.28/1985, mentioned in O. Albanese, *op.cit.*

23. Donald Schön, *The Reflective Practitioner: How Professionals Think in Action*, Basic Books, New York, 1984.

24. For cognitive/metacognitive skills, see Cesare Cornoldi e Beatrice Caponi, *Memoria e metacognizione*, Erickson, Trento 1991; Cesare Cornoldi, Rossana De Beni e Gruppo MIT, *Imparare a studiare. Strategie, stili cognitivi, metacognizione e atteggiamenti nello studio*, Erickson, Trento 1993; Cesare Cornoldi, *Metacognizione e apprendimento*, Il Mulino, Bologna 1995; Ottavia Albanese, Pierre-André Doudin, Daniel Martin (a cura di), *Metacognizione ed educazione*, FrancoAngeli, Milano 1995, V edizione 2003.

which must be maintained in so much as they are positive, and those to be modified in view of an analogous future experience.

During the scholastic experience, the more attention paid to cognitive and metacognitive education in the relative disciplinary curricula, the easier it is to monitor and self-evaluate one’s own training experience and the vision and planning of future choices which require the possession of orientation competencies which are specific and more complex. It means taking into consideration the previous scholastic experiences and those which are unfolding (whether curricular or not; lessons, laboratories, projects, didactic outings and educational trips and other activities like training courses and/or stays abroad, extra-scholastic activities and the actual orientation path comprising the diverse actions and the education of choosing) and the set of results obtained in terms of personal resources acquired; but also specific factors of process like strategies and styles of learning, multiple intelligence, talents and personal convictions, behaviour, motivations, attention, concentration.

Personal and social meta-emotional abilities and strategies

These are the capacities which make for awareness, self control, motivation and know how to be and interact with others in an empathetic, constructive and collaborative way, mastering the dynamics of social life (empathy and social/relational abilities). Bandura²⁵ has underlined that the mind is capable of controlling the events and accepting challenges when they present themselves, to project/modify actions, to achieve potential, and spoke of the sense of self efficiency: the conviction of possessing capacities suitable for facing situations in order to reach the objectives aimed at, therefore with efficiency, which has the power to motivate and lead to success and allows one to be the protagonist, assuming the responsibility to construct the events in one’s life in a focused manner. Goleman²⁶ spoke about emotional intelligence as the capacity to recognise, express, control, use one’s emotional resources to live well with oneself and with others in an independent but collaborative way; he also underlined the importance of recognising emotions in order to control them rationally (“bring intelligence into our emotions”).

If initially, the interest for personal abilities prevailed (knowledge and control of oneself), the interest for social abilities increased (management of relationships with others) which are nowadays considered essential in democratic countries and in a continually more pluralistic and multiethnic society; in any case their possession means that the mind’s rational capacity to recognise and govern involuntary emotions, feelings and thoughts, psychological and biological conditions, the tendencies (innate, to a certain extent automatic) to act through impulse, instinctively and without reflecting (anger, sadness, fear, joy), and they

25. Albert Bandura, *Self-efficacy : the exercise of control*. New York, W.H. Freeman. 1997.

26. Daniel Goleman, *Emotional Intelligence*, Bantam Books, New York 1995 (1); *Working with Emotional Intelligence*, Bantam Books , New York 1998 (2); *Social Intelligence*, Bantam Books, New York .2006 (3).

27. See the documents on *life skills of the World Health Organization* (1993), Goleman’s work on *emotional abilities* (1996) and the ISFOL publications on basic and transversal skills (1993 and 1998).

are “a series of features which some may define as being character”.²⁷

One of the emotional abilities which is particularly important to acquire above all in primary and secondary schools, first of all through emotional education, an ability which plays a very important role in the learning process, but also in orientation is motivation, the capacity to dominate one’s own impulses and to wait, postponing the satisfaction of immediate necessities and to concentrate on one specific goal to reach. Giving oneself objectives to reach or to avoid, means, in fact to have a “cognitive representation of a result” which works as a guide; as furthermore, this is connected to incentives and frustrations, it is really important to take care of one’s self sufficiency and to propose “challenging duties” (reachable) which lead to improvement.

These are all cases of strategic²⁸ abilities which enable the increase/modification of knowledge and the adaption to changes in a responsible, independent and flexible manner: these are what make the difference in life and work and, not by chance, they are also carefully analysed in the PISA Investigations (cross curricular) and they are closely observed in employment interviews. It is, in fact a widespread conviction, that the cognitive emotional relations instruments are vital nowadays, further to basic knowledge, and that to possess resources which consent flexibility and know-how in adapting to change is a prerequisite for life, to face the complexities and unexpected, and to avoid exclusion. If, in fact, experience improves one’s capacity to face a duty/problem in the correct and suitable way, the real difference is made by the personal/social characteristics: the person who “succeeds” is the one who is also endowed with the “will to grow” and knows how to “question” him/herself.²⁹

These are all transversal abilities which are not traceable to any particular sector/knowledge, but transversally present in all activities/disciplines: they are procedural modalities of a subject who is prepared to carry out a duty and/or face a problem and who knows how to transform knowledge into efficient performance. The cognitive abilities, which are the only ones of a strongly disciplinary character (help to organise logically: reconstruction, description, narration, explanation of a fact and make use of the method of research of the historiography) are also intrinsic to all knowledge disciplines even though they partly possess other specific characteristics.

Due to the fact that schools teach formal knowledge, many believe that the disciplinary competencies are different to the transversal ones, but this is true only if the disciplines are transmitted in the traditional manner. If, on the other hand, they are taught in a different way adopting as criteria of mediation intention,

28. See AAVV (a cura di), *Apprendimento di competenze strategiche. L’innovazione dei processi formativi nella società della conoscenza*, FrancoAngeli, Milano 2004.

29. Anna Grimaldi (a cura di), *Orientamento: modelli, strumenti ed esperienze a confronto*, FrancoAngeli, Milano 2002.

30. According to Feuerstein, there are three fundamental criteria of mediation: Reuven Feuerstein, *Shaping Modifying Environments in Don’t accept me as I am: Helping “retarded” people to excel*. New York, Plenum Press, 1988 and Reuven Feuerstein, Raphael Feuerstein, Louis Falik, Yaacov Rand, Creating and enhancing cognitive modifiability: *The Feuerstein Instrumental Enrichment program*, Jerusalem: ICELP Press, 2006; see also Paola Vanini, *Il metodo Feuerstein. Una strada per lo sviluppo del pensiero*, IRSSAE Emilia Romagna, Editcomp, Bologna 2001 and *Potenziare la mente? una scommessa possibile. L’apprendimento mediato secondo il metodo Feuerstein*, Presentazione di Flavia Marostica, Vannini Editore, Brescia 2004.

meaning, transcendence³⁰, using all the typologies of resources which are made available and operating focused and responsible choices amongst these, all concur to build/empower personal resources. As the time allocated is always the same, this inevitably leads to a drastic cut in the declarative knowledge in favour of the procedural knowledge and the transversal abilities/competencies in the curricula and in daily practice and the concentration of the attention on the learning in comparison to the duties and/or problems. Not only, integrating transversal competencies in the curricula does not simply mean adding new objectives, but building the material conditions for an efficient and orientated didactic practice.

As well as being transversal, these abilities are also transferable/usable in very different situations and fields. Various research has underlined that the capacity to use them is not at all spontaneous or natural in contexts which are different to those of learning, it is necessary that a certain intention is present. In other words, it is not sufficient that attention is paid, not only declared, but really put into practice in order to activate these abilities in all the disciplines, it is necessary to accompany young people, through experiences and focused exercises, to go from the acquiring stage to that of awareness and therefore to the effort of application in other fields, contexts, situations gradually further and further away from those of learning (transfer, bridging). In fact only if the subject becomes conscious of what he/she does, can he/she succeed in establishing similarities between situations, succeeding "intentionally" in operating the necessary transfers to duties/various problems³¹: not only, therefore the ability/competency to be transversal, but the subject decides to use/transfer them elsewhere (intention and not just automatism).

To practice orientation didactics means, in any case, to work always and only with the disciplines, not with the fundamental knowledge disciplines. Definitely with the declarative ones: the fundamental concepts, fruit of contemporary research, together form the cognitive schemes of the mind (as one knows oneself, as one behaves), are in fact the notions which may it possible and determine the operations of knowledge or articulation of experience. The data and information on the facts, moreover, are also very important and never neutral: it is by no means indifferent for example for orientation to work on the organisation of work and of the work market, on rights and duties of the different social actors, on the culture of work or to ignore them, and by the same token it is not indifferent for equal opportunities to work on the protagonism of women too, and the reconstruction of their history as independent subjects. But also (and here is the fundamental difference) on the procedural knowledge so as to construct disciplinary cognitive abilities of a logical and methodological type, also paying attention to the formation of transversal abilities.

So, if it is important what is learned, it is even more important how it is learned. In order that the orientation didactics produce the desired results (possession of competencies), the modality the teacher uses in carrying out the work in class as well as the projecting, not only through the construction of the curricula, but also of the detailed organisation of the work in the classroom are determining factors.

31. Bernard Rey, *Les compétences transversales en question*, ESF, Paris, 1996.

To guarantee success in learning, and to transform the knowledge into competencies, certain modalities of work in class (method of teaching, or better still, strategies and techniques) are necessary. These make for “studying and learning how to study at school” with a support and guide for the construction of a method of learning, so as to gradually come to grips with how to proceed alone, and identify the experiences (formative situations) which spark off this process: “a crucial element for learning (and for the motivations of learning) is constituted by the didactic practices which teachers (and students) fulfil in relation to the discipline of study: the contents offer the materials of learning, but it is the methodology which guarantees a certain type of learning. This is where the central point of the didactic method lies and which should be closely linked to one’s own epistemology in each field of knowledge”³² “The way in which a teacher manages the class is in fact in itself a model, ... each attitude of the teacher in relation to the student is a lesson for another twenty or thirty students”; so that it is fundamental to choose well so that the school can effectively be an essential place of learning, a “place in which students feel respected, followed, cared for and involved with their classmates, teachers and to the school itself”³³. “By using suitable didactic strategies to reinforce the sense of self sufficiency, learning can be increased, improving the level of involvement, the persistence and the choice of the activities, creating a virtuous circle in which the sense of efficiency influences the motivational and cognitive processes”: “to fulfil a typical and traditional duty of cognitive literacy teaching the school must, at the same time, also follow the unrenounceable objective of emotional and social teaching”³⁴. The efficiency of this path depends on how much it is activated through a constructive educational relationship, attentive to the necessities posed by the different cognitive, emotional and relational styles and the opportunities to value and socialise the knowledge that is already possessed. The mastery, in fact, of some scholastic abilities does not, by any means guarantee good results in school and in life, in that their possession does not automatically mean the person is able to use them in difficult, particular or changeable situations; to do this, it is essential to have the conviction of efficiency, to be creative, flexible, ready to accept change: some of the main qualities necessary to have good results at school are: motivation, the capacity to “postpone gratification, to be socially responsible in an opportune manner; to maintain control of emotions and to have an optimistic vision”, all of which are abilities of emotional intelligence³⁵.

For the construction of knowledge and competencies which are in fact also made up of procedures, practical experience is necessary, it is not sufficient to learn them intellectually. Young people must be active protagonists of their own process of knowledge, using strategies to organise and remember knowledge, it is

32. Clotilde Pontecorvo, *Le conoscenze fondamentali per l'apprendimento dei giovani nella scuola italiana nei prossimi decenni*. in Studi e documenti degli Annali della Pubblica istruzione n. 78/1997 - *Primo intervento*.

33. Daniel Goleman, *op.cit.* (1)

34. Giovanna Boda, *Life skill e peer education. Strategie per l'efficacia personale e collettiva*, La Nuova Italia, Milano 2001.

35. Daniel Goleman, *op.cit.*(1)

necessary to formulate hypotheses and refer to theories which are (to a lesser or greater degree of awareness) to render their individual experiences in the world coherent. When they are active, they exercise a plurality of cognitive actions which integrate and are strengthened with the use of numerous sensorial channels (visual, auditory, tactile) and diverse intelligences, both the traditionally privileged one of scholastic learning (linguistic and logical-mathematical) and the others. But there is also a social and participatory dimension in learning which makes the context important: the subject attributes meanings to what is met along the way, but this always occurs through the cultural context of life, so the process of knowledge and meanings is also, together, a process of social integration in the community into which he/she enters which is directly consequent to schooling.

It is, therefore, necessary to clearly distinguish the active didactics of social and democratic learning: in the first ones are perception, experimenting, doing - but on an individual basis; in the second ones there are also, in presence, the relationship with the adult and the confrontation with peers, and therefore the cooperative construction of knowledge and the negotiation of the meanings of concepts of the language of solutions. They are always individual schemes of construction, of strategies which use operativity as a fundamental resource for learning in concrete formative situations and with the object of learning declarative and procedural knowledge and their use, in which one works for reality duties (problem setting and problem solving), not limiting oneself to pre-packaged solutions, but identifying the instruments of intervention which are most suitable for resolving the problem; but in social learning, there is also the group of peers and the teacher, the expert with the disciplinary and professional competences, who together can work on the same instruments: the reference is to all the active strategies, but group ones³⁶, from the laboratory to the cognitive apprenticeship to cooperative learning³⁷.

One speaks in this way of laboratory, shop, warehouse, building site, not simply as a physical place, but rather as a method of work, as a specific context of learning (context as a whole which gives meaning to every single thing), as an ambient (versatile, encompassing) in which there are instruments and resources available for everyone and where learning takes place doing and collaborating with other people, following the example of the adults and trying to act independently, in which the problem is not what is taught, but what one learns and in which the teacher is an expert adult who sustains and encourages learning; it is a modality of work which has deep roots and a long tradition of experiences and theorisations³⁸, in which not only the subjects are actively involved in actions which are always motivated, but the communicative and cooperational aspects of the work

36. Claudia Montedoro (a cura di), *La personalizzazione dei percorsi di apprendimento e di insegnamento: modelli, metodi e strategie didattiche*, ISFOL, FrancoAngeli, Milano 2001.

37. For cooperative learning, see: Paola Vanini, *Il cooperative learning a scuola* in «Innovazione educativa» n.5/2003; Pier Giuseppe Ellerani e Daniela Pavan, *Cooperative Learning. Una proposta per l'orientamento formativo. Costruire in gruppo abilità e competenze*, Tecnodid, Napoli 2003; Claudia Vescini (a cura di), *Uno a casa, tre in viaggio. Il Cooperative learning: riflessioni e pratiche educative*, IRRE ER, Editcomp, Bologna 2004.

38. Reference is made to and *Popular Pedagogy*, an alternative approach to traditional schools, which was developed in 1920 and then relaunched by Célestin Freinet after 1935 (1896-1966), to the Cooperative Education Movement (1961, International Coordination) and to many other significant experiences (including the school of Barbiana).

together (climate) are cared for.

Laboratory learning is also mentioned (which should be a priority and prevail above all in the obligatory school period and in which various possible interactions to small or large groups can be present) in which one starts off with stimulating situations which present a contact with objects and real facts, operative-creative activities are carried out which give concrete results, duties of reality are assigned which are based on real (research work, work on a problem, work on a product etc...) and meaningful situations both on a cognitive and emotional plane, exercises of reflection are activated (metacognition and meta-emotion): in this way young people are helped to build knowledge and competencies and to open up to the external world (work experience).

But in order to express all its efficiency, the laboratory didactics needs careful and detailed planning which is able to organise and prepare a generative place of learning beforehand along with the concrete experiences, and to render both individuals and groups productive.

In fact without a structured path (which is an organisation of the knowledge and process of learning), the student perceives reality as being fragmentary, and consequently as something uncontrollable which does not stimulate him/her to find the paths and the modalities to cope with it. If these sensations repeat themselves, the young person is made to feel incapable and therefore refuses to try new duties for fear of not knowing how to face them and to risk new failures.

Instead of many stimuli which are chance and confused, tasted superficially, it is necessary to construct and propose a highly organised path, splitting the difficulties into many steps which are overcome independently, and help to win the episodic perception of reality, to control one's own

Impulsiveness, to establish connections to elaborate competencies, giving indications of work and showing how things are done in a way that the young person is able to get along independently. To organise knowledge also means to help the students to attribute a meaning to them, both by trying to integrate new knowledge with what is already mastered, as well as guiding them to perceive that the sense of what they are learning is closely connected to them and that they can take advantage of it.

Considering that it is an operation which is fundamental for learning, the construction of paths cannot be left to chance, but it must be the result of a clear and attentive option, which is essentially finalised in supporting learning in a specific way (planning of the gradual process) and identifying its outcomes (certification). Furthermore, in order to render curricula operative, it is necessary translate it into segments of concrete didactic practice and organise and manage the formative situations at a level of planning/projects which give effective body to the processes of learning/orientation.

Planning is a professional activity of a metacognitive type which requires up to date disciplinary competencies and methodological competencies and consists in the anticipated ideation/representation (foreseen) and the concrete organisation of a process, or rather of a significant, homogeneous and unitary segment of a clearly defined learning path which is aimed at constructing/empowering/master-

ing some capacities, knowledge, abilities, competencies (modules/units of learning which can only be integrated and form paths/itineraries/longer processes)³⁹ as one progresses and refers to real processes of learning

What is being discussed, therefore, is an intellectual activity of a strategic nature – even if it is often neglected or looked upon as if it were simply a pedagogic fashion rather than an opportunity- necessary in order to organically correlate the various factors which sustain learning and elaborate concrete proposals relative to realisation, starting from and cognitive and affective necessities of young people to listen/observe and from the real resources available to optimise, to set off a change which is effective, can be put into practice and can be placed in the zone of proximal development⁴⁰.

Planning has a project (operative) as a product which serves as an accompaniment, support, guide to the process of learning, but also leaving space for the unexpected (flexibility), and also to describe the experience, so as to later monitor it, evaluate it and socialise it. Every project/module performs a specific formative function and consents one to reach specific cognitive and affective (documented) goals in a stable way, and are able to modify the map/net of knowledge which is already possessed and acquired, in a formal way or non formal and informal, and to increase the networks of knowledge.

The teachers have a primary role in all of this, which is that of teaching to sustain learning: they must, therefore choose objects of learning, construct (gradual) vertical curricula and modules of learning aimed at the construction of competencies and then guide the effective realisation of the process in the classroom. In order to do this, they must be professional, in other words producers of didactic knowledge (researchers), actors of positive relations, organisers of learning (not transmitters) and they must operate within a community of practices (all organised/coordinated).

2. The model of the learning module

2.1. What a learning module is

Every school has the duty to define a learning setting so as to prepare, organise and manage the process, taking care of all the aspects and factors (set=togetherness of things; to set=arrange, fix, define; setting=environment, scenario), the material, mental and relational ones, as there is a relation and a conditioning between environment and action.

The curricula is a “project of construction of a learning path”⁴¹, the definition

39. Gaetano Domenici, *op.cit.*(1)

40. Lev Vygotskij, *Thought and Language*. Cambridge, MA, MIT Press, 1962. *Psicologia pedagogica. Attenzione, memoria e pensiero*, Erickson, Trento 2006.

41. Lucio Guasti, *Un curriculum centrato sul significato* (1) in *Il laboratorio della riforma: Competenze e autonomia* (Atti del Convegno CEDE-MPI, Frascati 5 marzo 1999), Annali della Pubblica Istruzione n.1-2 del 1999, Le Monnier, Firenze.

“of a complex of experiences elaborated by school, so that the students reach the cultural results foreseen, to the utmost of their capacity”, “the attempt to describe the work observed in the classes in a manner that is sufficiently communicable to teachers and other subjects involved ... the means by which the experience lived to put an educative proposal into practice becomes of public dominion”⁴², therefore can be socialised, monitored, evaluated; the planning/description of a path, itinerary, path of learning and of teaching, with a starting point and a point of arrival through many different stages, of a specific formative process, in relation to the level of age of evolution of the students and to the various scholastic cycles and of limited temporal duration (number of hours), focused on what really happens at school and in which all the factors which promote learning are rendered explicit and detailed.

The curricula is, therefore, an artefact, produced through the research of teachers, which consists in the organisation, through the selective use of the resources available by the discipline, of the learning experiences aimed at the construction of knowledge, abilities, competencies; it is the structured planning or the structuring of the set of activities proposed to the young people, so that they can be made public and socialised, but also monitored and evaluated, and it is an integral part of the schools' Educational Offer Plan (Piano dell'Offerta Formativa della scuola).

However, in order for this to be activated on a concrete basis, the curricula must be organised/sectored into something more precise referring to a quantified temporal segment, in many different gradual sequences, each with its own individuality but complete in itself, in many intermediate segments/steps which are connected and orderly, in many (operative) projects which translate the will to teach into intentional formative concrete action and breathe life into the classroom activities.

Some of the most well known models of planning are: Mastery learning, fruit of cognitivism and highly valued in the seventies and eighties; the Hypertextual learning or through conceptual mapping, which came out at a later stage, and the Modular didactics, a derivative of constructivism and already widespread in Anglo-Saxon cultures, and which became successful in Italy above all at the beginning of the seventies due to its characteristic flexibility and the fact that it guarantees not only a strong support (by means of scaffolding) to the process of learning, but it also produces clear and certifiable results.

The concept of module, in the technological environment in which it is born, is connected to that of componibility, of the possibility to organise various products with pieces which are partially the same, each of which has a specific function, and indicates a “set of structured elementary functions, a set which can be put together in many different ways with analogous sets until a foreseen total is reached”.⁴³

In training and schooling the following meanings have been attributed to them:

- “structured set of activities and experiences of learning, a set which is clearly identified in its initial phase and in regards to its end objectives and which, specifically because of these characteristics, offers the possibility of being

42. Lawrence Stendhouse, *An Introduction to Curriculum Research and Development*, Heinemann Educational Books Ltd, London, 1975.

43. Michele Pellerey, *La costruzione dei moduli didattici* in «Professionalità» n. 2/1981.

primed along with other analogous sets in various ways, so as to lead whoever follows this didactic path towards precise qualifications both of an intellectual as well as a practical nature”,⁴⁴

- “important part, extremely homogenous and unitary of a more ample training path, disciplinary or pluri, multi, programmed interdisciplinary, a part of the whole, but able to carry out very specific functions and to lead to very precise cognitive objectives which are verifiable, able to be documented and capitalised”,⁴⁵
- “self-sufficient formative unit which is able to promote deep knowledge and competencies which, through their strongly cultural representation, and therefore also techno-practical, in the specific sector being considered, are able to significantly modify the cognitive map and the network of knowledge previously possessed by who diligently completes the studies engagement, of activities and experiences required by the module itself”.⁴⁶

The module is, therefore, the unitary, homogenous, organic project, highly structured and detailed, but with characteristics of great flexibility (in the construction and use), of some concrete and organic experiences of learning within a certain number of hours and relative to a segment of the general process: it is the product of the research of teachers, but it is the description not of their work (what they do in the classroom and at home), but rather of the work of the young people (what they do in the classroom and at home) on the disciplinary knowledge in a path by which they learn knowledge and acquire capacities, abilities, competencies; it can concern only one discipline (monodisciplinary modules/units) or more than one discipline (pluridisciplinary modules/units) according to the theme concerned and the competencies which it are to be promoted.

Each one carries out a specific training function (training objectives) and makes for the arrival, although at different levels, in a stable manner at specific cognitive, affective and behavioural goals (which can be documented), which comprise significant knowledge which is able to modify the map/network of knowledge which is already possessed and acquired, in a formal way in the scholastic path which has already been undertaken and also in a way which is not formal and informal, and increase the network of knowledge. In this way young people can be accompanied through experiences of learning and enrich their personal patrimony with the acquisition of new personal resources.

This model in fact represents an analytical and detailed form of the organisation of educative relations which makes many didactic proposals available which are well constructed and suitable also in varying situations, and seems to be the one which is more in accordance with the real dynamics of learning which hardly ever happens

44. Michele Pellerey, *op.cit.*

45. Gaetano Domenici, *op.cit.* (1); the definition is almost identical to the one found in AAVV, *La progettazione modulare nella formazione professionale* (2), Juvenilia, Bergamo 1986; he is the most important author on modular teaching in Italy.

46. Gaetano Domenici, *Modularità e didattica* (3) in Giancarlo Cerini e Dino Cristanini, *A scuola di autonomia*, Tecnodid, Napoli 1999; the same definition is present in the 1998 CD for MPI *Programmazione didattica e progettazione modulare*; see also Gaetano Domenici, *op.cit.* (1)

in a linear manner, but rather through successive empowering of certain points.

In order to offer a real support to the process of learning, it is essential that the module has a comprehensive structure of all the elements that contribute in some way to the educative process and describes the process in all its components, even though the most important parts are the instruments upon which to work and the activities to be carried out.

The constitutive factors (the structure) are:⁴⁷

1. Theme/subject as the supporting base and integrator and its articulation in sub-themes; usually the theme is used as the “title”, whilst the “sub-title” specifies the temporal factor (period) and the spatial area (geographical position);
2. The number of hours necessary in class for the activation of the fundamental part;
3. Expected results or goals in terms of disciplinary and transversal abilities, declarative knowledge and procedural disciplinarys, competencies (what the person studying is capable of doing at the end of the path, execution of duties and resolution of problems, after the opportune learning experiences);
4. Strategies and techniques of teaching carried out in a detailed and functional way upon acquisition of strategies and techniques of learning;
5. Instruments/sources (textual, iconographic etc) indicated in a detailed manner, because it is by working on these materials that it is possible to fulfil the process of learning, reconfigured and structured;
6. Units of set up or of entrance to move from the present/vicinity/known (daily life) and from an initial stimulus to insert new knowledge into the ones which are already present through formal, informal and non formal methodologies (enhancement of previous learning and reinforcement of motivation);
7. Experiences/activities/exercises/practice so as to arrive gradually at the foreseen result, to construct a specifically defined quantity of abilities which are both instrumental (reading, writing, using concepts, consulting sources, carrying out procedures..) and operational (going from one idea to a hypothesis, carry out systematic analyses...), as well as logical-cultural (organising the knowledge, follow a methodology of work...) working on the operations and reflecting on the operativity (understand what one is doing); they are all the activities together which the person who is learning is required to carry out on texts and didactic materials in order to reach the expected results and represent the most important and greatest part of the module, the real learning process itself; for this reason the revision exercises are so important – they help the subject (person) to learn to put together the different pieces (competencies); the experiences must

47. Flavia Marostica, *Curricoli e moduli di apprendimento* in Paolo Senni ed Anna Bonora, *Autonomia, flessibilità, scelta del curriculum*, IRRSAE ER, Synergon, Bologna 1998.

- be articulated into units/phases/sequences in an organic manner;
8. final unit or conclusion to return to the present/vicinity/known so as to re-read it and re-interpret it and to act upon it with new awareness, taking advantage of the new formal knowledge acquired (reinforcement of the motivation and growth of self esteem);
 9. final re-evaluation (final check) for the measuring and instruments of observation for the evaluation and the certification and self evaluation (implementation of self efficiency, judgement of personal capacity, of self esteem, judgement of personal value), which is a factor of fundamental relevance in orientation;
 10. empowerment parts both for the revision of knowledge which is being acquired by the young people in difficulty, as well as to further excellency by those who represent excellency.

The module is a project which is highly structured, but it is also very varied and rich and so very flexible and adaptable to various real situations.

First of all, the model must be adapted, even extensively, to the diverse evolutive ages of the children – boys and girls, and the young people – boys and girls, for whom it has been prepared, foreseeing the gradual distribution of the difficulties to overcome and the construction of an organic culture, with more simple and slower rhythms initially leading up to more complex and speedy rhythms at the end. It is, therefore, necessary to attribute a different dimension and effect to the various constitutive factors, according to the learning path followed, and move from a high structuralism initially to a level of gradually more freedom/independence. During the first years, it is better to think of brief and simple modules, which refer to limited knowledge, and many experiences aimed, above all at the empowering of the logical-operative abilities, and characterised by a progressive deepening and consolidation of the network of knowledge, abilities, competencies.

Furthermore, even though the model is rich and efficient, in that it is predisposed before the didactic activity, therefore with the serenity and clarity which are necessary and essential, it cannot, in any way, foresee everything which will in actual fact happen during the real dynamics of the educative experience in its unfolding; therefore, the project works in the didactic practice which is constantly adapted in terms of enrichment, integration, modification, in reference to the real situation of the single class so as to respond to the expectancies and necessities of the young people and to relate to their cognitive/affective characteristics (styles of learning, processes of consolidation and extension of knowledge etc...), to the real rhythm of the formative process and to the unforeseen necessities which present themselves as time goes on. Between the project and the realisation there is, in fact always an inevitable margin (one is able to do only what is effectively possible) which can mean a decline in some cases, but which in others can also mean an enrichment due to the requests coming from the young people.

Considering that the module is identified with the planning/predisposition of experiences of learning and is organic in its use of the laboratory method, it is necessary to foresee a suitable number of hours: in fact the laboratory activities need

extensive time(it is a productive investment) possibly with two hours put together at a time.A minimum duration could be of at least 10 hours per module in order to learn something, but it is also necessary to consider the opportunity for the young people to gradually learn to sustain a rhythm of work which becomes longer and longer and more and more complex and so think of modules which are fairly brief for the very young and then modules which are gradually more consistent later on. It is necessary, therefore to plan the micro-sequences of the hours or double hours very carefully in order to complete a segment of work in which unforeseeable events take place (and in actual fact this is almost always the case – fortunately!).

A final reflexion. It is possible to speak of two forms of documentation of the paths taken and of the projects to execute, one which is institutional and the other professional: in the first case, the module as it has unfolded, both in its positive as well as any negative aspects is kept simply as a bureaucratic act; in the second case, the professional teacher, whilst it is being used, attentively observes the experience and monitors the process, checking the congruency step by step between what has been prepared and the results obtained, verifying which aspects and/or parts have functioned well and which, on the other hand have proved to be inadequate or weak, gradually identifying possible alternatives in terms of integration, correction, modification which will turn out to be very useful for revision and improvement purposes. Each module which is tested and experimented in this way, can, together with others which have been prepared, used and revised, be placed in an archive in which a repertoire can slowly be built up and can be implemented continually with possible paths of learning which are therefore made available for all the teachers.

2.2. What is a learning module of history

2.2.1. The overview of the structure

A history module⁴⁸ is an operative project of a learning experience within a more ample process in which it is a segment: it is referred to a theme, a geographical context, a period, and it is aimed at the construction of simple and complex knowledge, of abilities, of competencies. In order to carry out this function and sustain learning and the integration of the knowledge, it has a complex structure which helps to connect and lead to a synthesis of the various parts, and to make a revision of the knowledge already possessed (institution of the relations in time and space), their placement in an general overview (the

48. See Ivo Mattozzi, *La programmazione modulare: una chiave di volta dell'insegnamento della storia* (4), in Luigi Cajani (a cura di), *Il Novecento e la storia*, Ministero della Pubblica Istruzione, Direzione generale istruzione secondaria di I grado, Brescia 2000, e *Il bricolage della conoscenza storica. Stati di cose, processi di trasformazione, tematizzazione, quadri di civiltà, periodizzazione: cinque elementi per modulare la programmazione e il curricolo* (5) in Silvana Presa (a cura di), *Che storia insegno quest'anno. I nuovi orizzonti della storia e del suo insegnamento*, Collana A prendere, n. 2, Assessorato all'Istruzione e Cultura, Direzione Politiche Educative, Ufficio Ispettivo Tecnico, Coordinamento editoriale Editrice Le Chateau, Aosta 2004.

before and after, but also the farthest and the nearest) so as to implement the mental map of the young people and to empower their operative capacities. It therefore comprehends the selection and the organisation of knowledge, the foreseen activities to be carried out and the modalities of results' checking.

The module is, therefore, a project in which "the process of learning is set off and fed thanks to careful monitoring of texts, each of which has the power to construct knowledge which is in itself sensible and independent, but which is, however the condition for the comprehension of the proposed texts which follow, without the constriction of the chronological linearity, and of the brief period, and considering the cognitive needs of the students. In each one of them we can identify the cognitive operations and the practical abilities for the students to practice"; it is "a set of parts or elements which have been prepared as combinable didactic units, following sequences which have not been pre-constituted in stone, with the aim of constructing a unitary path of learning".⁴⁹

It has proved useful for the model to be inspired by a historiographical text (a book or an essay, or in any case a text which has been produced on the basis of the epistemological statute of the discipline, also to avoid confusion between history and commentaries) because it can provide a model of organic reconstruction which is documented and can also give indications on the main aspects to be dealt with. It is obviously necessary to use recent texts which are fruit of contemporary research, to avoid concepts and/or reconstructions which are obsolete, and make use of reconstructions on a local, regional, national, international scale as the case may be, which have been produced by the many historians who operate in the various continents.

There are two constitutive factors or fundamental components of module of history.

The first is represented by the set of materials for learning: this is to do with written texts (reconstructions but also documentary sources and for the older ones pages of historiography), of iconographic apparatus with paper and/or multimedia (tables, schemes, geo-historical maps etc. but also photographs/slides of places, scenery, cities, monuments, works of art, artefacts of material culture etc. and films/corresponding documentaries), of directly accessible and analysable material sources (museums, archives, libraries, cities, territories etc.). School manuals or set books can also be used, and these are almost always very rich in different instruments, so long as it is possible to intervene to correct their linear sequence which distorts the sense of time and makes it difficult to grasp contemporariness, relations, and therefore the explanations, to operate a substantial but necessary didactic transposition which is essential for inexpert readers. The importance is that the set of materials selected are organised in a way which constitutes a plot endowed with a sense and completeness.

The second is constituted by a set of activities to be done on the materials in the experiences of learning to sustain young people in the construction of

49. Ivo Mattozzi, *op.cit.* (4)

knowledge, ability, competencies.

A final consideration. In the following some aspects of the module are dealt with, which during their construction the researcher teacher operates in a way which is very similar if not identical to the historical one, and carries out operations and choices which are his/her own, apart from the fact that he/she operates not simply to produce the communication of the results of the research, but in an intentional way, “significant and transferable didactic knowledge” which has the aim of sustaining young peoples’ learning. Vice-versa, in the construction of the other constitutive factors of the module, the teacher operates exclusively on a didactic plane, setting up the supports necessary to help young people to master the operations specific to the historian and the knowledge of the discipline to implement their personal resources.

2.2.2 Activities/experiences/exercises/learning practice

The absolute centrality of the experiences for learning

Everyone has a mind which is endowed with operators/cognitive organisers (only in part identical) which are the conditions necessary for every cognitive operation (daily and scientific): they are faculties of the mind to carry out operations of thought and to elaborate/organise the information for cognitive objectives so as to render knowledge intelligent of reality and consent not only to grasp the rapport between phenomena, and therefore to understand, but also to structure information on the phenomena and therefore to produce; they are pieces of a mechanism, each of which carries out independent operations.

They do not appear suddenly, but are formed progressively; they can develop spontaneously, but only up to a certain point and with the added risk of developing too little and/or badly. Some are of daily use and organise both informal and not formal as well as formal knowledge; others are common to more than one discipline, others again are specific to only one particular discipline.

In practical traditional didactics, however, many aspects of the discipline (the logical and methodological procedures) are intro-injected and developed, but are not an object of reflection and do not, therefore blossom in the conscious mind, one is not aware of possessing them and therefore able to use them as a resource with which to tackle reality.

Furthermore, the new knowledge with which one enters into contact, the information and the procedures (and more still), cannot hover in thin air and are learned and mastered only on the condition that they can be elaborated and grafted into the knowledge which has already been acquired, only if one succeeds in connecting the new acquisition in a complete pattern, even if «the identification of the correct solution may prove to be very easily impeded by ‘attachment’ to mental habits and acquired methodologies»⁵⁰. A given knowledge can, therefore be transformed into learning/personal knowledge only if it is elaborated by the real structures of the nervous system and by the sense organs, or rather, the intelligent

50. Konrad Lorenz, *Behind the Mirror: A Search for a Natural History of Human Knowledge*, Mariner Books, New York 1978.

mind, which only transforms the characteristics of the knowledge into concept, that is into abstract thought, when it recognises something as being external and pertaining to the real exterior world; only reflection and conceptual thought render the messages which come from the mechanisms which originally only serve as acquisitions of momentary knowledge to become durable and are incorporated into the knowledge which has already been acquired. Therefore continuity on the one hand, and practice on the other are vital during the learning experience.

Enacting continuity means consciously establishing a relationship with everything that has been learned in the previous years of life (informal and non formal knowledge), and obviously also with the study curricula which, at least theoretically and generally speaking, young people have, in any case already gone over, and are, in this respect are without doubt a carrier of a culture, even if it may be very diversified. This means that it is essential, that at the beginning of every module of learning to: review, value, socialise and re-arrange knowledge and abilities which have already been acquired in previous experiences, constructing a series of conceptual maps⁵¹ upon these with which to be able to reason on; but it also means that it is useful to return, at the end of every module, to the starting point to revisit it in a new light, having made new acquisitions, showing the “personal” usefulness of the new knowledge and in this way reinforcing the motivation to learn.

Assuming the centrality of the learning exercise (or as others call the same thing, activity or experience or practice) means concentrate all the attention no longer and not so much on the product, but rather on the process of teaching/learning. The word exercise, in fact, derives from *exerceo*, which means to pull out something which is closed in, to drive out, put into motion, make move, not leave immobile, keep agitated, keep alive, follow, activate, make work without rest, keep in exercise, train, practice, manipulate, put into practice, apply; moving from the original meaning linked to hunting on to its connection with learning, to propose exercises means to carry out a duty to the point that the result is appreciated, so to have (someone) learn through doing. All modern culture, is, in any case based on the conviction that it is only through exercise that results are obtained; this is evident is in all sectors (sport, music etc...), but not enough at school, even if «it is well known that through a process denominated ‘running in’ the engine of a car is subject to a type of adaptive modification» and that «something analogous evidently happens even in some behaviour»⁵². The exercises consist, therefore, in a set of indications of concrete work to do in order to successfully tackle the difficulties intrinsic in the sources and contemporarily to learn and reach the expected objectives, in delivering the work to be carried out clearly explicitly and unequivocally (possibly written), after demonstrating and saying how it is to be done, without ever taking anything for granted, above all with the younger children; they are useful to guide, facilitate and make learning a process of awareness and displays how such a process comes about in a way that the directives given by the adult are taken in by the young people, who gradually acquire the competencies to

51. Joseph D. Novak e D. Bob Goldwin, *Learning How to Learn*, Cambridge University Press; 1st edition (September 28, 1984).

52. Konrad Lorenz, *op.cit.*

manage themselves (acquisition of independence both personal and in study).

It is only, in fact, if one is gradually guided, but in a reiterated manner, to carry out expert duties through specifically focused exercises (recurrent exercise of expert duties in contexts and for objectives which are acknowledged, that it is possible to gradually acquire the abilities and competencies. In order for young people to learn effectively and in the end know how to carry out specific duties and face and resolve problems, the teacher must make sure that the young people:

- Increase and refine the general and specific cognitive instruments of the discipline and of the area of the discipline and master the logical and methodological disciplinary procedures,
- Acquire clarity and applicative capacity in regards to some concepts connected to the analyses of the world around them,
- Learn simple and complex disciplinary knowledge,
- Are able to connect the disciplinary acquisition into a complete web,
- Use all the instruments of communication (transversal) with continually greater mastery,
- Acquire metacognitive and meta-emotional awareness (transversal).

The pedagogics, psychology, of learning and the neurosciences have time and again demonstrated to us that in the last decades, the close interconnection which exists between the rational mind and the emotional mind, and have repeatedly suggested the idea of cognitive and metacognitive education and also emotional education as a way of learning to do (with the mind and with the body) and to control what is being done or has been done. This means that the exercises must necessarily regard, in every discipline, all these aspects and even, that it is possible to work for the construction of competencies only and exclusively if you also understand these aspects of learning.

The same reasoning is true for the necessity to attribute a specific place to the development of the communicative competencies which regard the modalities through which the thought of the individual is concretely manifested to others and is taken in by others.

These exercises, set out in this manner, must respond to some characteristics if they are to be really effective, and they must be:

- First of all intentional and focused, that is finalised for the learning of something specific,
- Effectively feasible, graduate, variegated, aimed that is, at the enhancement of the cognitive, emotive and relational styles, even if they are very different, but they must also be able to make challenges – which can be overcome, for personal improvement and enrichment,
- Attentive to empowerment of the daily operativity to facilitate the apprenticeship of the work of the student which is that of learning how to work with the mind.

In this way the exercises guide young people and consent them to memorise facts, places and people in a stable manner, identify and use concepts which gradually become more and more complex, stimulate the operative capacities, correctly

develop and mould the operative capacities and show this possession. They serve to think and construct the disciplinary knowledge and to modify the cognitive structure, to guide, sustain, facilitate, render awareness and meaning to learning, to construct and reveal the processes, to sustain and reinforce the motivation/gratification, to learn from one's errors. This is the most important part of the learning module, the one which really supports the process of construction of the competencies in the only way possible to acquire them, that is through concrete practice. Paradoxically, however, it is the part of the path which is often, or rather, almost always neither planned, nor completed.

In fact, once the final identification of concrete learning objectives (and related difficulties) and the selection of teaching strategies that will focus on the acquisition of skills learning strategies (active group, laboratory, cooperative, collaborative learning, etc., where group learning provides added value to the process) has been completed, it is necessary to develop the tools and activities that will support gradual learning and help solve many small problems through a set of systematic exercises on all the material that has been gathered, which is reconfigured and restructured, and for every learning step: on the one hand, exercises that facilitate learning in terms of building specific knowledge and skills and, on the other hand, summarising exercises (which are extremely important) on one or more parts (learning as the acquisition of complex knowledge and skills) in order help students to be able to explain, describe and narrate. Needless to say that these exercises have nothing to do with the ones we usually find in textbooks under the same name and have nothing to do with those that, unfortunately, are still assigned to “unruly” students or entire classrooms as a form of punishment.

A project that revolves around learning experiences/activities/exercises and that seeks not only to steer the process but also to monitor its evolution in order to intervene whenever necessary must contemplate a radical change in teaching practices. In traditional schools, classroom work involves listening (to the teacher's lecture) and then talking or writing (oral and written tests), while at home students study by themselves. Conversely, in those schools whose mission is to support learning, classroom work is focused on studying and learning experiences/activities/exercises where students work under the direction of the teacher; students talk, write and take tests but also monitor and self-assess their own learning path, while at home they complete the process, always in a guided manner, with other learning experiences/activities/exercises (collective learning in the classroom and individual learning at home). In other words, the teacher has to minimise the time devoted to lecturing and, instead, devote most of the time to train students in operational skills by making them work on text comprehension and knowledge building activities. In this way, teaching becomes mentoring and tutoring and, at the end of the course of study, coaching and counselling.

A fundamental instrument: logical languages

Logical graphs, languages and schemes (tables, flow charts, histograms, graphs, schemes, isotherms, signal systems, maps, topographic maps or charts, mental maps) are now commonly and widely used not only in scientific texts but in all instruments

of mass-communication: it is a universal visual language that is applicable to all realms of knowledge, formal, informal as well as non-formal. They represent the essential data and information of interest and give « the viewer the greatest number of ideas in the shortest time with the least ink in the smallest space »⁵³.

They are particularly useful for teaching/learning because they allow to represent data, information and the essential points of an argument in a clear, simple and precise form and they also allow to communicate complex ideas, to establish relationships between data, perform logical operations, build the sequence of an argument. Thus, on the one hand, they are used to help people understand information because they communicate information with the purpose of making it accessible, on the other hand, they are research instruments because, by visualising data and allowing the cross-tabulation of multiple variables, they establish relationships and therefore process the information and generate new information that is used to understand phenomena.

In order to be able to build and read/decode graphs correctly, we need to learn how to build and read them: it is an extremely effective operational process because it already includes a set of logical operations and therefore acts like a bridge between action and thought, i.e. the transition from operativeness to logic.

Moreover, infographics (or information graphics) have become a separate discipline that studies the representation of data and information in a simple and quick manner (signs, maps, newspapers, educational and dissemination tools), also in consideration of the history of this communication/processing model. Indeed, maps (cartography) are older than writing and the first maps are 9500 years old; we find other examples in the Middle Ages (Guido d'Arezzo) and Renaissance (Nicola Cusano); at the beginning of the modern era, Renè Descartes (France 1596 – Stockholm, Sweden 1650, 1637 Discourse on Method) worked on the graphic representation of mathematical functions and analytic geometry. In 1786, William Playfair (Scotland, March 10, 1759 – July 20, 1823), who was rediscovered and popularised by Tufte, wrote a book, Commercial and Political Atlas (1786), to describe the economy of the 18th century through the use of histograms and diagrams and in 1801, in another book, Statistical Breviary, he invented the pie, bar and line charts. His books are groundbreaking landmarks in the history of statistical graphs and of data and information visualisation and he is considered as the man who brought graphical representation into statistics. In 1878, James Joseph Sylvester coins the word “graph” and publishes a series of diagrams (which are the first mathematical graphs); lastly, in 1936, Otto Neurath invents pictograms (icons made from stylised human figures).

In the teaching/learning of history, graphs, charts and diagrams can be widely and fruitfully used⁵⁴ because they are operational tools that offer readable general com-

53. Edward R. Tufte, professor emeritus of political science, statistics, and computer science at Yale University, theoretician of the graphical representation of information and data, the world's leading scholar in this field and author of a series of books that are indispensable for learning how to create graphs and diagrams and use them in a smart way. His most famous books are: *The Visual Display of Quantitative Information*, Graphics Press, Cheshire, CT, 1983, from which the definitions of the graphs are derived; *Envisioning Information*, Graphics Press, Cheshire, CT, 1990, *Visual Explanations*, Graphics Press, Cheshire, CT 1997.

54. See Antonio Brusa, *op.cit.*(1), Pasquale Roseti, *op.cit.*, Daniele Panighel, *op.cit.*, Ernesto Perillo, *op.cit.*

prehension of some part of knowledge “at a glance”, allowing, for instance, for the representation of time, of the temporal organisation and of the temporal order of events and are used to facilitate the acquisition of skills and study methods.

Among the many types of graphs, charts and diagrams, tables are the most used. One- or multi-column tables are used to classify and compare data to identify similarities and differences; for instance, by listing dates on one column and events in the other so as to create horizontal pairs, it is possible to identify a succession of events and the temporal position of each event (but not the time that elapsed between them, i.e. temporal distance), thus each column is a temporally organised list of a set of items that is classified under the name listed in the top row. The geographical distribution of a phenomenon in a given time can be obtained by positioning the different geographical sites along the horizontal axis. Tables with multiple entries are more complex, the relations that occur between multiple items (some are placed horizontally in the first row and others vertically in the first column) are displayed in each cell as intersection of vertical and horizontal data; in this way, for instance, two different concurrent phenomena may be linked to the same date.

Time lines are commonly used (and also abused), i.e. a line (conventionally horizontal, but it may as well be vertical) in which a point is set and associated with a date dividing it into two half-lines (conventionally, the segment on the left indicates the time before that date and the segment on the right the time after that date) where other points are marked - in a position that is proportional to the considered time span, having set a segment as the time measurement unit (using a scaling factor – cm or in. – which is the ratio of the representation to the represented object) which represent information in a way that the distance between the points will be proportional to the temporal distance between the events marked in the chart. Time lines are definitely more precise than tables because they show the succession (anteriority and posteriority), as well as the temporal distance between selected events, the date (it places an event in a precise position), the measure of time (chronology), duration (period); however, they cannot represent contemporaneity (two or more events sharing the same point?) and therefore cannot show the relation that existing between them.

When it is necessary to provide the duration (start and end date) of a series of different phenomena or of phenomena concerning different places/subjects, we have to use a temporal chart (Cartesian diagram⁵⁵) where the segments between the two dates that indicate the duration can be represented by multiple overlaying rectangular strips, parallel to the timeline, one for each phenomenon, whose short sides are perpendicular to the start and end point. In this case, contemporaneity is obtained by reading all the events referring to the same dates and also other relationships (to be verified) between the different concurrent phenomena may be inferred. This graph is particularly useful for understanding transformation processes or showing the evolution of a specific aspect of reality (theme or issue/problem).

Maps are particularly interesting. They provide the representation of key con-

55. Graphical representation of a function.

cepts and of the relationships that exist between them. They are the schematic arrangement of meaning within a network. A map may be built in a hierarchical form where the more general and inclusive concepts are at the apex and then gradually broken down into increasingly specific concepts, from top to bottom. According to the way in which this network is organised, different classifications of meaning are used to interpret reality; in other words, it represents the mental schemes and the perspective through which we look at the world at a given moment in time. A knowledge map is «set of data items that become associated in the mind by different types of relations», it can always be updated and changed. A star chart is a map that connects a main theme that is placed at the centre of the chart with information and/or concepts that are related to it. It may also be used to divide a theme into sub-themes or to describe multiple concurrent phenomena linked to a theme or place.

Moreover, we can distinguish, as Joseph D. Novak and D. Bob Goldwin⁵⁶ do, between:

- the concept map represents «an area of knowledge in a way that experts in that field agree is valid. Experts will disagree on details of a concept map for any given body of knowledge - partly because views of key concepts in any field change constantly with new research - but most will concede that a well-devised map is a reasonable representation»;
- the cognitive map which is «a representation of what we believe to be the organisation of concepts and propositions in a given [...] cognitive structure ... cognitive maps are personal», «all of our perceptions are influenced by the concepts and propositions we hold in our cognitive structures, and we see the world as our cognitive frameworks permit us to see it », «give more precise meaning to events or objects»; in other words, but the meaning is the same, according to Luciano Mecacci⁵⁷: «cognitive maps are not “ready-to-use” external data, pre-constituted information on the environment, they are schemes through which the mind organizes information according to our knowledge and aims», «cognitive maps start developing in the brain during childhood and become the background of everyday life».

Geographic and geo-historical maps are widely used, albeit not often enough. This special kind of map represents/describes the space in which events can be contextualised in a given historical moment (date); space may refer to the physical or political features or to other features/themes/phenomena and in this case the map is called thematic map or meta-map and it is also used to represent both contemporaneity and extent of a given phenomenon at a given time, It is an extremely useful graph for the representation of a social picture or of the beginning/end of a transformation process or of the evolution of a given aspect of reality (theme or issue/problem).

In order to represent the partitioning of a set into subsets, the separation of a

56. Joseph D. Novak and D. Bob Goldwin, *op.cit.*

57. Luciano Mecacci, *Identikit del cervello*, Laterza, Roma-Bari 1995.

whole into its component parts – e.g. a table of contents into sections, one section into chapters, one chapter into paragraphs, a paragraph into sub-paragraphs, in other words the detailed structure of a text or a complex knowledge into increasingly simple knowledge or a reality into its components – the most commonly used graph is the tree diagram which can be constructed horizontally, from left to right, and sometimes also vertically, from top to bottom.

However, in the latter case, it is used for another purpose. It may provide the representation of a complex hierarchical structure in a static dimension (organisational chart) or the description of a dynamic process over time (flow chart); this graph is often used to build genealogy charts where contemporaneity refers to generations (if it develops vertically, contemporaneity is displayed horizontally and vice versa).

Self-evaluation (student) and guidance tools

This section is primarily devoted to guidance because it deals with the assessment that students make of their learning process, resources and deficiencies, dreams and concrete opportunities and it also deals with the search for a sustainable mediation between all the elements. The acquisition of the habit of reflecting on what is needed to make a conscious choice (as a strategic life skill) allows students to monitor and control learning, making choices and applying corrective measures to obtain better results/performances, to increase their motivation and engagement (students build their own knowledge and skills), to enhance self-effectiveness (the judgment of personal capability) and self-esteem (judgment of self-worth) and, on the other hand, it allows them to gradually a realistic and autonomous perspective of life.

However, in order to be effective, these reflections cannot be left to chance because they risk to lead to trivialization or, even worse, they could end up being practically useless, but have to be based on systematic self-observations and self-descriptions based on specific indicators.

In this process, the teacher plays a decisive/crucial role, albeit different from the one he/she plays in other teaching activities. Where before he/she facilitated and supported the learning process and assessed what the student could and could not do using a series on evaluation criteria, now, in the self-evaluation stage, his/her task is to stimulate and help students to reflect, based on metacognitive exercises, on their experiences, on the ways of learning, on emerging interests, and to propose/assign specific exercises, accompanying and facilitating the self-observation process that each student performs directly and autonomously, without judging students but letting them be in charge of the process.

The Italian partners of IPAZIA, through the in-depth analysis of the impact of the original good practice and by matching the desk-based research data against the field research data obtained by every partner Country during the survey of the current situations and needs of the target groups, have developed a SWOT (Strengths Weaknesses Opportunities Threats) analysis which provides the foundation for the proposals for adapting the guidance-oriented methodology in view of its transfer and integration into each project partner's country.

Below are the main results of the SWOT analysis, broken down in four quadrants: Strengths, Weaknesses, Opportunities and Threats.

Strengths

- **The fact that the organisation (structure and type of the proposed material) of the learning path was different from the usual classroom experience, led:**
 - to diversified experiences which succeeded in engaging the entire classroom (various forms of guidance provided by teachers and tutors, students' debates, individual reports and cooperative work);
 - students to use tools they never used before;
 - to frequent opportunities for exchange and discussion on emerging themes;
 - to greater participation to school activities by some students due to systematic interaction in the classroom;
 - to the stimulation of critical thinking and dialectical skills;
 - to train (albeit with some difficulties) students to listening to others.

Weaknesses

- **Time allowed for working was too short for an adequate development of the proposed themes, especially considering the fact that the students were dealing for the first time with new tools and new study methods.**
- **Difficulties experienced by some of the students:**
 - in using statistical tools (pies, tables, graphs...);
 - in tackling the complexity of some of the texts that were analysed with the purpose of correlating and analysing information in order increase history knowledge;
 - in mastering a number of historiographic concepts;
 - in using the suggested study method (tendency to be unfocused during in the most challenging tasks).

Opportunities

- **Teaching students to use a project-based approach, i.e. the conscious pursuit of goals, according to their own intentionality, after they have attributed meaning to a given situation. (It is the individual who decides, among the infinite dimensions of reality, to isolate the ones he/she deems meaningful to him/her; it is he/she who establishes which are the most important and decides to act by deliberately activating all his/her internal and external skills to deal with the situation).**
- **Stimulate proactive behaviours by teaching students to:**
 - pay attention to their wishes, worries;
 - identify the "criteria" (what is important in terms of values, relationships, life styles...) against which goals are chosen;
 - strengthen problem-solving skills, including "personal skills" (grouped by Goleman in the five domains of emotional intelligence), which refer to self-relationship:

- *self-awareness (emotional self-awareness, accurate self-assessment, self confidence...)*
- *self-management (self-control, trustworthiness, conscientiousness, adaptability)*
- *motivation (achievement drive, commitment, initiative, optimism...)*

- Where can awareness lead?

- to the development of critical thinking skills;
- to acquire the ability to assess a situation, i.e. understand its characteristics, identify those that are more meaningful for the individual;
- to the emergence of intention, perspective.

- In brief:

- In order to act to solve a problem, a person must have the necessary abilities: they will not be activated if the person does not assign meaning to the situation and thus if he/she does not have intention/perspective towards that situation.
- Developing critical thinking skills, helping individuals to gain actionable clarity, strengthening their own gender identity, stimulating intention that can later be “focused to the point of becoming embodied in a precise or vague, undetermined project” (H. Jaoui), are the underlying goals of our intervention model

- Other opportunities connected to the use of the gender-sensitive guidance modules of the good practice include:

- identifying what is worthy of attention among multiple stimuli;
- stimulating the development of transferable skills (flexibility, creativity), skills that are useful in everyday life;
- activating students' potential;
- encouraging the deliberate activation of acquired knowledge (procedures, theoretical knowledge);
- trigger students' awareness on cultural, social, personal stereotypes and on their way of dealing with situations, especially in connection with gender issues;
- helping students find perspective and assign meaning to a given situation;
- working on gender conditioning (in particular on negative conditioning) to highlight and valorise the specific characteristics of each gender and to affirm gender identity;
- highlighting positive feminine traits (intuition, emotionality, empathy, creativity, flexibility) and promoting a balanced and “integrated” feminine identity, which includes traditionally masculine traits (e.g. competition, rationalization);
- increasing gender diversity awareness through dialogue and reflection on emerging models and on the values imposed through such models;
- strengthening gender identity (female, in this case), rediscovering and reclaiming resources that belong to women culture;
- being one's own self.

Threats

- considering the activity as being an end in itself;
- the non-valuation of the guidance potential of the methodology, seeing it as a marginal element of traditional education;
- continuing to consider male and female students in a neutral way, not valorising their different characteristics and in particular those connected to the fact of being male or female;
- being unable to integrate the interest in the enhancement of transversal skills, such as project-oriented skills, creativity and flexibility (also by using the stories of men and women, both present and past) into VET systems;
- difficulties in raising the awareness of Class Councils on the importance of these issues. This may preclude the possibility of planting the seeds for a new paradigm of society, work and private life that could contribute to medium and long term beneficial changes in the social and work sphere and, therefore, also in the private sphere.

The analysis of the above-mentioned methodology also allowed us to develop a series of worksheets that contain references and instructions for the adaptation of the original good practice in project partners' countries. The proposed action plans, which have been agreed upon by all partners, have been developed taking into consideration also feedback from teachers who have been involved in the test phase, as well as from teachers who will be the direct beneficiaries of the transfer of the good practice.

The three worksheets that contain the proposals for the adaptation of the good practice are described below.

WORKSHEET no. I

“GENERALITIES”

GOALS OF THE ADAPTATION PROCESS

Provide operational instructions to support and justify the adaptation of the innovative content of the good practice to the geographical setting, education/training systems, educational content and subject areas of partner countries and to the requirements and needs of target groups (see Needs Assessment output).

GOALS/REFERENCE POINTS

Skills

- *as demonstrated abilities to complete tasks;*
- *as complex construct of knowledge, abilities, etc.*

References: 2006 Key active citizenship competences (all of them but in particular «learning to learn»), 2008 European qualifications framework

Declarative factual and conceptual knowledge

Logical procedural and methodological knowledge: by working on knowledge and carrying out expert duties (activities, experiences, exercises), students acquire disciplinary, communication and cognitive abilities and competencies or, by working also on building/enhancing other abilities, i.e. metacognitive skills and personal/social abilities (life skills), they enhance their disciplinary competences and acquire guidance skills.

Communicative skills

Procedural skills for transposing mental operations into a form suitable for establishing and developing relationships with the outside world which allow individuals to decode/generate information and develop mastery of language skills:

- *everyday languages (informal and non-formal, regulated by social habits and customs and by the environment);*
- *specific languages of the various disciplines (formal);*
- *logical languages (from tables to diagrams to maps, etc...), universal visual schemes that allow both the communication and processing of knowledge;*
- *the indispensable languages of the new technologies (from word processing to intelligent Internet browsing, etc...).*

Cognitive skills (logical and methodological)

The practical (procedural) skills that guide the work of scholars in building expert professional knowledge.

Their acquisition enables students to:

- *understand the ways in which formal knowledge is created and acquire it;*
- *to acquire the logical and methodological procedures of each discipline in order to use them to understand and process abstract thoughts (operations), to acquire an intellectual work method, to select the appropriate actions for the situation/task at hand.*

If skills are the target

- *we need to use laboratory-based teaching strategies for the development of learning strategies, however these strategies require the learning process to be designed in detail. In order to do this, the teacher must act as a professional who conducts research by working on expert knowledge and then by transforming it into knowledge to be taught, producing teaching knowledge (learning modules) and selecting the best tools to be used for a systematic learning process (professional activity that resembles that of historians).*

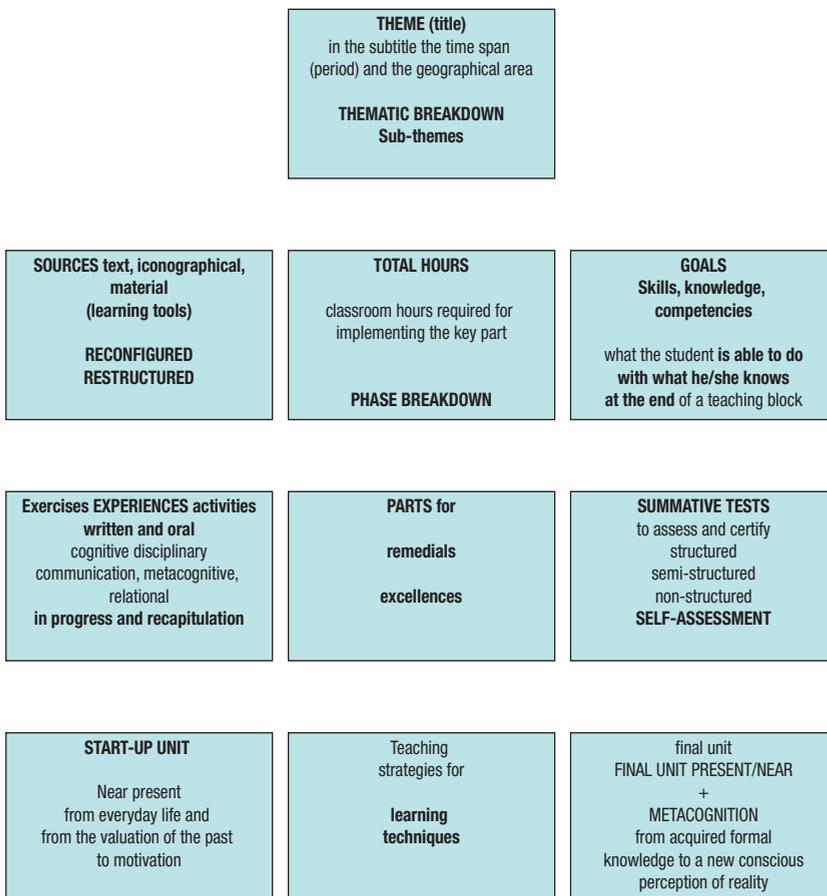
Based on the above-mentioned points, it is necessary:

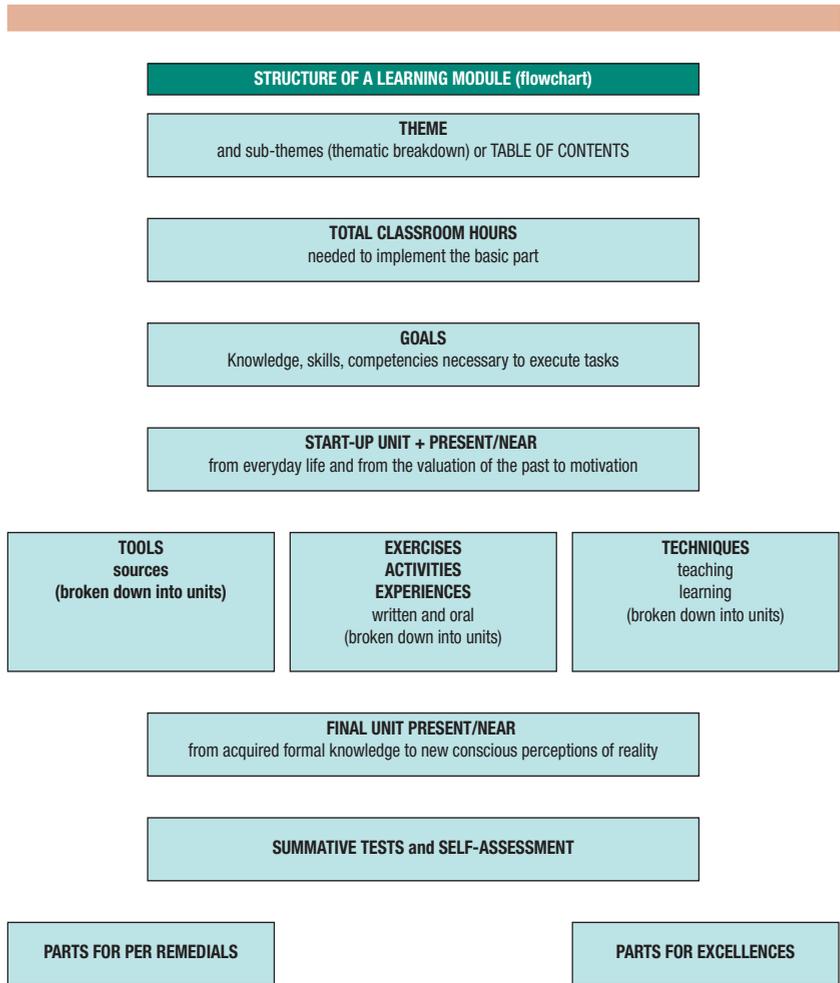
- **to adopt laboratory-based teaching methodologies to build learning strategies; these strategies require a detailed design and planning of the learning process;**
- **for the teacher to act as a professional who conducts research by working on knowledge and then transforming it into knowledge to be taught, producing teaching knowledge (learning modules) and selecting the best tools to be used for a systematic learning process (professional activity that resembles that of historians).**

WORKSHEET no. 2

“THE STRUCTURE”

STRUCTURE OF A LEARNING MODULE (organigram of the constitutive factors)





WORKSHEET no. 3

“THE CHARACTERISTICS”

OUTPUT CHARACTERISTICS (MODULE)

it is not a technicality but detailed preparation of classroom work
(forecasting/planning are metacognitive skills)
also because

- *the structure is flexible;*
- *the implementation is flexible.*

CHARACTERISTICS OF THE OUTPUT BUILDING PROCESS

How to build a learning module:

Work sequence plan

- *identification of a set of knowledge and skills to be developed;*
- *identification of a time span, of a spatial area, of a theme and of one or more sub-themes, of involved actors;*
- *students study on one or more recent history books dealing with the selected theme (update and selection criteria);*
- *selection of text and iconographic material that will be used as tools for the learning process, as well as for remedials and excellencies;*
- *reconfiguration of sources and breakdown into sub-themes (forecasting and sub-periodisation);*
- *identification of declarative and procedural knowledge, concrete skills and competencies that have to be developed (and difficulties to be overcome in order to be able to learn), in the sources;*
- *design of learning experience/activities/learning exercises (recurrent/continuous on each source as well as partial and total recapitulation);*
- *design of summation tests and of self-assessment schemes;*
- *design of the conclusion;*
- *design of the start.*

