

COOPERATIVE TEACHING, CONCEPT MAPS AND CREATION OF KNOWLEDGE PORTFOLIO FOR SCHOOL SUCCESS

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Abstract. The transmissive school, on the spur of the digital culture, is in deep crisis. The teachers, left to themselves, feel lost in contact with the *digital natives* and they can not change, fluctuating between innovation and adaptation, pegged to *the traditional*, with the certainty of *having the truth*. Therefore, there is the necessity of a more participatory school that can be inclusive, especially in situations of diffused school dropping out. In such a situation, the transformation of the teachers' role is essential, proposed especially (in the experience that is illustrated) with the work in teams to build concept maps (expressions of the different activities) also to make the structure of the digital portfolio.

Keywords: Transmissive school, Cooperative teaching, Dropping out, Knowledge portfolio, School Success.

1 Dropouts and school success

The institutional responses to the crisis mentioned above, tend, in general, to a feigned modernization: it is not enough the use of new technologies (PC, Whiteboard, Tablet, etc...) for a quality school and to change the pedagogical relationship; the use of modern tools is not sufficient to change the substance of the relationship of education, still based on the teacher that transmits and the pupil who has only to receive.

Teachers implement a predominantly transmissive education, focused on the whole class and with a particular attention to taxonomic planning, organized in non-communicating disciplines. That leads to a linear teaching and ignores creativity, motivation, learning style, individual characteristics and the connections between school and what the student already knows. Also all this contributes to school dropouts.

A School that takes account of the Gutenberg Galaxy and the Internet Galaxy uses a cooperative workshop teaching, which integrates various forms of knowledge, and uses the various available resources, from the perspective of moving from a transmissive conception of knowledge to a laboratory teaching, permeated by the digital culture.

Students are able to organize a job more easily, a hypermedia product, if they start by themselves, telling and using a strategy that allows them to feel included, which facilitates the expression of their identity as citizens and people and therefore the integration and acquisition of citizenship. The school dropping out occurs also because there is a mechanism of exclusion cycle.

The spiral > low self-esteem> little confidence> bad performance> negative evaluation> low self-esteem> is a chain which traditional education generally fails to break, but reinforces it, contributing to dissatisfaction with school, before school dropouts and social disintegration in the broadest sense. See Figure 1.

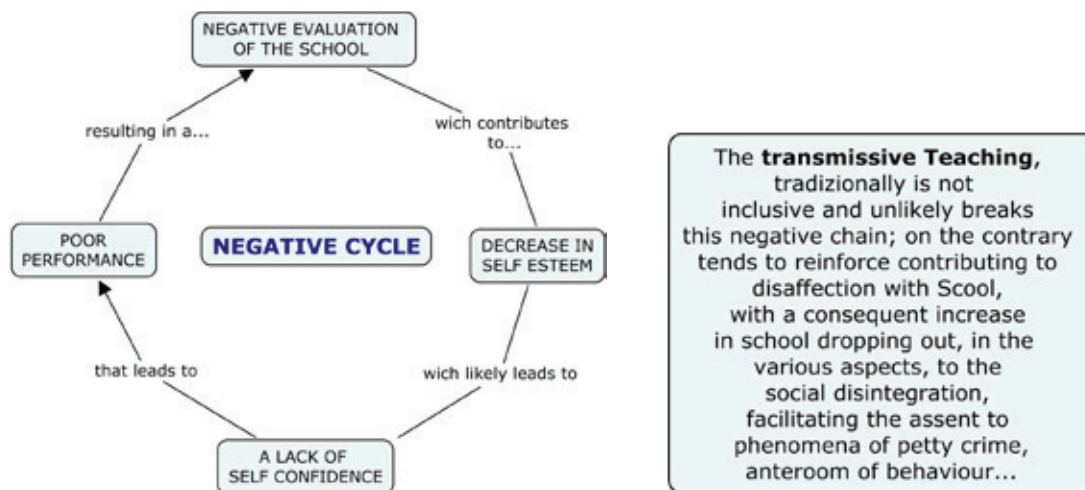


Figure 1: Negative cycle in a transmissive teaching

The positive view of themselves with the enhancement of their own characteristics, which takes place , instead, in the workshop activities, undermines the system and allows to "break" something in this chain, helping to change its direction into the spiral > good performance> positive assessment> growth of self-esteem > confidence > good performance >. See Figure 2.

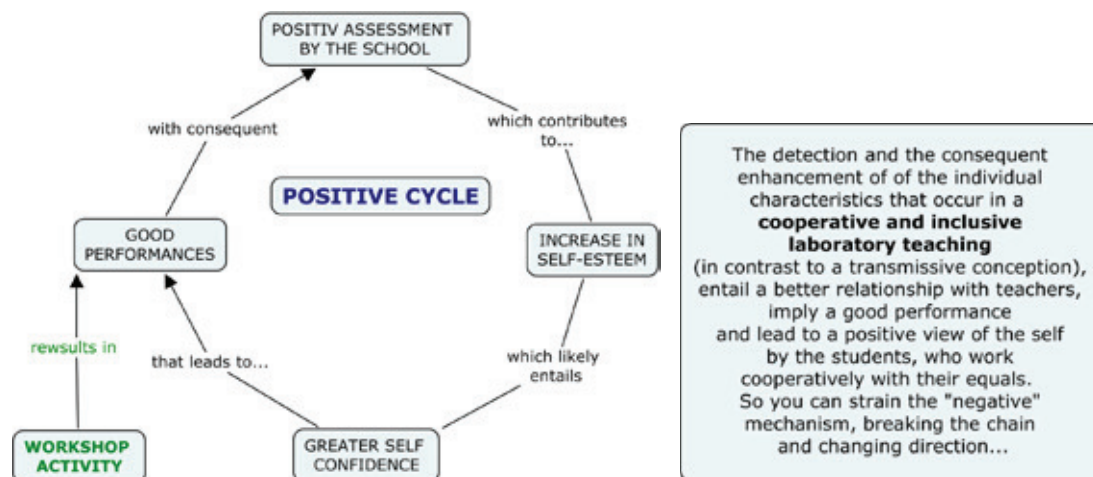


Figure 2: Positive cycle in a laboratory teaching

2 Cooperative teaching and teachers' training

School teaching has known, in these last years, a constant renewal, which implies to revise traditional methods in school, but it has not been sufficient to determine the growth of quality and quantity of learning. A mainly explanatory teaching, focused on class groups, with a particular attention to taxonomic planning, organized in non-communicating disciplines, leads to a linear teaching and ignores creativity, motivation, learning style, individual characteristics and the connections between school learning and what the student already knows. Today, in the digital era, the process of teaching/learning must meet the demands of the knowledge society and, at the same time, it must be more exciting and engaging for the students. Furthermore, in the society of the third millennium, it is even more imperative to change how to "make ? school", in order to promote equalities and opportunities for all together and everybody in particular, and to focus primarily on the last, that is those who have more need for remedial teaching for better social integration.

It is not enough, although necessary, to change the instruments or merely adopt the latest theory to determine a real change in a direction more useful to the collective growth, but we can say that the question is how to build a *different school*.

Therefore, the specific aims of a *different school* are:

- to transform the role of the teacher, from a transmitter to a provoker and a coordinator;

- to enable new organizations of the school environment;
- to make the school, with its contents and tools, more familiar to children, the digital natives;
- to promote communication;
- to promote learning rather than teaching

Using as methods and tools:

- Brainstorming - Different learning styles and multiple kinds of intelligence
- Concept maps
- Cooperative learning
- Use of ICT and digital culture
- Search on the Internet
- Production of multimedia

3 A ministerial project against dropouts, for school success

A series of projects, funded by the European Community through the MIUR (Ministry of Education), are taking place in the southern regions of our country, with the goal of reducing dropping out and promoting educational success. They can be documented also through a digital portfolio and assessments of the skills built during the paths punctually indicated. In the old centre of the city (Napoli), there is a widespread situation of school dropouts, arising, among other things, from:

- Difficulty in keeping students' attention in a long time.
- Suffering to respect the rhythms and the timing of the various school settings.
- Low levels of self-esteem
- Difficulty in the implementation of a process of self-construction of knowledge ("mechanical" use of outlines and algorithms), difficulty in the abstract learning and in the sequence theory - practice;
- Low skills (factor that in turn increases the self-devaluation);
- Total disregard of the informal knowledge by the school;
- The experimental project "I Know, Therefore I Am" has the objective of building a pedagogic-didactic prototype against the school dropouts, for the educational success.

Therefore, a local network between two middle schools and one high school has been constituted, along with some associations operating in the area. The operations were carried out on groups of students at risk of dropping out in the two primary schools and the two junior high school (coordinated with the only senior high school participating in the project) with 5 different paths

In this project, we have tried to go beyond the *transmissivity*, experiencing a cooperative laboratory teaching, with the collaboration of operators of the external associations. A real problem has been to convince teachers, because there is a certain resistance to change from some teachers who see in such a way diminished the importance of their role. The phase of teachers' training was very useful especially to use the concept maps in the different stages, till the creation of the *knowledge portfolio*. The typical laboratory didactic path is illustrated by the map in Figure 3.

- You start with a brainstorming session to set the arguments (usually interdisciplinary in order to overcome the sectorial feature of the disciplines), to identify conceptual nodes on the map (prepared with a PC) projected on the screen. The teacher helps students to express themselves in order to encourage their participation and take account of prior knowledge;
- You work constituting small cooperative groups (each of which is assigned the branch of the map that most interests them) according to the Multiple kinds of Intelligence (taking into account the diversity of the cognitive styles of the participants), identified by the use of special software ;
- For research and deeper analysis, you use PCs connected to the Internet, dealing with subjects to be developed afterwards in more congenial to the individuals ways of research and communication, and the individual groups organize the presentation of knowledge with maps (free software) and with advanced technologies (PC, LIM, Network Internet, Tablet, etc.) ;

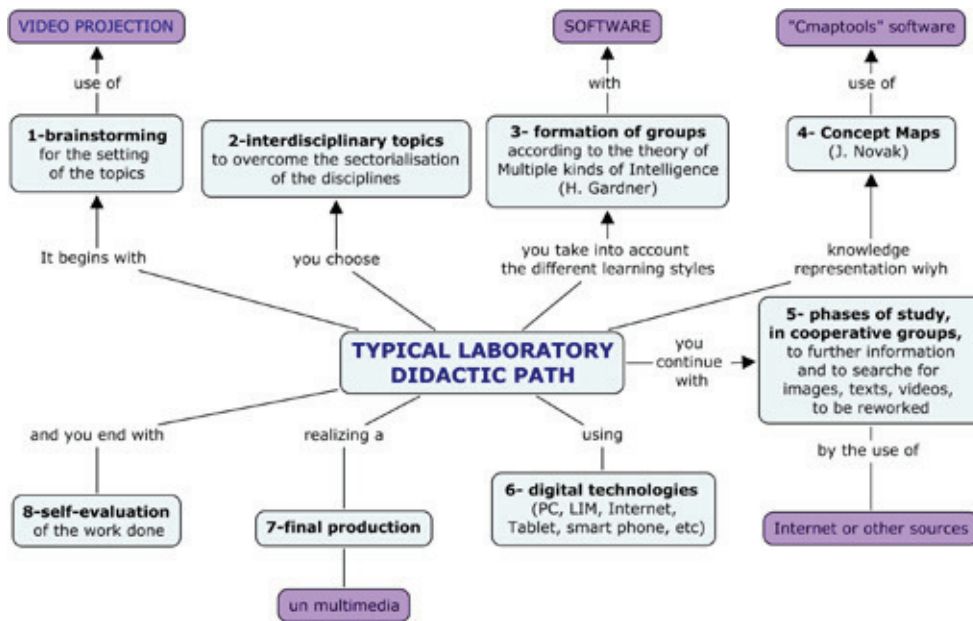


Figure 3: The typical laboratory didactic path

The teacher is not longer a simple transmitter of knowledge, but becomes a provoker of interests, a proofreader, a trainer, a definer - illustrator of a path, a starting point for an individual and collective deepening, which constitutes a new subject for students.

The supply of materials to be studied is not prearranged, but it turns into flexible and personalized cognitive paths; students not only use the codified knowledge of the textbook, but integrate the knowledge through a variety of tools and sources: the Internet , the teacher, films , experts, books, etc.

The experience ends producing a multimedia and the self-assessment of your work (product and path).

The results are interesting for the use of a single methodology at different levels of school (including universities), and the reproducibility of the experience in different contexts

An interesting teamwork between the trainers and the teachers, tutors of the project, was done in the project, to identify the specific contents and the methodological framework for the individual actions, using concept maps.

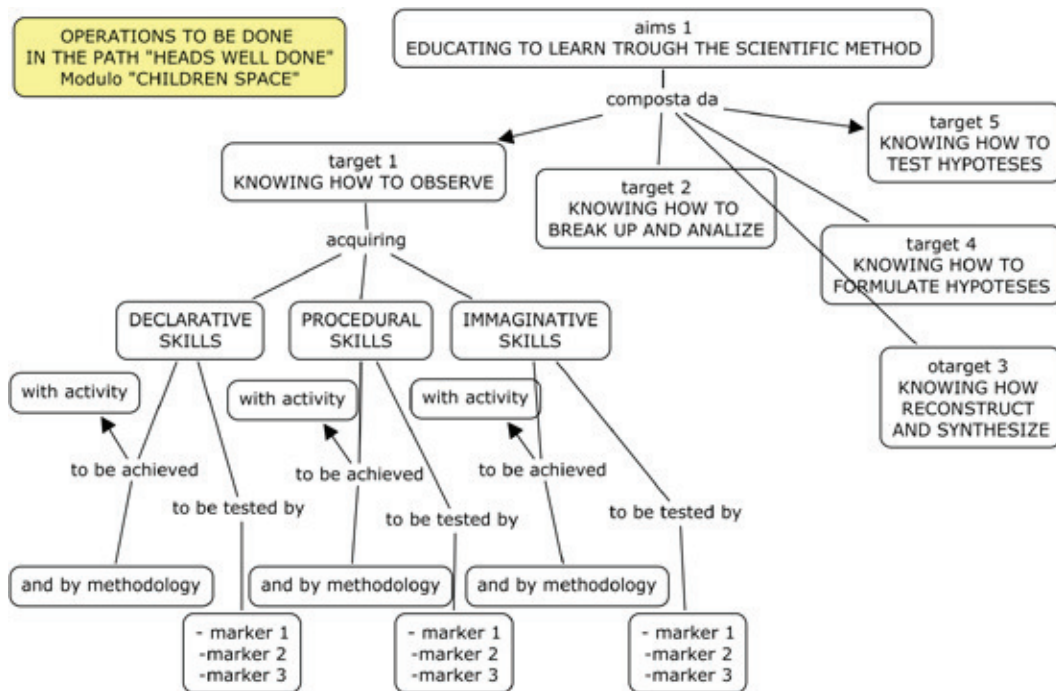


Figure 4: Specific teaching action "heads well done".

The following figure 4 shows examples of specific teaching actions.

4 The Collaborative construction of the portfolio with concept maps.

As a part of the learning by skills, the European Community has identified in the Portfolio the skills a suitable instrument for a more coherent with the proposed methodology evaluation. Therefore, we have thought to adopt, within the project, an example of experimental *Portfolio*, with the goal of "transfer" it to the morning curricular courses.

For the student the *Portfolio* answers to the questions: What are my characteristics? What are my points of strength? How do I show them? How can I improve?

The Portfolio documents the skills of the single student, not only through the achievement tests, but also through the products manufactured and the "narratives" about the gradual improvements and achievements, helping: **to reflect** on his own learning process (metacognitive function, to give them a meaning); **to improve** self-esteem and help build a positive identity (empowerment function); to **self-evaluate**, in comparison with the results achieved, allowing to better understand himself; **to orient** himself among the choices of study/work.

The *Portfolio* is represented by the map in Figure 5; it has been developed in collaboration between the project team and the tutor teachers. This step is very important because the construction through the concept map has allowed all tutor teachers to experience the validity and the easiness with which we can achieve the digital *Portfolio*, of which they convinced themselves during the process of realization of the same *Portfoli*.

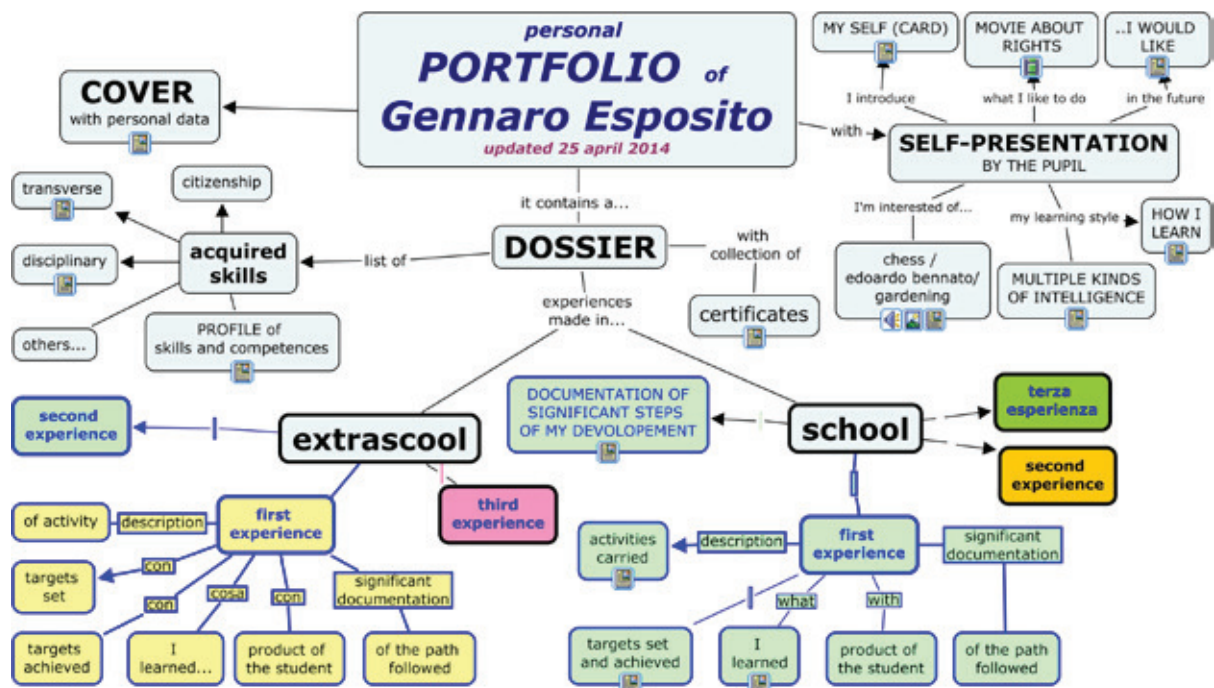


Figure 5: Knowledge Portfolio map

During this period, special meetings are taking place between tutor teachers and students, to realize the individual personalized students' *Portfolio*.

The *Portfolio* contains some personal identification data, a kind of self-presentation, and a dossier of "documentation" multimedia of significant school experiences (and extracurricular), which are updated from time to time.

5 Perspectives

The purpose of the experimental activity, still in course, is to build a prototype training to combat early school leaving; we need to see how the experience of the team work among teachers using a cooperative workshop teaching permeated by digital culture, supported also by the concept maps, can be transferred to the morning curricular courses

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