

1.1 Collaborating at school



1.2 What does collaborating mean?

Truly effective teaching based on sociocultural constructivism focuses totally on the community. A community within which to create fruitful integration between the individual and the group, concentrating on two main aspects:

- helping to develop social skills, which themselves become the first learning object
- creating a positive social climate, one of mutual respect and acceptance of differences

To achieve these goals, simply "working in a group" is not enough. Also needed is careful planning on which to base the new and essential role of the teacher.

In the real world, carrying out this new role means focusing on some important "points of emphasis":

- group composition
- assigning tasks
- positive interdependence of people within the group

- assigning specific roles to individual students
- positive interdependence between groups
- knowledge building
- reflecting on the product and on the process
- assessing, taking into account new dimensions compared with traditional teaching

For each of these aspects, techniques and actions have been developed through experience and field research...

1.3 Group composition

The group has the potential to stimulate active participation and increase individual responsibility, but in schools there is often a "parasite" phenomenon, in which the most capable and motivated students take on all the work, while others willingly delegate all responsibility.

To avoid this, great care must be taken with the number and personal qualities of the group's members.

Generally speaking, the group must be small. The exact number depends on the type of activity, but in principle there should be no more than 5 or 6 members.

Within this group, it is important to include students with different skills and interests.

In a small and well-structured group, everyone is driven to find their own space, taking on the right level of responsibility in seeking to achieve the common goal.

But what goal?

1.4 Assigning tasks

The second point of emphasis concerns the task to be assigned to the group. The task, and therefore the goal, is a fundamental element of a working group, both in the school and in the business world.

In a school tasks are assigned by the teacher, who must indicate in a non-generic and, possibly, written form:

- the goal, or what is expected of the group when the activity is completed
- the activities to be performed to achieve it
- available time frames
- available resources (information, documents, tools, spaces)
- any other constraints

Such a list is applicable to all work groups, both at school and outside. In school, however, there is an added value, since a task clearly and carefully assigned allows us to reflect on our work and, if necessary, to redirect it.

1.5 Positive interdependence within the group

The third point of emphasis concerns the positive interdependence between members, which is a key element for collaborative learning. It consists of making sure that everyone makes a contribution to achieving common goals.

Differences in abilities, interests and attitudes serve to guarantee the so-called "interdependence of skills".

But interdependence can be strengthened in several other ways.

For example, by making sure that each member does part of a group task (interdependence of goals)...

... or by giving each group member some of the materials needed to study the assigned topic (interdependence of study materials).

Another effective action to indirectly support interdependence is that of making students individually responsible, by assigning specific roles to them. For example using a Role Taking technique...

1.6 Assigning specific roles (Role Taking)

Role Taking is a method that consists of assigning to each student a role and, consequently, a responsibility.

These are roles:

- assigned by the teacher
- in rotation, to let the student try out different roles
- and, if possible, through a "script", that is a set of written instructions defining the role and actions required to adequately fulfil the role

In this way, as well as facilitating the acquisition of skills associated with the specific role, the following are stimulated:

- collaborative learning
- active participation
- the ability to challenge oneself
- trying out new forms of reasoning, behaviour and interaction

Assigning roles is, therefore, essential both in the classroom and for online activities.

By clicking on the appropriate icon, you can see some examples of roles that have proved to be effective in experiences in a number of Italian schools.

1.7 Positive interdependence among groups

Normally group work is not an end in itself, but is part of a larger project that involves the class or a broader community.

The fifth point of emphasis is thus positive interdependence among groups.

There are several strategies to pursue:

- to regularly alternate work in the small group and in the class as a whole
- to limit competition, for example, confining rivalry to playful moments
- to stimulate collaboration and the sharing of knowledge, ideas and results
- to shuffle and reshuffle groups to render the exchange of skills more effective
- to promote moments of sharing and critical reflection on progress made, possibly discussing ongoing evaluations from the teacher
- to organise peer-feedback sessions, in which groups comment on one another's products and make suggestions for improvements

1.8 Knowledge building

From a social constructivist viewpoint, one of the most important results of group work is the accumulation of new knowledge, the sixth point of emphasis. The main way of helping to build knowledge is through discussion among peers, indispensable for encouraging reflection and understanding that people have different points of view on the same subject.

In addition, simply expressing and arguing one's position forces a person to order his knowledge, to take into account what others think and to direct the discussion according to the audience.

But one can argue in many ways, and not all are equally productive. If, for example, the discussion becomes a dispute, with a sterile repetition of assertions and counter-assertions, it is hard not only to reach an agreement, but also simply to acquire new information.

Discussion should thus be considered as a true teaching technique, with its own rules. In particular, the teacher must:

- prepare the materials on which to base the technique

- start the debate so that all students' positions are expressed
- prepare for active listening, proposing to the group the main points of students' addresses
- guide the group to find a solution that takes different points of view into account

The discussion can also be mediated using technologies, such as forums and chats.

Among the more or less structured forms of discussion, let us look at two methods that are, in some ways, opposing: brainstorming and jigsaw.

1.9 Brainstorming

The purpose of brainstorming is to come up with new ideas and creative solutions to problems.

A brainstorming session, which can involve the whole class or single groups, entails a divergent phase and a convergent phase.

In the "divergent" phase the aim is to come up with as many ideas as possible. So:

- everyone can freely express their own thoughts
- all others listen, but suspend judgement and avoid any criticism or comment, verbal either or non-verbal
- a secretary takes note of the ideas proposed, and does so visibly with posters, whiteboards or MIWs

Only then can one proceed to the "convergent" phase of evaluation, selection, redefinition and improvement of proposals, finally agreeing on a limited number of reasonably coherent ideas or solutions.

1.10 Jigsaw Technique

The Jigsaw is a highly structured technique, proposed by American educator Elliot Aronson.

Jigsaw, like brainstorming, also entails multiple phases.

In the first phase the topic to be treated is broken down into segments, with each segment then entrusted to a different group of students. The goal is to study the segment until all group members become "experts".

In the second phase, groups are reshuffled to create the so-called "Jigsaw groups", making sure that each of them has an "expert" for each segment of the initial topic.

This technique has two strengths:

- it allows a global reconstruction of the initial topic (e.g. assigning to jigsaw groups the task

of producing a summary report)

- it increases the involvement of the individual, who in the Jigsaw group takes on the vital role of expert

It is noted that for this and other types of groups, a fundamental aspect of the work performed is to achieve an effective and easily shareable representation of knowledge.

How? A particularly useful tool is the concept map.

1.11 Concept maps

The "concept maps" proposed by American educator Joseph Novak are graphic representations of sets of knowledge, in which relations between concepts are made immediately visible in a hierarchical form.

One starts by writing the basic concept at the top, represented by a noun - or a short sentence - framed in a circle. This is the topic on which the students are called upon to reason, the main node of the map from which all others originate.

Subsequently, the concepts directly referable to the main node are represented immediately below as first-level nodes.

Between the central node and the first-level nodes relations are represented by arrows, generally marked by a verb.

If necessary, one can also add relationships between nodes on the same level.

It is interesting to note that in this way relations between concepts may be read as meaningful phrases. For example "A web search tool can have a search box".

This procedure can continue with second-, third- and fourth-level nodes. There is no limit, but a good concept map should not contain too many elements to avoid cognitive overload.

1.12 Stimulating reflection

The seventh point of emphasis is individual and collective reflection, which in a socio-constructivist education is a main pillar, as it stimulates deeper learning processes that incorporate not only technical and disciplinary skills but also (and above all) transversal meta-skills, such as learning to learn, and relating to others.

Reflection processes must thus be oriented in two directions:

- outwards, i.e. towards the products of group work
- inwards, i.e. towards one's own learning path and forms of participation

Reflecting on the tangible products of one's work allows students to appreciate the progress of their skills and the parallel improvement of the product. When perception becomes evident, there is considerable motivational drive.

Reflecting on processes, both individual and group, initiated during the journey is even more important. Understanding what the group is doing, how it is doing it and how each member contributes leads to useful suggestions for enhancing the ability to learn and to work with others. This is knowledge that can also be applied to different life and work settings.

Moments of reflection are therefore closely linked to assessment. In collaborative learning this acquires new dimensions...

1.13 Assessment

The final point of emphasis is assessment, which is traditionally carried out in schools by measuring the knowledge of individuals. The summative evaluation is carried out at the end of a significant stage of the "programme" or of the entire course, by the teacher, who awards marks and makes judgements.

In socio-constructivist teaching the assessment is formative, carried out along the path by oneself, other students and experts, who mainly make suggestions.

In addition to the individual, the whole group is assessed, covering not only knowledge and skills but also processes of knowledge building enacted by individuals, groups and the entire community.

In this assessment, the teacher must ask:

- Have students learned to self-monitor their own learning?
- Have students suitably fulfilled their role?
- Has the group worked collaboratively?
- Are the objects produced useful outside the classroom?
- Has there been an evolution in individuals and groups?

Let's explore some aspects of this "new" assessment: why, who, how and with what technologies...

1.14 Assess why

Clearly in order to give an effective account of enacted collaborative learning processes, traditional questioning, tests and written replies are inadequate.

Instead, forms of observation and monitoring are required, making it possible to:

- appreciate the building of new knowledge

- highlight psychosocial processes and learning strategies
- actively involve students
- stimulate reflection and the reordering of knowledge
- reveal the relevance of individual contributions and their impact on the outcome of group work

It is no longer an assessment that provides a snapshot of the situation, rather it becomes an integral part of the training process. It is thus an assessment that helps the student to learn better.

1.15 Who evaluates who: self-assessment and mutual assessment

In collaborative learning, assessment is no longer the exclusive domain of the teacher. New actors appear, and students and other classmates play a central role.

Self-assessment is not widespread in schools, especially since it is not a sort of heart-searching activity, concluding with a judgement about oneself. In collaborative teaching, self-assessment is rather part of a process of critical reflection based on sound criteria.

Equally little used is the peer review, which comes up against two problems:

- on the one hand, students are forcefully asked to comment on the work of others, considered as a sort of rupture of the solidarity pact among colleagues
- on the other, peer assessment tends to be interpreted more as "error hunting" than as a tool to give and receive useful suggestions

It is therefore up to the teacher to build a climate of collaboration and orientation towards innovation, in which each assessment is experienced as a precious source of ideas and suggestions to improve products and, above all, processes.

1.16 Assessment tools

New assessment strategies have been given a set of new tools. Here are some examples.

Assessment protocols and datasheets with which the teacher keeps track of different dimensions involved in socio-constructivist teaching: the results of the group next to those of the individual, the processes next to the products. For each one he notes elements related to collaborative, reflective and innovative skills.

Self-assessment datasheets make it possible to insert, for each significant aspect of group work, a judgement (e.g. from "poor" to "very good") that expresses one's perceptions of the personal contribution.

Peer feedback datasheets, i.e. mutual peer assessment, may be similar structurally, but they pertain to the work of a colleague or another group, and have blank spaces to add comments and suggestions.

Logbooks allow students to write down, at the end of each work phase, free-form notes on results achieved, skills acquired, their contribution to group work, areas for improvement.

A particularly useful tool is the portfolio, similar, structurally, to those used by knowledge professionals such as photographers, illustrators, architects and advertisers, who collect the best examples of their works in a folder, making them an effective presentation of their competences and experiences.

Such a portfolio is something more than the "skills portfolio" already introduced (and largely ignored) in Italian schools. It is a personal space to be built during one's study path, incorporating informal learning too, to encourage the sharing of experiences among peers and the construction of a complete and varied curriculum vitae.

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1.17 Technologies for assessing

In theory, only paper-based materials are needed to make datasheets, logbooks and portfolios. But in this area too, technologies provide something extra.

If assessment datasheets are compiled online, if feedback is given in online forums, if logbooks become blogs, if portfolios are based on blogs, websites, databases or dedicated "e-portfolio" systems and, above all, if the assessment process takes place within the same digital environment that hosts the interactions of the learning community, not only do we obtain greater efficiency but also a big leap in quality.

In the sphere of assessment too, digital technologies are an effective means to support new socio-constructivist teaching. For at least three reasons:

- they make the results of individual and group learning and interactive and participatory dynamics implemented within a digital environment immediately visible and easily accessible
- they allow different forms of comment and feedback in real time from the teacher and among students
- they give students the opportunity to independently trace their own path and reflect on changes in terms of skills, interactions and results



In the assessment and throughout the educational path, digital technologies are a means for bringing together processes and products, teachers and students, theories and practical tasks. This contamination becomes, very quickly, mutual enrichment.