Cooperative Learning

Cooperative learning is a type of learning in which students are divided into sub-groups of 2-6 students that work together to achieve a certain educational result. Most research into cooperative learning strategies has been conducted in North America, especially by researchers such as Bob Slavin (John Hopkins University in Baltimore) (1985), the Johnson brothers in Minnesota (1991) and Elizabeth Cohen at Stanford University (1994, 1997). The educational component of The Big Myth is especially inspired by the research conducted by Elizabeth Cohen. The method that she has developed, Complex Instruction, was the starting point of the European project "CLIP" (Cooperative Learning in Intercultural Education) (Batelaan, 1997). This project took place under the auspices of the IAIE (International Association for Intercultural Education) and was financed by the European Commission.

The most important arguments that have been used to implement cooperative learning methods have been:

- By implementing cooperative learning methods one stimulates social skills such as collaborating, communicating and taking responsibility.
- Cooperative learning is an effective way of reaching cognitive goals.

Reaching cognitive goals is the main thrust of The Big Myth. We view improved social skills primarily as a positive side effect.

Learning in schools is aimed at:

- The development of skills (motor skills, using instruments such as computers, reading, writing, communicating, collaborating, reflecting, etc.)
- Acquiring information (factual knowledge, knowledge of procedures and strategies, etc.)
- The acquisition of understanding (we can speak of understanding when students are able to apply new knowledge to new situations and connect such knowledge to previously gained knowledge).
- The development of attitudes (we speak of an attitude when one's view of an object or situation predisposes that person to act in a certain way, for instance leading a person to take initiative and responsibility).

Many activities can lead to learning. Some activities, however, are more effective than others when attempting to reach a certain goal. For instance, a person will learn certain skills quicker if they are "learned through doing", rather than through listening to a lecture or through reading. Intellectual skills such as cooperation, communication and learning are most effectively gained by "doing" and by reflection on these actions (also by discussing one's experiences with others).

Examples of learning activities that lead to understanding are: listening, reading, observing, discussing, experimenting (alone or together), preparing and executing a presentation (alone or together). Research shows that activities such as "discussing things with each other", working together to solve problems, experimenting together and reflecting on this process, and jointly preparing and executing a presentation are more effective learning tools (leading to more understanding) than listening, reading and observing. In other words: interaction facilitates learning.

Cooperative learning implies more than simply placing students in small groups and asking them to complete an assignment. If group work is limited to this, the process can be counter-productive. This is especially the case for "weaker" students, since the "stronger" students will tend to dominate the various aspects of the group process (talking, taking initiative, leading, deciding, interrupting, etc.). Obviously, if interaction leads to learning then one needs to interact, and especially to interact in a meaningful way. Group work cannot be considered cooperative learning unless it is organized in such a way that students participate in the interaction. This also holds true for The Big Myth, in which the computer plays such an important role.

Participation in an interaction is influenced by:
1. Organizational aspects

Organization refers to how the groups are composed, how the classroom or furniture is arranged, and how the tasks and responsibilities are assigned. With respect to group composition we adhere to the following guidelines:

1. The teacher assigns the children to groups. This avoids the immediate isolation of the less popular children, who tend not to be chosen as groupmates by their peers. Students tend to dislike this at first because they prefer to be seated with friends. It is fairly easy, however, to explain to them that they need to learn to work together with everybody in the classroom.
2. Group composition is changed from time to time to avoid the development of fixed role expectations.
3. Group composition should be as heterogenous as possible, so that the students can profit the most from the diversity of talents present in the group.
4. Tasks and responsibilities need to be clear. The teacher assigns these to the students.
5. Tasks and responsibilities need to rotate from time to time.

2. The content

Content refers to the subject matter (should be experienced as interesting and useful) and the assignments (open-ended questions, assignments that require collaboration). The assignments also need to be "rich": they need to stimulate the child's learning capacities. The American psychologist Howard Gardner has developed a very useful theory on what he calls "multiple intelligences" (Gardner, 1993)(www.scholasticnetwork.com/library/teacen/mi.htm). In this theory he discusses the many types of intelligence that a child has. Assignments are most educational if many of these intelligences are activated.

3. The participants

Participants refers not only to the social skills that people possess (there are different ways in which these can be acquired, such as the skill builders described in the book by Cohen (1994) and in the work of Kagan (1994)). We are also dealing here with the expectations that people have of each other.

Anybody who has conducted group work in the past knows that there are always students who immediately take the initiative and others who do not participate and do not get the chance to participate. In her research Elizabeth Cohen was led by the question why this is the case. The results of her research confirmed the theory that the status of the student is the most influential factor in determining that student’s level of participation in group interactions.

A student’s status is to a great extent determined by the expectations that students have of each other and of themselves, as well as the teacher’s expectations of the students. We are referring here to expectations regarding capacities. In order to improve the quality of the interactions taking place one must therefore alter these expectations. It goes beyond the scope of this discussion to delve deeper into this issue. Instead, we refer interested readers to the work conducted by Elizabeth Cohen (Cohen, 1994) and to the CLIP-report (Batelaan, 1998). In short, the most important means that the teacher has at his/her disposal is the giving of positive feedback. In order to accomplish this and to deal effectively with status differences the teacher must especially discover what positive contributions students with low status can contribute to the group process. The assignments must also be designed in such a way that the low status students can demonstrate their abilities. Assignments must therefore address a much larger scala of skills than is traditionally the case (majority language and math). The approach used in Complex Instruction, CLIP, and now also in The Big Myth focuses on addressing as many intelligences as possible – or to use the terminology of Howard Gardner (1993) – as many intelligences as possible.

Using cooperative learning in the classroom has consequences for the teacher’s task. When the learning activity involves listening, reading and observing the teacher is primarily involved in explaining, telling, clarifying, presenting texts to read, giving assignments, showing videos and (sometimes) organizing excursions. When learning activities involve discussion, group investigation and experimentation, and presentations the teacher needs to utilize different skills: organizing, stimulating discussion (for instance by asking students questions that lead to better understanding), observing and giving feedback. These are also skills that a teacher needs when using information technology (IT) in the classroom. A recent report on process management and IT (PmL, 1998) lists the following as necessary for IT implementation:
• learning processes need to be organized in such a way that they generate questions that students can tackle individually or in groups;
• students must learn to make connections;
• students need to be observed, also to identify variations in learning styles;
• feedback needs to be given.

Group roles
The teacher creates the groups for each The Big Myth session, and assigns various roles and tasks. These roles and tasks can be assigned and labeled as follows:

Facilitator/ Team Captain
• Makes sure that everybody understands the task
• Makes sure that everybody in the group participates, and also, for instance, that the person using the computer does not “surf” independently of the others
• Represents the group if it has a question for the teacher.

Reporter/ Director
• Organizes the group presentation
• Makes sure that the group works on time, and according to plan

Material manager
• Makes sure that the group gets all the materials it needs (including computer print outs)
• Makes sure that all the materials are cleaned up after the assignment has been completed (this does not mean that this person needs to clean up everything him/herself but that he/she organizes this activity)
• If relevant, this person fills out the group questionnaires or work sheets

Information manager
• Finds all the information necessary to complete the assignment
• Works with the computer and the printer

Mediator/Negotiator
• Makes sure that there is a positive atmosphere in the group
• Mediates in case of conflicts or disagreements

These tasks can be assigned differently for groups of four, for instance by giving the mediation task to the facilitator.

Teacher’s role
Traditionally it is the teacher that transfers knowledge. He/she is the most important source of information. In The Big Myth all the information the students will need can be found on the website and the internet. This gives the teacher much more time to observe the learning processes that are taking place among the students and to assess what is being accomplished by groups and individuals. Within the philosophy associated with Complex Instruction it is important that students are appreciated for what they can do, and to express this appreciation (positive feedback). The aim is to increase the status (trust in each other’s capabilities) of students and their self-esteem. Within the framework of The Big Myth the teacher assumes the following roles:
1. Organizer and manager

The teacher is responsible for creating the composition of the groups and the distribution of tasks. Subsequently, the teacher delegates responsibility to the groups. In other words, the teacher makes sure that everybody sticks to his/her role.

Examples:
- The teacher makes sure that a question posed by the facilitator is indeed the group's question.
- If uncertainty exists regarding the assignment the teacher initially asks the facilitator to attempt to clarify the instructions.
- The teacher makes sure that only the material manager collects the materials. The material manager is held responsible for these materials.
- Time management and planning issues are discussed only with the reporter.
- If there is too much disagreement or tension then the teacher will approach the mediator.

2. Catalyst

Of course, the teacher is responsible for helping groups that get stuck or fail to function properly. When difficult questions arise the teacher does not provide ready-made answers, but instead asks questions that get the group back on track.

3. Observer (watching what the groups are doing right)

It is important in Complex Instruction that the teacher responds to what groups and individuals do well. This means closely observing what is taking place in each group.

4. Evaluator (giving feedback)

The teacher responds to the behavior of the students, based on what is observed. This can occur during the group work, but also during the presentation. The feedback is concrete and based on a description of what has been observed.

The classroom assignments

There are three types of assignments that are associated with each myth:
1. A-assignments are aimed at information processing.
2. B-assignments are aimed at preparing classroom presentations.
3. C-assignments are aimed at individual reflection concerning what the students have learned, as well as suggestions for further activities.