

## **COOPERATIVE LEARNING AND SOCIOMETRY**

Cooperative learning is a teaching method whereby students are divided into groups where they work by cooperating immediately on the part of the teacher.

Knowledge is acquired through: cooperation, exchange of opinions, examining the evolution of phenomena (laboratory experiments), and the description of personal experiences, with the intervention of the teacher.

To apply this form of learning, we must first define:

a) The composition, role and membership of each group. The ideal number of members is three or four people.

b) The method of evaluation of each member and the group as a whole. The teacher evaluates: knowledge, participation, cooperation, ability to formulate and support points of view, etc...

### **Compositional criteria groups:**

1. Chance. In some cases it is not wrong to compose groups randomly by drawing lots. But usually this approach is deprecated.

2. The performance. Groups are formed with the performance criteria of the members. The proposed composition heterogeneous part of a group of learners.

3. Interest. Formation of groups based on the interests of their members, but not absolutely.

4. Never form groups of learners of the same sex because then it creates sexist tendencies. Exception of work whose subject is the most popular of one of the sexes..

5. Social relations. Interpersonal relationships are identified using a suitable questionnaire called "sociometric test."

### **The role of the teacher:**

Through self - directed learning.

Cooperative.

Advisory.

Directive.

### **Benefits for learners:**

- Development of interpersonal relationships.
- Development of solidarity.
- Development of social skills.
- Acquisition of knowledge through the experiences of others.
- Assembly of knowledge and skills.
- Acquisition of experience in managing disagreements and disputes.
- Acquisition of the ability to establish evaluation criteria.
- Acquisition of skill and critical decision making.

### **Disadvantages:**

- Need more time learning than the flexible program.
- It is difficult to assess learners (the majority of teachers do not know of such evaluation techniques).
  - It is likely that some group members are reluctant to collaborate.
  - It is likely that some members can not keep up with the work of others.
  - It is likely that the autonomy and spontaneity of some members are prevented.

Cooperative learning is a teaching method suitable for the realization of interdisciplinary work.

## SOCIOMETRY

Sociometry is the set of techniques by which we observe and examine the relationships between members of a social group. The initiator of sociometry is the American psychologist Romanian JL Moreno (1934). Its objective is to determine the degree of mutual acceptance between members of a group of individuals so that, based on this criterion, we can divide them into small groups.

Sociometry is done by: a) implementation of the sociometric test, b) text data leading to the creation of the matrix sociometric c) the outline of the sociogram and finally d) the issuance of the results.

The sociometric test presupposes the completion of a questionnaire as in the following example:

Name:

Write three names of colleagues in which you wish to participate in the same group.

- a)
- b)
- c)

The teacher must absolutely reassure students that their choices reveal to anyone. He will ask students to write their choice without any prior discussion between them and under secret ballot. Students absent on test day are subject to the choice of their classmates and make their tests when they are present.

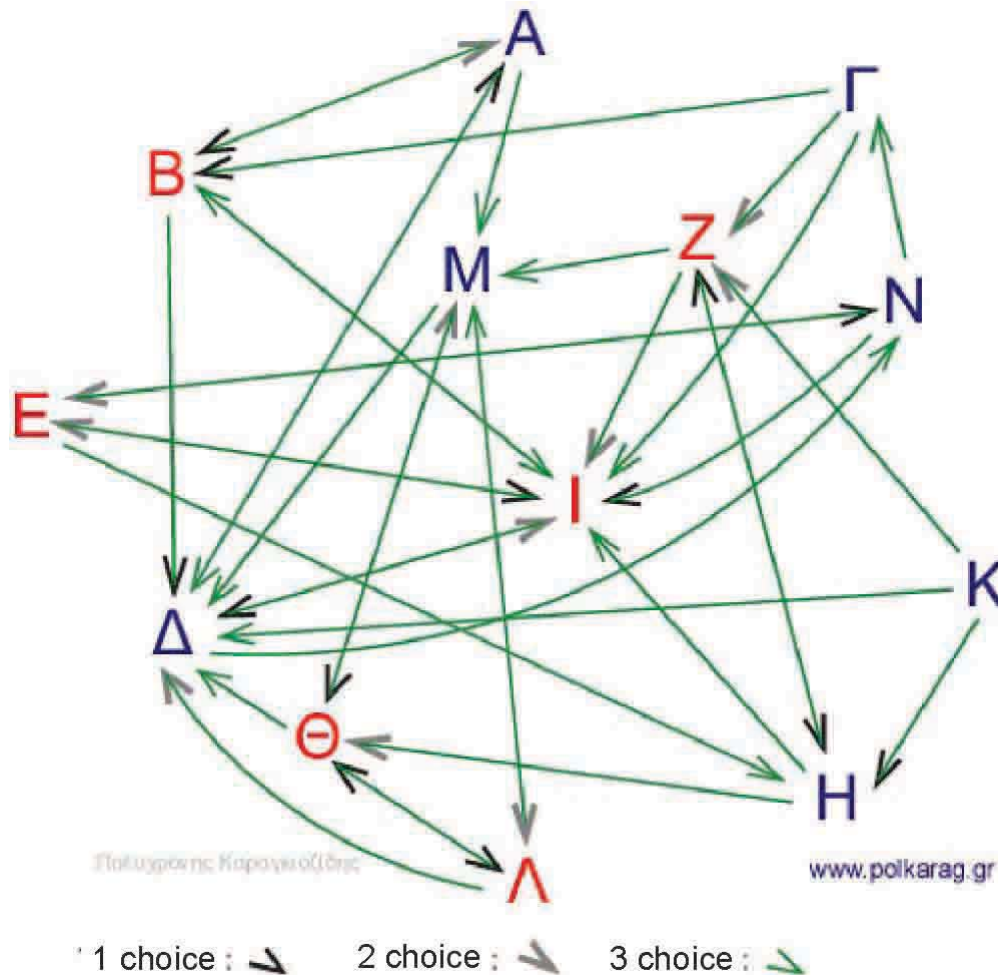
It is advisable not to offer negative questions, such as "with what your colleagues do not you want to participate in the same group?"

The test results are recorded in a table called "sociometric matrix", as in the following example:

Selected →	A	B	Γ	Δ	E	Z	H	Θ	I	K	Λ	M	N		
Electors	A	α		β								γ		A	
	B	β		α					γ					B	
	Γ		α			β			γ					Γ	
	Δ	α							β				γ	Δ	
	E						γ		α				β	E	
	Z						α		β			γ		Z	
	H						α		β	γ				H	
	Θ				γ							α	β		Θ
	I		γ		α	β									I
	K				γ		β	α							K
	Λ				β				α				γ		Λ
	M				γ				α				β		M
	N			γ		β				α					N
1 choice	1	2	0	2	0	1	2	2	2	0	1	0	0	(α)	
2 choice	1	0	0	2	2	2	0	1	2	0	1	1	1	(β)	
3 choice	0	1	1	3	0	0	1	0	3	0	0	3	1	(γ)	
Total	2	3	1	7	2	3	3	3	7	0	2	4	2		
Selected →	A	B	Γ	Δ	E	Z	H	Θ	I	K	Λ	M	N		

A, B, C.. etc.. : names of students (13) in the class list.  
 Boys blue colour, girls red colour.  
 1st choice: a, 2nd choice: b, 3rd choice: c.

Using data from the sociometric matrix we can create a sociogram in which we can have a graphic image directly on the degree of mutual acceptance, eg between students in a class, in order to successfully have the highest degree of collaboration groups that we form. The following sociogram sociometric matrix is shown above.



**Classification groups:**

Group 1: A Δ B    Group 1: Θ Λ M  
 Group 3: Z H K    Group 4: E Γ I N

- To form groups, we must take into account the following parameters:
- Students will be displaying a mutual preference, to the extent possible, integrated into the same group.
  - At least one preference of each student will be met.
  - Students who are not selected by anyone will be placed in groups with fellow preference, but not more than one in each group.

After the formation of groups (in the case of laboratory exercises natural science), it is necessary:

- Allowing a relative movement between the group members, after a period of stability.

- The students in the group alternate their roles in performing their work (ordering transfer and utensils, taking measurements, recording measurements, treatment, etc.).

Application areas of the sociogram as a guide:

- Activities laboratory natural sciences.
- Teaching in general.
- Training of military units for special missions or composition of a crew of armored.

2009  
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