

THEORETICAL AND PRACTICAL LANDMARKS REGARDING ACTIVE METHODS AND INTERACTIVE TECHNIQUES IN TEACHING

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Abstract: *Modern pedagogy promotes thinking, intelligence, creativity, imagination, as well as the students' action in order to better adapt as future adults. All these values are made clear in the teaching activity through interactive methods and techniques, which are means used by teachers for supporting students in their learning activity. These ensure active participation of students within the group, determining them to practice their decision-making skills and initiative, thus promoting teamwork, an interaction based on communication, cooperation, discovery of one's own capacities and limits. The interaction between students and their teacher develops multiple intelligences, such as the linguistic one, the logical-mathematical one, the spatial one, the intrapersonal one, the interpersonal one, etc.; it motivates students to learn; it allows division of tasks and distribution of responsibilities, shortening the time for finding solutions to problems; it offers the possibility to share ideas, opinions, beliefs; its effect is acceptance of others.*

Key words: *interactive methods and techniques, active involvement, teamwork, interaction.*

INTRODUCTION

The teaching activity takes on complex and various aspects, due to the many factors that play a part in it, as well as to the methods and means that can be used to accomplish it. In addition, this activity involves designing, organizing and carrying out the stages according to a strategy that integrates its components from a structural and functional point of view. (GAVRILĂ, BOACĂ, 2011).

Educational methods make the most of educational contents through the types of teaching activities carried out, for the purpose of reaching the targets of the training strategy.

Derived etymologically from the Greek word „methodos” (odos = road, way; metha = to, towards), the concept of „**educational method**” has to this day kept its meaning of „road to”, way to go on in order to reach a previously-established end.

The procedure is a detail, a particularization of the method, one of its components, which refers to the way in which the action is performed. It is reflected into a system of practical or intellectual operations performed by the teacher or the students, operations which put into practice the concrete mode of action. (PALICICA, GAVRILĂ, 2007)

There is a flexible relation of reciprocity between the method and the procedure; a method can become a procedure of another method that is considered the main one, while, in another teaching context, a procedure can become a method.

The technique is a combination of procedures, in view of a practical teaching solution having to do with the execution of a designed course of action.

In a praxeological sense, the method means an efficient course of action, and by extension, a practical way in which the teacher works with the students, in other words a technique employed in conducting the action of teaching and learning (CERGHIT, I., VLĂSCĂEANU, L., 1988). From the point of view of the educational couple (teacher-student), the method is a set of mental and practical operations thanks to which the student (the knowing

subject) discovers the essence of events, processes, phenomena, either with the teacher's help or independently. (IONESCU, M., RADU, I., 2001).

M. IONESCU AND V. CHIȘ (1992) consider that methods serve different purposes: knowledge (mastering the rules and methods of thinking), training (assimilating knowledge, skills, capabilities and working operations) or formation (developing and perfecting one's personality traits).

As C. CUCOȘ (2002) mentioned, the method has a multifunctional character, meaning that it can participate simultaneously or successively in the realization of several educational objectives. The teacher's choice of a certain educational method integrated into a teaching strategy constitutes an extremely complex decision. The method should be chosen taking into consideration the following:

- ✓ the aims of the strategy;
- ✓ the content and types of activity employed;
- ✓ the students' age particularities and individual characteristics;
- ✓ the psychosociology of school groups;
- ✓ the nature of the means of education;
- ✓ the teacher's experience and teaching competence (2002).

The changes brought about by the development of education, together with the experimental research conducted in this field, have led to the appearance of new methods. Thus, the meaning of the concept of method has been enriched.

DISCUSSIONS

Modern pedagogy involves a reconsideration of the relationship between the teacher's and the student's activity in the educational process. Students are no longer the objects but the subjects, with an active participation in their own formation. In this sense, without denying the importance of the traditional methods, at present teachers are focused on sets of active methods and interactive techniques.

M. BOCOȘ (2013) believes that (inter)active learning can be based on: methods of independent activity, (heuristic) conversation, cooperative learning, problematization, discovery, models, experiments, experimental and practical work, case study, educational games, role play, multimedia learning. In addition, she mentions:

- methods for developing critical thinking: the cube method, the quintet method, the "KWL (Know/Want/Learn)" technique, the mutual teaching method, the "Mosaic" teaching method, clustering method, tour gallery technique;
- methods for developing creativity: brainstorming, FRISCO, brainwriting, synectics, Philips 6-6.

C.L. OPREA (2007) establishes a few large groups of interactive methods:

- teaching-learning methods: Reciprocal teaching, Palinscar, Jigsaw, comprehensive reading, STAD (Student Teams Achievement Division), TGT (Teams/Games/Tournaments), Share-Pair Circles, the pyramid method, dramatized learning;
- methods for cementing and systematizing knowledge and for assessment: Cognitive map, Conceptual map, matrix, cognitive chains, Fishbone maps, cause-effect diagram, Spider map – Webs, Lotus Blossom Technique, R.A.I. method, flash cards;
- methods for problem solving by stimulating creativity: Brainstorming, Starbursting, Thinking hats – Edward de Bono, carousel, multivoting, round table, group interview, case study, critical incident, Phillips 6/6, 6/3/5 technique,

creative controversy, Fishbowl technique, focus group technique, Four corners, Frisco, synectics, buzz-groups, Delphi;

- methods of group research: teamwork project or theme, experiment in teams, group portfolio.

In order to put into practice the theoretical aspects of the active methods and interactive techniques in teaching activities, below we present for examples for the school subject entitled Biology, for the 9th and 10th forms (IANOVICI, 2006, IORDACHE, 1995).

The Mosaic Method

Subject: Biology

Teaching unit: Animalia Kingdom

Lesson subject: Phylum Arthropoda

Form: the 9th

Duration: 1 hour

Aim of lesson: the students will acquire knowledge about the animals that belong to these classes, and about their importance

Derived competencies:

C1: to define arthropods.

C2: to identify the representatives of these classes.

C3: to list the general characteristics of arachnids, crustaceans and insects

C4: to specify the importance of these organisms for humans and plants.

Type of lesson: teaching-learning lesson (communication - learning new contents)

Stages:

1. Preparing the study material:

The teacher establishes the theme for study and divides it into four subthemes:

1. General characteristics of Arthropods.
2. Arachnids.
3. Crustaceans.
4. Insects.

The teacher designs an expert-sheet in which the four subthemes are written. This sheet will be handed to each group.

2. Organizing the students in teams with four members each.

Each student in each team is assigned a number from 1 to 4, and the task to independently study the subtheme that corresponds to that number.

3. Constituting the expert groups

After the independent study stage is over, the experts with the same number get together and make up expert groups to debate the subject. Thus, students with number 1 leave their initial study groups and go to the same table to deepen their knowledge on subtheme number 1. Students with numbers 2, 3 and 4 proceed similarly.

4. Returning to the initial study group

The experts transmit the assimilated knowledge, in their turn taking in the information given by their colleagues who are experts in other subthemes.

5. Assessment

The groups present the results to the entire class.

The teacher supervises the activity, stimulating cooperation and making sure that all members are involved.

Work sheets

Expert sheet 1

Necessary material: - zoological atlases, image board, calculator, work sheet.

Tasks for students:

- observe and identify the arthropods in the atlas;
- present the general characteristics of arthropods.

Expert sheet 2

Necessary material: - zoological atlases, image board, calculator, work sheet.

Tasks for students:

- observe and identify the arachnids in the atlas;
- present the general characteristics of this class, as well as their importance.

Expert sheet 3

Necessary material: - zoological atlases, image board, calculator, work sheet.

Tasks for students:

- observe and identify the crustaceans in the atlas;
- describe crustaceans and specify their importance.

Expert sheet 4

Necessary material: - zoological atlases, image board, calculator, work sheet.

Tasks for students:

- observe and identify the insects in the atlas/insect display case;
- describe insects and specify their importance.

Know / Want to Know / Have learnt

Subject: Biology

Form: 9th

Teaching unit: Animalia Kingdom

Lesson subject: Fish

Type of lesson: Mixed lesson (combined)

Lesson moment: Directing learning

Stages:

- organizing students in pairs;
- the teacher asks the students to make a list with what they know about fish;
- the teacher makes a table with the columns I know / I want to know

/ I have learnt;

- the first column will hold the information written down by students after it has been discussed with the entire class;
- the students think of a list of questions with what they would like to know about fish;
- the teacher completes the second column with the questions asked by the students;
- the students read the text;
- after the text has been read, the students have a look at the questions in the second column and identify the ones for which the answers are found in the text. Those answers will be written in the third column;
- there is a discussion on which of the questions have been answered and which not, where the students can find the respective information and how the information obtained can be used;
- the information enclosed in column 3 is organized as a scheme.

<i>I know</i>	<i>I want to know</i>	<i>I have learnt</i>

Gallery tour

Subject: Biology

Form: 10th

Lesson subject: Ecological imbalance

Type of lesson: Acquiring knowledge

Lesson moment: Directing learning

Communicating the task: you will work in groups of four for 10 minutes. Each group will make a list with the causes of ecological imbalances and another one with the measures that people can use for fighting against them.

Group activity: while the students are working, the teacher supervises their activity, offering support where needed.

Presenting the results: each group pins their lists on the wall, the result being an exhibition.

Gallery tour: when the teacher tells them to, the students walk from one poster to another and examine the lists made by their colleagues. They write their comments and observations on the side of the lists. They have five minutes for observations, and then for the verbal and written expression of the comments.

Group activity: for five minutes, each group re-examines their list, and compare it to the lists of the other groups. They analyse the comments and observations written by the others on their list.

Think! Work in pairs! Communicate!

Subject: Biology

Form: the 10th

Teaching unit: Reproduction

Subject of lesson: Seed

Type of lesson: Acquiring knowledge

Lesson moment: Cementing and establishing performance

Stages:

- *Communicating the tasks:* You have five minutes to write down in your notebooks the following:

1. Explain the germination of beans.
2. Specify the factors that influence germination.

- *Individual activity:* The students answer the requirements in writing.

- *Pairwork:* You have two minutes to read what you have written out to your deskmate, complete the answers and formulate a common answer on which you both agree.

- *Class activity:* The teacher can take an idea from each pair or all pairs can get 30 seconds to present the short version of what they have written. Ideas are written on the board.

CONCLUSIONS

The Mosaic method:

- focuses on specific skills: listening, talking, reflection, creative thinking and problem solving. The students have to listen actively to their colleagues; they have to be able to present what they have learnt and to cooperate in carrying out their tasks.

Know / Want to know / Have learnt:

- focuses on making the students aware of their own activity conducive to knowledge, on their critical thinking respectively. This method is based on the students' prior experience.

Gallery tour:

- aims for students to be able to express their personal points of view on the subject under discussion. The students learn to accept or reject the ideas put forward by others by proving the validity of their claims.

Think! Work in pairs! Communicate!:

- Is focused on learning through collaboration; the students remember prior knowledge and reflect on it, having the benefit of being able to discuss with a colleague for formulating ideas.

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