The Methodology of Teaching between Efficiency and Formalism

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Abstract

In the world of today there are a number of differences between the theory and practice of the methodology of teaching that record the transition from the scientific rigor to formalism. Although the specialized literature features sufficient teaching-learning methods that can be useful tools in the achievement of the educational objectives, in the educational practice there have emerged some procedures which, without scientific consistency, are incorrectly promoted as true active-participative methods. Our study aims at answering the following question: to what extent do the teaching methods used by teachers allow the achievement of the objectives of the educational process? In this respect, our goal is to highlight new features and the relationship between new teaching methods and those that are already known. This study is a theoretical approach based on the analysis of design documents for pre-university teachers and educational activities conducted in the classroom.

Keywords: method, technique, training, participation, teaching technology;

1. Introduction

The radiography of the educational reality in class represents in our opinion a compulsory task if we want to understand the evolution of mechanisms which have directed the promotion of a certain educational type and, more importantly, which have been its immediate or prospective consequences. At first, at the educational-instructional process level, what we are used to name traditional education stressed intolerably much its
informative, quantitative aspect, without truly referring to the didactic principles or to the individual and particular peculiarities of the students, without any selection and advisable adaptation of values. The strategic support for sending knowledge was predilectly made of mostly expositive, depersonalised methods, which transformed the students in passive audience of the educational act. This is also a consequence of the fact that teaching was fundamentally regarded as the exclusive obligation of the teacher, while learning, that of the students. It is about the mechanical learning, receptive-reproductive which, in reference to the taxonomy of cognitive objects enounced by B. Bloom only covers the first two stages: the acquisition of knowledge and, most fortunately, its comprehension. These days, at the educational-instructional process level we discuss the rise of modern education which emphasises the importance of forming in the students’ intellectual education. The new paradigm of education requires the projecting of the contents of learning in a curricular manner with respect to objectives, activation of all the child’s potentialities in accordance with the laws of development, and a careful handling of knowledge with respect to didactic principles.

Also, the necessity of conjugating the methodology of teaching with the novelty elements is justified via the following arguments we propose for analysis: a) promoting the change at the teaching methodology level provides the opportunity to achieve the educational ideal and fulfil the basic functions of education; b) any reform in education becomes feasible when it attempts at the deconstruction of the old practices and their recapitalization from the perspective of innovation, transformation in the fields of knowledge. The persistence in rigid formation frames results in inertial behaviour; c) most blocks and tensions are caused either by the ignorance of the general aim of the change, or the regard of the change as an element affecting the role and status of the individual. However, these are only a part of the resistance elements which the Education reform is bound to demolish; d) whether the informative education used to promote learning by memorization, today the emphasis is laid on the learning through discovery, which places the student at the centre of the didactic activity. The student is no longer required to be only a passive recipient of knowledge, but an actor involved in discovering this knowledge.

The changes in the methodology of teaching are a consequence of the change in the teaching paradigm. Thus some authors define teaching as “a change in the behaviour of an organism as a result of the interaction with the environment, transposing it in a growth of its repertoire” [1]. The stress is nevertheless laid on the accrual issuing from the valorification of experience and not from what we naturally acquire with ageing. As far as the school learning is concerned, we must consider not only the mere acquisition of information, but the resilience of the operational structures of thinking and the development of creativity [2]. From the analysis of the various theoretical approaches of the learning process, the constructivist paradigm best observes the mode in which learning is built. Constructivism is a development of cognitivism and it is based on Piaget’s research. This paradigm supports the active role of the subject in building knowledge. The constructivist learning is always dependant on the context in which it is carried out. Methodologically speaking, it emphasises more and more the conversational, active modes which give the students an opportunity to take part in the teaching-learning-evaluating act, to develop their creativity, and personality traits, more and more acclaimed in a changing society. Step by step the old modes of teaching are given up in favour of an intelligible, operational and creative learning.

2. Efficiency vs. formalism in teaching activity

Starting from the new approaches regarding the learning process, our study aims at answering the following question: to what extent the teaching methods used these days by the teachers allow the objectives of the instructional-educational process to be attained? In this respect, our aim is that of emphasising the traits of the new teaching methods and their relation to the already known practices. In our analysis, the starting point is represented by observations made in the pre-university education system, more precisely, the didactic activities performed in class. We must state from the beginning that the majority of teachers are preoccupied with the efficiency of their professional activity. This aspect is worth stressing, all the more as they are usually accused of
favouring the old teaching practices, which is reflected in the students’ poor outcome. The problem occurs in such situations in which the new teaching requirements make the teachers use certain techniques excessively, thus missing the objectives they aim at. In many cases, the stress is laid on form, on embracing a certain conduct, which generates enjoyment for students but at the same time impresses a certain type of formalism and superficiality on the teaching activity, with negative effects in the long run. Often, in order to motivate the students, to make them get actively involved in the activity, the ludic aspect of the teaching methods is favoured, missing out the formative dimension of education. The students are more motivated but they do not acquire knowledge or skills. In order to explain this aspect, we will exemplify with a few situations of defective or confuse usage of the teaching methods.

It is well known that these days it is compulsory to use methods based on problem-solving, which would produce the development of superior intellectual abilities of the students. One of the best known and most efficient methods to be used with this aim is problematization. The problem-situation is the fundament of this method, defined as a contradictory state between prior and current knowledge, old and new practices, theoretical and practical aspects [3]. It requires an intellectual effort in searching and discovering a solution to tone down the apparently non-existent relation between the old and the new [4]. For example: “It is well-known that repetition is the basics of the learning activity. However, how can one explain that numerous repetitions at small time intervals may favour forgetfulness?”; “How can one explain that, even though raising the intensity of motivation leads to improvements in performance, there are situations in which, reaching a certain intensity level, motivation may determine a decrease in performance?”; “How comes temperatures are lower on the top of the mountains than in the plain, knowing that the Earth is warmed by the sun and the mountain is ‘closer’ to the latter than the plain?” etc. The trump of this method is that the teacher does not provide “already-made” knowledge, but asks the students to discover it through personal effort. Problematization makes the students take advantage of prior knowledge and experience, but also reorganize and re-structure their thinking in order to discover new truths. Thus the students are determined to build new cognitive structures, to elaborate new solutions to overcome the hindrance. One of the mistakes teachers make in using this method is that of taking the “problem-situation” for the difficulty the students would encounter in answering a question as a result of the lack of information. For example, „why is the pusher-type airplane able to fly only in air?”. We must understand that not every why-question is a problem situation. For this question to be problematic, it may have been put like this: “why is the pusher-type airplane able to fly only in air while the jet aircraft, both in air and under-pressure?”

Another common mistake is that of taking the problematization method for the exercise method. While problematization favours the reshaping of thinking, and the development of creativity, the exercise method consists of conscious and repeated performance of acts and operations, with the aim of forming theoretical and practical skills, of developing abilities and skills, and of stimulating the creative potential [5]. There are pre-established schemes for solving the exercise. The student is made apply the theoretical aspects for solving a practical situation or check their truth validity, according to a known algorithm. It favours the development of the thought operative abilities without necessarily determining its reorganisation. Consequently, problematization is not synonymous with solving exercises and problems in a certain subject. If problematization forces the teacher to reorganize the teaching procedure in order to re-shape the students’ thinking at a superior level, the exercise leads more often than not to the mere practical exploitations of knowledge. In the educational practice there have appeared a series of techniques which most of the teachers regard as novelty without being aware that they are but more attractive application versions of methods already known. The quadrants or the cube are just two of the techniques considered completely different from the exercise method. For example, for the quadrants the teacher quadrates the blackboard (or the paper sheet). In the left quadrants the tasks are written, in the right ones the students have to solve these tasks. If we analyse the procedure carefully, we notice that the students are practically solving exercises, with the aim of formation or consolidation some intellectual skills. The technique is applicable both individually or in group activities, as in the case of the exercise. In turn, the cube is a technique exploiting the thought operations in learning a content [6]. The starting point is a text or a problem for whose
solving the student must carry out six operations (describe, compare, associate, analyse, apply, and reason) which correspond to the six facets of the cube. In this case it is also about exercising skills and intellectual abilities. Brainstorming and the galaxies techniques are in the same situation. It is well-known that brainstorming is a conversational method of stimulating creativity. It facilitates searching and finding the best solution for the problem in question, mobilizing the students for a sustained intellectual effort. The stress is laid on creativity, on building ideas with the help of other ideas. The method has two stages: a) the initial moment, quantitative, in which the emphasis is laid on building ideas and solutions as they come to the students’ minds; b) the ulterior moment, of evaluating the ideas and solutions in view of identifying the best ones.

The aims of this method are: the analysis of the problem under an infinity of aspects; the production of as many ideas as possible; the exploration of the students’ intuitive, associative, and conceptual potential; the identification of the hindrance blocking creativity [7]. Starting from the characteristics of this method, we can infer that the galaxies technique is but another applicative procedure of brainstorming. In the same author’s view, this technique requires from a group to express spontaneously some ideas in respect to a problem. Starting from the common or opposite aspects of these ideas, the group’s action lines will be drawn. The aims of this technique are similar to those of brainstorming: using the imaginative abilities of the group members; associating intuitive exploration and rationality relations. Although similar to brainstorming, the stellar blast is regarded by some teachers as a different method. In fact, it starts from an idea or a problem to which questions such as what? who? where? why? and when? are posed. The aim of the technique is that of identifying more solutions and, consequently, more connections between concepts. It is a way of stimulating both individual and group creativity. There are numerous examples of this kind. Suffice it to analyse comparatively the heuristic conversation, answer-throw-ask technique and the thinking hats.

Heuristic conversation is a method promoting the dialogue between teacher and students in order to reveal new truths. The method exploits the students’ prior knowledge, developing their ability to find answers to problems they have not identified or been confronted with. The stress is laid on using divergent questions which make the students explore the problem from many perspectives, to associate bits of knowledge, to infer causal relations, to advance conclusions and generalisations. We can use productive-cognitive thinking questions (why?, how?), hypothetical questions (if... then?) etc. To put it differently, the method has powerful formative valency, aiding to the development of the students’ thinking. As the correct usage of this method implies a consistent effort of making up those questions that trigger in the students’ mind the logical connections required for the superior development of thinking, the teacher is tempted to use other techniques much more often, although they do not help attaining the same objectives. We have in mind, for instance, the ATA (answer/throw/ask) technique. It sights the development of the students’ ability to communicate what they have already learnt. It goes on like this: at the end of the lesson, the teacher investigates how much have the students assimilated the information. To that purpose, a ball is used, which is thrown from one student to the next. The one throwing the ball must address a question from the lesson just taught and the student catching the ball must answer. In turn, s/he will throw the ball and ask another student a question. The student who does not know the answer is bowled off and the one asking will provide the answer. Beyond the ludic aspect of this technique, the questions have the role to evaluate the degree of memorizing the information and not to guide the cognitive effort on divergent paths. The thinking hats is another method excessively used. It presupposes the supply or manufacturing of some hats of different colours: black, blue, green, yellow, red, and white. Each hat is assigned with a task: the blue hat defines the problem and picks the correct solution at the end; the white hat provides information and available materials for the problem under discussion; the green one envisages the possible solutions; the yellow hat has in sight the real possibilities of realisation of the proposed solutions; the black hat identifies the weaknesses of each solution; and the red hat stimulates the participants to provide answers to questions such as: what do you feel about the solutions proposed? During the activity, the students may exchange hats, which makes them approach the problem from various perspectives. Nevertheless, the technique is time-consuming and predisposed to formalism. More often than not, the stress is laid on the effective use of these hats, the tasks do not have the necessary depth
and, at the end of the lesson, the students only retain the beauty of the moment and not too much knowledge or sufficient skills. Apart from not understanding the differences or similarities of the teaching methods, another hindrance in using some techniques is some teachers’ confusion in what the aims of various stages of the lesson are concerned. It is well-known that, starting from the necessity to motivate students to get involved in the activity, every lesson begins with a lead-in. The aim of this stage sights the stimulation of interest in the activity exclusively. At this stage, the teacher must, by exploiting the students’ prior knowledge, create correlations with what s/he is about to teach during the present lesson. This way, the students scientific curiosity, and their wish to discover new information will be induced. The observing activities carried out proved there was a risk of formalism at this stage as well. Usually at this stage ice-breaking techniques are used. Their use is appropriate, however, their role is only that of disinhibiting the participants, of optimizing the emotional states, and of creating an open teaching environment [8]. To put it otherwise, we tend to take the lowering of the inhibiting barriers for students’ scientific curiosity stimulation.

These are but a few examples of defective usage of the teaching methods. We are of the opinion that the instructional-educational process must rely on methods as varied as possible, but we regard as compulsory to clearly assess the objectives we aim at during the lesson. It is also necessary to be very well acquainted to the features of the teaching methods and techniques. The deficient and random use of these methods will prevent the attainment of the objectives and will render the teaching act superficial. Applying new elements of didactic technology requires awareness, responsibility and not just the desire to win the students’ liking.

3. Conclusions

We believe that at the level of the education process is compulsory to promote those active-participative strategies which exploit the students’ interest and creativity, appeal to all their abilities, and allow their free, critical expression as well as cooperation learning. The deductive strategies must take precedence, as they provide the students an opportunity to get through from general to particular, from abstract to concrete, also the heuristic strategies which facilitate the students’ possibility to study certain aspects thoroughly (the case study, problematisation, observation, brainstorming, debate etc), and the creative strategies which allow for the manifestation of the students’ full creativity, spontaneity, and their critical evaluation capacity.

The taking up of one of these strategies or another must not be carried out arbitrarily, but starting from the necessity of promoting a formative education, for the fulfilment of the general aims of education, from the nature of the contents, of the promoted type of learning (the necessity of heuristic learning will be emphasised), to the students’ and teachers’ characteristics (they experience knowledge differently). It is important that all didactic strategies allow the affirmation of the individual psychologic profile of all the students.

The choice of the most appropriate strategy or organisation form to make the teaching process effective proves itself a not so facile undertaking on the part of the teachers who truly aim at the attainment of the educational objectives. Since there is no such thing as an imposed rule, they have to analyse objectively the entire methodology and select those methods and procedures which serve the fulfilment of the proposed objectives best.

References
