

Redefining the senses of "model of teaching" and "teaching strategy": An alternative approach

ABSTRACT

This article seeks to delineate the senses of "model of teaching" and "teaching strategy" and to determine the relationship between them and the regularity of their coexistence. Trying to formulate definitions also carries a serious risk of error. The literature review shows that the senses of "model of teaching" and "teaching strategy" alternate and are often presented as identical. Rarely used with different conceptual content. Usually, however, these two senses are confused, without being clear either of their possible tautology or of their difference. That is why this article attempts to redefine the two reference senses with an interpretive method and to formulate more precisely their structural semantic content. [The main aim of the article is teacher, but also for everyone involved in Didactic to understand precisely the meaning of the senses "model of teaching" and "teaching strategy", given that in the relevant literature the terms of Didactic generally do not formulate and do not they accurately capture their basic conceptual definition, resulting in conceptual confusion, if not semantic distortions.

Comment [MB1]: This sentence needs to be rephrased – teachers can targeted in this paper, but can not be the main aim. The sentence is too long and may sound confusing.

Comment [MB2]:

Keywords: redefinition, teaching, model, strategy

1. INTRODUCTION

For Socrates, "definition" is the formulation in which a defining expression, the "defining", is provided for an expression, which must be defined and is the "definite" [1]. Socrates systematically used induction to arrive at definitions, because a definition consists of a collection of these general characteristics, selected on the basis of the following mental requirements: a) They must be substantially relevant to the category as a whole and not are random properties of some of its members. b) Together they must be sufficient to distinguish the category of things, defined by all the other categories of any things [2]. According to Spranger [3] "definition" and "induction" paved the way for objective research and the creation of science.

Aristotle later argues that "definition" is the formulation that expresses the essence of a thing [4]. According to Giannaras [5], the meaning of "essence" means all those who participate in a similar way in the common discourse of social experience, proving the character of the definitive discourse, as a condition of proving whether something is or is not, if it exists or if it does not exist. On this basis, the "definition" sets the limits for the distinction of the conditions, in order to distinguish the uniqueness of the one defined.

Each definition consists of three structural elements: a) the "defined sense", b) the "next genus", which is the most general concept to which the defined sense belongs, c) the "noticeable difference", which indicates the special feature, which distinguishes and differentiates the defined sense from other similar senses [6]. According to Babinotis [7] the definition of a sense is considered the exact formulation, which aims to render the essence of the sense, based on the "next genus", to which it belongs but also on the "noticeable difference", which distinguishes it from other senses, belonging to the same genus.

Trying to formulate definitions, however, carries the serious risk of errors, such as tautology - where the definition of a sense is identified with itself or with a similar sense, e.g. teaching is to teach-, of dialogue- when a sense is defined by a second and the second by the first, e.g. learning is the acquisition of knowledge and the acquisition of knowledge is learning-, the use of metaphorical senses.

On the other hand, the definition of the term "sense" involves the semantic content of words that have a meaning. It is pointed out that in ancient Greek philosophy instead of the term "sense" the term "species" was used, with Aristotle pointing out that there are some primary elements from which the senses are derived. These elements are: the substance, the situation, the action and the process. The multimodal connection of these elements results in the creation of senses [8].

In the aforementioned context, the literature review shows that the senses of "model of teaching" and "teaching strategy" alternate and are often presented as identical [9]. They are seldom used with different conceptual content and then the sense of «model of teaching» is presented as a broader sense, while the sense of "teaching strategy" as a partial, consequent sense, contained in the first or contains structural elements of it [10]. Usually, however, these two senses are confused and it is necessary to clarify the relationship between them, so that it is clear whether they are identical senses or senses with different semantic content and epistemological determination.

Comment [MB3]: Senses or terms? Or notions?

The sense "model" is found in lexicography with the meaning "exemplar" or "example". The first meaning refers to the perfect or the ideal, while the second seems to be simple enough to accurately convey the content of this sense, as it refers to the multidimensional and multifaceted teaching process. In addition, the word "model" comes from the Latin word "modus", which means "way». Therefore, it can also be understood as the way in which the respective teaching is implemented.

According to the literature review, the sense of "model of teaching" involves various dimensions and parameters and is often assigned an intermediate role, linking learning theories with teaching and learning practice [11]. Therefore, "models of teaching" are not clearly separated from learning and teaching theories [12] and constitute the process of "modeling» the teaching practice in the school context, as they are linked to the plans of the teaching process [13]. The performance of this process is based on the analysis of the conditions, possibilities and limits of teaching and learning and is classified according to the rules of scientific positions, which perceive teaching as the flowing substance to achieve learning [14].

The connection of the terms "model of teaching" and "teaching strategy", as identical terms, raises concerns, as the sense of "strategy" refers to a teaching tactic, which is chosen for its effectiveness. More specifically, the word "strategy" in ancient Greece meant "the art of planning and conducting a war». It is a compound word, from the words "army" (stratos) and "conduct" (ago), that is, I lead the army. The "teaching strategy» is organized due to specific pedagogical principles as a structured sequence of interdependent teaching-learning activities, which are offered for the implementation of specific teaching objectives. Therefore, the "teaching strategy" is based on the principles of a pedagogical theory or a learning theory and aims to achieve one or more learning outcomes.

In this article, the term "model of teaching" is chosen and not "teaching model", because it is not something that is taught, but it is what is the theoretical axis on which the respective teaching is built and implemented. It is also a "model of teaching" and not a "teaching model", because it is a way of conducting the teaching process.

Therefore, as a "model of teaching" can be defined the framework, which contributes to the shaping of the structural axis of teaching, determines its orientation on the basis of a specific learning theory, having its own particular characteristics, which are: the category of models in which it belongs, the learning theory that underlies it, its basic didactic principle, its main variables, related to the causal relationships that structure it.

Comment [MB4]:

2. RELATIONAL DEFINITION OF THE SENSES "MODEL OF TEACHING" AND "TEACHING STRATEGY"

The sense of "models of teaching" has been established in pedagogical science since the second quarter of the 20th century, as a tool for analysis and planning of the teaching process. As a concept, it was initially accepted in the sense of the "model" of shaping didactic actions within a sequence of phases of teaching. That is, the sense of "model of teaching" refers to a set of theoretical principles and teaching practical issues, stating a system of teaching, learning and organizational activities, which the teacher develops in the teaching process, as well as the way in which these activities should be interrelated, in order to influence the learning process and to facilitate the implementation of the teaching objectives of this teaching [15].

The "model of teaching" has the position of the tool for organizing, guiding and evaluating the teaching practice. It is a set of teaching, learning and organizational activities, developed by the teacher in the teaching process. The structuring of these processes and, ultimately, of the model itself, is not arbitrary, but is based on a learning theory and a specific profile of learning content and teaching orientation [16].

The term "model of teaching" is a broader term than that of "teaching strategy", because it refers to the general view of the teaching work, including, in addition to the teaching activities, which constitute the strategy of teaching and any other action that determines the expediency and search for impact of teaching. In general, the "model of teaching" is the reference framework of the teaching process and the type of relationships between the basic theoretical senses on which the phenomenon of teaching is based. The "model of teaching" is not a graphic or schematic representation of the course of teaching, but rather an interpretation of the philosophy on which teaching is based and to which it is oriented. It can be said that the "model of teaching" is a reflection of the basic scientific principles of teaching, extending to the principles and expediency of each teaching (Joyce & Weill, 2006).

According to Keeves [17] the term "model of teaching" is not synonymous with the term "theory of teaching" and for a "model of teaching" to be useful it must meet the following conditions:

- The model to include structural relationships, in order to achieve the solution of the problems, proposing assumptions for their solution. The hypotheses are created on the basis of specific theories but also from the findings of previous relevant research. If the hypotheses are verified by the findings and can be generalized, then they contribute to the formation of a theory. Until they are verified, however, they are proposals for investigation. These hypotheses can be used to create a model, which gives some structure to the proposed relationships between the hypotheses. The model and hypotheses contained in it are built on existing facts, theories or hypotheses of logical investigations.
- The model to enable the prediction of results, which can be verified by observation.
- The structure of the model must discover causal relationships, which are involved in the subject under investigation. In this way the model helps both in the prediction and in the interpretation of the phenomena.
- Helping the model in prediction helps in the formation of new senses and relationships. In this way it extends the original question.

In general, the model must be clearly and precisely defined. However, the use of models carries risks, with the key being the fact that a model implies simplification. Simplification is directly related to the degree of abstraction of the model, which contributes and gives meaning to the construction of a model [18]. However, simplification does not mean oversimplification. Care is also needed in constructing a model in that importance can be given to parameters that do not belong to the model structure, but to individual elements used in the model [19]. A hasty analogy, an inappropriate metaphor, or an inappropriate diagrammatic presentation can in some cases hide rather than reveal the basic structure of the model, which includes relationships that can be tested and verified. On the other hand, the use of the former helps in accuracy and clarity, in terms of the structure of the model, which would otherwise be lost in words [20].

Individual types of models are [21]:

Meaningful models, whose main feature is that they are expressed in verbal form, use speech and metaphor forms, which create conceptual rather than physical analogies. The disadvantage of these models is that they lack accuracy, which means that they cannot be easily controlled. The advantage of these models is that, because they are expressed verbally, they give easier interpretations on the issues to which they refer [22].

The causal models, in which a simplified model in the form of an equation is formed showing the causal relationships that exist between the variables under consideration. The model is constructed on the basis of pre-existing experiences or findings and is represented in the form of linear equations, each of which represents a relationship that theoretically exists between the variables [23]. In particular, the "model of teaching" includes as its structural elements the following:

- The relations of the senses that make up the "model of teaching" are not bidirectional, but mutually-surrounding. That is, structurally the senses co-exist.
- The "teaching objectives" do not arise from the "model of teaching", but through the "model of teaching" the learners are pushed to achieve the already set objectives. Therefore, the choice of "model of teaching" depends

on the "teaching objectives". That is, first the intended objectives of the teaching are selected and then the model of the teaching course of the teaching is selected. Thus, the relationship between "teaching objective" and "model of teaching" is one-way from objective to model.

- The "learning theory" does not derive from the "model of teaching", but it structurally supports the "model of teaching", but by pointing out that the "model of teaching" is not only the "learning theory" that supports it. Thus, the relationship between "learning theory" and "model of teaching" is one-way, moving from the "model of teaching" to the "learning theory".
- The relationship between "framework for determining didactic applications and experimental techniques" and "model of teaching" is bidirectional.

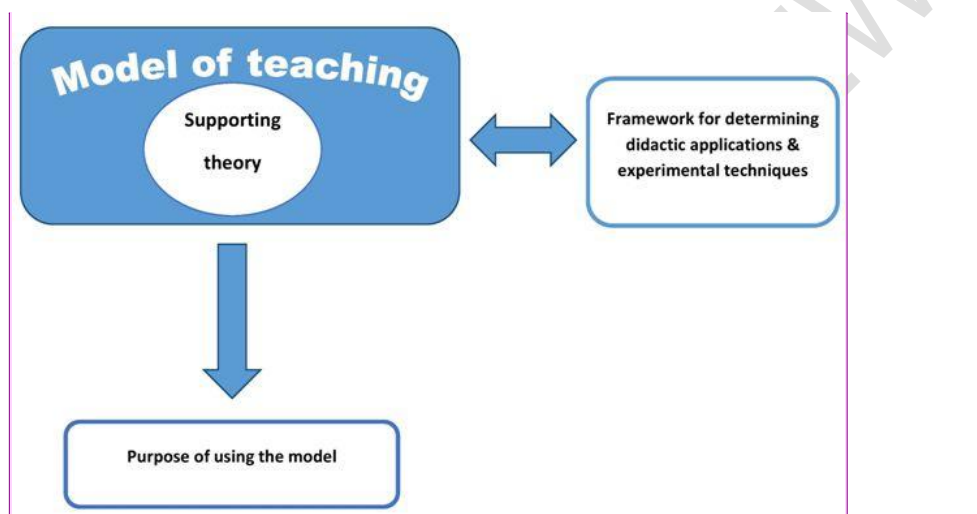


Fig 1. Model of teaching

In general, the "model of teaching" is more than a description or outline of the teaching implementation process. Thus, the "model of teaching" is a coherent interconnection in a single set of teaching objectives, teaching contents, teaching aids, learning activities, forms of learning process, as well as the organization of the learning environment [24].

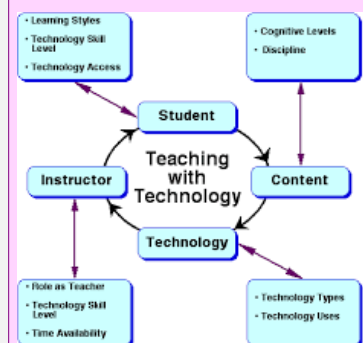
3. DIDACTIC DEFINITION OF THE SENSES "MODEL OF TEACHING" AND "TEACHING STRATEGY": CLASSIFICATIONS

Joyce & Weill [25] state that "models of teaching" can be the structural basis for the preparation of Curricula, but also to theoretically support the teacher in the design of his teaching and, especially, for the choice of the teaching method, the learning material and the organization of the learning environment. Also, the knowledge of the "models of teaching" by the teacher enables him to be didactically flexible and more creative in his teaching work and to give flexible and effective solutions to the arising teaching and learning problems of the learners and to constantly respond to changing conditions and teaching situations. At the same time, the "models of teaching" contribute to the adaptation of each didactic theory and its applications in the teaching practice [26].

Over time, "models of teaching" have been grouped into the following four categories:

- Informational-procedural models. The models, which fall into this category, emphasize the ways in which learners can understand the world, through the acquisition and organization of data, the understanding of problems and finding solutions to them, while developing language expression skills. The main representatives of these models are Ausubel [27], Bruner [28] and Piaget [29]. These models exploit the sense of "effect size" by combining the experimental method with ex post facto research [30].

Comment [MB5]: Where is a place for learning theory in this model of teaching? This graphic representation of the 'model of teaching' seems a bit too generic and too simplistic for me as there are some many variables that influence the model. Especially today, with new technology coming into the process as well. Look at this example



- Social models. In these models the emphasis is on the development of the social skills of the learners. The main objectives of social models of teaching are for learners to develop cooperative skills in order to acquire knowledge, but also social skills. Dewey [31] and Slavin [32] are considered to be representatives of these models of teaching. In these models there are either the type and level of cooperation between peers - but without devaluing the independence of each individual personality - or heterogeneous groups are studied through assignment - in the context of teaching - social activities [33].
- Personality-related models, which focus on the development of human personality. These models aim the learners to develop skills of self-understanding, self-esteem, autonomy and self-realization. The main representatives of these models of teaching are: Rogers [34] and Maslow [35].
- Behavioral models, which attempt to modify the behavior of the individual to desired actions, based on the positive support he receives. The main objectives of behavioral models of teaching are to achieve the management of their behavior by learners, through learning new behavioral patterns, managing phobic or other dysfunctional behaviors and acquiring self-control and self-management skills. The main representatives of these models are considered to be Bandura [36], Skinner [37] and Bloom [38]. The research capabilities of these models were structured on the basis of specific computer programs, which record differences in behavior both in terms of general objectives and specific purposes of teaching [39].

"Models of teaching" have also been classified into the following four categories, based on their theoretical background [40]:

- The models, which focus on teaching the learning contents and aim at the transmission of knowledge, without giving special weight to the psychological conditions of the students and their social needs. The category of these models emphasizes "academicity".
- The models that emphasize that information, that aim to serve the needs of society as a whole. Therefore, the emphasis of these models is on "social efficiency".
- The models, which focus on learning theories and serve the needs and interests of the learners. The emphasis of these models is "student-centeredness".
- The models, which aim at the "social reconstruction", in order to restore the imperfections of the society.

Another important category of "models of teaching" is the "models of heuristic teaching", which are associated with methods for solving learning problems and strengthening memory reference frameworks [41]. "Models of heuristic teaching" explain some of the multiple outcomes of teaching, which extend beyond learning simple cognitive elements and include topics related to the learning process itself (learning how to learn), problem solving, development and use of strategies of teaching plans [42].

In combination with the above, it is pointed out that the "model of teaching" is the way in which teaching is conducted, which is based on a specific learning theory and has its own special characteristics. Subsequently, the "teaching strategy" is the planning of the teacher's actions before, during and after teaching, in order to achieve the teaching objectives, which were initially set, as well as to have the corresponding learning outcomes [43]. Therefore, the sense of "model of teaching" can be understood as the way in which teaching is conducted, while the sense of "teaching strategy" as the art of teaching planning [44]. In combination with the above, it is pointed out that the "method" is a teaching choice of the teacher, which is part of the integrated actions of the strategic planning of teaching and, at the same time, is an expression of the teaching method, as a means of the functioning model of teaching, which mobilizes teaching. Therefore, a distinct relationship between the "method" and the "teaching strategy" and the "model of teaching" seems rather out of place.

The "teaching strategy" involves the character of the structured sequence of mutually-constructed teaching-learning activities, which is a deliberate teaching intervention to achieve specialized teaching objectives. Teaching strategy is related to the interaction and communication between the participating members of the teaching process [45].

More specifically, it is noted that the term "teaching strategy" was introduced into the teaching literature by Hilda Taba in 1966 in her work "A Teacher's Handbook to Elementary Social Studies. An Inductive Approach". Over time, various definitions have been given for the sense of "teaching strategy", through which their main common elements are highlighted, from which it can be said that: The "teaching strategy" refers to actions related to teaching in all its phases,

before and after its implementation in the classroom. These actions are a product of programming [46] and have a specific sequence and are interconnected and are based on specific selected didactic principles.

Respectively, the following main classifications of "teaching strategies" were formed:

- a) "Teaching strategies" derived from learning theories: These are presentation strategies based on behavioral learning approach, discovery strategies and exploration strategies based on constructivist learning approach, and cooperative learning strategies based on the socio-cultural theory [47].
- b) "Teaching strategies" which are based on the Bloom classification and relate to each stage of the objective setting of teaching [48].

The foundation of "teaching strategy" is also governed by the following principles: a) The content and organization of knowledge is shaped by the socially determined consciousness of the participating members of the teaching process. b) Knowledge becomes a personal acquisition of the learners through the correlation of the new elements with the conceptual forms of the pre-existing knowledge. The result of this interrelation is the reorganization of the original conceptual schemes [49].

In general, it is found that a range of "teaching strategies" appears and this is due to: a) The different theoretical approaches, which are used in the foundation of a teaching strategy. b) In the range of didactic and learning pursuits. c) In the multitude of didactic subjects [50].

The usual categories in which teaching strategies are classified are the following four (4) categories:

- Teaching strategies of declarative knowledge

These are cognitive teaching strategies, which as their structural elements involve cognitive skills. Types of teaching strategies that belong to this category are: the inductive-hypothetical strategy for the teaching of senses, the abductive strategy for the teaching of senses and generalizations, the strategy of directed inquiry [51].

- Teaching strategies of procedural knowledge

These strategies emphasize the teacher and the effectiveness of the teaching work, as it corresponds to the level of academic performance of the learners. In the context of these strategies, the teacher is considered effective, when he has the following characteristics: -He has a clear academic orientation and high learning expectations from the learners. - Provides gradually and directly the content of teaching. -Gives opportunities for directed and semi-directed practice. - Ensures the active participation of learners in the teaching and learning process. -Offers the learners immediate feedback of a cognitive nature. -Develops an adequate learning environment [52].

- Teaching strategies of socio-political attitudes and skills

These strategies stem from the systematic effort to overcome the confrontation of academic learning with the moral and emotional development and the individual-centered orientation of the school in social centrism. The ultimate goal is the autonomous and critical thinking learner, who is able to critically control information, beliefs, attitudes and actions both his own and those of others, to understand and manage the essence of differences and conflicts and to seek but also to negotiate solutions to theoretical as well as practical issues and problems. On this basis, knowledge and behavior are identified and redefined according to the social context [53].

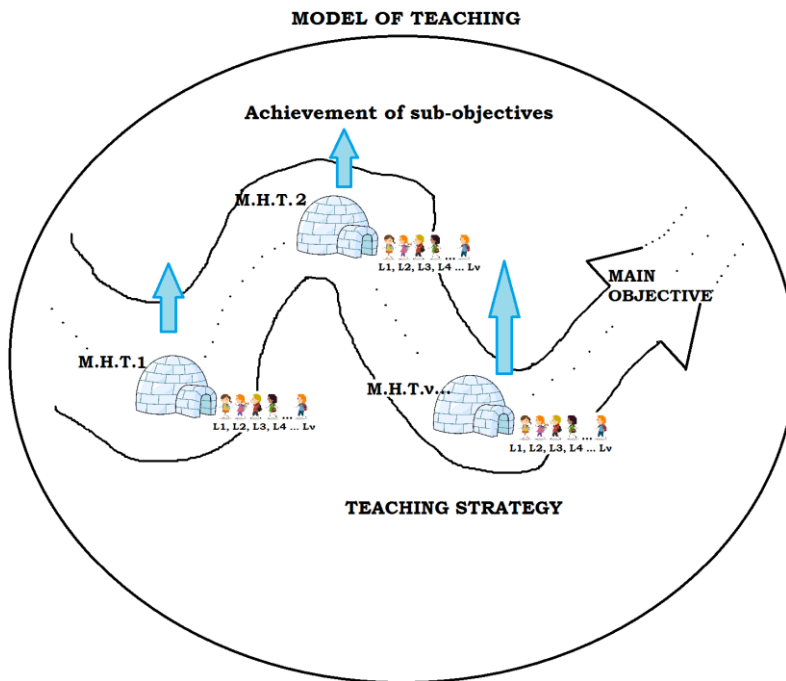
- Strategies of exploratory thinking

These are problem-solving strategies, proposing a variety of ways to do so. Utilizing these strategies, the learner exceeds his data and produces new elements [54].

In general, the "teaching strategy" activates and sets in motion each individual factor of the teaching process.

4. CONCLUSION: PROPOSAL FOR THE CONCEPTUALIZATION OF THE DIDACTIC SENSES "MODEL OF TEACHING" AND "TEACHING STRATEGY"

Based on the above, while the "teaching strategy" has only a didactic dimension, the "model of teaching" has beyond the didactic dimension and the epistemological and also evaluative dimension. Therefore, the sense of "teaching strategy" is part of the sense of "model of teaching". In general, the "teaching strategy" refers to methodological details of the teaching practice, while the "model of teaching" presents schematically the structure of the teaching practice, within which the "teaching strategy" is included.



ABBREVIATIONS:
M.H.T. = Methodological Handling of Teaching
L = Learner

Fig 2. TEACHING STRATEGY

Therefore, there seems to be a tendency for the term "model of teaching" to become more prevalent, based on the following criteria:

- The "model of teaching" addresses the organizational structure and function of teaching.
- The "model of teaching" does not teach, in order to be "didactic", but shapes the functional evolution of teaching, through which the course to learning escalates transiently.
- Each "model of teaching" is based on a specific learning theory. Therefore, each "model of teaching" differs from the other "models of teaching" in terms of the structure and conformation of its content and orientation.

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