DIDACTIC COMMUNICATION: INTERACTION, COMPREHENSION AND INTERPRETATION

Merima Carmen Petrovici, Assist. Prof., PhD, Romanian Ministery of Education

Abstract: Regardless of the perspective for the approach as a semiotic or social interaction, communication represents a fascinating game of assumptions and subtle meanings that most people learn to play in a more or less efficient manner. The difficulties arise especially when meanings are not clarified or when the explanations do not suffice, activities which are not always easy to accomplish.

The interaction of a person with a group is a lot more difficult. Didactic communication, a direct and multipolar process shows just this type of interaction, where the teacher will always wonder of his ability to facillitate the understanding in a case where only verbal communication will be enough to influence understanding and maintain the attention of the class. Therefore, before decoding the message, both the sender and the reciever will filter the message through a series of personal „screens".

This paper has the goal of highlighting the importance of understanding in the process of didactic communication, as a first elementary and automated stage as well as a ladder towards interpretation, through judgement and inferences as a second stage. The two stages that do not have an exact boundary as many times they combine, represent the key that opens the door to efficient didactic communication.

Key words:didactic communication, understanding, interpreting, teacher, interaction.

Since 1940, the Palo Alto School put the study of interaction and communication intoa new perspective. The representatives of this school focused on kinesics, proxemics and contexts in communication, developing a genuine systemic and interractive model of communication. The theoretical approach of Palo Alto School considers communication as an integrated social phenomenon, building a bridge between relational and organizational aspects; the inter-individual and social mechanisms that regulate relations social relations, namely that every human behavior has a communicative value.Thus, communication is no longer seen as an isolated phenomenon, but as a "social process, permanently integrating multiple behavioral modes: words, gestures, gaze, and the inter-individualspace"[1].

This is one consideration which led to a plethora of definitions of universal and all-embracing concept of communication.Researchers Frank E.X.Dance and Carl E. Larson tried to select relevant definitions and obtained 126 formulations. Performed about 30 years ago, their approach allowed specialists organize information according to the specific social and human disciplines, to the selected theoretical models and operational methodological approaches. Likewise,Frank E.X.Dance considers the multiple meaning concept of communication, such as transfer, exchange, transfer or sharing;transmitting information from a source to a receiver;process by which a source transmits a message to a recipient to influence subsequent behavior; verbal exchange of thoughts and ideas; interaction (even at a biological level); process of transmitting information, ideas, emotions and skills through the

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[1]Sălăvăstru, D., *Psihologia educaţiei*, Editura Polirom, Iaşi, 2004, p.178.

use of symbols (words, pictures, figures, diagrams[2]). Denis McQuail states that each of the definitions of Frank E.X. Dance emphasizes other parts of the communicative process: transmitter/receiver, intentionality, thelinear/and the circular communication feature or its active/reactive perspective.Consequently,communication can be seen either as a transmission or reception process because messages can be sent without a specific recipient or may be perceived to have been passed unconsciously[3].

A further aspect of the transmission-reception of messages is intentionality"a feature of communicationacts in certain definitions"[4].If we admit Intent as a prerequisite to transmission-reception of messages we can even exclude non-verbal communication.

In terms of process, communication can be seen as either a linear and unidirectional transmission of messages (school as a process), or as Palo Alto School, a circular interactiveprocess.There are also both the active approach to communication, when the transmitter tries to influence the receiver, and the reactive perspective, when the transmitter accepts the influence and adapts to context.

Another communication approach is related to "interaction" as the mutual action of two bodiesreflected by two pairs forces: action and reaction, defined by physicists. The interaction in Communication consists of the exchange of messages between people,or, using the terminology established between the transmitter and receiver in a circular and interactiveprocess.By extrapolating this definition from physics to semiotics, we can assign communication the meaning of "semiotic interaction"[5],especially if we consider the definition of being 'the process of transmitting information, ideas, emotions and skills through the use of symbols (words, pictures, figures, and diagrams) "expressed synthetically by the triad of symbol, speech and language.The many communication situations allow us to consider this process as being polysemic and simultaneously diversified and nuanced, and due to increasing intervention of modern techniques in human communication.

J.Fiske redefines communication in terms of interaction, adding the aspectof "social interaction through messages"[6].

In conclusion, from theeffective communication process perspective, correlated with the different ways of defining the message, two major schools can be delineated:

- School- as a process, where communication represents the liniar message sender-receiver transmission, and the message results from communicationting, or better stated through coding-decoding processes;

- The Semiotic school where communication is understood as "the production and exchange of meanings"[7], where the message is a construction of signs, which, by interacting with other receptors, generates meanings.The Semiotic School semiotic emphasizes communication both as a generator of meaning, as well as text messages interaction feedback from people, in order to produce meanings

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[2]apud Fârte, Gh.I.,*Comunicarea o abordare praxiologică*,Casa Editorială Demiurg, Iaşi,2004, p.16.
[3]McQuail, D., *Comunicarea,* traducere de Daniela Rusu, prefaţă de Ioan Drăgan Institutul European, Iaşi,1999,pp.15-16.
[4]*Idem*, p.17.
[5]Fârte, Gh.I,*op.cit,*p.17.
[6]Fiske, J.,*Introducere în ştiinţele comunicării*, traducere de Monica Mitarcă, Editura Polirom, Iaşi,2003, p.16.
[7]*Ibidem*, p.17.

Unlike School as a Process where communication is seen as a linear action of transmitting information between transmitter and receiver, the Semiotic School focuses on meanings so that they favour the reader instead of receiver, actively involving in the encoding/decoding text when creating meaning.Codification becomes signification, and decoding reaches the higher level of interpretation and understanding of texts. The Semiotic School operates with concepts of sign, significance, and meaning, to a deeper understanding of the transmitterintent and content of the sent message.

Regardless of the semiotic or social interaction approach, communication is a fascinating game of assumptions and subtle meanings that most people learn to perform in a more or less effective way.Difficulties arise especially when meanings are not clarified or when prerequisites are not checked, which is not always easy (common in the act of didactic and educational communication due to the misscommunication between teacher and some students).

As previously presented, interaction refers to the idea of a mutual action, as the word etimology.Applied to human relations, communication is a circular process in which every mesage,every behavior of a protagonist acts as a stimulus to the recipient and involves a feedback which in turn becomes the stimulus for the first.It's what might be expressed by the feedback. The concept of interaction is obviously inseparable from that of contexts, because the communication environment carries rules and codes that add specific features and would therefore meet all the influences an individual can experience in relation to linguistic and non-linguistic behavior of another individual, influencing its way of understanding and interpreting the communication. Interaction occurs only when the messages and assumptions of intention transmitter are clarified.

Besides the exchange of messages between the transmitter and receiver, the interaction includes feelings and perceptions as well. Thus, Interaction represents a process of communication between two or more persons where both linguistic meaning and emotional response are mutually clarified whenever this is required. For an effective interaction, establishing interpersonal relationships is more than necessary which induces that as partners know better, need of verification decreases. If a teacher knows his/her students well and is well met, misunderstandings can be avoided. We say that the teacher understands his/her students, which means that he/she does not misinterpret their intent, even if the language is inappropriate. In turn, and students will understand him/her, which shows their confidence in the teacher's intention to help and support. If the teacher does not know his/her students, there will not be an effective interaction, moreover, even crisis of confidence can occur.

The interaction of an individual with group of people is more difficult. Didactic communication, which is a direct and multipolar process, precisely illustrates this type of interaction, where the teacher will always ask how to facilitate understanding, if only verbal communication will be sufficient to influence understanding and maintain attention of the class. Consequently, before decoding the message, both the transmitter and the receiver will filter out messages trough a number of personal "screens". During these "shielding" the teacher will ask questions about the communication situation (What do students expect from me? What level of language do I need to produce an impact on students?) and how it is perceived by students. (What impression will I do? Do students respect me?). In turn, the

student will ask questions like: Can I trust this teacher? How did he/she respond? How did he/she react to other students?

As the teacher issues the message, he/she is observing students feedback. If he/she perceives, after talking that the students are interested, he/she will be encouraged and motivated to issue more new messages. This means that the student is able to differentiate from the cognitive and emotional components of the message. Students may express interest, but at the same time may have difficulty in the message cognitive understanding. The interest perceived will cause the teacher make further efforts to clarify the content.

The definition of interaction therefore includes both emotional and cognitive communication. What is often ignored in classroom activities, is the emotional component. A sensitive teacher will help students to relate effectively; an insensitive one ignores the students'desire for communication.Sensitivity and mutual understanding in the communication process play valuable and important role.

In conclusion, successful communication depends on the appropriateness of the content and form of expression of the message to the ability of perception and understanding of the receiver, to his/her mood, and state of mind, the message being considered the symbol or group of symbols transmitted in our specific case from teacher to students.

Since we focus on the communication objectives and met targets, we can say that through writing, speaking, persuasion, and explanation, we bear in mind the following main goals: the receiver gets a clean, adapted, accessible and understandable message content; language used should be common for communication actors; permanent feedback obtained from receptors (messages cause a change in receptors attitude or behavior); to avoid distortions between the transmitter and receiver by synchronization oftheir activities.

Didactic Communication is like a theater scene where the teachers can have different roles: director, when developing their lesson plan and design their intervention/ teaching speech in written or oral form; actor and interpreter of information during the lesson, evaluator and negotiator. Students have a double role:as spectators and actors, actively participating along with the teacher to the show the acquisition of knowledge, explanation and understanding.

Even if the teacher benefits are perennial in terms of transmitted information, the audience-classroom will challenge him/her to the adopt ingenious solutions to explain and pass knowledge, as an interpreter of the speech for student teaching.

Given the fact that in present our educational system fowards learning skills centered education, it is essential that students understand the conveyed knowledge. Only in this way they will know what they speak, what to do, how to do it and especially how to apply what they have learned.

Thus starting from the question *What should the teacher do for students to understand what they are presented?*, we conducted a survey where through qualitative (document analysis) and quantitative (data processing inquiries performed) research methods, we assessed the effective and efficient solutions.
Moreover, my concerns have been related to the way the didactic message structure influences understanding, interpretation / integration and relating to previous knowledge by explanation and argumentation according to the possibilities and expectations of each actorof the teaching act.

Methodology Highlights

The objective of this research was to identify the levels of understanding of teaching communication

However, in this paper, we intend to focus on one of the research objectives, namely to analyze the relationship between the lesson plan which is developed for each hour and the actual process of teaching and learning (in the classroom). Expertise and teaching practice showed us that that there is an reverse relationship between the number of set objectives and those actually met by the end of the class. The same type of relationship is maintained between the number of set objectives and content understanding by students.

In this context, the working hypothesis is related to the following issue: there are differences between the developed lesson plan and what actually takes place in the classroom

The target group consists of teachers who teach in the grammar school education. The dependent variable is the understanding and the independent claimed variables, specific to the teaching profession will be: the academic rank, level of education, rural or urban origin of the school, the existence of local universities to improve teaching and providing specialist. Ultimately, the solutions identified are represented by a model of understanding and the effects of its application can be measured by analyzing the impact on the students, as the ultimate beneficiaries of any educational endeavor.

The Group of subjects was represented by a total of 145 teachers who teach in grammar schools and high schools in the counties of: BH, BN, CS, DJ, HD, IL, IS, MH and Bucharest, of average age- 43.7 years and average work experience of 17.7 years in education.

a) Counties of origin from which teachers gathered the lesson plans, meet the criteria of different areas, all the geographical and historical relevant country areas being covered.

b) As mentioned, the lesson plans were received from teachers who teach both in schools / high schools in urban and rural areas. The high number of lesson plans from urban areas is due to the fact that at a national level, the number of teachers employed in urban areas is higher than that of rural areas.

c) Nowadays in education, the number of employed junior teachers is increasingly smaller, so that the average age of employed staff significantlyincreased. Because livelong learning and training of staff in secondary education is supported by the MEN, most teachers have teaching degrees.In our target group 50,7% have Ist didactic degree;38,2% IInd degree;8,1% are senior teachers and 2,9% completed juniors.

We chose to analyze lesson plans for the VIIth and IXth grade as the study of chemistry - as a subject at secondary level begins in the seventh grade and most of the contents of the first year of study, are repeated and developed at the high school level in the IXth grade. Another reason is the fact that in these stages of initiation into the study of chemistry, the importance of teaching content is crucial for students. In these years they decide the "fate" of this object, in the sense of understanding or not the taught content and furthermore, of including chemistry class in the student likes or dislikes. That is why, at this stage, the influence of the teacher is crucial. Later, student comprehension will be marked by many more actions.

Of the total number of teaching projects / lesson plans, about half are made for the VIIth class. In many cases, especially in rural areas, the same teacher teaches both cycles.

d) Regarding the presence of universities in the resident counties, the distribution is approximately even in terms of the number of lesson plans / on the county. The four counties (BH, CS, DJ, IS) and Bucharest have universities but 4 counties have no universities, however, in municipalities of residence state and private universities branchesoperate. (BN, HD, IL MH).

After studying school documents (curricula, syllabi, annual and half-yearly planning calendar), in **the first stage** of research, we asked from the mentioned teachers group, chemistry lesson plans developed for topic "Electron shell of the atom," which class is taught both at the seventh and ninth grade. We chose this lesson because the high level of abstractization of the taught knowledge requires mastery by the teacher, since it is difficult for students to understand the concepts of layer, substrate, orbital,atomic energy, electron layer energy and to apply the rules of employment and electron filling layers.

We then proceeded to analyze the content of plans to identify steps "theoretical / script" made by the teacher to facilitate the understanding of knowledge provided: whether or not they meet the curricula; if properly formulate the operational objectives; their number; and the used strategies during teaching.

Phase II of the research was to develop a questionnaire covering issues of design activity of the teacher (their written-practical report in other words, to what extent the plan / the lesson draft corresponds with what is actually done in the class, determining the optimal number of operational objectives for each lesson).

To verify the hypothesis which assumes the existence of differences between developed lesson plan and what actually performs the class, I asked for responses to several întrebări.Ne will stop but only on a few of them:

1. To what extent the lesson plan is a fundamental part of the work of the teacher?

Only 5 teachers downplayed the role of planning in the work of the teachers, 18 gave a share "average importance" and 131, considered it of a very high (91) and great (40) importance.

We should mention the fact that of the five teachers who gave importance to planning, four have the Ist teaching degree, meaning for them planning may be no longer a priority, due to their great experience, and to the fact that they never had attraction for this stage of planning lessons.

A statistical analysis performed on the academic degrees basis, shows following distributions: 62,50% of respondents of the 1st degree teachers felt that planning is a fundamental part of the work as a teacher; 54, 17% of those with IInd grade; 57, 87% senior teachers and 50% trainees had the same choice. For the 1st Option, there were few 1st degree teachers and the percentage decreased significantly compared to the previous situation, being 23.96%; of the IInd Grade II 33.33%; chose this response; 21.05% of senior teachers and 20% completed junior. To a certain extent, fewer responded positevely to planning, the highest value being 30% for juniors and increasingly lower degree for teachers (15.71% completed, 12.50% IIndgrade and 9, 38% degree).

These figures reinforce the importance of didactic planning.It is true that the Ist grade teachers low percentage is very large - and largely can be put and to the fact that this stage of their teaching career developing lesson plans is not compulsory, but we tend to think that

whatever teaching experience may be, lesson plannig guarantees a logical link between topics, updating teacher knowledge, making teaching efficient, especially for student understanding.
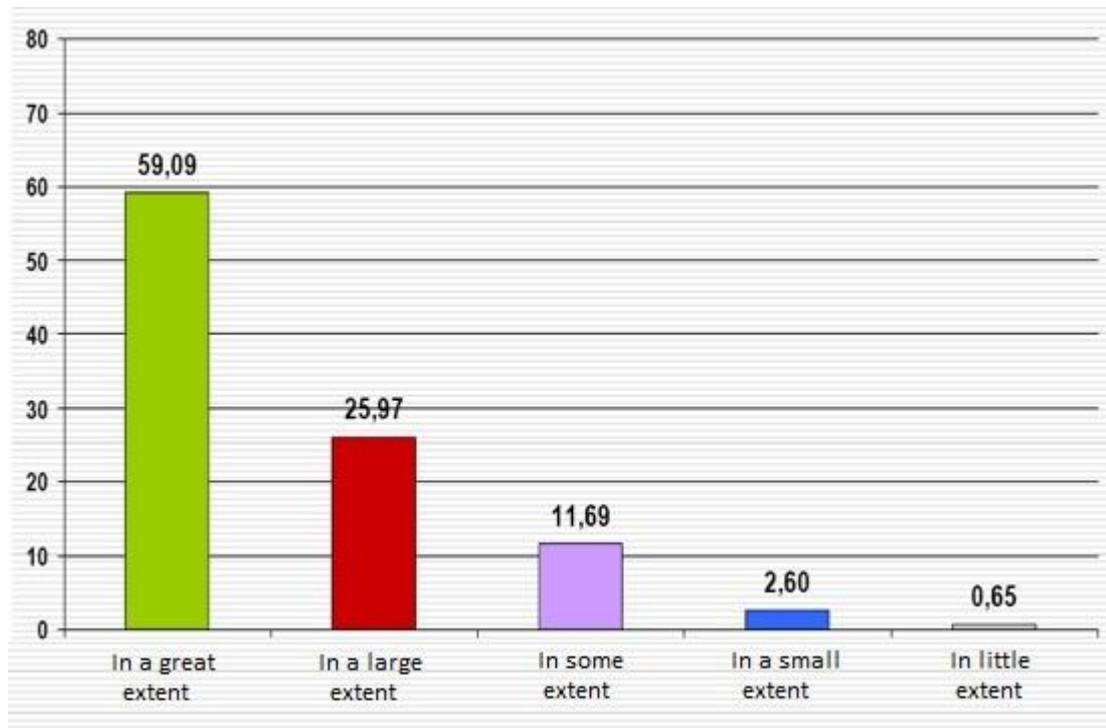

2. Which do you think would be the average optimal number of operational objectives for a lesson?

Among the teachers who have opted for an estimated 4-6 operational objectives for the lesson, the distribution of responses on the criterion teaching degreesdrew attention our attention. Thus, 11.11% are trainees; 31.58% seniors; 29.17% were second degree and 27.08% I st grade.

We believe that the highest percentage (of senior teachers), is due to the fact that at the early teaching career, they are still under the influence of quantitative elements, meaning that many seek to achieve a lot during the lesson, which may result in a lower understanding of the transmitted knowledge, since there is insufficient time for explanation. As they reach higher levels of the teaching career, it is observed that the percentage decreases (being lower at the Ist degree teachers to those with second degree), proving that the focus is gradually changing from quantity to quality, a claim supported by the percentage of 72,92% of Ist degree teachers who chose an optimal number of 1 to 3 operational objectives. There are decreasing values for senior teachers (68, 42%) who chose the same.

In conclusion, we can state that the teachers appreciate the usefulness of operational objectives, consider as optimal the establishment of a number of 1 to 3 operational objectives /lesson from the point of view of its success (the fulfillment of set objectives and quantify the degree of compliance with feed-back obtained from students)and in terms of understanding the information/ knowledge transmitted to students.
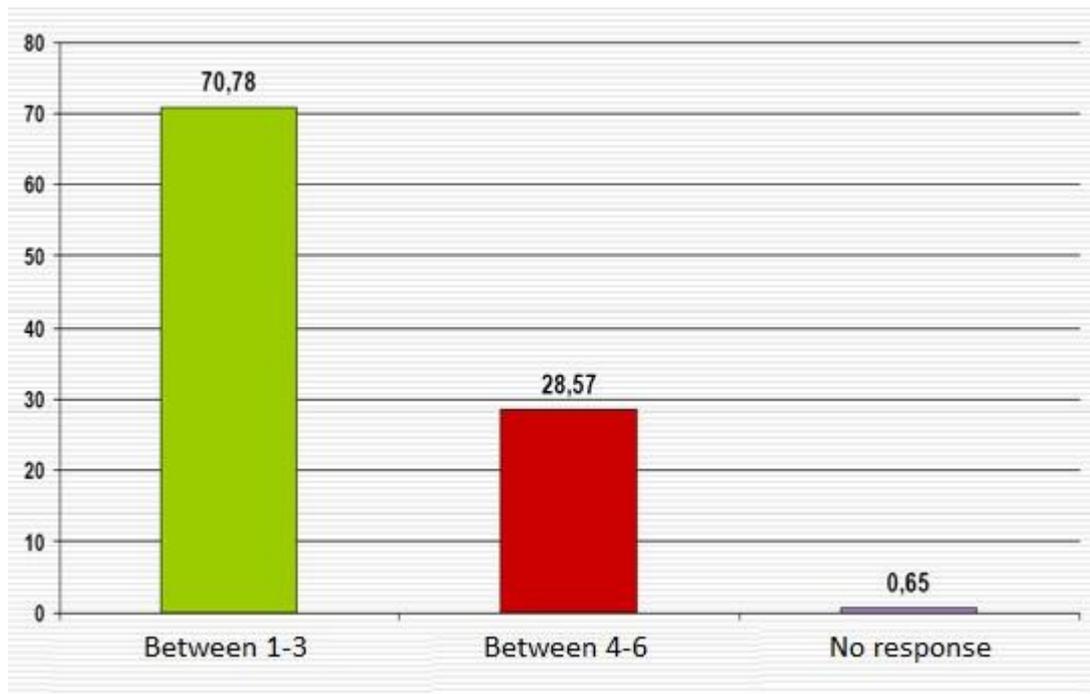
In this sense, for example, primary understanding and interpretation can become full comprehension levels.Proposed analogy is based on the statements of Paul Cornea[8]on the stages of understanding, stating that there is a first stage, which is elementary and automatic, in which understanding occurs typically when communicating with others is spontaneous,based on accepted conventions and a second stage called interpretation, where the meanings are assumed,based on each other own judgments.Likewise, the interpretation is not only the excellence result of initial understanding, but it complements it and improves its action.

3.*In which extent does your plan/lesson draft correspond with what you actually do in class?*

It is interesting to observe the direction of increase/ decrease of percentage values for options „in a great extent"from 24.21% Ist degree; 29.17% IInd degree to 36.84% senior degree or "in a large extent" from 42.11% senior; 62.50% IInd grade, the 63.16% Ist grade. These values show that senior teachers want to meet the lesson plan more than Ist degree teachers, in other words, as experience increases, the empirical role in teaching becomes more important, and also enhances teacher flexibility and adaptability to context, to the actual conditions of the classroom.

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[8]Cornea P.,*Interpretare şi raţionalitate*,Editura Polirom, Iaşi, 2006, p.72.
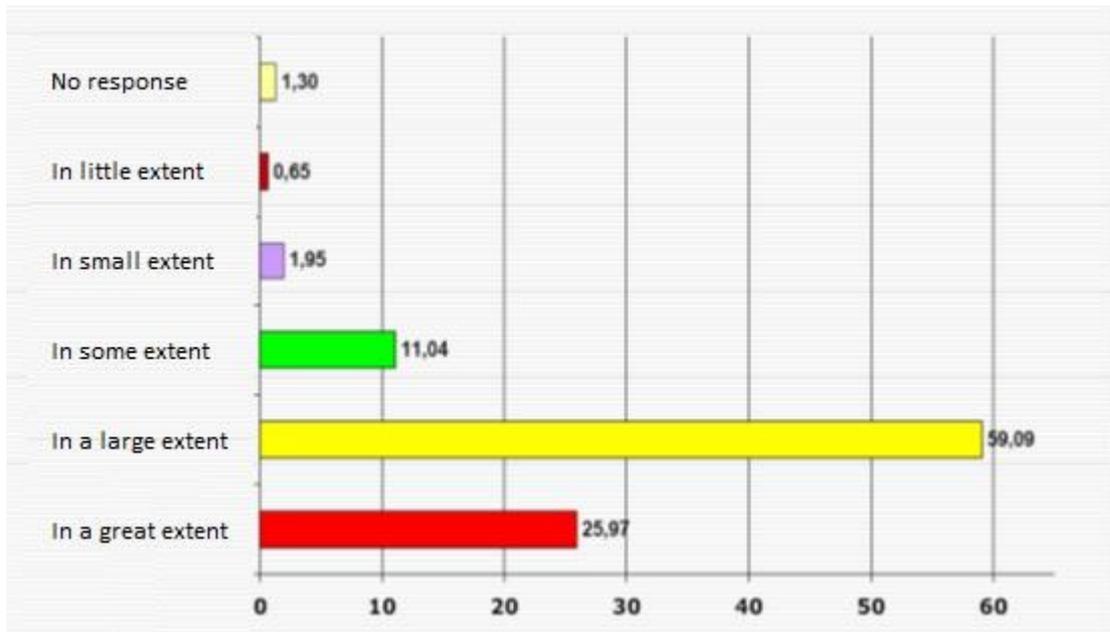
Of the above, the conclusion that clearly emerges is that the lesson plan/ draft largely corresponds to what is happening in the classroom, for our approach this aspect being of particular importance, supported by the percentage of 59, 09% of respondents who acknowledged and supported through arguments of different types that there are differences between developed lesson plan and whatis happening in the classroom, thus confirming the hypothesis of our research. Moreover, at this stage, the context has an considerable impact on the understanding of the knowledge the teacher wants to convey during the lesson.

Conclusions:

The present approach to communication was twofold: one is of the School of Palo Alto, which supports the impossibility of not communicating, a true perfect aspect of the teaching profession and the other is the praxiologicalone, which allowed us to treat communication as a semiotic interaction through signs and taking the thesis that understanding the message is determined by its construction.

During the research we tried to constantly respond to the question: *What should the teacher do for students to understand thetransmitted knowledge?*

In order to reach that agreement between "words" teacher and cognitive set, namely students' experience as a pre - condition of the understanding, the first step that must be done is the construction of the teaching message. In this sense, knowing what and how to "tell " adapted to specific age and individual peculiarities, the teacher will need to his/her design educational intervention on study years, semesters, units of study and lessons/ classes .So the information / knowledge transmitted to students are neither chaotic nor random, but they follow a coherent , developed over time, the stages of development and levels of education, which is in the national curriculum. This selection of information sent to students in the acquisition of knowledge has led us to review the option of lesson plans. I wanted for the actual construction phase of the didactic message, to actually see what the teacher is saying.

Our work would not have been purposeful if we had stopped at this stage. Once built, after a rigorous design, the message must be sent, in order to be received, processed and

possibly memorized by the student. I used the word "possibly" because only if the student understands the information is remembered and information is understood when complying with validity criterion. From this point, there is a need to answer to the following questions*How much does the teacher say?* and *How does the teacher say?*

This is why the first question in the questionnaire continued the teaching planning topic, in the sense of trying to honestly determine the design-implementation report. Certainly, it would desirable that what is designed to be fulfilled as well, but this would mean to neglect a major influencing factor in the understanding: context, or in common terminology, the reality of the classroom.The 59.09% percent of teachers who chose „in a great extent" option demonstrates the real ratio between theory and practice.

To what effect? Unfortunately (for evaluators of educational policy), the effects will not be immediate. They feel much later through a consistent application of effective models of explanation, argumentation and enhancement of school contents.

The vital importance of communication for educationis unanimously accepted. However, we wanted to highlight its importance in the educational process, as the source and condition of the understanding, as the bridge to the interpretation, which are the guarantors of any successful business.

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