



# IS THE FEAR OF 'BEING WRONG' A BARRIER FOR EFFECTIVE COMMUNICATION BETWEEN STUDENTS AND PROFESSORS? A SURVEY STUDY AT BABES-BOLYAI UNIVERSITY ROMANIA

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**Abstract:** The aim of this paper is to identify the students' and faculty members' perspective on teaching communication aspects and dynamics, and also to predict pattern changes that may improve communication effectiveness at undergraduate and postgraduate levels. Particularly, we were interested to find out to what extent the '*fear of giving the wrong answer*' and '*viewing mistakes as failure*' determine a less effective communication between students and professors. The study was designed as a survey based on multiple choice questionnaires targeting more than 250 undergraduate and postgraduate students and faculty members. The first pilot study revealed that the '*wrong answer punishment effect*' exists and our assumption was that it could be the leading cause of students' non-involvement in the teaching dialogue during courses, seminars, labs. The second questionnaire, developed after the pilot study, was designed to focus on the mechanisms triggering this effect and the results confirmed the hypothesis. The main barrier causing poor or lack of communication between students and teachers in higher education remains the fear of making mistakes. Our study revealed a need for the students to be constantly challenged by questions and actively encouraged to give an answer, even if they might give the wrong answer or their response is not the most accurate one.

**Key words:** teaching communication efficiency, students' motivation, student-professor relationship, question-based teaching, the 'wrong answer' concern

## 1. Introduction

University professors frequently decry students' lack of motivation and involvement in educational activities, at the same time wondering what could be done to improve the situation. They also noticed, based on daily-bases observation, that students with intrinsic motivation develop a deeper understanding of the teaching material and are less discouraged by weaker marks than those who are extrinsically motivated. There is evidence that certain behaviour is based on motivation and these elements are interconnected (Fry, Ketteridge & Marshall, 2009, p.33); it has also been noted that students with a strong motivation succeed in getting higher marks than others and, moreover, it is clear that the type of motivation also bears an influence on the results: students with intrinsic motivation show better academic performance than those motivated by extrinsic reasons, and we presume the study strategies also differ from one group to another. We believe intrinsic, rather than extrinsic motivation should commonly prevail in academic preparation. Lack of motivation is attributed to the lack of involvement in direct academic activities, and is considered by professors as a barrier to quality teaching (Fry, Ketteridge & Marshall, 2009). Assessing the learning environments and *motivation*, Arends (1994, p. 106-109) reveal six *group processes* that, when working in relation one to another,

produce a positive learning climate: expectations, leadership, attraction, norms, communication, and cohesiveness. Arends (ibid.) also refers to an interesting study about the relationship between some of the dimensions of the classroom environment (happy and sad mood) and students' motivation to persist on learning tasks. The results indicate that persistence at a task for a student is not simply a function of the student's self-control or interest but can be influenced by aspects of the environment under the teacher's control (e.g. happy mood, enthusiasm, materials display).

Undoubtedly, motivation is a multifactorial phenomenon. In this study we seek to present factors that influence student motivation, especially related to specific teaching processes: are there elements that demotivate students *during university courses and seminars*? Assuming *academic dialogue/discourse* and *professor behaviour* are some of these factors, what is the students' current perspective on them?

Overcoming the demotivation barrier can be achieved through communication. The teaching profession, regardless of the educational level, relies crucially on it. Communication is what establishes and maintains teacher-student relationships. Philosopher John Searle (*in Willingham, 2009, p.81*) shows that a computer can display intelligent behaviour without truly acknowledging it. He puts forth the following scenario to demonstrate the critical link between the nature of communication and learning: Suppose a person is alone in a room and we slip pieces of paper showing texts written in Chinese under his door; the person does not speak the language, but with the help of a dictionary he is able to translate it word by word and provide an answer in Chinese. Does this also mean the person understands the Chinese language? Everyone would agree that it doesn't. Communication without interaction and feedback is devoid of meaning and depth (Willingham, 2009, p.81).

Feedback provides the opportunity to improve individual and group performance. Effective communication is a complex skill that can become an art. The art of effective communication lies in the ability to express ideas and opinions so that they also acquire a full meaning for other people (Ciovică, Popoviciu & Suci, 2011, p.15). When teachers say something to a pupil or a student, they implicitly send a message *about* the one to whom it is addressed. Each message adds something to the relationship with the pupil / student. Each message reveals what the teacher thinks about student and frames the way in which the student will subsequently relate to himself; the teacher's message will become a part of his future perception and self-image (Hattie, 2014). Therefore, discussions can either be constructive or destructive in relation to the pupils'/ students' self-esteem and the teacher's relationship with them. More often than not, educational institutions regard their pupils or students not as individuals, but as subjects devoid of identity: unmotivated, talented, lacking culture, having a high or low IQ, hyperactive, displaying emotional problems, having potential or not etc. These types of diagnoses and labels that attach them to different groups have devastating effects. The main outcome of these classifications is the decrease in pupils' and students' self-esteem as well as in teacher expectations, bringing about a decline in the quality of education.

We can find both similarities and differences when it comes to pupils or students, but essentially, they are all human beings on a developing process. All students are enthusiastic about learning something interesting, but tend to get bored in the absence of a challenging activity. Everyone feels discouraged when reprimanded about a failure, and will develop defence mechanisms to cope with their non-performance or teachers' demonstrations of power. The pupil or student will develop self-esteem, and then lose it when told he did not live up to the expectations (Gordon & Burch, 2012). The effectiveness of a teacher builds on the effectiveness of interpersonal communication and the nature of the relationship with the students that he develops during the course. According to Gordon & Burch (2012), a good pupil/student-teacher relationship involves:

- openness or transparency: each should be willing to risk being honest with each other;
- care for the other, when each knows he is appreciated by the other;
- positive interdependence;
- differentiation, in order to enable the other to be unique, creative and autonomous;

- mutual satisfaction, so one's needs shouldn't be met in spite of the other's.

Particularly, on this paper, we were interested to find out to what extent the '*fear of giving the wrong answer*' and '*viewing mistakes as failure*' determine a less effective communication between students and professors. In order to assess these issues we started by describing both student's and the university teacher's profiles and the features of their academic relationship.

## 2. Student Profile

The academic community requires institutional respect; it is a training environment that students join following a selection process and where they are supposed to assert themselves in a completely different way than they did in high school. The age-specific lack of experience and the new environment create insecurity. But what is it that leads most young people to go to university? According to a study carried out in the UK (Fry, Ketteridge & Marshall, 2009, p.28), high school students choose to join a university for three reasons:

- getting a diploma in order to increase their chances of employment and having a well-paid job, the key to improving the quality of life and the standard of living (66%);
- personal development and passion for a domain in which they want a successful career (24%);
- as a means of avoiding immediate employment, benefitting from a social life and fun, postponing career-related decisions.

On the other hand, the study shows that 10% of high school students, despite going to university, lack specific goals, consider themselves to be incompetent and to have little control over what happens to them.

Once they have decided what faculty to apply for, a new set of challenges emerges (according to Johnston, 2010, p.4):

- *The age* corresponding to undergraduate studies is the period defined by psychologists as prolonged adolescence (up to the age of 25), comprising youth enrolled in higher education or employed. Independence is acquired or is about to be acquired. Most of the times it is gained only psychologically, not financially, this situation becoming a source of inner conflicts related to the gap between the desire and the ability to perform.
- *The transition process* includes getting used to live in a new city after high school graduation, and no longer cohabitating with parents. The young person meets new people and acquires a new set of obligations.
- *The academic requirements*: students at this level are faced with new disciplines, new concepts and teaching methods, scientific rigor, a large volume of information transmitted in a short time, new types and stages of evaluation. All these issues require a certain time for adjustment and assimilation, which can take longer for some and less for others.
- *The changes in social status*: at the beginning, the student is anonymous in a large group, anonymous in a new city where he meets many people from different backgrounds with different values and ideals. This is followed by a stage of self-affirmation and confirmation, taking up a position in a group or social hierarchy.
- *The personal development* of the student involves the self-discovery and self-assessment of the intellectual and social capacity to adequately respond to the challenges encountered in different subjects and examinations. Also, the students adapt (or not) to various teaching styles, improve their own study methods, and learn to (better) cope with the stress of consecutive examinations (Johnston, 2010, p.5).

But perhaps the greatest challenge for young students, in general, is freedom (O'Day & Budniak, 2013). Students, especially those in their first year of study, do not know how to manage this new acquired freedom. For some it becomes overwhelming, as guidance from parents and teachers is no

longer provided. Sometimes they are given many assignments and projects, whose accomplishment is not periodically, gradually checked; in case they obtain a low grade on an exam, which may be entirely their problem, as they are the only ones who know about it. Therefore, during the first year of study most students may ask rhetorically: 'Why haven't I done more?' (O'Day & Budniak, 2013, p.6).

Once the young people have joined the university, there are two directions of students profile development (Bonchiş & Secui, 2003, p.474-515): on one hand social relations, and on the other, the formation and development of specific professional skills, including the ones needed to gain financial independence, financial resources management, outlining their professional role and career accomplishment. Thus, the university studies represent a transition period between various stages of human development, and the transition to adulthood is achieved with great difficulty and effort. Sometimes the students appear to be irresponsible and display immature attitudes. It is therefore important for teachers not to make assumptions or to express judgments about students' knowledge and skills, but to explicitly facilitate this transition by communicating expectations, standards, demonstrating skills that must be developed, and facilitating access to information needed to ensure a successful outcome. Literature recommends a set of practical strategies and approaches that help create a rewarding experience during this transition, especially during the first academic year (O'Brien McElwee, 2013; Kift, 2009, etc.) but also openly facilitate learning in an environment of trust in which mistakes can be shared (Quinn, Heynosky, Thomas & Spreitzer, 2014, p.87).

### 3. Professor Profile

The teacher's role depends on the level at which they practice teaching, ranging from preschool to university. University professors exert a less direct influence on the personal development of the student: they are experts in a well-defined field, teach certain subjects for a limited number of hours and address often heterogeneous and numerous groups of students (Babad, 2009, p. 28). The structure of the academic year is not balanced in terms of task and research performance. For example, a semester abounding in teaching activity can also be demanding in terms of research projects. What will the professor choose first? What issue will be prioritised? The research work, or the day-to-day essential preparation for a high quality and active teaching activity?

Becoming an academic requires years of study, the delimitation of certain research areas and relatively little structured teaching training, usually carried out early in the career. In these circumstances, academics develop their teaching skills and teaching techniques through personal, intuitive effort and self-education, depending on their vocation (natural endowment) for teaching. Reflective practice, intuition, systematic observation, taking feedback, the ability and willingness to adapt the methods to discipline content and student profile are very important if a professor is concerned about the quality of his teaching.

During the early stages of the career, the main concern of a professor is to make a name for himself as an independent researcher, followed by the desire to build a good reputation as a professor (Fry, Ketteridge & Marshall, 2009, p. 469). Thus professors lead (at least) a two-fold, alternating work life, having two roles: teaching, and covering various responsibilities (research, management) as a member of the academic institution. There is a different emphasis on these aspects of the professional activity, and they can vary in magnitude, nature and level of achievement. This permanent transition between the role of a teacher and a researcher or manager is part of the daily routine and academic staff needs to have a cognitive flexibility to deal with this frequent change of viewpoint (Babad, 2009, p.28). Among other responsibilities, the professor also takes on leadership tasks: creating strategies, encouraging teams to take action, managing success and failure. Therefore, leadership skills such as self-knowledge, self-control, social awareness, human relations understanding and management (Goleman, McKee & Boyatzis, 2014, p.314-316) cannot be dissociated from the structure of teaching competence.

Professors should actively reflect on their mission in a conscious and responsible manner (Fry, Ketteridge & Marshall, 2009, p.28). The shortcomings of teaching training can be mended if professors become aware of their responsibility to catalyse the students' professional development. Given the open access to resources and training, the professor is supposed to possess the metacognitive skills necessary for self-training and self-improvement, including his teaching skills.

#### 4. The student-professor relationship

Over the years the number of university students in groups has increased considerably, leading professors to critically analyse two aspects: first, teaching methods and secondly, human resource management - series of students. Thus, working with large groups and mixed interests they must be able to **stimulate and uphold the students' interest, and to elicit their involvement in the teaching process throughout the course.**

Initially, the relationship with the professor follows a pattern similar to the one witnessed in high school, preserving its asymmetric nature.

From the students' perspective, the professor does not have the necessary time to get to know them and build relationships in the same way high school teachers did. The relationship that is built during university aims to give students academic freedom, one that should allow them to consolidate their personality and prepare them for their future profession.

But why is it difficult to form this kind of relationship at university level? Students display a certain lack of responsibility stemming from the fact that high school teachers did not encourage their independence; thus, students find it normal to depend on teachers and fail to capitalize on the freedom of developing academic skills during university. When students encounter difficulties to find solutions themselves, they expect to be given explanations, suggestions. However, it is when the student succeeds in solving the problems on his own that he gains responsibility and self-confidence (Gordon & Burch, 2012, p.131).

On the other hand, it is important to understand that teaching and learning are two different processes. Teaching is carried out by a person, by perceptible actions, while learning is an internal, invisible process, and only some of its results are measurable. So that the two processes can operate efficiently, the two parties, teacher and student, need to develop a mental and emotional relationship – a bond of trust. The classic, asymmetric teacher-student relationship should turn into a partnership and communication is necessary so that teaching and learning are effective (Hattie, 2014, p.54-79). Communication is based on speech and speech can either undermine or strengthen human relationships. Dialogue can distance students from teachers or it can bring them together. The effect of speech depends on the quality of the discussion and on the teacher's ability to resort to the best type of dialogue, according to the situation (Cioviță, Popoviciu & Suci, 2011, p.17).

Motivation is the fuel for our mental system, the force and energy that activates us towards achieving our goals (Babad, 2009). Gaining and maintaining students' interest during courses or seminars also triggers an increase in their motivation to learn. The beginning of the course is crucial and must be interesting enough for students to consider pursuing the subject in the following classes. The professor can resort to a number of actions and gestures at the beginning and during the course (according to Fry, Ketteridge & Marshall, 2009, p.60); he/she can:

- express enthusiasm and demonstrate his own interest on the subject;
- describe a problem or a scenario which is relevant for the subject matter and interesting for students, and establish a connection between the course and the scenario;
- include relevant and up-to-date examples to illustrate the subject matter, relate to the current news and activities the students are keen on; this activity can be taken to the next level by asking them to come up with examples, encouraging them to contribute to the debate;

- use rhetorical questions to maintain students' attention and formulate mental responses – 'check it out inside' (Moorman, Weber, 1989) - by appealing to their intuition and ability to make decisions for problems whose answers cannot be found in the books;
- switch between activities: the lecture and the active participation of students (interactive/enhanced lecture);
- use visual materials that are relevant to the subject of the course, such as links and online applications.

The professors' enthusiasm and interest are important both at the beginning and during the course, and this factor should not be underestimated in ensuring the effectiveness of the lecture as a whole. According to a study that involved recording professors and analysing their behaviour, several specific behaviours that show the level of enthusiasm in teaching were identified: vocalisation (the variety of tone and volume) 91%, eye contact 77%, gestures 67%, movement around the classroom 56%, facial expression and smile in particular, 15% (Woods, 2011, p.37). A study by Brown (1987, in Fry, Ketteridge & Marshall, 2009, p.60) shows that students display a high interest for courses in which teachers adopt a relaxed and informal presentation style and offer or discuss examples relevant to the students' daily life. Despite the fact that this study is not so recent, the data can apply to current generations.

There is nothing more discouraging for students than long Power-Point presentations accompanied by a monotonous speech that does not require their involvement in any way. The teacher can encourage student involvement by resorting to a more approachable and informal academic approach. On the other hand, it is known that the adults' passive attention span is about 20 minutes, which means it is therefore necessary at times to interrupt the flow of the speech or to alternate activities (Fry, Ketteridge, Marshall & 2009, p.64). Professors should demonstrate, by means of the methods they use, that that course is intended for students and that their role is to help them assimilate information. Good humour is another very much appreciated strategy that can convey an attitude of consideration and cooperation. The aforementioned authors also recommend other strategies, such as:

- presenting questions to be discussed in small groups and providing feedback between groups;
- bidding answers to multiple choice questions;
- using mistakes as starting points for discussion, as opportunities to speak in terms of those mistakes;
- watching film fragments and requiring students to pay attention to an issue for follow-up discussions;
- using demonstrations that can directly involve students.

Students' 'record' every subtlety in the teacher's behaviour and interpret it as a 'statement' regarding the type of professional relationship that the teacher envisages, even when the teacher does not intend to convey such a message. All teachers are, at some point, faced with hostile attitudes as the students do not always want to learn what is proposed. This opposition can take many forms, ranging from passive behaviour to a downright refusal to cooperate (Gordon & Burch, 2012, p.127). Robert Marzano (2015, p. 264) recommends initiating the activity by addressing precisely the students that seem passive. Teachers are encouraged to view these situations as an opportunity to reveal the students' emotions, feelings, attitudes, ideas and perceptions. The students who show disapproval are of great value to a group since they probably speak on behalf of others who have similar opinions, which they chose not to reveal (Gordon & Burch, 2012, p.131). Furthermore, the association of information, ideas with certain emotional reactions and values will aid their consolidation in the long-term memory. Students are not experts in learning from the very beginning, they first go through the novice learning pattern in which they depend on the 'master', making the student's relationship with his teacher a crucial one. This relationship, due to the power to inspire the student and build his

confidence, will lead to his development. Education does not only consist of the equipment and study programs. In fact, those are all tools that assist teachers into guiding the students (ibid.).

## 5. The wrong answer - meanings and effects in the academic culture

Young children are accustomed to make mistakes and, previous to their parents' or teachers' corrective interventions, they feel very comfortable with the idea of making a mistake (Willis, 2008, p. 121). Any question is a challenge for them and challenges determine them to learn new things and to overcome their own limits. Without these challenges, the questions and opportunities to correct their mistakes, their cognition would not develop accordingly. Gradually, the child makes increasingly less mistakes and takes joy in his accomplishments. Provided he understands that mistakes and challenges lead him to learn new things, he continues to be motivated to try new things and perceives mistakes as something normal which helps him get closer to solving a problem. But why is it that, once at school, children no longer feel comfortable making a mistake or providing a wrong answer? It is because wrong answers are totalled up, evaluated, and subsequently generate grades according to which he will be positioned within a (class) hierarchy. However, mistakes, more specifically, wrong answers, are common throughout the learning process. It is also beneficial that the wrong answer be corrected because the brain requires accurate and timely information. Nonetheless, in this case, it is essential to provide encouragement. Why? The explanation is provided in part by the neurophysiology of learning. Our brain is not pleased with wrong answers. The correct answer is usually confirmed and appreciated, and the positive qualities of these attitudes trigger the secretion of dopamine in the central nervous system, which determines a state of satisfaction and pleasure. A wrong answer, often followed by disapproval and even criticism, determines feelings of failure and disappointment, depending on the context in which it appears. In terms of neurochemical effects, it will generate a mental discomfort that the individual will wish to avoid in the future. J. Willis (2008) put forth an analogy and a reflection question: a child learning to walk falls constantly but this does not stop him in his intent. *What is it then that prevents a great number of students to answer questions and to express their point of view?* Clearly, it's not simply the age difference...

Traditional education, which is still practiced successfully in our country, offers students 'ready-made' information. *At undergraduate level* we can still witness a cautious, predetermined style of teaching that involves professors being afraid of questions because they believe it leads to digression from the established content of the lesson or the loss control of the class. Fear is also present among the students, for example, the *fear of giving a wrong answer*. This causes an unproductive student-professor dependency, and besides the inefficiency of assimilating the information taught this way, the student enters into a passive state that hinders his potential to engage and become autonomous (Pânișoară, 2015, p.29). In class, we are taught that questions are related to testing and therefore students should be cautious (Turk, 2009, p.390). Gradually, the question is perceived as the teacher's 'weapon / tool' and, by association with its evaluative role, it produces anxieties that have a negative effect on creativity and understanding. Traditional teaching rarely offers students the chance to formulate and ask questions.

But what is in fact a wrong answer? A wrong answer is just a *different answer, a different perspective* on things. Our obsession for the correct answer leads us to disregard the importance of an alternative answer (Kochhar, 2016). The idea of exploring a mistake and allowing the pupil / student to make a mistake, even though the teacher knows the student is not on the right path, appears to be a paradox. Is failure a good thing? Apparently so, it is useful to commit errors and to learn from them. It is certainly better than preventing the students from making a mistake and regarding school as a 'safety net' for the less successful 'leaps' (Pânișoară, 2015, p.29-32). Instead, the school and the educational environment can provide a different kind of safety that creates an ideal climate for learning based on trust - a climate that accepts mistakes occurring in the effort to learn, to understand since mistakes are the essence of learning. Students confess they do not want to admit their mistakes out of fear of being

ridiculed by their colleagues. However, a teacher that creates a learning environment that allows mistakes, makes the learning process, that inevitably includes errors, transparent, and openly discusses these issues with students, will eliminate the fear of questions and answers and develop an atmosphere of trust between himself and pupils / students but also among them (Hattie, 2014, p.145-155). If the teacher ignores pupils' / students' questions, they will infer that the teacher is too busy, that they are unprepared to understand the answer or that their questions are irrelevant or inappropriate (Marzano, 2015, p. 261).

*In university*, the feeling of maladroitness experienced by students initially stems from the uncertainty of dealing with newly acquired complex notions. They realise that their answers cannot be sufficiently backed by scientific facts due to their lack of experience in the domain (Willingham, 2009, p.82). In case they have also inhibited communication during high school to avoid embarrassing situations, they will more likely be reluctant to speak up. It is therefore important to encourage open communication and cooperation in university teaching. A. Kochhar (2016) proposes, anecdotally, an imaginary situation: a race to which everyone is invited, some stop along the route, others continue, and only some complete the race. However, they have all tried. The goal is to encourage all (students) to participate because you never know who will be best at the end of the race.

Cooperation involves caring for students and building a sense of community within the group. Helping the student involves encouraging him to gain autonomy and freedom of thought and expression (Pânișoară, 2015, p.33). Learning in progress (emerging learning) (Quinn, Heynosky, Thomas & Spreitzer, 2014, p.86) is often characterized by missed starts or false results, that lead nowhere. Mistakes are important because they show us what isn't working. Knowing what went wrong is the first step to discovering the path to success. But if the group is educated and trained competitively, to cultivate and maintain hierarchies, students in the group will try to hide, minimize or justify their mistakes. The professor is the one who can create an open, less competitive environment in which students learn to admit and share their mistakes. To do this, trust is essential. Effective teachers understand and accept this process and create the environment of trust in which mistakes can be identified and discussed. Students are encouraged to take the opportunity to express an idea without being reprimanded for wrong answers (ibid). The principles and methods of cooperative learning strongly support this approach (Pop-Păcurar, 2013, p. 90-120). Although dependence on the professor's authority exists and at undergraduate level, it can manifest itself in a formative way: as the cooperation between students and professors to ensure qualitative learning *process*, as opposed to competition among students for a *product* (answer, correct result). This means fearlessly standing the risk of providing a 'wrong answer', acknowledging it and capitalizing on it in the learning process.

## 6. Methodology

### 6.1. Sample

Collection of data necessary for the study was conducted through questionnaires that were carried out in two consecutive years, 2015 and 2016, for students from the Faculty of *Biology and Geology* and *Psychology and Sciences of Education* respectively. In 2016, a limited questionnaire was also completed by a group of 23 professors.

The set of students surveyed in 2015 consisted of 110 students, while in 2016 it comprised of 169 students. Table 1 shows the numerical distribution of groups according to the level of education. The number of professors (university teachers) that were surveyed represented over 10% of the total number of students surveyed in 2016, so as to maintain the right proportion between the number of students and the number of professors taking part in the survey.

### 6.2. Tools

In the first phase, in 2015, the *questionnaire addressed to students* contained 7 questions but was extended to 14 questions in 2016 (6 of the questions were present in both questionnaires). (Table 2 and Annex 1)

There were 10 Likert-type scale items, with a scale of 1-7, number 1 representing total disagreement with the statement and 7 marking total agreement. The scale of 1-7 points was chosen to avoid neutral answers (for example on a scale of 1 to 10, 5 indicates no tendency). The questionnaire addressed to students also included 4 multiple choice items.

Based on the results obtained in 2015 we have formulated 4 *questions addressed to professors* (university teachers) in order to verify certain assumptions. The questionnaire for professors included 3 Likert-type scale items (scale of 1-7 points) and 1 multiple-choice item. (Annex 2)

The questions content was varied, referring at: the general patterns of the student-professor communication, the quality ideals of student-professor communication, and the importance of teacher's attitude after a student's answer usually, and after a wrong answer, particularly. Different items have questioned the students about their own *fear of being wrong* and about the impact of this feeling on learning motivation and group relationship.

The questionnaires were completed both electronically and applied online using Google FORMS platform, as well as in printed format. Data processing was carried out using the XLSTAT 2014.

Table.1 *Numeric distribution on levels and years of study of students surveyed*

Academic year	The number of students who responded to the questionnaire	
	2014-2015	2015-2016
1 <sup>st</sup> year –Bachelor's degree	20	30
2 <sup>nd</sup> year –Bachelor's degree	23	64
3 <sup>rd</sup> year –Bachelor's degree	25	43
1 <sup>st</sup> year –Master's degree	22	17
2 <sup>nd</sup> year –Master's degree	20	15
<b>Total</b>	<b>110</b>	<b>169</b>

### 6.3. Preliminary considerations

The pilot phase of the study (2015) was designed based on the following observations and expectations:

1. Regardless of the academic year, student interventions during courses and seminars should register particularly high values supposing that, at this level, young people already have basic knowledge and will specialise in the field that they have chosen, one they are keen on and feel comfortable about. Of course, despite the previously stated assumption, we have not ruled out the fact that first year (bachelor's degree) students will display a slight reluctance, knowing that they are going through a period of adjustment to the academic environment.
2. We considered that, during the master's degree students will display a higher degree of self-confidence and the student-professor communication should be easier to conduct.
3. Our goal was to provide evidence regarding the level of comfort during the interaction between students and professors, and to carry out an overall assessment of the environment created by the professor during courses and seminars.

In the second year of investigation (2016), taking into account the results obtained, we chose to focus on issues that generate students' reluctance to communicate with their professors, and the impact

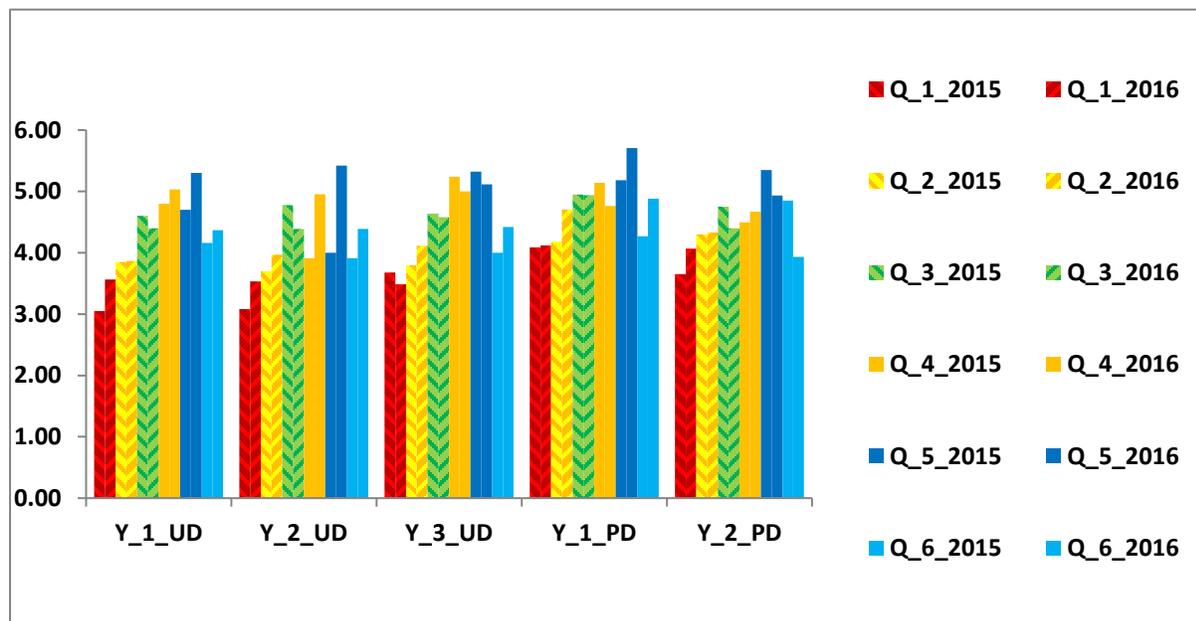
wrong answers have on students and the methods used by the university teachers to intervene in this case.

## 7. Results and Discussions

### 7.1. Intergroup comparisons

The questionnaire yielded the following results, shown comparatively in Table 2.

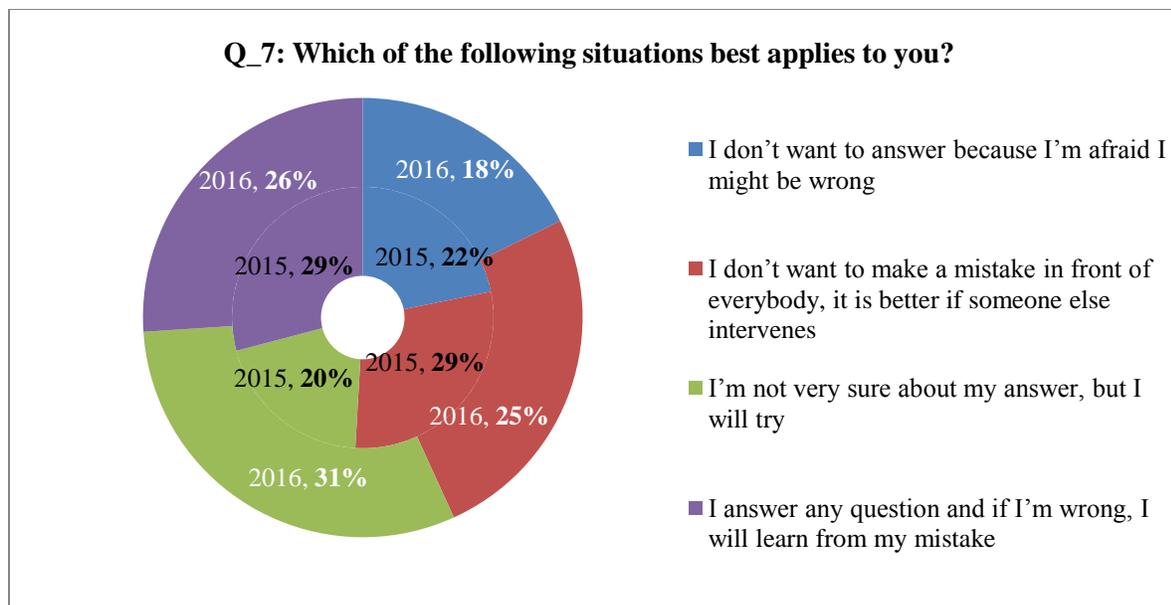
Table 2. Comparative results for questions 1-6 in the two phases of the investigation (UD-Undergraduates, bachelor's degree; PD-postgraduates, master's degree)



	1.How often do you actively participate (ask/respond to questions) during a course or seminar?		2.How comfortable do you feel when asked to express your opinion during a course or seminar?		3.How comfortable do you feel if you are required to answer a question without the help of your colleagues?		4.To what extent would you rather provide a group answer, together with your colleagues?		5.How important is your teacher's perception of you after you provide a wrong answer?		6.How much does your colleagues attitude towards you when proving a wrong answer matter to you?	
	Q_1_2015	Q_1_2016	Q_2_2015	Q_2_2016	Q_3_2015	Q_3_2016	Q_4_2015	Q_4_2016	Q_5_2015	Q_5_2016	Q_6_2015	Q_6_2016
Year	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
Y_1_UD	↓3.05	↘3.57	↓3.85	↓3.87	↘4.60	↓4.40	↘4.80	↑5.03	↘4.70	↑5.30	↘4.16	↘4.37
Y_2_UD	↓3.08	↘3.53	↓3.70	↘3.97	↘4.78	↓4.39	↘3.91	↑4.95	↓4.00	↑5.42	↓3.91	↘4.39
Y_3_UD	↘3.68	↘3.49	↓3.80	↘4.12	↘4.64	↘4.58	↑5.24	↑5.00	↑5.32	↘5.12	↓4.00	↘4.42
Y_1_PD	↑4.09	↑4.12	↘4.18	↑4.71	↑4.95	↑4.94	↑5.14	↘4.76	↑5.18	↑5.71	↘4.27	↑4.88
Y_2_PD	↘3.65	↑4.07	↘4.30	↘4.33	↘4.75	↓4.40	↘4.50	↘4.67	↑5.35	↘4.93	↑4.85	↓3.93

The answers to the first question show that students in the final years (bachelor's degree) or master's degree are the most eager to actively participate during a course or seminar; the lowest values for this question were recorded in the case of first year students. These results fall within the expected range, as first year students are going through a period of adjustment and have a special status (freshmen) compared to older students.

Multiple-choice question no.7 (Annex 1), present in both phases, showed the following results (Figure 1):



**Figure 1.** Percentage distribution of answers to question no. 7 in 2015 and 2016

Compared to the first year of research that recorded an equal percentage of students (29%) marking the answer *I don't want to make a mistake in front of everybody, it is better if someone else intervenes* and *I answer any question and if I'm wrong I will learn from my mistake*, in 2016 the highest percentage (31%) was recorded for the answer: *I'm not very sure about my answer, but I will try*, and very close (25%), followed by: *I don't want to make a mistake in front of everybody, it is better if someone else intervenes*. This goes to show that, first of all, **the view that one mistake can provide valuable new knowledge is not constant among students**, they do not regard the mistake as an alternative answer, but perceive it as something potential negative that undermines their image / reputation.

A high percentage of students from both series, 29% and 25% respectively, prefer not to answer a question in the course *for fear of making mistakes in front of the group*. On initial consideration, this is understandable because group membership and social aspects play an important role in students' lives. Students strive to have a favourable image within the group in order to be able to build friendships and relationships in this new environment. Furthermore, we infer that students are sceptical about this complex teaching situation (beginning with the professor's question, lack of response, incorrect answer, management of incorrect answers, and management of attitudes towards incorrect answers). Overall, students who state the following: *I don't want to answer because I'm afraid I might be wrong* (I - 22%, II - 18%) or *I don't want to make a mistake in front of everybody, it is better if someone else intervenes* (I - 29%, II - 25%) represent 51% of the first group and 43% of the second group. In other words, **almost half of the students surveyed do not answer questions during courses and seminars out of fear of making mistakes and to avoid the consequences of giving an incorrect answer.**

## 7.2. Intra-group comparisons

The results obtained in the second phase of the investigation (2016) are shown in Table 3.

**Table 3.** Results for questions 1-6, 8-10, 14 in the second phase of the investigation

	Q_1_2016 : How often do you actively participate (ask/respond to questions) during a course or seminar?	Q_2_2016: How comfortable do you feel when asked to express your opinion during a course or seminar?	Q_3_2016: How comfortable do you feel if you are required to answer a question without the help of your colleagues?	Q_4_2016: To what extent would you rather provide a group answer, together with your colleagues?	Q_5_2016: How important is your teacher's perception of you after you provide a wrong answer?	Q_6_2016: How much does your colleagues attitude towards you when proving a wrong answer matter to you?	Q_8_2016: How often have you been criticised by one of your professors for providing a wrong answer	Q_9_2016: How often have you been praised by your professors for having attempted to provide an answer?	Q_10_2016: To what extent do professors trust 1st year students?	Q_14_2016 : How important was it for you to avoid providing a wrong answer to your high school teacher?
Y_1_UD	3.57	3.87	4.40	5.03	5.30	4.37	2.33	4.77	3.93	4.37
Y_2_UD	3.53	3.97	4.39	4.95	5.42	4.39	2.81	4.53	3.83	4.89
Y_3_UD	3.49	4.12	4.58	5.00	5.12	4.42	2.84	4.02	3.60	4.74
Y_1_PD	4.12	4.71	4.94	4.76	5.71	4.88	2.65	4.12	3.88	5.59
Y_2_PD	4.07	4.33	4.40	4.67	4.93	3.93	2.47	4.53	3.53	4.20

These results were interpreted based on a PCA (*Principal Component Analysis*), shown in Figure 2. The purpose of this multivariate data analysis was to centralise all 169 students' responses to the 10 questions in a 2D representation and get a clear image of the **impact** each question has on the surveyed group.

Figure 2 shows the students' answers classified according to their educational level: bachelor's degree and master's degree. It also points out that the second year master's students' attitude is similar that of undergraduate students. This was also observed in the intergroup comparative results, specifically, students displayed more reluctance to speak out during courses and seminars as their knowledge in a domain increased and their graduation was near.

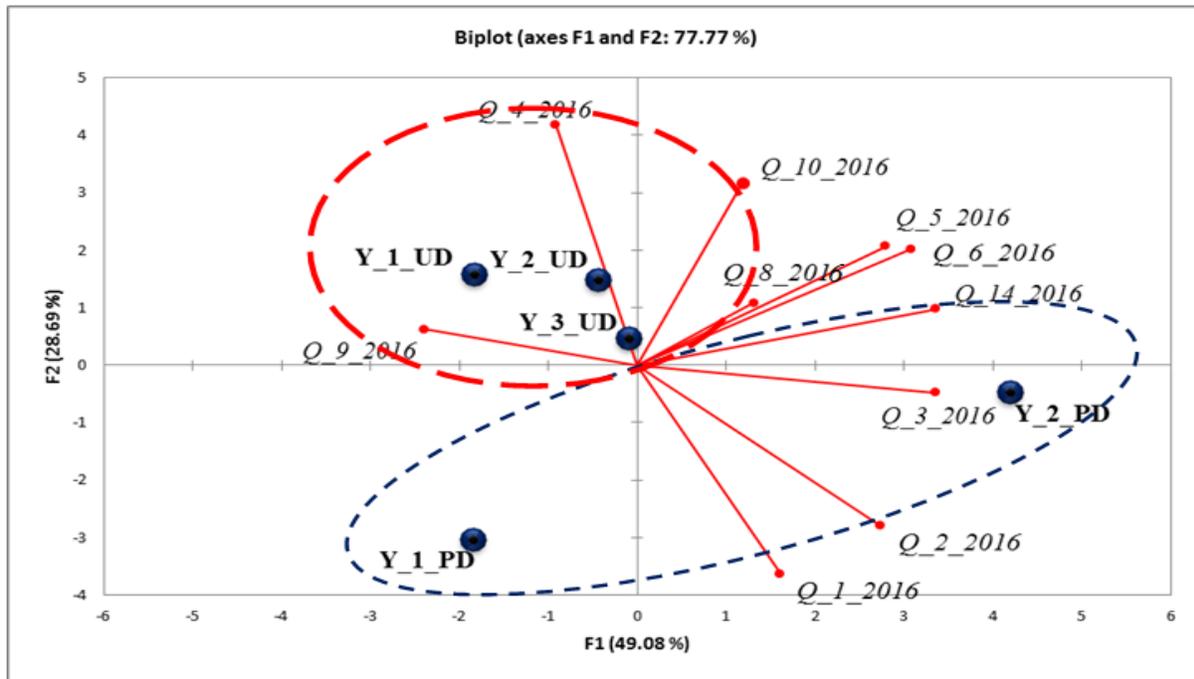


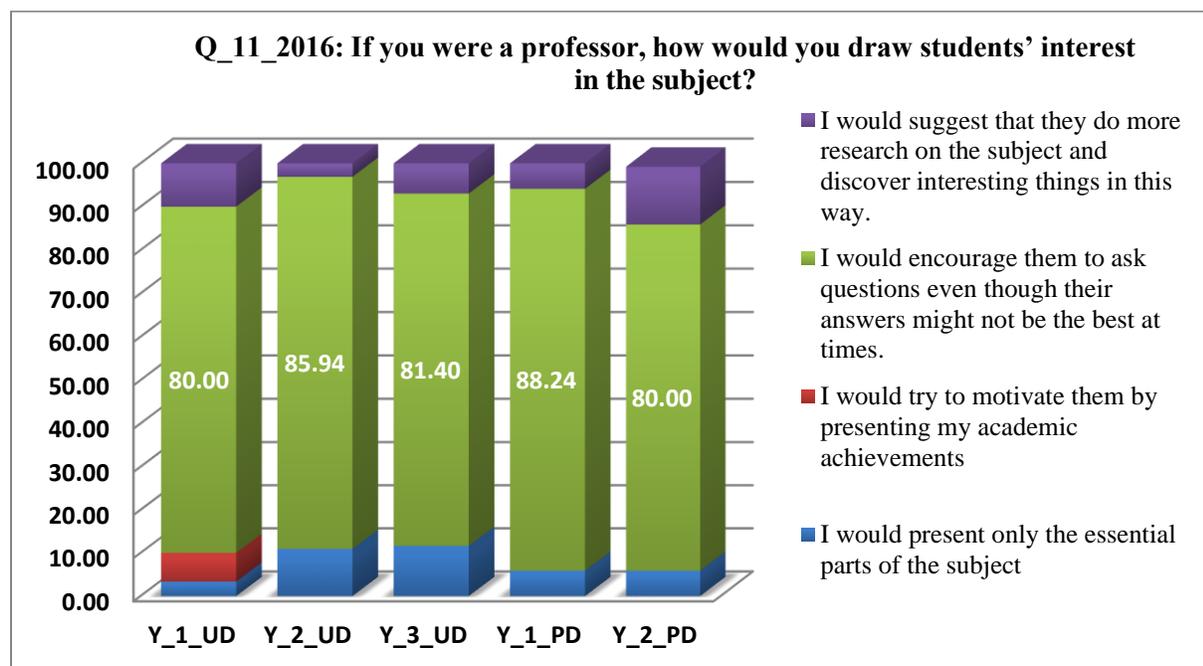
Figure 2. Principal Component Analysis (PCA). The impact each question has on the surveyed groups

The extended questionnaire used in the second phase of the study (2016) aimed to grasp the students' opinion on what provides quality to classes, on how to improve the student – professor relationship and on how great the impact of previous educational experience is. In order to examine these issues we have drawn up the following questions having four possible answers (one option being accepted):

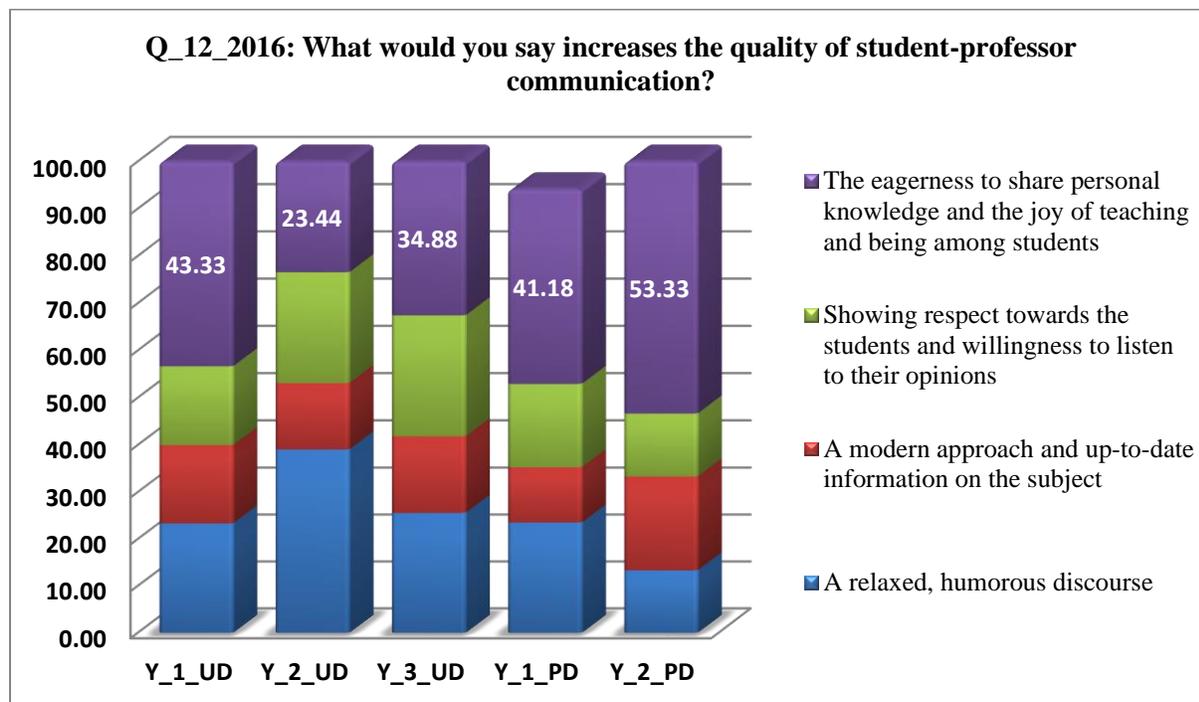
- If you were a professor, how would you draw students' interest in the subject?
- What would you say increases the quality of student-professor communication?
- Which of the following situations best describe you before going to university?

The graph in Figure 3 reveals that most students would like classes to provide the **opportunity to ask questions** and **discover interesting things on their own**. Students need encouragement in order to undertake these practices as they have had no prior school experience of it. The study confirms the students' reluctance and fear of asking questions and the need for teachers to provide support and to create a safe, as well as challenging, learning environment.

To bring quality in teaching communication, students find professors' attitude (Figure 4): willingness to share their knowledge, enthusiasm, a relaxed and humorous discourse, to be relevant for ensuring good communication. The relationship between students and professors is perceived as good throughout the course in the presence of emotional connection, humour, excitement, relaxation, empathy. A modern, up-to-date approach, devoid of the above-mentioned features, is not preferred by such a great number of students. Final year master's students are an exception, as they appreciate modern and dense courses to serve their development.

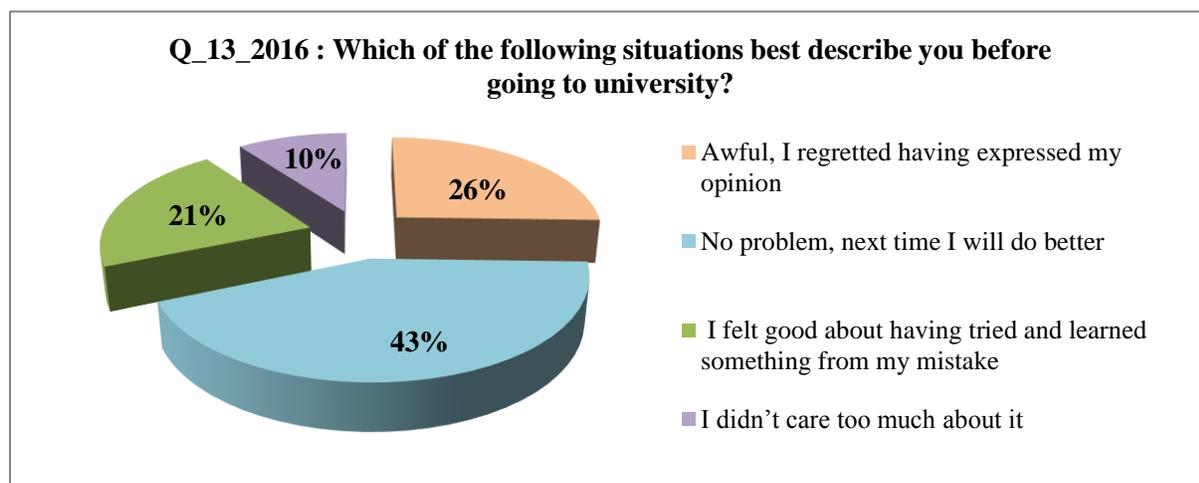


**Figure 3.** Graphical representation of the distribution of responses to question no. 11



**Figure 4.** Graphical representation of the distribution of responses to question no. 12

According to the graph in Figure 5, most students used to displayed unresisting acceptance of failure, hoping that in the future the situation was going to improve. Only a very small number of students (10%) noted they didn't give much importance to the idea of providing incorrect answers. The graph reveals in fact that, unfortunately, only 20% of high school students understood that their response, despite being incorrect, represented an alternative way of assimilating new information. Furthermore, a quarter of them felt badly about it and regretted having said anything. These results illustrate the lack of encouragement and motivation felt by students in their attempts to answer questions in school and the emotional impact of this situation.



**Figure 5.** Graphical representation of the distribution of responses to question no. 13

### 7.3. The results of the professor questionnaire

As presented in the Methodology section, the professor questionnaire comprised of four questions (Annex 2). The results are shown in Figures 6 and 7.

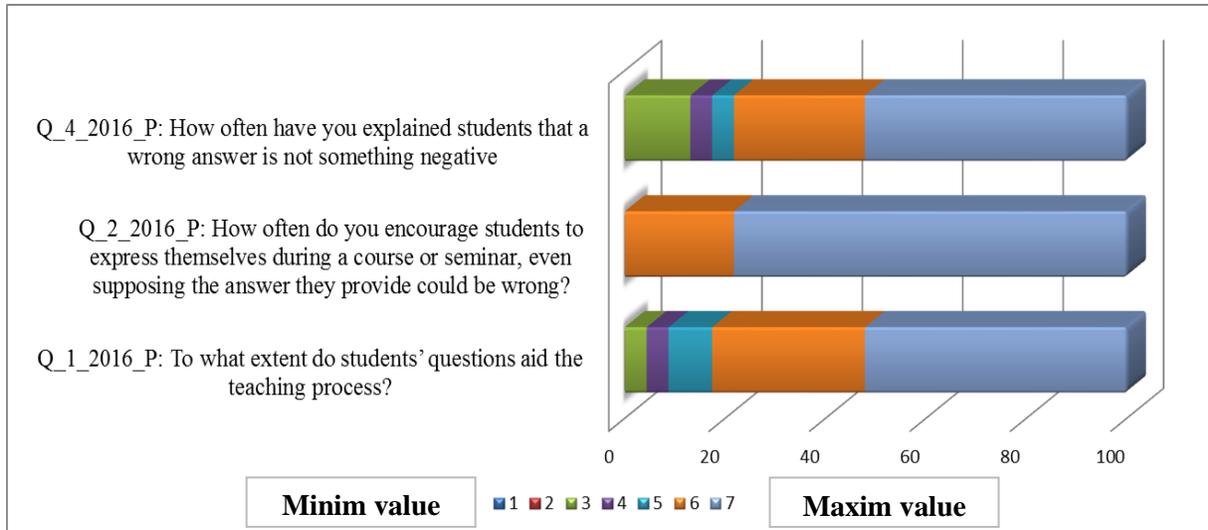


Figure 6. Graphic representation of the distribution of professors' responses to questions no. 1, 2, 4

Note that professors chose answers with high and very high scores on the value scale for all four question. Thus, professors consider that they have explained to students that the wrong answer does not imply something negative, that they have encouraged students during a course and, last but not least, believe that questions are an important aid in the teaching process.

With regard to the question no. 3 (Figure 7), over 80% of the professors surveyed consider that the wrong answer is a step in the student teaching process that can trigger a 'stream' of ideas and opinions. It is worth recalling that, contrary to this fact, almost half of the group of students surveyed said they didn't actively participate in class or answer questions during courses and seminars out fear of making mistakes and to avoid the attitudinal-affective consequences of giving an incorrect answer.

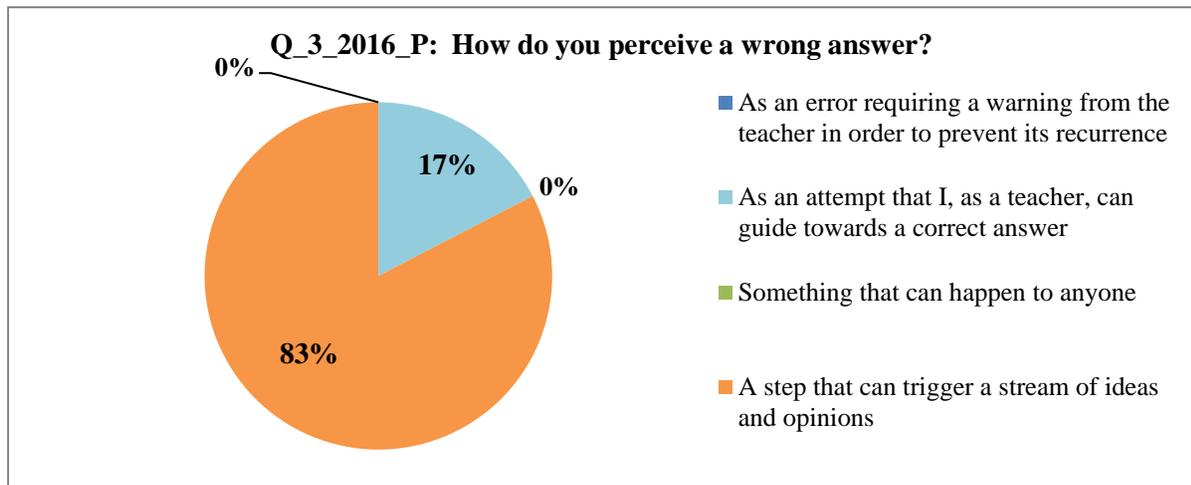


Figure 7. Graphical representation of the distribution of professors' responses to question no. 3

Therefore, these results contradict the responses of students surveyed over the course of two academic years (a total number of 279 students). The explanation that we put forth is that students view themselves as an audience for a presentation. Does the audience hear everything that speaker has to say? Can they really take in every word of the lecture? Being and staying focused is not an easy endeavour. However, people possess attention resources allocated for observing the surrounding environment and the non-verbal components of the speaker's (in this case the professor's) message (Turk, 2009). As stated before, students pick up any implications of the professor's behaviour and gradually develop a pattern of the student-professor relationship during the course, even when the professor verbally transmits another message (Marzano, 2015, p.261). Our study shows that there is a gap between the declarative and factual professor conduct. If he does not act accordingly, does not get the students to 'win and lose together', as a team, teaching communication is rendered, ineffective and, in some cases, non-verbal communication only manages to undermine the verbal communication.

## 8. Conclusion

The learning process requires dialogue and this means professors must be aware of all the subtleties of the discussions and actions of learning activities they propose.

We believe that the key to building a good student-professor relationship is that teachers see the learning process through the eyes of their students and the students regard teaching as a decisive factor in their academic development.

Professors could gain insight into the teaching process, as well as their own teaching practices, were they to join their efforts with the students.

The professors' own perception of their role is fundamental, and to define it, they are bound to constantly and accurately assess their impact on students.

As far as professor is concerned, a better student-professor relationship and overcoming communication barriers can be achieved by respecting and having confidence in students, showing enthusiasm for the subject, displaying a humorous and optimistic attitude, providing feedback and encouragement regardless of the level of study.

The professor is the one able to create the appropriate environment to foster knowledge acquisition by providing students the opportunity to express their opinions. Under these circumstances, *mistakes ought to be considered a chance to learn something new*.

Based on our research, we believe that students expect that professors have a clear system of thought that would allow them to assess and improve their own impact on students' learning process.

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### Annex 1

#### Student Questionnaire (condensed content form)

*This questionnaire contributes to a study on the mechanisms that determine students to have difficulty in communicating with their professors during courses and seminars at the university level. All information provided by completing this questionnaire will only serve the purpose of research and will be confidential. Thank you.*

*Mark one square*

1. How often do you actively participate (ask/respond to questions) during a course or seminar?  

<i>Never</i>	1	2	3	4	5	6	7	<i>Very often</i>
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2. How comfortable do you feel when asked to express your opinion during a course or seminar?  

<i>Uncomfortable</i>	1	2	3	4	5	6	7	<i>Comfortable</i>
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3. How comfortable do you feel if you are required to answer a question without the help of your colleagues?  

<i>Uncomfortable</i>	1	2	3	4	5	6	7	<i>Comfortable</i>
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4. To what extent would you rather provide a group answer, together with your colleagues?  

<i>Uncomfortable</i>	1	2	3	4	5	6	7	<i>Comfortable</i>
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5. How important is your teacher's perception of you after you provide a wrong answer?  

<i>Not important</i>	1	2	3	4	5	6	7	<i>Very important</i>
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6. How much does your colleagues attitude towards you when proving a wrong answer matter to you?  

<i>Not important</i>	1	2	3	4	5	6	7	<i>Very important</i>
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7. Which of the following situations best applies to you?  

	I don't want to answer because I'm afraid I might be wrong
	I don't want to make a mistake in front of everybody, it is better if someone else intervenes
	I'm not very sure about my answer, but I will try
	I answer any question and if I'm wrong, I will learn from my mistake
8. How often have you been criticised by one of your professors for providing a wrong answer?  

<i>Rarely</i>	1	2	3	4	5	6	7	<i>Often</i>
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9. How often have you been praised by your professors for having attempted to provide an answer?  

<i>Rarely</i>	1	2	3	4	5	6	7	<i>Often</i>
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10. To what extent do professors trust 1<sup>st</sup> year students?  

<i>Lack of trust</i>	1	2	3	4	5	6	7	<i>A great deal of trust</i>
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11. If you were a professor, how would you draw students' interest in the subject?  

	I would present only the essential parts of the subject
	I would try to motivate them by presenting my academic achievements
	I would encourage them to ask questions even though their answers might not be the best at times.
	I would suggest that they do more research on the subject and discover interesting things in this way.
12. What would you say increases the quality of student-professor communication?  

	A relaxed, humorous discourse
	A modern approach and up-to-date information on the subject
	Showing respect towards the students and willingness to listen to their opinions
	The eagerness to share personal knowledge and the joy of teaching and being among students
13. Which of the following situations best describe you before going to university: How did you feel after providing a wrong answer?  

	Awful, I regretted having expressed my opinion
	No problem, next time I will do better
	I felt good about having tried and learned something from my mistake
	I didn't care too much about it
14. How important was it for you to avoid providing a wrong answer to your high school teacher?  

<i>Not important</i>	1	2	3	4	5	6	7	<i>Very important</i>
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### Annex 2

**Professor Questionnaire** (condensed content form)

Dear colleagues, This questionnaire contributes to a study on the mechanisms that determines students to have difficulty in communicating with their professors during courses and seminars at the university level. All information provided by completing this questionnaire will only serve the purpose of research and will be confidential. Thank you.

Mark one square

1. To what extent do students' questions aid the teaching process?  

<i>Very little</i>	1	2	3	4	5	6	7	<i>Very much</i>
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2. How often do you encourage students to express themselves during a course or seminar, even supposing the answer they provide could be wrong?  

<i>Rarely</i>	1	2	3	4	5	6	7	<i>Very often</i>
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3. How do you perceive a wrong answer?  

	As an error requiring a warning from the teacher in order to prevent its recurrence
	As an attempt that I, as a teacher, can guide towards a correct answer
	Something that can happen to anyone
	A step that can trigger a stream of ideas and opinions
4. How often have you explained students that a wrong answer is not something negative?  

<i>Rarely</i>	1	2	3	4	5	6	7	<i>Very often</i>
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