

How the use of Different Teaching and Learning Methodologies Echoes in Learners: The Students' Perspectives

Simões, Dora ¹, Pinheiro, Margarida M. ², Amaral, Claudia ³

¹ ISCA-UA - Institute of Accounting and Administration and CETAC.MEDIA - Research Centre for Communication Technologies and Sciences. University of Aveiro, Portugal

² ISCA-UA - Institute of Accounting and Administration and CIDTFF - Research Centre Didactics and Technology in Education of Trainers, University of Aveiro, Portugal

³ ISCA-UA - Institute of Accounting and Administration and CLLC - Languages, Literatures and Cultures Research Centre, University of Aveiro, Portugal

Abstract – The purpose of this paper is to contribute to the discussion on how the use of different teaching and learning methodologies: (1) models students' perceptions and expectations; (2) is reflected on the impact different communication mechanisms have in students' engagement; and (3) fosters students' interest. The paradigms of resilience, persistence and determination are pertinent aspects students point out that may justify distinct responses to several communication mechanisms, and differentiated interests towards a set of methodological resources.

Keywords – teaching and learning methodologies, higher education institutions, students, technologies, learning styles.

1. Introduction

To meet the challenges currently facing Higher Education Institutions (HEI), which concern not only the role of teachers and students, but also the learning and teaching processes, higher education stakeholders should apparently focus more on the reformulation of practices, and not so much on the (theoretical) reformulation of its institutions. In addition, the methodological model fostered by Bologna has led to profound changes, promoting student-centered methodologies and turning students into an active element in the learning process, guided by tutorial support [1].

In this perspective, it becomes acceptable to sustain the idea that learning cannot take place without people or without a reference to the students' subjectivities as well as to their personal and social contexts. Nevertheless, the fact that the majority of students has been exposed solely to traditional models which emphasize a competitive and individual approach, together with the fact that teachers have also been trained to perform according to classical lecturing schemes, constitute a substantial problem. Clearly, in this context, the change in paradigm seems

quite difficult to achieve, unless teachers and students are trained in alternative teaching and learning techniques and a comprehensive debate on this issue takes place.

In particular, the widespread use of Information and Communication Technologies (ICT) and the engagement of students in active and collaborative practices have been changing the concept of learning and teaching for the 21st century. At individual level, pre-determined preferences and aptitude to learn also play a fundamental role in the process. Broadly speaking, the theory that sustains learning practices recommends teachers should make use of different approaches. The better they understand these differences, the more opportunities they have to meet the educational needs of students.

In an attempt to reorganize these paradigms, several elements should be taken into account concerning the methodological models that could be used in higher education classes. Oriented by the practices and techniques that intend to contribute to academic success as well as to students' individual and professional development, it is possible to rebuild a set of procedures that can be adopted inside the classroom. These strategies are connected; in particular, to the student's framework in multiple contexts incorporating mixed levels of personal, social and institutional relationships and encouraging students to conceive and deal with his/her own way of producing and having access to knowledge. Consequently, it is possible to sustain the assumption that, besides changes in curricula, modifications in learning would also imply positive changes in professional, social and personal perceptions of those directly involved in the process: students and teachers.

Having this paradigm as background scenario, the purpose of this study is to contribute to the discussion on how the use of different teaching and learning methodologies: (1) models students' perceptions and

expectations; (2) is reflected on the impact different communication mechanisms have in students' engagement; and (3) fosters students' interest. The paper is divided into five parts. After the introduction, there is a conceptualization of the main paradigms related to teaching and learning in higher education, namely: learning contexts, student-centered teaching and learning methodologies, the role of technology, and the different learning styles. The next section focuses on the methodological aspects of studying. The fourth section is devoted to presentation of results, and the fifth and last section provides the main conclusions on the conducted study.

2. Paradigms of teaching and learning environments in higher education

Due to the conceptual diversity of this subject, the reflection upon the complexity of teaching and learning environments demands an analysis on vast and distinct themes: learning contexts, student-centered teaching and learning methodologies, the role of technology and learning styles.

2.1. Learning settings

Several learning methodologies have been explored in connection with different learning orientations and characteristics, allowing for a harmonization of concepts and their development in specific educational contexts. Indeed, if in the 70's studies supported memory-based and mechanical learning attitudes (surface learning approaches) disfavoring active and focused knowledge construction (deep learning approaches), more recent studies published over the last ten years evidence that understanding can be conceived and reached through different pathways. As approaches to the concepts of learning and understanding evolve, the surface *versus* deep dichotomy which served as basis for studies on learning of higher education students is being substituted by interconnected and collaborative activities. This evidence has contributed to the importance that experience in learning variations receives today, demonstrating that understanding is a multifaceted phenomenon which can actually be experienced and accomplished in different ways [2].

Along with the interest that the learning environment has captured and with its increasing complexity, HEI are requiring an extraordinary educational contribution in conceiving and preparing the stage for new generations [1]. In an attempt to put into practice the words of Jacques Delors [3] that education should be built upon learning to know, learning to do, learning to live together, and learning to be, what should be considered important in the organization of a curricular unit? According to Vivet [4], the major concerns are related to human and social aspects,

liaison with learning theories, and inclusion of an interconnected system containing those who learn and the knowledge made available by teachers, peers or media tools. The main purpose is to make sure those who learn can acquire appropriate knowledge contents so as to be able to rebuild that knowledge for themselves and also construct a socialization process including sharing of knowledge communication abilities reinforced by autonomy, self-education and self-assessment. The importance of promoting reasoning and the need for teachers to encourage and challenge students' critical thinking are corner stones in the learning process.

2.2. Learning and teaching methodologies centered on the student

As active learning becomes a key educational player in a variety of learning contexts, the interest of researchers over the last few years on this subject has increased significantly ([5]; [6]; [7]). As identified by Prince [7], active learning requires students to develop meaningful learning activities, making them think about what they are doing, and embracing them in the learning process [9]. In this respect, it is common to compare this active learning attitude to a passive one witnessed in more traditional classes.

Another concept to retain is collaborative learning. It is generally assumed that collaborative learning refers to any method which involves students working together in small groups directed towards a common goal. As mentioned by Kaufman et al. [6], collaborative learning is constituted by an array of techniques comprising small and one-off groups of students for immediate discussion in the classroom. On the other side of the board is cooperative learning, characterized as a carefully prepared learning strategy used by groups of students with an academic purpose. Although some authors distinguish between collaborative and cooperative learning based on different past developments, the core and common element is placed on interaction among students, and not on learning as a solitary activity. Therefore, it is possible to accept the perspective of [10] and [7], who state that collaborative learning includes cooperative learning, since in both interpretations the central element is based on the consensus to build something through cooperation by all group members.

Although active learning receives a rather comprehensive empirical support, not all is positive ([11]; [5]; [12]; [13]). Furthermore, such as Prince [7] points out, the variety of methodologies designated as active learning does not help in the clarification of this issue. Still, it is possible to elicit some conclusions. Firstly, breaks during classes improve their efficiency due to a direct relation between breaks and student's attention. However, the mere introduction of an activity in class may not be able to

capture the attention of the student if it was not conceived based on relevant learning outcomes. So, secondly, it is crucial to promote an altruistic participation on students' part. Finally, and again according to Prince [7], collaboration not only fosters students' attitudes, improves their academic performance and retains their attention; it also provides a naturally favorable environment to ameliorate interpersonal competences. The research also suggests that collaborative learning and cooperative learning are not mutually exclusive; on the contrary: they should complete one another. As a result from an active attitude on the part of students, teachers tend to become facilitators and tutors.

2.3. The role of technology

Considerations on learning and, consequently, on teaching at HEI, would not be completed without an approach to technology. Nonetheless, the mere interaction of learning with technology has questioned fundamental assumptions related to the understanding of actions and activities mediated by technology: In which scenarios do they move? To what extent do they act as obstacles or as facilitators? What risks are associated to the use of teaching and learning technologies in HEI? These are examples of some of the questions posed by researchers [14]. Although it is not our purpose to refer to these issues extensively, according to several authors ([15]; [16]) it is possible to argue that the development of technology enabled not only the setting up of new ways of socializing and new definitions of individual and collective identities, but also promoted the emergence of a new theoretical basis adapted to a technological and pedagogical environment of collaborative learning.

As referred by Ally [17] or Sirkemaa, Box and Pori [18], the role of technology is to support the learning process, where the learner performs the central role. Based on the assumption that current and future educational environments should motivate and involve students in reflexive thinking and in the active construction of learning, the potential of technology lies in knowing how to help students and teachers in that process.

The benefits and opportunities resulting from thoughtful preparation and implementation of technological learning environments are plenty. Williams [27] recommends an approach that takes pedagogy, participation and access as basic departing points. Pedagogy, as transformation and restructuring of contents directed to technological environments, is central to the process, assuring that the learning advantages are entirely explored. Although in some particular technological environments such as online forums a certain degree of failure in participation may occur, one of the greatest advantages of technology is

to be able to mediate and encourage reasoning, establishing communication among learners. Lastly, access is also a relevant aspect, namely in what concerns computing availability and resources for students and teachers. Discussion forums are also a way of using CT in education. The consensual definition of an online discussion forum is of a virtual learning environment in which students tend to learn as much as with course materials and classes, as with one another [19]. From this point of view, when reflecting upon contributions of peers in online discussions and when articulating the formulation of new understandings, students get involved in a higher level of information processing, resulting in the construction of a non-individualistic personal meaning, a product of interaction and collaboration within the group. This interpretation evidences that having their own ideas criticized or expanded and being able to reformulate them based on discussions among peers, gives the student the ability to learn to be seen as a cognitive building process [23].

Literature review by Norand colleagues [22] refers some authors to whom the asynchronous nature of online forums offers the chance to students who normally don't participate in classes to state their opinion. The authors also defend that online forums are less stressing for students, since there is no relevant pressure for immediate answers; simultaneously, online forums encourage dialogue, which in turn stimulates critical thinking and collaborative learning. Similarly, the findings of Judd and colleagues [19] point in the same direction: forums increase participation and collaborative thinking through the supply of asynchronous communicative non-hierarchical shared settings. Furthermore, since forums offer the opportunity to students to interact with other students outside traditional classes, online forum platforms are used extensively to complement learning and traditional teaching methods. In this way, shy students get the chance of participating and getting involved in an environment where they are not pressured to perform or take part actively.

2.4. Different learning styles

Students have different attitudes towards teaching and learning, different levels of motivation, and different responses to classroom environments and practices. Learning styles encompass the varying ways students respond to different types of teaching techniques, as well as the particular modes through which they apprehend and process information. There are around thirty to forty learning styles, with differences and similarities [8]. We all use a mixture of learning styles. Although the concept of learning style is not universally accepted, studies gathered by several authors ([8]; [25]) provide a stable picture of the

differences in learning styles and their effects in the performance and attitudes of students.

According to some authors ([8]; [24]), how much students learn in classes depends, among other things, on the conjugation of their preferences of learning styles and the ones actually applied. Therefore, as referred by Litzinger, Lee, Wise and Felder [20], students' knowledge on learning styles could then be used to enhance self-consciousness on their weaknesses and strengths as learners, bearing in mind that the more teachers know about students' preferences, the easier it will be to meet students' different needs, resulting in deeper and lasting learning outcomes.

Broadly speaking, the theory underlying learning styles recommends distinct approaches and different IT and CT to support those styles. Wild & Quinn [26], for example, consider that it is important to offer different paths through different technological experiences supporting different learning styles.

3. Methodology

After defining the general purpose and research questions of this study, it is time to explicit the methodological options used to accomplish it.

Guided by the teaching practices that intend to contribute to the academic as well as to the personal and professional success of students and other stakeholders, we conducted an analysis on a set of procedures that can be adopted in the classroom of higher education institutions, similarly to other authors' research [21]. In an attempt to perceive how students model their ideas when attending a curricular unit, namely concerning the degree of difficulty, demand, motivation and effort, together with expectations towards final result, students were asked to submit a questionnaire in two specific moments: at the beginning and ending of attendance. Furthermore, there was also interest in obtaining a better perception on how students evaluate their own motivation and performance according to classroom learning and teaching methodologies. This assessment observed some requirements based on [9] and was ranked according to Table 1.

Table 1. Procedures and objectives of the research.

Procedures/Resources	Objective
<p>Classification:</p> <ul style="list-style-type: none"> Of ideas concerning degree of difficulty and degree of demand of the curricular unit. Of ideas that may model the degree of motivation and working effort when attending the curricular unit. Of expectations concerning final result of attendance to the curricular unit. <p>Resources:</p> <ul style="list-style-type: none"> In the beginning of the school year - students of previous year talked about their experience regarding the curricular unit. 	<p>To perceive students' perceptions and expectations</p>
<p>Resources:</p> <ul style="list-style-type: none"> To know and address a student by his/her first name. Direct designation of a group of students to participate by electing a speaker chosen by the group/teacher. Direct designation of a group of students to participate through a speaker selected by the group/teacher To make use of electronic mail and/or discussion forums for clarification of doubts. 	<p>To understand the impact of different communication mechanisms in students' engagement</p>
<p>Resources:</p> <ul style="list-style-type: none"> Attention calls to students for what is important. Breaks to allow subject refocus. Direct designation of a student to participate orally, from his/her seat. Direct designation of a student to participate through resolution of exercises written or projected on the board. Use of slides as a support for course material. Use of class board to explain course material. Use of case studies on some course topics followed by analysis and discussion in groups. Presentation of course topics in class by groups of students. Use of software for comprehension/application of contents and acquisition of practical skills Writing of texts individually or in a group. Assignment of homework. Previous presentation of a topic scheme. Presentation of application problems for later resolution in the beginning of each topic. Summarized presentation by students of previous class contents in the beginning of each class. 	<p>To understand the factors that could foster students' interest</p>

For the outlined purposes, data collection was conducted through an online questionnaire at the Moodle platform in two different moments: at beginning and ending of the 2012/2013 school term. The first questionnaire intended to assess the students' profile and their perceptions and pre-ideas concerning the curricular unit, namely on the degree of difficulty, level of demand, motivation, workload and expected results, but also to assess their vision on the contribution of certain methodologies for their motivation and performance. The second questionnaire also aimed at evaluating the students' profile, but this turn regarding their perceptions and post-ideas on the attendance of the curricular unit: degree of difficulty, level of demand, motivation and effort, and expectations towards final results. It was also attempted to apprehend the students' sensitivity regarding the resources identified in Table 1.

In questions aimed at assessing students' perceptions it was applied a Likert scale with 4 points in pre-ideas and 5 points in post-ideas. The difference in scale is due to the conscious elimination of the neutral posture in the questionnaire conducted after attending the curricular unit, since it is assumed that students may not have a clear idea before attendance, but are expected to have one afterwards.

The sample was deliberately constituted by students belonging to the same graduation course, but comprising three curricular units from the three years of the bachelor degree, with contents from different areas and lectured by different teachers.

The underlying idea for the transversal situation of respondents spread by different school years is related to the possibility of analyzing potential differences in attitude which would be expected as the student progresses, at least from a conceptual point of view. Similarly, the idea behind the inclusion of different curricular units is explained by the attempt to integrate different visions of lecturing techniques and methodologies. However, with more or less intensity, the used methodologies touched all points under analysis. The curricular units from the Bachelor Degree in Marketing lectured in the second semester of the 2012/2013 school year subject to analysis were: first year – Business English II, Languages; second year – Statistics, Mathematics; third year – CRM Systems, Computer Science. 251 students were eligible (Business English II: 99 + Statistics: 104 + CRM Systems: 48). The number of respondents by curricular unit and by questionnaire can be observed in Table 2.

Table 2. Attendance (absolute and relative) of respondents by curricular unit.

Questionnaire	No. of Respondents			Total
	UC			
	Business English II	Statistics	CRM Systems	
1	30 (26,1%)	51 (44,4%)	34 (29,6%)	115
2	13 (14,8%)	50 (56,8%)	25 (28,4%)	88

Since they are distinct units from distinct school years, the number of students attending them varies. One possible explanation for the lower number of responses in questionnaire number 2 may be related to the non-compliance in answering and to the fact that the number of students with regular attendance decreases along the semester.

4. Results and discussion

Based on the proposed theoretical framework, the results obtained from students' responses were analyzed in three different levels: perceptions and expectations of students (before and after attending the curricular unit); impact of the several communication mechanisms in the engagement of students; and factors that could best optimize the interest of students during attendance.

4.1. Perceptions and expectations

It is possible to reach some conclusions from the analysis of the results obtained in the beginning and in the end of attendance to the curricular units regarding degree of difficulty, demand, motivation, effort and expectations towards final results.

Data on the degree of difficulty point out to the fact that, in general, students tend to change their perceptions, indicating that the curricular unit is considered less difficult than initially perceived (see Table 3). There is also evidence, although to a lesser extent, that the perception on degree of demand tends to decrease (see Table 4).

Concerning the degree of motivation and effort, it seems the attendance to the curricular unit has a decreasing effect on both (see Tables 5 and 6). In relation to the degree of effort, no student referred absence of study.

Table 2. Frequency (absolute and relative) of students' perceptions towards the degree of difficulty of the curricular unit.

Curricular Unit	Degree of Difficulty (Beginning/End)				Nothing was referred to me	Total
	Hardly difficult	Slightly difficult	Quite difficult	Totally difficult		
Statistics	0/0	8/19	21/31	12/0	10	51/50
Business English II	2/2	6/6	10/5	4/0	8	30/13
CRM Systems	0/0	5/13	11/12	3/0	15	34/25
Total	2/2 2,4%/2,3%	19/38 23,2%/43,2%	42/48 51,2%/54,5%	19/0 23,2%/0,0%	33 (28,7%)	115/88

Table 3. Frequency (absolute and relative) of students' perceptions towards the degree of demand of the curricular unit.

Curricular Unit	Degree of Demand (Beginning/End)				Nothing was referred to me	Total
	Hardly demanding	Slightly demanding	Quite demanding	Totally demanding		
Statistics	0/0	1/9	24/40	15/1	11	51/50
Business English II	1/0	2/4	15/8	6/1	6	30/13
CRM Systems	0/0	2/7	19/16	5/2	8	34/25
Total	1/0 1,1%/0,0%	5/20 5,6%/22,7%	58/64 64,4%/72,7%	26/4 28,9%/4,6%	25 (21,7%)	115/88

Table 4. Frequency (absolute and relative) of students' perceptions towards the degree of motivation for the curricular unit.

Curricular Unit	Degree of Motivation (Beginning/End)				Do not know	Total
	Hardly motivated	Slightly motivated	Quite motivated	Totally motivated		
Statistics	2/3	18/19	25/25	5/3	1	51/50
Business English II	0/0	5/0	11/11	13/2	1	30/13
CRM Systems	0/3	4/7	21/14	8/1	1	34/25
Total	2/6 1,8%/6,8%	27/26 24,1%/29,6%	57/50 50,9%/56,8%	26/6 23,2%/6,8%	3 (2,6%)	115/88

Table 5. Frequency (absolute and relative) of students' perceptions towards the degree of effort they hope to devote/have devoted to the curricular unit.

Degree of Effort (Beginning/End)					Total
I will work a little	I will work a lot	I will work full time	Do not know		
4/14	35/30	9/6	3	51/50	
1/2	15/9	13/2	1	30/13	
2/4	24/20	7/1	1	34/25	
7/20 6,4%/22,7%	74/59 67,3%/67,0%	29/9 26,4%/10,3%	5 (4,3%)	115/88	

When conjugating these results with the previous ones, it may be wondered if this persistent trend may in some way be the reaction of students to the initial perception that the degree of demand of the curricular unit was not as high as anticipated. If, on one side, a lower motivation could be expected due to the feeling of a lower degree of demand, on the

other side the fact that the degree of difficulty turned out to be less than expected, should encourage the maintenance of the initial effort in order to obtain better results than those initially foreseen. Here, the paradigms of resilience and persistence are put forward: to what extent are HEI preparing students to deal with such an array of situations in an appropriate way? Similarly, to what extent are HEI preparing

students to be persistent so as to achieve the best performance? Finally, results concerning expectations towards final result obtained at the

beginning and end of attendance to the curricular unit are presented in Table 7.

Table 6. Frequency (absolute and relative) of students' perceptions on expectations towards final result in the curricular unit.

Curricular Unit	Expectations towards final result (Beginning/End)			Total
	I will fail	I will pass	I have no expectations	
Statistics	1/2	33/36	17/12	51/50
Business English II	1/0	23/10	6/3	30/13
CRM Systems	0/0	31/20	3/5	34/25
Total	2/2	87/66	19/20	115/88
	1,7%/2,3%	75,7%/75,0%	16,5%/22,7%	

Although a considerable percentage of students indicated the degree of difficulty (74%/55%), demand (93%/77%), motivation (74%/64%) and effort (94%/77%) as quite high, the analysis allows us to conclude that, in general, expectation regarding approval does not change. Within this framework, it is time to question the paradigms of inflation and determination: to what extent are HEI teachers' attitudes in accordance with the level of demand that seems to be present in classes and their final assessment? To what extent are HEI preparing students to be determined in their will to be noticed by their (good) level of work?

To better understand the previous results, students were also questioned on the importance of teachers

requesting previous year's students to provide testimonials in the beginning of the school term. As opinions on this subject varied considerably, it seems the positive aspects of this resource are worth considering. Similarity of indicators among the different curricular units also point in this direction.

4.2. Impact of communication mechanisms in students' engagement

When questioned on their perceptions regarding the impact of some communication mechanisms in their teaching and learning engagement, students consider the fact of being addressed by the teacher by their own names as "Very important" (see Table 8).

Table 7. Frequency (absolute and relative) of students' perceptions towards the impact of some communication mechanisms in their engagement.

Communication Mechanisms	Assessment				
	Hardly important	Slightly important	Very important	Totally important	Not applicable
To know and address a student by his/her first name.	4 (4,5%)	13 (14,8%)	27 (30,7%)	37 (42,0%)	7 (8,0%)
Direct designation of a group of students to participate by electing a speaker chosen by the group.	5 (5,7%)	12 (13,6%)	47 (53,4%)	22 (25,0%)	2 (2,3%)
Direct designation of a group of students to participate by electing a speaker chosen by the teacher.	4 (4,5%)	19 (21,6%)	33 (37,5%)	30 (34,1%)	2 (2,3%)
Use of electronic mail and/or discussion forums for clarification of doubts.	2 (2,3%)	20 (22,7%)	34 (38,6%)	26 (29,5%)	6 (6,8%)

Regarding the mechanism of direct designation of a group of students to participate through a speaker chosen by the group or by the teacher, students once again classified this procedure as "Very important". Contrary to what is highlighted in the revision of literature, there seems to be no special distinction between the fact of the speaker being designated by the group or by the teacher.

When enquired on the importance of using communication mechanisms such as email and discussion forums for clarification of doubts outside

the classroom, students once again classified this procedure as "Very important" (see Table 8.). However, the use of this mechanism is used differently in the three curricular units. Although in statistics and CRM systems classifications tend to attribute a high level of importance to this resource, in Business English II the majority of students considered this mechanism as only slightly important.

Table 8. Frequency (absolute e relative) of students' perceptions towards the use of email and/or discussion forums for clarification of doubts in the curricular units.

Curricular Unit	Assessment				
	Hardly important	Slightly important	Very important	Totally important	Not applicable
Statistics	1 (2,0%)	10 (20,0%)	22 (44,0%)	15 (30,0%)	2 (4,0%)
Business English II	1 (7,7%)	6 (46,2%)	3 (23,0%)	1 (7,7%)	2 (15,4%)
CRM Systems	0 (0,0%)	4 (16,0%)	9 (36,0%)	10 (40,0%)	2 (8,0%)

This evidence may to some extent question the need to keep mixing different communication strategies between teachers and students in an attempt to meet different comfort patterns that would fit different learning styles. In addition, since Statistics and CRM Systems are more objective curricular units, in contrast with Business English II with a more transferable character, it may be possible to conclude that communication mechanisms such as the email or discussion forums would be more adequate to certain contents. Although not a consensual topic, this fact seems to reinforce the idea that different curricular areas deserve distinct approaches, at least in this

specific aspect. This subject leads us to another challenge regarding consensus on methodological resources: to what extent should curricular units from distinct areas use the same methodological resources to enhance social skills?

4.3. Factors that foster students' interest

It was also aim of this study to identify the factors that have the biggest impact on students' engagement. Table 10 presents the results based on the resources listed in Table 2, regarding this specific point.

Table 9. Frequency (absolute and relative) of students' perceptions towards the importance of some teaching and learning methodologies in the classroom.

Strategy	Assessment				
	Hardly important	Slightly important	Very important	Totally important	Not applicable
Use of slides as support for class material.	0 (0,0%)	3 (3,4%)	34 (38,6%)	46 (52,3%)	5 (5,7%)
Use of class board to explain class material.	1 (1,1%)	7 (8,0%)	36 (40,9%)	40 (45,5%)	4 (4,5%)
Use of software for comprehension/ application of contents and acquisition of practical skills.	0 (0,0%)	10 (11,4%)	37 (42,0%)	38 (43,2%)	3 (3,4%)
Attention calls to students for what is important.	4 (4,5%)	7 (8,0%)	35 (39,8%)	37 (42,0%)	5 (5,7%)
Use of case studies on some course topics followed by analysis and discussion in groups.	1 (1,1%)	12 (13,6%)	36 (40,9%)	35 (39,8%)	4 (4,5%)
Presentation of course topics in class by groups of students.	3 (3,4%)	12 (13,6%)	37 (42%)	33 (37,5%)	3 (3,4%)
Direct designation of a student to participate through resolution of exercises written or projected on the board.	1 (1,1%)	13 (14,8%)	40 (45,5%)	33 (37,5%)	1 (1,1%)
Breaks to allow subject refocus.	2 (2,3%)	15 (17,0%)	35 (39,8%)	33 (37,5%)	3 (3,4%)
Direct designation of a student to participate orally, from his/her seat..	2 (2,3%)	20 (22,7%)	33 (37,5%)	31 (35,2%)	2 (2,3%)
Summarized presentation by students of previous class contents in the beginning of each class.	3 (3,4%)	18 (20,5%)	39 (44,3%)	24 (27,3%)	4 (4,5%)
Presentation of application problems for later resolution in the beginning of each topic.	3 (3,4%)	16 (18,2%)	44 (50,0%)	20 (22,7%)	5 (5,7%)
Previous presentation of a topic scheme.	4 (4,5%)	18 (20,5%)	39 (44,3%)	23 (26,1%)	4 (4,5%)
Writing of texts individually or in groups.	4 (4,5%)	24 (27,3%)	37 (42,0%)	18 (20,5%)	5 (5,7%)
Assignment of homework.	11 (12,5%)	24 (27,3%)	31 (35,2%)	18 (20,5%)	4 (4,5%)

Although all methodological strategies used in the classroom were referred to as being very important, it is possible to evidence some differences. Students highlight the following strategies as being very important: use of slides for support of classroom material; use of class board to explain class material; use of software for comprehension/application of contents and acquisition of practical skills; and attention calls on the part of the teacher for what is important. In the last places come the strategies: writing of texts individually or in groups; and assignment of homework. Bearing in mind the different learning styles, these results allow us to conclude that the diversity of resources and the importance they seem to have in fostering students' interest reinforces the need to apply distinct methodological procedures, as evidenced by the several previously referenced authors.

5. Conclusions

Students have different perceptions and expectations regarding the curricular units they are enrolled in: distinct responses to the several communication mechanisms, and differentiated interest towards the set of methodological resources. This study offers the opportunity to discuss some of these issues. One example is resilience. Indeed, if the anticipated level of difficulty becomes lower during attendance, the will to work previously expressed should be galvanized in order to achieve better results. Another idea deriving from this study is the persistence students should evidence in the attempt to achieve better results. If students show a lower degree of effort when facing a high level of demand and still expect positive results, the question that arises is whether students are able to (at least) maintain their initial will in order to attain the best possible results with the same level of effort. On the other hand, it is also relevant to understand if the level of demand that seems to be generated in classes is compatible with teachers' final assessment. Determination is another pertinent aspect. If students respond with less effort when the work is demanding and still expect positive results, it is plausible to question the role of HEI in preparing students to have the necessary perseverance to work and surpass their own limits. On another level, this issue is related to the attempt to understand if and which ICT communication mechanisms are better suited for specific class materials. Or, in a more general way, to what extent can methodological resources dedicated to enhance transferable competences be identified with different scientific areas. Lastly, notwithstanding the vast literature on predisposition of styles, it seems important to maintain our concerns and reflections on more and better ways to foster students' interest in the classroom.

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Corresponding author: Dora Simões

Institution: ISCA-UA - Institute of Accounting and Administration and CETAC.MEDIA - Research Centre for Communication Technologies and Sciences. University of Aveiro, Portugal

E-mail: dora.simoes@ua.pt