

# Perceptions of teaching in students and in teachers' point of view:

## Implications on students' learning skills in Higher Education

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**Abstract.** The purpose of this article is to identify the educational perceptions of students and teachers in portuguese Higher Education. 20 hours of lessons were analyzed during a curricular unit of a course of a Higher Education Institution. The information was recorded on a descriptive grid for classroom observation and also obtained from interviews, of a semi-structured nature to the teacher and focus group to five of the students. We used content analysis with input from webQDA software. According to the results, teachers and students have different perceptions of how teaching is managed. A strategic orientation of student-centred teaching requires the promotion of a variety of learning environments, flexibility, capacity of valuing students' participation, including tasks and activities that develop cognitive skills of higher level. These results show that, in similar contexts, the teacher-centred teaching, correlated with the interaction among students, can be a learning improvement strategy.

**Keywords:** Higher Education; Teaching methods; Teacher-Centred Education; Active Learning; Perceptions of Education.

## 1 Introduction

Some reports of the consolidation of the Bologna Process in HEI (Higher Education Institutions) in Portugal recognize that teachers need significant training in teaching methodologies focused on learning [1]. These methods require that teachers acknowledge their task, from the time of their first planning, as a strategy with goals, activities, resources and means to promote students' learning. This strategic action will involve monitoring and supporting students' participation in an active way, in order to develop their skills.

The strategic orientation of student-centred teaching implies, to the teacher, the responsibility to promote a variety of learning environments, which are flexible, capable of validating student's participation in all stages of the process, it also implies tasks and activities that develop upper level cognitive skills and behavioural skills based on ethical values.

### 1.1 Teaching Methods

In general, the choice of a teaching strategy “involves the deliberate choice for an action plan or teaching model which constitutes a way to intervene using methods and techniques which, in turn, cause a certain teaching style” [2, p. 161].

The concept of method of teaching refers to the form of organization of the teaching and learning process, by the teacher, by trying to organize the learning process according to the resources and aims defined in the context of the strategies.

For this reason, some authors, such as Gimeno [3], do not distinguish the concepts of method and strategy, Pacheco and colleagues [2] defining them as “the path that we follow while taking action through a practical synthesis of choices made among psychological variables, didactic and philosophical” [2, p. 160].

Establishing a classification of teaching methods is not easy and will always be debatable, since it depends on several criteria. Gimeno [3], points out that some of these difficulties are related to the fact that they are dynamic variables, very diverse and it is difficult any categorization.

However, Pacheco and colleagues [2], put forward an attempt of classification, distinguishing four types of methods, but we will only be looking at three, shown on Table 1.

**Table 1.** Teaching method

<b>Teacher-centred</b>	<b>Student-centred</b>	<b>Interactive</b>
Expository methods, effective for certain contents for low learning levels of abstraction.	Based on the self-discovery process and requires the active participation of students and the guidance of the teacher in the learning process. Each student follows his or her own pace of learning.	Methods of discussion: Group debate, on the basis of small groups, in which the teacher tries to foster the exchange of ideas and opinions. Examples: class discussion; small group discussion; group projects.

Each type is distinguished by the different involvement of students and teacher, as well as for the different results.

With the methods centred on the teacher, it is the teacher’s responsibility to promote the proper initiatives, to organize the contents, to introduce to the students, in the form of well-structured presentations. The student assimilates and stores the transmitted knowledge, cumulatively, which is the product of the method used.

However, the lecture method is complemented often with the maieutic method, which encourages and engages the student in conducting personal research and thinking. Learning outcomes, either more superficial or deeper, may depend on the

commitment of teachers or the personal interests of students.

With the methods centred on the student, the teacher selects materials, provides guidance and monitoring, creating conditions for the student to independently participate in the self-discovery process and self-regulation learning process. The improvement of the understanding and the development of multidimensional skills are the expected outcomes of such teaching and learning procedure.

Interactive methods and those based on experience lead to the eclectic mix of roles and foster the interaction among the students, the process of sharing and the exchange of ideas. They increase the participation of the student, the active learning and the development of theoretical and practical skills.

Having Higher Education as a field of study, Biggs [4], classifies the activities of teaching - learning into three categories: teacher-centred, focused on peer and student-centred. Each of these is distinguished by the different involvement and the student's results.

In the teaching-learning process focused on the teacher, the teacher takes the initiative to develop, to distribute tasks to the students and to organize the content to present on well-structured presentations. The lecture method can be combined with the Socratic Method or maieutic, which encourages personal research by the student.

The student absorbs and stores the transmitted knowledge, cumulatively. These are the product or the outcome of the process. This result, however, is no longer considered sufficient as it does not include other goals and skills.

In the process focused on peer work, the tasks prepared and performed by teachers are included, but also other, such as proposals done for students to perform. These activities encourage participation, peer interaction, collaborative work and the exchange of ideas between students.

Finally, the process of teaching-learning student-centred aims at developing the autonomy and the self-regulation skills.

In this context, learning is seen as a dynamic process, in which the student participates actively in the analysis, understanding, discussion and reflection of one or more activities. It is in fact the student's involvement in the learning process what best characterizes this type of strategies, as stated [5, p. 225], "active learning is generally defined as any instructional method that engages students in the learning process. (...) The core elements of active learning are student activity and engagement in the learning process".

## **1.2 Perceptions of Education**

Some analyses to teaching conceptions proceed by dichotomous distinctions and sets in opposition, for example, the traditional teaching to active learning, teaching focused on content to learner-centred teaching, the teaching of normative guidance to personal teaching orientation [6], [7]. However, these distinctions are often simplistic and reductive, since a small percentage of expository teaching or even an entire expository session does not necessarily have to be traditional nor the Interactive Board necessarily favours the personal guidance of students as subjects of their own training. This depends more on the problem and argumentative nature of the presentation, the way the contents are structured and communicated and how the

student is integrated into the proposed activity or uses the technical resource in question. The development of teaching options should include the articulation of learning aims with the contents and the orientation towards skills to be created or developed. The crucial issue is the adequacy of strategies to the targeted aims and skills. And, in a constructivist perspective, it is to develop the process of teaching and learning as a project partaken by the student and rooted in the concrete conditions of learning to be achieved. Understanding thus education implies the relativism of the dichotomies that deplete the reality analysed [8], [9].

### **1.3 Active learning**

Taking into account a certain opposition between the behaviourist model, on the one hand, and the cognitive and constructivist models of the learning theories, on the other, it is questionable the belief, common among many teachers, that the student is just by listening to an explanation or to look at the resolution of a question by a teacher, that he is conducting an active learning [10]. On the contrary, as maintained by Bonwell and Eison [11], in an active learning, students engage in the tasks, mobilising mental operations of high cognitive level. The teaching is focused less in the organization of stimulating situations targeting the receptors, the students, and more in the organization of problem solving situations or in strategies of discovery, of debate, in which students engage and develop, with relative autonomy, the skills required by the task itself [12].

## **2 Methodological Options**

In order to identify the educational perceptions of students and teachers in Higher Education, the following question was prompted: What is the teaching perception of teachers and students in the curricular unit (CU) observed?

A total of 20 hours of classes were attended by the researcher, of a second cycle of a Master in Psychology, in which students have 100% of approval.

The researcher who attended the classes had a preliminary meeting with the Coordinator of the CU, in order to clarify the purposes and procedures of classroom observation. Through an institutional platform, teachers and students were informed about the reason for the presence of the researcher in the classroom, so that the researcher's presence was "ignored" and, thus, avoiding being a disturbing element of the normal classroom management. The researcher also adopted a low profile, aiming at an unobtrusive observational behaviour.

The observed CU classes were composed of a two-hour class, once a week and 72 students attended the amphitheatre classroom.

The CU is integrated into the curriculum of an integrated Masters. In the CU, the analysis of a topic is stimulated in various points of view, teaching is geared having in mind the logic of learning for a future career context, giving relevance to the student's activity in building the knowledge and in developing skills, which the student is supposed to acquire, suitably accompanied and supported by the teacher (as set out in the curriculum of the CU). Assessment is continuous, monitored with regulatory

function, and the teacher was available, in person or via email, to clarify any doubt the students had.

The grid used in classroom observation was adapted from the dimensions of the AVENA<sup>1</sup> project, whose theoretical reference listed four areas: education, assessment, learning and classroom environment. In this article, we present and discuss only the data concerning education and, specifically, the category “Perceptions of Teaching”.

There was data in the grid corresponding to 20 hours of classes' observation, a semi-structured interview to the teacher and a focus group interview with five of the students who agreed to participate in the research. Both students and teacher validated the interviews after transcription.

These materials were subjected to a brief coding and double-coding and identification of the two indicators in the category: “Teacher-centred teaching” and “Student-centred teaching”. The content analysis and its categorization [13], [14] was performed with the use of the qualitative research software webQDA [15]. The encoding and double-coding performed with two months apart had a reliability index of 0.67, which would be expected, according to Miles and Huberman [16]. The double-coding was performed by two external researchers to the study, had a reliability index of 0.73 and 0.58, correspondingly.

As mark Lessard-Hébert and colleagues [17] point out, the demand for synchronous loyalty can become very stimulating for the researcher, since it forces the researcher to reflect on the fact that slightly different results can be simultaneously true.

In the category “Perceptions of Teaching” were associated two indicators, “Teacher-centred teaching” and “Student-centred teaching”, as we can see in Table 2.

**Table 2.** Definition of the indicators of the category "perceptions of teaching"

Category	Indicators	Definitions
Perceptions of teaching	Teacher-centred teaching	Comments that suggest the centralization of the teaching process in the teacher.
	Student-centred teaching	Comments that suggest the centralization of the teaching process in the student.

Thus, in the category “Perceptions of Teaching”, we understand all responses created with reference to the centralization of the teaching process on the teacher (T) or on the student (St) and that includes the following indicators: “Teacher-centred teaching”, when comments indicate the centralization process on the teacher; “Student-centred teaching” when comments indicate the teaching process centred on the student.

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<sup>1</sup> Project FCT Evaluation, Teaching and Learning In Higher Education in Portugal and in Brazil: Realities and Perspectives (AVENA) (PTDC/CPE-CED/114318/2009). This project concerns 4 Portuguese HEI: *Universidade de Lisboa, Universidade do Minho, Universidade de Coimbra e Universidade de Évora*; and 3 Brazilian HEI: *Universidade do Estado do Pará, Universidade da Amazônia e Universidade de São Paulo*.

### 3 Presentation and discussion of results

Next, we present and discuss, the data obtained from the narrative of the observed lessons and from the interviews to the teacher and the students.

Throughout the discussion of the results, we use the term *references* (which are recording units that can be a phrase or set of words that make sense and have meaning).

Next, in Table 3, we present a deepest analysis and a systematization of the category, "Perceptions of Teaching", using the webQDA software. The question "What is the teaching perception of teachers and students?" was made to the encoding data, executing a matrix between each indicator from the category "Perceptions of teaching" and the encodings of the statements relating to teacher and students descriptors, limiting the scope of search to the notes of the observation grid, to the interview to the teacher and to the interview to the students.

We present, thus, a general inference from a quick read of the results of the data submitted by the matrices, that teacher and students have a different perception of how teaching takes place in their classes.

**Table 3.** Systematization and deep analysis for te category "Perceptions of Teaching"

<b>Question Research</b>	<b>Question to encoded data</b>	<b>webQDA Tools</b>	<b>Reach or search restrictions</b>	<b>Inference</b>
What are the perceptions about teaching that seem to prevail?	What is the teaching perception of teachers and students?	Execute a matrix between each indicator in the category "teaching perceptions" and the encodings of teachers and students.	In the sources, notes, interviews with the teacher and interviews with the students.	According to the interviews and class notes, the teacher and the students have different perceptions of how learning is achieved.

Table 4 is related to the matrix of evidences concerning the category, "Perceptions of Teaching" in relation to the content analysis of the notes of the classroom observation grid, of the semi-structured interview to the teacher and the focus group held to students who attended the CU analysed, highlighting the encoded speech concerning the descriptors "teacher" and "students".

**Table 4.** Matriz of teaching perceptions from teacher and students' point of view

	<b>Teacher-centred teaching</b>	<b>Student-centred teaching</b>
<b>Teacher (T)</b>	0	10
<b>Student (St)</b>	9	0

From the analysis of Table 4, we conclude that the teacher (T) (10 references) believes that teaching is student-centred and their students (St) (9 references) have the

perception that the teaching is teacher-centred. From the analysis of the notes taken during classroom observation, it seemed to us that we could put the perception of the teacher education in an teacher-centred perspective, because we found out that it was always the teacher who took the initiative in organizing the classes in the form of well organized lectures, since students demonstrated little participation and little initiative, although they performed, in the classroom, group activities, such as is stated by a student: “we almost always worked in groups”(St). Either the activities carried out in the classroom or the activities outside the classroom were, overall, proposed by the teacher, as seen on the grid notes, “The teacher organized the content to be presented using essentially the lecture method, leading the student to undertake personal research and to self-regulate the progression of his or her knowledge”.

We observed that the students did personal researches, requested by the teacher, since they had to solve and formulate questions about the documents that the teacher delivered in the institutional platform, which allowed them to regulate the progression of their knowledge.

When answering the question of the interview, “How would you define teaching this CU?” The students answered: “The teacher taught and we learned” (St); “We even researched a lot”(St); “theoretical” (St); “we also work in group in some classes”(St).

These responses may allow us to confirm the passive attitude of the students in the classroom, they would only participate when requested or when doing collaborative work. As we have seen, while working collaboratively with peers, their learning was in fact active, while performing tasks that required the analysis, understanding and reflection, with exchange of ideas among the students, as evidenced by the comment of a student, “we had to read very well all the articles, because asking questions about them, it is not that easy”(St).

Concerning the students' answers to the interview, describing the teaching as “theoretical”, we think they used the word with a certain ambiguity, as they may be referring to the word as theoretical classes, or that the method is in fact a mere presentation where knowledge is being transmitted and the student is receiving it passively. If the second interpretation of the word is for some students true, for others it is not, as seen by the references made by the student concerning the group work and the expression “we researched a lot” (St); “The group work were not easy, but we all worked a lot”(St).

When we analyze the answers given by the teacher in the interview, we find out that in his speech it is present a perception of his way of teaching this CU, in a student-centred perspective (10 references), when he says, for example, that he builds the knowledge with his students: “of co-construction of that activity”(T).

Just as, in his speech, the teacher demonstrates to value activities that already take into account the knowledge that students already have, “It's about who they are in terms of motivation, in terms of the skills they already have and the knowledge that they already possess. So they have a learning level of development that I think should take into consideration since I'm aiming their learning development”(T) and advance in the construction of knowledge only when he realizes that the students are building the body of knowledge appropriate to advance to the following structure of new knowledge, “but it is a way for me to try to understand if they are understanding what I intent to transmit and if I have the capacity to do so”(T).

By performing this analysis having in mind different teaching perceptions, we are considering procedures based on dichotomous distinctions between, for example, traditional teaching versus active learning, teaching focused on content versus student-centred teaching, normative oriented teaching versus the personal oriented teaching [6], [7].

But we do not want to fall into the trap of these simplistic and reductive distinctions, since conceiving this way teaching implies to reckon the dichotomies that deplete the analyzed reality [8], [9].

Like we explained above, a fraction or even an entire expository teaching session does not necessarily have to be traditional. We think it depends more on the problem-solving and argumentative nature of the presentation, the way it is designed and the way its contents are communicated and how the student is integrated into the activity or uses the technical resource in question. Thus, in a constructivist perspective, we found out that the process of teaching and learning was developed as a project engaged by students, situated in the concrete conditions of the learning process and being, most often, of a collaborative nature with peers.

## 4 Conclusions

We cannot point out to a teaching model that we have observed and, as Joyce and colleagues [18] have drawn attention to the fact that there is no perfect model of education that includes all types and styles of learning. For this reason, the model is defined as a developed plan that can be used to set up the curriculum development process. In general, the choice of a teaching strategy “involves the deliberate choice for an action plan or teaching model which constitutes a way to intervene using methods and techniques which, in turn, cause a certain teaching style” [2, p. 154].

Thus, we can say with some caution, that the classes we watched, had mostly information processing models that focus on cognitive function, that is, they aim at the ability to process information and how to improve that capacity. The curriculum is focused on the content, which are organized and taught by the teacher through presentations. The student captures and records this “information” and then processes it: selects, compares, establishes relationships, decodes, encodes and retains. When stored, this information thus processed, is made available for use, after reflection and some criticism. The collaborative work between students favored peer interaction and the exchange of ideas between students [4].

In conclusion, not emphasizing the specific features of the CU analysed, the teaching in these classes, despite being mostly focused on the teacher, is guided by the presence of classroom activities that call for critical reflection among students and between students and teacher, which is consistent with some studies of Vieira and his co-workers [1] and of Oliveira [10].

On the other hand, the classroom environment was dynamic and students felt comfortable and encouraged to ask questions and withdraw their doubts [12].

These results show that, in similar contexts of education, the use by the teacher to a teacher-centred kind of teaching, but using the peer interaction activities, has advantages in motivation, self-regulation and the development of critical thinking of the students [4], [19], [20].



## 5 References

1. Vieira, F., Gomes, A., Gomes, C., Silva, J., Moreira, A., Melo, M., Albuquerque, P.: Concepções de Pedagogia Universitária: Um Estudo na Universidade do Minho: Relatórios de Investigação. Braga: Centro de Estudos em Educação e Psicologia da Universidade do Minho (2002).
2. Pacheco, J., Alves, M., Morgado, J., Viana, I.: Objetivos. In: J. Pacheco (Org.) Componentes do Processo de Desenvolvimento do Currículo, pp. 97 – 156. Braga: Livraria Minho Universitária (1999).
3. Gimeno, J.: Teoría de la enseñanza y desarrollo del currículo. Madrid: Anaya (1986).
4. Biggs, J.: Teaching for Quality Learning at University. Buckingham: The Society for Research into Higher Education e Open University Press (2003).
5. Prince, M.: Does Active Learning Work? A Review of the Research. *Journal of Engineering Education*, 93(3), 223--231 (2004).
6. Tanner, D., Tanner, L.: Curriculum Development: theory into practice. New York: Mcmillan Publishing Co., Inc.(1980).
7. Ribeiro, L. : Avaliação da aprendizagem (6ª Ed.). Lisboa: Texto Editora (1997).
8. Gaspar, M., Roldão, M. C.: Elementos do desenvolvimento curricular. Lisboa: Universidade Aberta (2007).
9. Roldão, M.: O que é um currículo relevante?. In: F. Sousa, Francisco; L. Alonso; M. Roldão, (Org.), Investigação para um Currículo Relevante, pp. 15-28. Coimbra: Edições Almedina (2013).
10. Oliveira, P.: Ensino da Física num Curso Superior de Engenharia: Na Procura de Estratégias Promotoras de uma Aprendizagem Ativa. Tese de Doutoramento não publicada, Universidade de Aveiro, Aveiro (2009).
11. Bonwell, C., Eison, J.: Active Learning: Creating Excitement in the Classroom. Washington DC: ASHE-ERIC Higher Education Reports (1991).
12. Sá, S.; Alves, M., Costa, A. O contributo do feedback na avaliação das aprendizagens do ensino superior: implicações no desempenho dos estudantes. In: Atas do 3º Congresso de Análise Qualitativa, pp. 224-228. Badajoz: Universidade de Extremadura (2014).
13. Bardin, L.: Análise de Conteúdo. Lisboa: Edições 70, 5ªed. (2011).
14. Amado, J., Costa, A. P., Crusoé, N.: Análise de Conteúdo. In: J. Amado (Ed.), Manual de Investigação Qualitativa (1ª ed., p. 450). Coimbra: Imprensa da Universidade de Coimbra (2013).
15. Souza, N. de, Costa, A. P., Moreira, A.: webQDA. Aveiro: Centro de Investigação Didática e Tecnologia na Formação de Formadores da Universidade de Aveiro e Esfera Crítica (2011), Consultado em [www.webqda.com](http://www.webqda.com)
16. Miles, M. & Huberman, A.: Qualitative Data Analysis. California: Sage Publications, Inc. (1984)
17. Lessard-Hébert, M., Goyette, G., Boutin, G.: Investigação Qualitativa – Fundamentos e Práticas. Lisboa Instituto Piaget (1990).
18. Joyce, B.; Weil, M., Calhoun, E.: Models of Teaching. (9ª ed.). Boston: Pearson (2014).
19. Perrenoud, P.: Avaliação, Da excelência à regulação das aprendizagens: entre duas lógicas, Porto Alegre: ARTMED (1999).
20. Alves, M.: Currículo e Avaliação: Uma perspectiva integrada, Porto: Porto Editora (2004).