

## How Long to Allow Classroom Discussions with Teaching Cases?

### Quanto Tempo Destinar para as Discussões ao Ensinar com Casos para Ensino?

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#### ABSTRACT

The Harvard Business School (HBS) introduced problem-based learning using cases in presentations and thus the HBS case method emerged. Later, the method became a teaching strategy in the main business schools in the world. One of the main elements for the execution of the teaching-based class with teaching cases is the time, both for carrying out the activities and for the discussion between the students and the instructor. The allotted time is crucial to connecting the case objectives with the class discussion. Given this peculiarity, this essay advances by discussing and highlighting how much time instructors should allow for discussion when teaching with teaching cases. It can be said that the discussion phase is essential when it comes to teaching with cases and examples of using half of the total class duration for discussion are provided. The study also shows that it is an area that needs further investigation, as the right amount of time for discussion with teaching cases has yet to be found.

**Keywords:** Teaching case, teaching method, discussion, time, teaching.

#### RESUMO

A Harvard Business School (HBS) introduziu o aprendizado baseado em problemas usando casos em apresentações e assim emergiu o método de caso HBS. Posteriormente, o método tornou-se estratégia de ensino nas principais escolas de negócio do mundo. Um dos principais elementos para a execução da aula baseada no ensino com casos para ensino é o tempo, tanto para realização das atividades quanto pela discussão entre os discentes e o docente. O tempo estipulado é crucial para conectar os objetivos do caso com a discussão em classe. Diante dessa peculiaridade, este ensaio avança por discutir e evidenciar quanto tempo os professores devem permitir para discussão ao ensinar com casos para ensino. É possível afirmar que a fase de discussão é essencial quando se trata de ensinar com casos e são providos exemplos do uso de metade

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**RESUMO**

da duração total da aula para discussão. O estudo também mostra que é uma área que precisa de mais investigação, uma vez que a quantidade certa de tempo para a discussão com casos para ensino ainda não foi encontrada.

**Palavras-chave:** Caso para ensino, método de ensino, discussão, tempo, ensino.

## Introduction

The use of teaching cases is a common method in universities and, according to Jackson (2004), the time used for discussion is central when it comes to case-based learning. Rocha et al. (2020) show that the professor's learning is not only through shared experiences but also through reflection on these and the relationship between the presentation and the student. On the other hand, the teaching-learning activity must start from problematic situations of interest to the students, who, in this way, can understand the importance of what will be addressed and be motivated and involved in the study to expose the solution of a dilemma (Ferrandis-García, Peña-Vilches, & Ferrandis-García, 2017).

Professors are convinced of the method's benefits, although they strive to lead and maintain an active and participatory flow of discussion about it. (Jackson, 2004). The question is whether classes only use case analysis when and because they are compatible with their other teaching methods since a case should be a process of reflection, of learning by experiencing (Rocha et al., 2020). In this way, it can be concluded that the use of cases provides deeper knowledge about a subject since it concerns one or a few events in particular.

Although professors have tried hard, inappropriate behavior by business managers implies that efforts have not been very effective. This situation is due to the predominance of theoretical teaching that creates abstract ideas rather than practical points of view in students' thinking. Consequently, teaching may not have any significant effect on business performance. (Lämsä et al., 2017). Teaching cases for administration and business disciplines usually describe real cases or situations witnessed in consultancies, composed of the complexity of organizational life and/or application of theories to the decision-making process (Druckman & Ebner, 2018; Štrach & Everett, 2008). Knowledge about cases is central to the human learning

process and therefore cases are important when it comes to two epistemologies: theory and practice. The challenge of relating theory and practice is neither new nor unique to a single field: it has been a major problem for philosophers of science for several centuries (Vega & Aubry, 2018).

Teaching cases typically include multiple data sources to develop a deep understanding of the specific case. They have already been reported as a teaching strategy closer to what you can get from living in the classroom when you are at a university (Berger, 2019; Ulvik et al., 2020). The cases involve problems that are applied to a given situation, usually real, and then a group of students solves or makes decisions about it (Economics Network, 2013; Schwartz, 2017). It is effective for developing student professional skills when used in the real world (Schwartz, 2017). The case itself provides the group with information about the problem.

The instructor's role should go beyond developing case content and information (Berger, 2019). Does this study aim to explore the following problem: how much time to dedicate to discussions when teaching with teaching cases? The development process of this article initially included a literature review based primarily on articles from the Web of Science and Scopus databases.

Monitoring student time allocation is a valuable strategy to provide the instructor with meaningful information (Ruiz-Gallardo, González-Geraldo, & Castaño, 2016). Finally, the time, when too much, is allocated to certain tasks may be related to the lack of specific skills. On the contrary, very little suggests that students are not promoting the skill, which implies the need to reformulate instruction. Another case is the trend scenarios throughout teaching in the school quarter or semester: decreasing trends are related to skill acquisition and increasing trends with a shallow skill acquisition process. Class attendance is also a trend, reflecting how relevant the student perceives teaching time and the quality of teaching. (Ruiz-Gallardo et al., 2016).

Originality, according to Severino (2007), does not mean new and this topic is not. In the literature, the method has already been highlighted in other countries such as the United States, where universities use cases daily, but in Brazil, the subject is still incipient (Minniti et al., 2017). On the other hand, the present study brings original discussions on time management in teaching with cases - which until then may not have been noticed or studied in the area. Furthermore, the case audience

sees the respective development of interpersonal and time management skills as particularly important as course performance (Stout, 1996). Above all, it is known that time constraints for teaching, especially due to crowded classrooms, restrict logical interaction in teaching and learning (Angeli, Valanides & Bonk, 2003).

## Literature Review

### THE TEACHING CASE METHOD

Harvard Business School (HBS) has implemented the use of cases as a teaching method is known as the case method. Due to its success, the method quickly spread in North American MBA programs (Bayona & Castañeda, 2017; Economics Network, 2013). Precursor research of this method can be indicated by Boehrer (1995) and Shapiro (1984). It was also introduced in China around the 1980s, since then the method has been accepted by several people and proved effective teaching practice (Wang et al., 2020).

As a teaching method, it means an activity for the student, where they aim to solve such a problem in an applied environment. The classic HBS case method includes three main components: The case that provides the undergraduate or graduate student with information, individual or group preparation where students review the case, and then a classroom discussion to collectively discover a solution to the case problem (Alberton & Silva, 2018; Economics Network, 2013). The use of cases as a teaching tool is usually based on the discussion of a dilemma. The task is to determine the correct course of action. According to Gerring (2007), different approaches such as experimental, observational, qualitative, quantitative, and ethnographic approaches can be successfully integrated into case research. Using different approaches, case studies can be implemented in all fields of science. This does not mean to boil down the case method to providing students with just one answer. The discussion often provides several possible answers to the case problem.

Ahmad et al. (2021) showed that they use cases to instigate discussion, extract practical experiences present in the class, and create a dialogue between theory and practice. According to Jackson (2004), the discussion phase is central when it comes to case-based learning. Discussion with cases is highly valuable for stu-

dents. This is where they interact with the professor and with peers. Such interaction promotes critical thinking, stimulates debate (Minniti, Melo, Oliveira, & Salles, 2017). Students also report interaction as a highly important component of the learning process (Soilen, 2007). Furthermore, classroom discussion is the core of the case method and many different strategies can be used to engage students (Economics Network, 2013). For example, role-play can be used to increase student identification with the actors in the case.

### **WHY USE TEACHING CASES?**

The case method, as teaching through dynamic discussions, is considered one of the ways to insert practical issues into the curriculum of business schools (Peruso & Baaken, 2020) and promotes the development of students to make decisions with limited information. Therefore, it strengthens communication and leadership skills. Sreejit and Radhika (2015) show that case-based discussions are a type of method to be used also for problem-based learning.

On the other hand, using case discussions as part of course assessment creates a feeling of competitiveness that can improve learning. This is evidenced, according to research by McDonald and McKee (2011), who show better results from students who had case studies involved in the presentation compared to those who did not participate. Case studies are an enjoyable activity for students as they provide “student insertion in a practical context and allow them to obtain new meanings, through the application of theory and development of personal skills” (Mineiro et al., 2018, p. 516). Furthermore, it approaches and inserts the student in situations that refer to the real world (Schmitt, 2021).

Durak (2007) show in which cases were used as exams for students. The exam included problem-solving and was followed by case discussions and question and answer sessions. The method was well received by the class, which judged it to be relevant for learning. They appreciated the progress of the collaborative work. This type of exam is learning to a large extent and can be used to strategically improve the teaching and learning process. Farashahi and Tajeddin (2018) highlights that, in addition to the opportunity to learn teamwork relationships and communication in controlled environments, the modality favors the development of skills in low-risk environments.

Students consider that interaction with professors and their peers is important to their learning experience, therefore, the discussion phase is highly valued (Soilen, 2007). This engages them to learn and retain information beyond the classroom. One student described the case discussion using the phrase “I feel it’s more interactive so it’s more like talking and learning about it from the conversation”. Using different tools, case studies can be implemented in all fields of science. (Gerring, 2007). The teaching case method is effective for developing professional skills for students to use when they are in the real world (Schwartz, 2017). It can help improve critical thinking, communication, and interpersonal skills.

According to Soilen (2007), students consider case studies as the best way to learn interactivity. The interaction between professor and students is important even if the course is carried out at a distance. The discussion phase is important for learning and is of great value to students. HBS uses case studies because this kind of knowledge is central to human learning. Both science and teaching have this in mind in all processes.

## **TEACHING GUIDELINES WITH TEACHING CASES**

Different professors and institutions may have different ideas about the best way to teach through case studies (Harvard Business School, 2009). Some suggest individual preparation before classroom discussion and some preferred learning teams where students gather in smaller groups to prepare.

Harvard Business School (2014) presents a step-by-step guide to working through all of the HBS case-based learning. First, present the case and let the students put themselves in the role of the decision-maker who is about to act on the problem in the particular case. Then, each student performs their analysis of the case and considers different solutions. After the individual review, they can come together in smaller groups for further discussion and reflection. When it comes time for classroom discussion, the professor is there to guide students through the process, but students will do 85% of the conversations. Students discuss underlying issues, compare different action alternatives, and finally suggest a course of action. The professor remains there to guide the conversation by asking questions and occasional remarks. In addition, the method allows the professor to incorporate their insights into the writing to enrich the context and implement the educational contribution (Ahmad et al., 2021).

It could, for example, be trade-offs, ethical dilemmas, or personal sacrifices that a instructor might have to make. These challenges can be defined in different contexts, depending on what the course intends to teach students. To teach using the case method, you need to have clear goals and use the right strategies to achieve those goals; if the goal is to promote students' intelligent habits of mind, classroom discussion is a good strategy (Wasserman, 2010). Witnessing the students, they guarantee that it is the context that involves them; are genuinely interested in the novelized writing and this, in turn, encourages them to look more deeply into the issues that the case proposes for them to understand (Billsberry, 2019).

## Method

This study analyzed the national and international literature on time management for teaching with teaching cases. The search terms were: time OR period OR duration AND “teaching case”. Numerous articles were included in the study, but only those that explicitly mentioned the words were used for the analysis.

The research originated from articles from the Web of Science and Scopus databases. The search included articles and review articles in journals on the subjects and examined all the years available in the database. In summary, Figure 1 presents the general characteristics of the research and, thus, allows other researchers to replicate the study. When entering the free query for the search terms, the search resulted in 363 articles. With the Excel software, the records were organized and selected according to the following filters: search words in the abstract, title or keywords; journal articles; only journals in social sciences and decision sciences, management, disciplines in education, disciplines in business, disciplines in economics; and only full articles or review articles, reaching 141 articles. After removing the articles repeated in the bases, in a final analysis, with the reading of the title, abstract, and keywords to validate the relevance to the subject of the study, the management of the supply chain, 21 relevant articles were selected. In this last step, the articles removed went through a manual procedure, containing full reading. In most of the articles, these referred to teaching cases published for didactic application, so, in addition to the occurrence of a “teaching case”, the occurrence of a

“period” was related to the period in which the authors collected the data for the elaboration of the case. and not to the professor’s time of dedication – or its importance. In addition, in this sample taken, the words “time” and “period” were meant to designate a study “in times of deep uncertainty or crisis.” Also, relating problems in departments, which were “interconnected over time and across departments”.

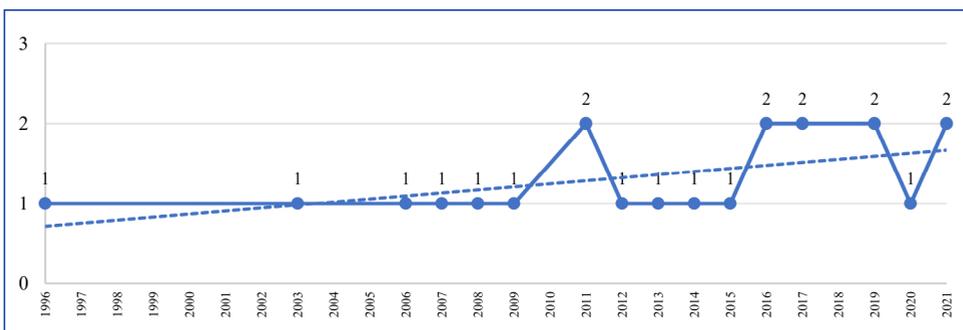
**Figure 1** Characteristics of data collection

<b>Search terms</b>	time OR period OR duration AND "teaching case"
<b>Development date</b>	April, 2021
<b>Sources</b>	Web of Science (WOS) and Scopus
<b>Filters</b>	1945 to 2021 (april) - WOS 1960 até 2021 (april) - Scopus Search terms: title, abstract or keywords; Fields: Social Sciences, Disciplines in Education, Disciplines in Business, Disciplines in Economics and Decision Sciences; Type: articles and review articles in journals.

**Source:** Authors (2021).

The research began with the description and entire reading of the 21 articles (Appendix A). An upward trend of publications can be identified (Figure 2). Even with a growth trend line, it is limited to an amount that is not possible to be confirmed as a consolidated theme under discussion.

**Figure 2** Publications timeline



**Source:** Authors (2021).

It was also possible to identify that the research of time in cases for teaching only happened from the year 1996, with relative ascendancy in 2016, when there was an increase to two articles per year, when published, since the year 2018 did not register publications. For 2021, the proportionality of the data collected up to April. Besides, more than 50% of the articles are located in the last decade. Finally, before starting the discussion itself, it is possible to perceive that, despite being shy, there is a favorable growing evolution.

## Discussions

### METHOD LIMITATIONS

Professors are convinced that case studies are a good way to go, however, instructors are not as confident in practicing the method (Jackson, 2004). They often struggle to get the classroom discussion started, and many of them end up teaching the case as a regular presentation. Others give students the task of presentation of the case and accompanying it with a short question-and-answer session. Instructors say the problem is due to the student's shyness to speak in front of the other. Digressing, without time constraint, can be valuable when we need innovative and creative solutions however, the freedom to think in a divergent and open way can generate daydreams and generate stupendous moments, something that entire program within a defined time eliminates (Shipp, 2021).

Os alunos costumam ser reticentes a tarefas que levem tempo. Em meio à classe, há prioridades concorrentes, logo, para alguns alunos não se justifica o uso de tempo e esforço, enquanto para outros, é dali que nasce as ideias para a melhor tomada de decisão sobre o dilema e/ou problema do caso (Lafkas, 2021). On the other hand, class participants say that their professors lack knowledge so the desire to learn can encourage discussion. The study by Williamson-Lott and Beadies (2016) determines that classroom discussion depends on the identity, experience, and expertise of professors, when and where the professor teaches.

### THE CLASSROOM DISCUSSION

Discussions are an optimum method to use in teaching (Sreejit & Radhika, 2015). "Case-based teaching engages each student in the class and allows them to

interact” (Gravett, de Beer, Odendaal-Kroon, & Merseth, 2017, p. 377). Furthermore, using case discussions as part of course assessment creates a feeling of competitiveness that can enhance learning.

According to Soilen (2007), the discussion of cases is very valuable for students. It allows them to interact with the professor and peers and research shows that students find this phase of the case method very important. It has a high impact on your learning process. The professor must rationally design the case teaching process, especially about the time allocated to the teaching of history and theoretical teaching, which must be planned: elucidating only points of theoretical knowledge will make students unmotivated; on the other hand, focusing only on case analysis will leave an ambiguous environment and will not enable students to achieve good teaching results (Xu, 2021).

Some topics provoke discussion sessions more or less quickly than foreseen in the lesson plan, and student contributions can lead the discussion in unforeseen directions. This organic nature of case discussions can create time management challenges during class. (C. Roland Christensen, 2022). Cases can help students learn and retain information. For professors, the discussion stage is an instrument for teaching conceptions because, in a rich environment, where many examples indicate contradictory points of view, it makes the whole class rethink the best path to the dilemma, which leads to new insights (Gravett et al., 2017).

## IMPROVE CLASSROOM DISCUSSIONS

The case discussion has many important aspects that need to be considered before the class meeting (Sreejit & Radhika, 2015). This includes formulating objectives, facilitating skills, communicating the direction of learning, and filling in inadequacies. Students also need motivation and encouragement.

Classroom discussion is the core of the case method and many different strategies can be used to engage students (Economics Network, 2013). Dramatization, language, and originality increase the student’s identification with the actors in the case (Alberton & Silva, 2018). Many techniques aim to improve classroom discussion, you should make a list of the strategies you want to implement and work with a technique at the time the instructor feels comfortable.

To get students talking, some professors have groups of students give case presentations and then follow a short question-and-answer session (Jackson, 2004).

By modifying questioning techniques, professors can avoid long periods of silence in classroom discussions. The case method provides a safe environment to try new things, challenge each other, and debate. Students can start the discussion by presenting their point of view (Economics Network, 2013).

Using different tools, cases can be implemented in all fields of science (Gering, 2007). Williamson-Lott and Beadie (2016) studied the history of teaching through case studies and this method is shown, even in this context. Students were given the task of designing exit signs and then taking them to class for an interactive discussion. Design students were positive about the case method, but suggested doing it once at the beginning of the semester and once after the purpose of the assignment was revealed, to see the difference.

Faced with time challenges, the moderator must avoid leading with an iron hand, but also not forget about the time limitation of the participants. Too much rigidity can seem artificial or hasty, demonstrating only the desire to respect the teaching plan. On the other hand, considering that the main objective is the reflection of the case to promote student learning, and unbridled pace can lead to undirected discussion, with limited discoveries and inefficiency in meeting the learning objectives. (C. Roland Christensen, 2022). Durak (2007) recommends the use of exams and case-based discussions as a teaching tool with high potential and motivation. So, Vanhoucke (2010) also suggests using cases as exams. You can even use cases as a final exam, which develops interest and participation in the class. The correct formulation of the problem can be easily understood and reported by the student. It can be discussed in the classroom or used in some software. Vanhoucke (2010) says that a simple formulation of the problem that deals with students' final exam assignments have direct implications for students and, therefore, leads to high-class participation. This makes the case particularly interesting.

One problem is that professors struggle to bring the discussion into the classroom (Jackson, 2004). Students claim that it is due to professors' obligation to provide control and structure, but also a lack of knowledge about the learning situation (Jackson, 2004). The student thinks of the case method as an enjoyable activity that helps students retain information and learn (McDonald & McKee, 2011).

Professors have an important role, whether for their ability to control in the classroom, their ability to select and understand cases, or the language resource

used in the case analysis process, which will affect students and the teaching outcome (Xu, 2021). According to McDonald and McKee (2011), allowing half the class time for discussion, while teaching with case studies is enough for students to gain big knowledge. The first half of the presentation should include the topic under discussion. By asking questions directly to a student or offering incentives to participate in the discussion, the professor can keep the discussion going (Jackson, 2004). Students want to come up with helpful comments for themselves and their peers.

Vanhoucke (2010) suggests the use of cases as an examination of participation and interest in the classroom. A simple problem formulation that has direct implications for the student leads to high-class participation and makes the case interesting. Durak (2007) recommends using case-based discussions as a high-potential and motivating teaching tool. When teaching with case studies, McDonald and McKee (2011) suggest that half of class time involves classroom discussions. The literature review determines that discussion time is necessary when teaching with case studies but, there is no research to support the final amount of time allocated for discussion when teaching with case studies. It is an issue that needs further research. Finally, instructors may even choose to free up class time for case analysis for teaching, and discussions, whereas traditional content, covered outside class hours, is usually composed of instructor-recorded videos or other media (Drake, 2019).

## Final Considerations

Scientific research and creative work are inherent parts of science in management and business. Wise and efficient use of creative resources can lead to better results both in research and learning and in the various forms of enactment (Štrach & Everett, 2008). Therefore, a valuable means of bridging the gap between theory and practice, is through learning and education, that is, using case studies for teaching (Vega & Aubry, 2018).

Professors who decide to use cases as a component of the course should not underestimate the increased time commitment will be involved in developing learning with cases for teaching (Stout, 1996). The implications of this theoretical es-

say are to outline the importance of classroom discussion when teaching with case studies. Namely, the instructor's responsibility to determine the best way to utilize a case in their discipline, regardless of what the teaching notes may suggest (Drake, 2019). To determine how much time to allow for discussion while teaching with case studies, more studies are needed. It could be assumed, as a way of improvement, the use of new technologies, educational policies do not include technical support to the professional, which ends up increasing the time – now with the management of these resources – for the application of the case (Cadavieco & Sevillano, 2011).

Time is perhaps not so objective when thinking about what I can do in 60 seconds. The practice of mindfulness is normally considered beneficial, but working on how long that event takes also benefits from mind wandering (Shipp, 2021). Teaching with cases in the classroom is limited by time and, in exceptional cases, students may have to reflect on the case after class, access information and knowledge point related to the case through the Internet or in the materials library (Xu, 2021). However, since this article focuses on exploring the appropriateness and definition of a time for class discussion, the effects of case teaching from different processes - such as the exceptional use of digital resources and autonomous investigation - do not are considered.

On the other hand, to be successful in the application of cases, especially regarding the execution time of the discussions with cases, some points need to be taken into consideration. The themes of the cases can be applied in undergraduate and graduate courses. However, the moderator's conduct is different in these two levels of education, given the level of maturity of the students (and the course's workload). The cases used in postgraduate courses are usually used as a lesson plan for a meeting, since the discussions at the postgraduate level are more in-depth, whether due to the level of content and the breadth of the theoretical and practical contribution of the class, commonly composed of experienced professionals in the job market. Also, it was noted that the engagement of the discussion with cases, in postgraduate studies, is greater. It is often reflected by the possibility of prior preparation, where courses take place on weekends, and, usually, by the arrangement of classes with fewer students.

Another factor with the potential to influence the conduct of discussion with cases is the disposition of infrastructure assets in the room and the environment.

Rooms that offer technological assets and benches and/or pre-preparation rooms for the case, allow for a more favorable environment for immersion in the history of the case, even feeling encouraged to participate more actively. Factors such as the local reality with cases that describe the dilemma and/or problem of organizations closer to the reality of the students, usually generate a greater level of approximation with the case. Due to the transmission of reality in a region of the country, a part of the group identifies with this more regional performance and, on the other hand, discourages part of the group that is working in large corporations. Even the disconnected dilemmas of reality can bring realities in which students would not act. This fact is reflected in the use of national companies versus the use of international companies in the history of teaching cases.

In this context, it also influences the socioeconomic position of the student, having at least two extremes: i) the student only studies and, ii) the student works during the day and studies at night. Commonly, the second extreme student has greater physical and emotional exhaustion that limits the discussion.

The real-time transformation of higher education, with educators and institutions embracing the digital age, experimenting with virtual reality, has also acted as a limiting factor. By itself, the online teaching format, without the physical presence of the moderator and the students, is a limiting factor for not only the discussion to be effective, but for it to last as long as necessary to exhaust ideas.

The teaching cases are also arranged in at least two ways: the cases in the Harvard format and the cases in the Anpad format. Usually, the Harvard cases have in their construction a narrative line of the story, including environmental aspects in the narrator's view. On the other hand, cases in the Anpad format have dialogues, insertion of playful and novelistic excerpts. It was noted that more novelistic cases tend to generate greater student involvement, a greater number of active class participants, and, consequently, require more time for the case discussion section.

If determining something - such as time - may not fit a particular class profile or even stifle the teaching-learning process and professor autonomy, it is necessary to consider the institutional structure and working conditions that precede the teaching work (Ulvik et al. al., 2020). Limitation and teaching autonomy are commonly defined by the HEIs even before preparing a course menu and/or preparing the teaching plan by the professor. At most, the professor receives a menu already con-

solidated. One way out has been to choose two or three talking points around which the moderator anchors the pace of the discussion. If you have time to spare, you can proceed with the next steps or look for additional topics. But if time proves to be short, use the listen-and-response technique to speed up the discussion. Even with this relative flexibility, planning is essential, developing a plan adaptable in real-time. (C. Roland Christensen, 2022).

Even as any study, this one has limitations. On purpose, the research did not use the keyword “problem-based learning (PBL)”, since it differs, especially in terms of breadth of work, from cases for teaching. However, it is framed as another denomination widely used to characterize case studies and could, in future studies, be used to investigate time and dedication in the application of PBL. Furthermore, this study did not have the advantages/disadvantages or benefits/difficulties of using cases for teaching as a teaching-learning strategy in the classroom as a central argument. Also, different shifts and duration of disciplines may have different conditions of application of cases.

Brunstein et al. (2021) are ambitious in referring to an opportunity being wasted in higher education, due to the lack of massive adoption of cases for teaching in didactics to better promote student skills, to test new hypotheses and business models, and to emerge worldviews and perspectives of future leaders, those who can bring about lasting change in the world.

Therefore, for future studies, it is opportune to carry out empirical research. Conducting qualitative research, with interviews with professor and students, to add new insights and particularities of the application of cases for teaching. To highlight nuances, it would also be fruitful, at the Brazilian level, to experimentally test the difference in the use of time between the cases of Harvard format and Anpad format.

Besides, comparative research between the original case study, teaching case, and new approaches, such as the recently live case method, can generate even more contributions. In teaching with cases, the breadth, context, and desire to learn are mischaracterized, which distinguishes PBL from cases for teaching, and consequently, the answer is not exact. The best answer to the dilemma or central question also cannot be easily had with limited time, precisely because of the arguments of educational objectives, and it will usually be up to the professor to manage the steps and time needed for discussions and for solving the proposed problems.

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## Appendix A

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