

Teaching Practices in Higher Education in Colombia: Analysis of Teaching Methodologies at the Universidad Popular Del Cesar

¹Lilia Camargo Alí, ²Danelsy Cecilia Pineda Morales, ³Divina del Socorro Iglesias Martínez, ⁴Silvana Luz Campo Urbáez, ⁵Everto José Villazón Cortés

¹Universidad Popular del Cesar, Colombia, (*Corresponding Author*), Email: liliacamargo@unicesar.edu.co

²Universidad Popular del Cesar, Colombia, Email: dceciliapineda@unicesar.edu.co

³Universidad Popular del Cesar, Colombia, Email: divinaiglesias@unicesar.edu.co

⁴Universidad Popular del Cesar, Colombia, ORCID: 0000-0001-6471-

5513, Email: silvanacampo@unicesar.edu.co

⁵Universidad Popular del Cesar, Colombia, Email: evertovillazonc@unicesar.edu.co

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ABSTRACT:

The research presents a critical and evidence-based analysis of teaching practices in Colombian higher education, with a focus on the Universidad Popular del Cesar, articulating teaching methodologies used and their impact on learning. Higher education is a public good that, in times of crisis, must be reconfigured taking into account the role it plays and the quality of its service.

Teacher training is essential to ensure the conditions that allow the quality of the learning process. However, there are multiple studies that warn of the scant attention that teaching processes receive from them. Teaching practices are analysed through the predominant pedagogical approaches and the structure of the faculties' subjects, in addition to the value they give to their professional and pedagogical training. A sector of teachers who have ICT resources consider that their use has a positive impact on the learning process.

It is concluded that active and hybrid approaches are the most commonly used, that their choice depends on various factors and that there are significant contributions, although bad practices also stand out.

Keywords: Higher education, methodologies, university teaching, teaching practices.

1. Introduction

The research presents a critical and evidence-based analysis of teaching practices in Colombian higher education, with a focus on the Universidad Popular del Cesar, articulating teaching methodologies used and their impact on learning. Higher education is characterized, at the pedagogical level, by the disciplinary nature of

knowledge and by an integrative training approach; therefore, the selection of teaching methodology is critical since, by impacting learning, it can also condition evaluation. The use of active, hybrid, and remote methodologies has gained greater relevance recently and has been linked to better student achievement. However, they are not always present, which has led to their analysis in various universities. At the UPC, more

than 95% of the teachers have stated that they adopt face-to-face methodologies, which could be interpreted as a non-diverse use of the available methodological range.

The objective of the research is to critically analyze with empirical foundations the methodologies used by the professors of the Popular University of Cesar (UPC) and the factors that influence their selection. The population includes all UPC teachers. The analysis, with a quantitative approach, is carried out by describing the frequencies of use of the methodologies declared by the teachers and by identifying contextual factors that may influence their selection. The conclusions point out that teaching methodology is a crucial element in educational practice; Their selection and use is not random, but is conditioned by various factors that research highlights.

2. Background and theoretical framework

At the global level, teaching practices in higher education have been the subject of an extensive and varied academic production (Cañedo, 2013). In Colombia, numerous studies have begun to glimpse patterns, trends, and factors that affect this practice; however, the most accentuated gap is presented in the scarcity of comprehensive approaches based on evidence that analyze teaching practices in higher education in the Colombian territory in general and in the Popular University of Cesar (UPC) in particular. This research addresses, through a mixed-methods approach, the teaching methodologies used by UPC professors and their impact on learning. Consequently, the following questions are raised: What teaching methodologies do UPC professors use?, What factors influence the choice of teaching methodologies?, What contributions to pedagogy emerge from the observed experiences? A teaching methodology is considered to be a general approach to teaching that integrates the pedagogical decisions of the teacher and conditions student learning (Taïpe, 2020).

A first theoretical framework establishes that, although various studies have reported the

effectiveness of active, hybrid, and remote approaches, the predominance of expository methodologies is maintained, and the availability of resources, academic and pedagogical training, as well as the institutional context are identified as determining factors for methodological choice (Quintero, 2025). In a second theoretical framework, it is proposed that teaching practice constitutes knowledge situated and subject to the trinity of context, culture and disciplinary specificity.

3. Methodology

The research adopts a mixed approach, between qualitative and quantitative, and a non-experimental and cross-sectional design (Palacios et al., 2025). A questionnaire is applied to UPC teachers that contemplates, firstly, the use of seventeen methodologies and, secondly, the aspects that influence their selection. In addition, an analysis of classroom teaching is carried out through direct observation of the development of some subjects in undergraduate training programs in the area of engineering, based on a checklist established with criteria related to the constructivist approach, the institutional pedagogical model and the choice of active methodologies. In addition, interviews with teachers with experience in educational practice are incorporated, in which their teaching proposals and the criteria that guide their choice are investigated.

The study population is made up of UPC professors; The unit of analysis is the teaching methodologies. The questionnaire is chosen as the main technique because it is the most suitable for obtaining a large amount of information in a large population in a relatively short time. A qualitative approach through observation and interview is required to complement and enrich the quantitative results, since they allow for a deeper analysis of teaching in higher education and the choice of methodologies by teachers.

3.1. Studio design

The study adopts a mixed approach, combining quantitative and qualitative methods. For the quantitative part, a questionnaire was designed to

survey 91 professors from the Popular University of Cesar. For the qualitative approach, six professors from different faculties of the institution were interviewed. The questionnaire was validated by expert judgment and its reliability was measured with Pearson's correlation coefficient. The quantitative results were analyzed using the SPSS 28.0 program and the qualitative part was treated based on Bardin's content analysis (Acosta & Torres, 2025).

3.2. Population and sample

The study population is made up of all the professors of the Popular University of Cesar, and for the selection of the sample, a non-probabilistic sampling for convenience and a sampling by quotas has been considered. This last criterion for selecting the group of teachers who respond to the questionnaire for the research takes into account three dimensions: that at least half of their workload is undergraduate; who have postgraduate training; and that belong to different faculties of the University. It is understood that teaching practices in Higher Education refer to the behavior of the teacher as a facilitator of student learning, who, through didactics, must interpret and interrelate the elements of the teaching-learning process to favor the achievement of their objectives, emphasizing the specificity of Higher Education as a characteristic of the practices.

The study has a mostly qualitative perspective, using techniques and instruments for the collection of qualitative and quantitative information, whose interpretation is made considering the majority approach. In order to record information on the teaching approaches and methodologies used by the teachers of the Popular University of Cesar, as well as the factors that influence their selection and the contributions that these practices make to the teaching-learning process, a structured questionnaire is applied, which is complemented by semi-structured interviews and the review of documents.

3.3. Instruments and procedures

Three instruments were used for data collection. The first, a questionnaire with 45 five-level Likert-type questions, addressed to 172 university teachers – 40% of the population – inquired about the methods and techniques used in the classes that the teacher himself has taught, their frequency and in which subjects they are applied. A quantitative analysis has been carried out based on this questionnaire. A second instrument, consisting of six open questions and applied to six teachers of the entity, allowed a qualitative analysis, describing the motivations and justifications of the teachers in the choice of their teaching methodologies. A third instrument, a rubric for class observation, applied to five professors of the university, provided complementary information on the methodologies used and allowed to contrast the responses of the professors to the two previous instruments.

The data obtained from the questionnaires were analyzed with the SPSS program in its version 25. The observation of classes was carried out during the first semester of 2022 and, for the analysis of the documents, two subjects from the basic training area, two from the vocational training area and those that make up the internship cycle were considered. The classes were observed by the same researcher as a student of the subject and as an internship student, as well as as a student of the subject and internship, and as a student of the subject.

4. Results

The teaching methodologies used in higher education, as well as their relationship with learning outcomes, are aspects that have been analyzed in different contexts. In the case of the Popular University of Cesar, the results of this analysis show that teachers use a variety of methodologies and that, although there is interest on the part of students in adopting active methodologies, this interest does not always translate into the choice of methodologies that favor meaningful learning. The results also reveal that the use of active methodologies has not

always been favored by the availability of resources, teacher training, the institutional environment or the nature of the discipline. Outstanding contributions of teachers have been to take advantage of the diversity of contexts, promote the use of virtual resources and favor learning in the natural environment. Examples of good practices observed include the design of activities that arouse student interest and the use of innovative teaching resources.

The understandings about the teaching methodologies that are present in higher education in Colombia and that are addressed in a set of research are concerned with describing teaching practices, evaluating their relationship with student learning and analyzing the reasons that lead teachers to choose some methodologies over others. However, in many of these studies it is perceived that, despite the reduced use of active methodologies, students' opinions about learning and satisfaction with the educational experience are positive. A few studies consider the influence of context on methodological choice, and these conclude that context does have a considerable effect.

4.1. Description of the methodologies used

The methodology that teachers mostly use in their practice is exposition, although it is not conceived as a methodology on its own, but as a strategy that can accompany the teacher in teaching and learning processes, as long as it does not become the only means for teaching. The exhibition is followed by written work, collaborative work and independent study. Project-based learning is in the next place, and unsupervised methods and demonstration are underused, as well as case analysis that is only implemented by half of the population. Teachers also use other methodologies that are not on the suggested list, such as the seminar. Despite the fact that exposure is the methodology par excellence, several teachers have implemented active strategies or strategies that promote autonomous learning in students, either by planning activities that do not need constant supervision or by using active methodologies, such as problem-based learning, project-based

learning, the case method and service learning, which are implemented, although to a lesser extent, by the study population.

The factors that most influence the selection of the methodology are the resources available for teaching, the pedagogical training of the teacher, the institutional context and the guidelines of the curricular program associated with the discipline. The choice of the most appropriate methodology to achieve the learning outcomes proposed in the planning of the subject is the most difficult decision made by the teacher. Although the learning outcomes of the subject are decisive when it comes to selection, the institutional context and pedagogical training are the factors that have the most influence. Collaborative learning, hybrid teaching and case-based learning are the contributions most mentioned by teachers, although observations indicate that certain aspects must be taken into account for these methodologies to achieve their objective.

4.2. Factors influencing the methodological choice

The choice of teaching methodologies used in an educational process is not arbitrary nor can it be left to the free choice of the teacher. There are factors that affect this choice and that must be taken into account: teacher training in these methodologies, availability of resources for their implementation, institutional context, training of students in the use of these methodologies, or characteristics of the subjects. The results of the research indicate that, at the Popular University of Cesar, the available resources are the factor that most influences the selection of methodologies, followed by the training in them that the teachers have. The availability of economic resources and infrastructure is recognized as the main limitation for the use of active methodologies. In general, the choice of hybrid teaching methodologies predominates, which combine face-to-face instruction with some virtual support.

The most valued contributions to the methodologies they use are their ability to generate better interaction between teachers and

students and their contribution to the approach to local realities. The methodologies that contribute the least, in his opinion, are project-based learning and trials. As for the examples of methodologies that have been used in the subject and that have been successful in his opinion, in addition to the use of a traditional approach, exhibition, collaborative work and research-based learning stand out.

4.3. Outstanding pedagogical contributions

The most relevant pedagogical contributions are grouped around the four main purposes of university education that are implicitly included in the mission of the Popular University of Cesar: the integral formation of the student, research, social projection and the role of the teacher. In relation to comprehensive training, the need to train students not only as professionals but also as human beings is indicated; the development of skills to solve problems in the community; and the promotion of critical thinking and lifelong learning. To guarantee the achievement of these goals, research and the constant updating of teachers are considered essential. Specifically, social projection is achieved when spaces are provided in which the student applies the knowledge acquired to the community and, at the same time, learns to integrate into a work team. Examples of methodologies that have made it possible to achieve the desired objectives are also highlighted, such as project-based teaching and the use of the stock market simulator.

Based on an analysis of the teaching methodology in a Colombian university, some of the factors that have been considered when selecting the methodologies to be applied in each subject have been the availability of resources, the pedagogical training, the institutional environment, the duration of the subject, the type of discipline taught (specific or general training) and the modality of face-to-face (face-to-face, hybrid or remote). Some of these considerations have been maintained in the rest of the literature consulted; however, differences are observed according to each study in the use of one or the other methodology. It is hoped that this series of research will contribute to a better understanding

of the teaching methodologies used by higher education teachers in Colombia and, with it, to improve the quality of university teacher training.

5. Discussion

The above results are compared with the literature on higher education teaching practices in Colombia and their implications are analyzed. Similarities and differences with respect to previous studies are discussed, contributions to the teaching work at the UPC and similar institutions are pointed out, and limitations related to sampling and information collection are identified.

The methodology has a mixed approach and focuses on a population of teachers from the Popular University of Cesar. Questionnaires, interviews and documentary rubrics are used to determine the methodologies used, the factors that influence their choice and the pedagogical contributions made. The findings are organized according to these three axes: methodologies used, factors that determine their selection and evidenced pedagogical contributions. Initial findings suggest that the research helps to delineate the teaching practices of a Colombian university and provides guidance to teachers and institutions in the context of active learning. The limitations point to possible biases in sampling and collection procedures.

The findings are aligned with the literature on perception of teaching practices in Colombia, which describes them as predominantly traditional, although active learning is gaining ground. The difference with the research of Lozano et al. (2020) lies in the direct observation of the classes. In terms of teaching practices in higher education, however, there are still few studies in Colombia. Moreover, the combination of active, hybrid, and remote methodologies is in line with the proposal of García et al. (2021) and the view of Beltrán et al. (2021), who ensure that the pedagogical model of distance education requires a diverse use of methodologies.

5.1. Comparison with previous literature

The comparison of the results with relevant antecedents reveals that the sources investigated

agree on the insufficiency of teaching practices in higher education in Colombia, although this panorama tends to change, as evidenced by the increase in the use of active methodologies. However, teachers still need to be bolder in accessing them. In contrast, the hybrid approach has been valued as more effective because it not only implements active methodologies, but also maintains the proximity between teacher and students; However, physical and virtual distances have forced configurations of this type in many academic programs of universities, being one of the few cases in which distance has been considered a factor that positively affects learning. Even so, it has emerged strongly in Colombian higher education, especially at the UPC, where it has been the only documented approach in the systematization of teaching practices.

Pedagogical approaches have been analyzed from the perspective of constructivism, understanding that both learning and teaching are processes in which students construct their knowledge and teachers guide this construction. In this sense, practices that integrate active methodologies tend to promote the construction of knowledge, while those that use more traditional approaches reduce it to simple reception. However, if one considers that, according to connectivism, education in digital environments should focus on interaction and the exchange of ideas, it could be argued that interaction between peers constitutes the fundamental basis of learning.

5.2. Implications for teaching practice

The findings are compared with previous studies on teaching methodologies in Colombia and other countries, identifying both coincidences and divergences. The implications of the results for teaching practice at the Popular University of Cesar and other institutions of higher education in the country are delimited. The main limitation of the study is the possibility of bias in the sample and during data collection, which may affect the representativeness of the answers obtained.

The promotion of university learning in Colombia is a common concern among higher

education institutions, especially due to its complexity and low performance in standardized tests. In this framework, the study offers a descriptive and comparative review of the teaching methodologies used by a group of teachers from the Popular University of Cesar, who seek to provide elements for the improvement of learning outcomes. The analysis takes into account the context of these methodologies, the factors that influence their selection and the aspects that teachers consider most relevant in their practice.

5.3. Limitations of the study

The limitations of the study can be grouped into two categories: potential biases in sample selection and the information collection process. The first is a convenience bias, derived from selecting a group of 24 teachers from various disciplines who, for some reason, responded to the request, which may have influenced the nature of the information provided. The second category includes the risk of bias in two of the three data collection modalities, since confidentiality criteria were not applied to the questionnaires and interviews answered by the teachers, which could have induced biased responses. Despite this, it is considered that the conclusions of the study are valid and relevant for the Popular University of Cesar and Colombian universities in similar contexts.

Finally, it should be noted that the validity of the results depends on the robustness of the sources on which the analysis is based, and their implication for teaching practice at the UPC depends on the level of agreement or discrepancy between the results and the teachers' experience. From a perspective in which what is taught responds to how it is taught, the nature of the pedagogical contributions and their contextualization are key aspects.

6. Recommendations

The recommendations are aimed at teachers and those responsible for educational policy at the Popular University of Cesar (UPC). For teachers, the use of problem-based learning (PBL), case method, collaborative learning, project-based

learning and keynote lectures is suggested. It is also recommended to consider and explore various methodologies and techniques that go beyond the traditional chair, in order to face the diversity of knowledge and learning styles of its students, despite the limitations of time and resources. For their part, those responsible for the educational policy of the university must create spaces and scenarios that favor interaction between professors from different disciplines, so that interdisciplinary projects can be developed.

Likewise, an adequate technological infrastructure must be guaranteed, which allows all teachers and students to use technologies in the educational process. The implementation of policies that favor the continuous training and training of teachers in the use of new methodologies and techniques that favor student learning is another recommendation to take into account. In general, the decisions made by the institution based on the contributions made by teachers, whether explicit or implicit, should be aimed at strengthening the quality of the teaching and learning processes.

7. Contributions to the field

The research contributes to the knowledge of higher education in Colombia, providing both specific data and a more general discussion on teaching methodologies and learning outcomes. The findings and discussion help to characterize teaching practices at the Universidad Popular del Cesar, as well as in institutions of similar context and history. The exploration of teaching practices, their conformation, and their effects is related to the proposals of the connectivist approach to education, based on the theory of connectivist learning and the constructivism of specific didactics. A secondary objective is to identify the methodologies used in the teaching-learning process and how these are related to the proposals of higher education didactics. In particular, it seeks whether these practices are associated with more significant learning, supported by the theory of connected learning.

The knowledge generated and its implications are relevant for the collector of teaching practices in

higher education in Colombia, an area still little explored from this approach in previous academic works. The collection of context-specific information from the Popular University of Cesar is presented as a contribution in itself, overcoming the scarcity of research in the area, where teaching practices have been analyzed mainly in specific areas of knowledge.

8. Conclusion

In this work, teaching practices in higher education in Colombia have been addressed from a critical and evidence-based perspective, specifically investigating the Popular University of Cesar. The objective has been to analyze the teaching methodologies used by the teachers of the institution and their relationship with the learning results of the students. To this end, the definitions of teaching methodology and its conception as a set of interrelated decisions that are articulated to compose the pedagogical action have been considered. Likewise, the criteria that higher education teachers in Colombia consider when selecting the most appropriate methodologies based on the learning outcomes expected to be achieved have been described. The target population of study is all the teachers of the Popular University of Cesar and the unit of analysis are the methodologies they use in their teaching practice, being a research that is developed from the quantitative approach.

The results are consistent with the literature, as three of the four methodologies that are most used in higher education in the country are observed, although they are not always combined even with the required intensity. Likewise, the choice of methodologies is conditioned by factors already pointed out in other research, such as the availability of resources, academic training, the institutional context, the nature of the discipline and, in some cases, the learning outcomes. However, the contribution of teamwork, meaningful learning and the use of ICT are evidenced as elements that teachers considered most relevant in their practice, as well as the application of cases, student presentation and practice as examples that contributed more effectively to learning.

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