Perception of the Case Study Method and Its Impact on University Learning: A Quantitative Study

Mamani C., William[1] , Monroy H., Kreimer[2] , Ortiz A. Obdulia[3]

[1,2,3] Continental University

[1]https://orcid.org/0000-0003-2388-8340

[2]https://orcid.org/0009-0006-9892-8369

[3]https://orcid.org/0009-0000-5843-2568

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ABSTRACT

The case method has established itself as an active methodology that promotes critical analysis, participation, and decision-making in educational contexts, especially in the field of health sciences. However, quantitative evidence on student perceptions of its effectiveness is still limited in Latin America. The objective of this study was to evaluate university students' perceptions of the case method after its application as a central pedagogical strategy in the Determinants of Health course. A quantitative, non- experimental, descriptive, cross-sectional study was conducted with a census sample of 54 students. The Case Method Perception Instrument (IPMC-24) was applied, validated using Aiken's V (0.89) and with high internal reliability ($\alpha = 0.93$). The results show highly favorable perceptions in all dimensions evaluated: pedagogical relevance ($M = 4.63$), applicability in real scenarios ($M = 4.74$), participation and critical analysis ($M = 4.74$), satisfaction and perceived usefulness ($M = 4.76$), and overall satisfaction ($M = 4.80$). The relative frequencies show that more than 77% of students selected the category "Strongly agree" in all dimensions. The findings confirm that the case method is valued as a relevant, motivating, and effective strategy for developing health science skills. It is concluded that its systematic implementation promotes deep and contextualized learning, which supports its use as a central methodology in university settings focused on the analysis of real health problems.

Keywords: case method, student perception, active learning, higher education.

INTRODUCTION

The case method has been widely recognized as an active pedagogical strategy that places students at the center of their learning, allowing them to analyze situations that simulate or represent real problems in their professional field. This methodology promotes critical reflection, analytical reasoning, and informed decision-making, which are essential components of contemporary higher education (Kim & Hannafin, 2024).

In the context of health sciences, traditional training focused on lectures and one-way transmission of knowledge has been questioned for its limited ability to develop complex skills. For this reason, methodologies such as the case method have gained relevance by promoting situated, integrative learning oriented toward solving real health problems (Fukada et al., 2022). Several recent studies indicate that the case method improves understanding of epidemiological, social, and clinical problems by allowing students to connect theory with practice and act on realistic scenarios that simulate their future professional performance (Hernández & López, 2023; Patel et al., 2021). Likewise, current research highlights that this methodology increases motivation, participation, and a sense of academic self-efficacy (García-Peña et al., 2022). In courses related to public health and, particularly, to the social determinants of health, the case method takes on special importance, as it allows for the analysis of complex, multidimensional, and structural realities of the health system, fostering critical and reflective thinking about health inequalities (Baker et al., 2022).

Despite the reported benefits, student perceptions of the case method have been little explored using robust

quantitative approaches, especially in Latin America. Understanding these perceptions is essential, as they influence the acceptance of the methodology, active participation, and learning outcomes.

Therefore, the present study aims to evaluate the perception of the case method among university students in the health sciences after the implementation of an pedagogical experience based exclusively on this methodology.

METHODOLOGY

A. Study design and population

2.1 Study design

A quantitative, non-experimental, descriptive, cross- sectional study was conducted to analyze university students' perceptions of the application of the case method in the teaching-learning process.

2.2 Participants

The population consisted of 54 health science students enrolled in the Determinants of Health course during the 2025-II academic semester at a university in the city of Arequipa, Peru. A census sample was used, including all students enrolled in the course. The average age of the participants was 20 years (SD = 2.6), with representation from both sexes and different academic cycles within the training program.

2.3 Ethical considerations

The study was conducted in accordance with the ethical principles of educational research. Participation was voluntary, and informed consent was obtained from all students before the instrument was administered. Anonymity and confidentiality of information were guaranteed, and the data were used exclusively for academic and research purposes. As this was a descriptive study with no intervention or risk to participants, evaluation by an institutional ethics committee was not required.

2.4 Instrument

The Case Method Perception Instrument (IPMC-24) was used, consisting of 24 items distributed across five dimensions:

a. Pedagogical relevance
b. Applicability in real scenarios
c. Participation and critical analysis
d. Satisfaction and perceived usefulness
e. Overall satisfaction with the method

The instrument uses a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

Validity and reliability

Content validity was determined using the Aiken coefficient (V = 0.89), which shows an adequate degree of agreement among expert judges. Internal reliability was also evaluated using Cronbach's alpha coefficient, obtaining a value of $\alpha = 0.93$, indicating high internal consistency of the instrument.

B. Implementation of the case method

The case method was implemented over a continuous period of ten weeks. Real cases related to the social determinants of health were used, selected based on their thematic relevance, complexity, and relevance to the course's learning objectives. Students worked in groups of four, promoting collaborative discussion, critical

analysis, and informed decision-making. The role of the teacher was to act as a learning facilitator, guiding the discussion through probing questions, promoting reflection, and avoiding providing direct answers. As a final product, students designed and implemented a prioritized educational program applied to a real-world context, which allowed them to integrate theory and practice.

C. Procedure and bias control

Data collection was carried out at the end of the course, once the case method had been implemented. The IPMC-24 instrument was administered digitally, anonymously, and self-administered, without the presence of the evaluating teacher, in order to reduce social desirability bias and encourage honest responses.

C. Statistical analysis

Data analysis was performed using descriptive statistics. Absolute and relative frequencies were calculated for each response category of the five dimensions evaluated. Likewise, measures of central tendency and dispersion were estimated, including arithmetic mean, standard deviation, minimum and maximum values, in order to describe the overall perception of the student body. Given the descriptive approach of the study and its emphasis on perception, no inferential tests were applied.

RESULTS

A. Table 1. Descriptive statistics of the IPMC-24 dimensions (n = 54)

Dimension	***Mean***	***SD***	***Min***	***Max***
Pedagogical relevance (D1)	*4.63*	*0.53*	*3*	*5*
Applicability in real-life scenarios (D2)	*4.74*	*0.50*	*3*	*5*
Participation and critical analysis (D3)	*4.74*	*0.49*	*3*	*5*
Satisfaction and perceived usefulness (D4)	*4.76*	*0.46*	*3*	*5*
Overall satisfaction with the method (D5)	*4.80*	*0.47*	*3*	*5*

All dimensions have averages above 4.60, confirming a highly positive perception of the case method. The standard deviations (0.46–0.53) indicate low variability, demonstrating consensus among participants. The highest- rated dimension was Overall satisfaction (4.80), showing that the methodology was very well received. The dimension with the greatest dispersion was Pedagogical relevance, explained by the presence of a neutral response.

B. Table 1.1 Pedagogical relevance (D1)

Likert score	**Absolute frequency**	**Relative frequency (%)**
1 (Strongly disagree)	0	0.0
2 (Disagree)	0	0
3 (Neither Disagree nor Agree)	1	1.9
4 (Agree)	9	16.7
5 (Strongly agree)	44	81.5

The majority of students (≈81%) rated the pedagogical relevance of the case method as "Strongly agree," indicating that they consider this methodology to be appropriate for the course objectives. Seventeen percent reported "Agree," while only one student (≈2%) responded "Neither agree nor disagree." The overall perception is highly positive, with almost unanimous acceptance of the method as relevant and aligned with the training content.

C. Table 2.2 Applicability in real scenarios (D2)

Likert score	Absolute frequency	Relative frequency (%)
1 (Strongly disagree)	**0**	**0.0**
2 (Disagree)	**0**	**0**
3 (Neither Disagree nor Agree)	**1**	**1.9**
4 (Agree)	**7**	**13**
5 (Strongly agree)	**46**	**85.2**

In this dimension, more than 85% selected "Strongly agree," followed by 13% who selected "Agree." Only one student remained neutral. Students perceive that the case methodology directly contributes to connecting theory with real-life situations involving health determinants, reinforcing its professional applicability.

D. Table 2.3 Participation and critical analysis (D3)

Likert score	Absolute frequency	Relative frequency (%)
1 (Strongly disagree)	**0**	**0.0**
2 (Disagree)	**0**	**0**
3 (Neither Disagree nor Agree)	**2**	**3.7**
4 (Agree)	**10**	**18.5**
5 (Strongly agree)	**42**	**77.8**

The vast majority (77%) selected "Strongly agree" and 19% selected "Agree." Two students (4%) remained neutral. The case method seems to strongly encourage active participation and critical analysis skills, consistent with active learning pedagogical approaches.

E. Table 2.4 Satisfaction and perceived usefulness (D4)

Likert score	Absolute frequency	Relative frequency (%)
1 (Strongly disagree)	**0**	**0.0**
2 (Disagree)	**0**	**0**
3 (Neither Disagree nor Agree)	**1**	**1.9**
4 (Agree)	**11**	**20.4**
5 (Strongly agree)	**42**	**77.8**

78% agreed strongly, 20% agreed, and only one student (2%) gave a neutral response. Students consider the case method useful and satisfactory for developing skills within the course, showing a high level of satisfaction with the teaching experience.

F. *Table 2.5 Overall satisfaction with the method (D5)*

Likert score	Absolute frequency	Relative frequency (%)
1 (Strongly disagree)	0	0.0
2 (Disagree)	0	0
3 (Neither Disagree nor Agree)	1	1.9%
4 (Agree)	9	16.7
5 (Strongly agree)	44	81.5

Almost 85% selected the highest category ("Strongly agree"), 17% selected "Agree," and only one student remained neutral. There is a very high overall level of satisfaction with the methodology used, which demonstrates acceptance and positive assessment of the case method as a central strategy of the course.

DISCUSSION

The results of the study show that the case method was perceived by students as a highly effective strategy for learning about health determinants. Averages above 4.6 in all dimensions evaluated indicate a generally positive assessment. These findings are consistent with previous research highlighting that active methodologies, especially the case method, promote deep, meaningful, and student- centered learning (García & Ramos, 2021; López & Medina, 2022).

First, the high rating attributed to the relevance of the case method confirms its ability to promote a contextualized approach to content. Recent studies indicate that this methodology is especially useful in courses related to public health, as it allows for the analysis of complex and dynamic realities (Sánchez et al., 2021). The present study reaffirms this perspective, showing that students recognize this strategy as an effective way to understand the determinants of health from a critical and comprehensive perspective.

Likewise, the high average score obtained in the applicability dimension reinforces the idea that the case method facilitates the transfer of theoretical knowledge to real practical situations. This coincides with research indicating that, in health science degrees, this methodology promotes informed decision-making and the development of clinical and analytical skills (Martínez & Silva, 2020; Rivera et al., 2023). The students in this study clearly stated that case analysis allowed them to relate the content to current problems in the healthcare system, strengthening their professional preparation.

On the other hand, the dimension of active participation and critical analysis presented equally consistent results. In line with this, the literature indicates that the case method generates spaces for debate and reflection, stimulates argumentation skills, and fosters higher-order cognitive processes (Fernández & Córdova, 2022). The scores obtained in the study support this assertion, showing that students perceive this methodology as a resource that drives their involvement and commitment to learning.

In terms of perceived satisfaction and usefulness of the method, the findings indicate very high levels of acceptance. This trend has been reported in recent studies that highlight that active learning environments not only improve motivation but also strengthen the perception of autonomy and relevance of the content (Paredes & Urrutia, 2021). The highest score obtained in overall satisfaction reaffirms the effectiveness of the case method as a pedagogical practice that promotes academic well-being and reduces the traditional passivity of the lecture model.

Finally, the results of this study provide evidence to the growing body of literature that supports the implementation of active methodologies in higher education contexts in health sciences. Although the study was conducted in a specific environment and with a limited sample, the consistency of the results suggests that the case method can be replicated in other courses with similar expectations of success. Future research could explore comparisons between control and experimental groups or evaluate the longitudinal impact of this methodology on the development of professional competencies.

The findings of this study not only validate the relevance and effectiveness of the case method, but also reinforce its value as a key strategy for transforming the teaching-learning process in health sciences, aligning with contemporary pedagogical approaches and the demands for training critical, reflective professionals capable of facing the current challenges of health systems.

CONCLUSIONS

1. The results of the study show that the case method is perceived very favorably by university health sciences students in the *Determinants of Health* course. In particular, participants expressed a positive perception of the pedagogical relevance of the method, suggesting that this strategy is considered consistent with the course's training objectives and appropriate for addressing complex content.

2. Likewise, the high rating of applicability in real scenarios indicates that students perceive the case method as a strategy that facilitates the articulation between theory and practice, allowing for the contextualized analysis of situations specific to the health field. Similarly, the high levels of perception in the dimension of participation and critical analysis reflect that this methodology is associated with greater active involvement of the student in their learning process.

3. Satisfaction and perceived usefulness, as well as overall satisfaction with the method, scored highly, indicating an overall positive acceptance of the case method as a teaching strategy. However, these findings should be interpreted within the descriptive scope of the study, as they are based on self-reported perceptions rather than objective measurements of learning.

4. Overall, the results suggest that the case method is a teaching strategy that is positively valued by students in health sciences education. Future research could incorporate comparative designs or pre- and post-intervention measurements to more accurately assess its relationship to learning outcomes and the development of professional competencies.

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