



# Problematization methodology and flipped classroom in teaching medical ethics to clinical cycle students: experience report

## Metodologia de problematização e sala de aula invertida no ensino da ética médica para acadêmicos do ciclo clínico: relato de experiência



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### Abstract

The Brazilian Code of Medical Ethics outlines the rights and responsibilities of physicians to protect medical professionals and their patients. However, the medical field is surrounded by ethical professional processes, evidencing the lack of knowledge among practitioners about medical ethics principles and guidelines. This study reports the experience of undergraduate medical students who participated in an extension course on medical ethics that addressed various topics using a problematization methodology and elements of the flipped classroom to promote active engagement. This activity aimed to reinforce the importance of medical ethics and its implications in medical practice. Students reported that the participation enhanced their autonomy in decision-making and encouraged a more critical posture towards ethical dilemmas in the medical profession.

**Keywords:** Medical ethics; Medical students; Bioethics; Codes of ethics.

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**E-mail:** lizquevedoo@gmail.com

**Funding:** Not applicable

**Ethics approval:** CAAE  
nº: 63545422.3.0000.8033

Received: 05/05/2024

Approved: 05/16/2025

**How to cite:** Quevedo **LCL**, Gonçalves **AAIS**, Ribeiro **IVD**, Bezerra **LS**, Evangelista **LMS**, Sá **CG**. Problematization methodology and flipped classroom in teaching medical ethics to clinical cycle students: Experience report. An. Fac. Med. Olinda 2025; 1(13):381. doi: <https://doi.org/10.56102/afmo.2025.381>

## Resumo

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O Código de Ética Médica esclarece os direitos e deveres dos médicos para sua preservação e a dos pacientes. Entretanto, o meio médico é envolto por processos ético-profissionais, evidenciando a insuficiência do conhecimento sobre a ética médica e suas diretrizes. Este trabalho relata a experiência de graduandos em medicina em um projeto sobre a ética médica aplicada a diversos temas, utilizando a metodologia de problematização e elementos da sala de aula invertida, para estimular a participação ativa dos alunos. O objetivo dessa atividade foi reforçar a importância da temática e suas implicações na prática clínica. Como resultado, os alunos relataram que o curso fortaleceu sua autonomia decisória e consolidou uma postura mais crítica frente às questões éticas da profissão.

**Palavras-chave:** Ética médica; Estudantes de medicina; Bioética; Códigos de ética.

## INTRODUCTION

Ethics permeates social relations across various domains, particularly influencing the development of a critical perspective during medical education and practice. Healthcare professionals are routinely exposed to various situations shaped by social, behavioral, political, technological, and cultural factors, necessitating ongoing moral deliberation<sup>1</sup>.

The first version of the Brazilian Code of Medical Ethics was officially published in 1988, followed by seven subsequent versions that have been recognized within the medical community. These documents were continuously modified to align the rights and duties of medical professionals with their social context<sup>2,3</sup>. The current version, in effect since 2018, incorporates relevant themes for the contemporary society and outlines the rights and responsibilities of physicians for their protection and of their patients<sup>3</sup>.

However, the current scenario of medical practice, marked by the commercialization of the profession and expansion of patient rights, has contributed to the deterioration of the physician-patient relationship. This shift has been accompanied by a rise in adverse events, formal complaints, and disciplinary investigations against physicians in medical councils<sup>4</sup>.

In this context, a study on the state of healthcare and medical judicialization in Brazil published in 2024 by the Brazilian Federal Council of Medicine revealed alarming data: the number of lawsuits (573,750) filed against medical professionals surpassed the number of active medical professionals in the country (562,206). The state of São Paulo recorded the highest number of cases (133,500), while the gynecology and obstetrics specialty accounted for the highest proportion of complaints (42.6%). The most frequently reported issues included medical care, ethical and professional conduct, assistive errors, structural conditions of the care facility, medical documentation, sexual abuse, sexual harassment, and plastic surgeries<sup>5</sup>.

Considering the prevalence of negligence-related incidents in the medical field, it is evident that knowledge of medical ethics and professional guidelines remains insufficient. Reinforcing ethical concepts during undergraduate education is essential, especially considering the rapid expansion of the medical community, which is often accompanied by concerns about the quality of medical training<sup>6</sup>.

This study aimed to describe the educational experience of undergraduate medical students who participated in an extension course on medical ethics and its implications for clinical practice using problematization methodology and the flipped classroom (FC) as complementary approaches.

## **METHODS**

Considering the increasing number of negligence cases in the medical field, the development of educational mechanisms to reinforce ethical principles during undergraduate training has become essential. Thus, an extension course in Bioethics was proposed as a strategy to address this gap using problematization methodology and FC. This pedagogical model presents real-world scenarios to stimulate reflection, critical thinking, and autonomous knowledge construction; thus, promoting a more meaningful and integrated learning experience.

The course comprised 40 hours of instruction and was facilitated by two mediators (one psychiatrist and one lawyer), who guided six student subgroups. Sessions of approximately 90 minutes were held once a week to allow for an in-depth exploration of each bioethical topic. The course was attended by undergraduate medical students aged between 18 and 40 years.

Some students had prior training in other fields, such as nursing and pharmacy, which facilitated the interdisciplinary exchange. Participants were also concurrently engaged in supervised outpatient clinical practice. Each week focused on a specific topic, with the presentation of medical and legislative content, followed by the analysis of clinical cases using problematization techniques. This was supported by a combination of pedagogical tools, including structured questions posed by the mediators (i.e., lawyer and psychiatrist) and guided reflection based on the Brazilian Code of Medical Ethics and other current national legislation.

Throughout the discussions, students practiced legal and bioethical argumentation, fostering the development of structured, interdisciplinary reasoning. Key topics, such as the care for Jehovah's witness patients, confidentiality, medical records, civil liability, and organ transplantation, were examined in depth. These topics were addressed in a contextual and integrated manner, contributing to the academic and professional development of the students.

## **RESULTS**

Student engagement was observed within the framework of the active methodology em-

ployed. Each session introduced a problem-situation using a clinical case aligned with the topic of the day. As students expressed their initial opinions and subsequently engaged in mediator-guided discussions, a notable evolution in their analytical approach and ethical reasoning was observed.

Classroom debates based on the analysis of clinical cases that depicted controversial themes were followed by theoretical contextualization and the proposal of possible solutions. This pedagogical approach broadened the perspective of the students, enabling them to adopt a more critical and reflective stance towards bioethical dilemmas. Additionally, it fostered active listening and encouraged respect for diverse viewpoints within the academic setting. Rather than converging on a single correct answer, discussions welcomed various well-supported perspectives. Furthermore, these issues transcend the individual realm and involve decisions that affect society and are influenced by ethical, cultural, and legal values.

Concurrently with the Bioethics course, students of the fifth semester began the clinical cycle, which provided further opportunities to critically reflect on the behaviors and ethical conduct of the supervising physicians during outpatient clinics. As a result, real-world scenarios observed in practice were brought into the classroom for collaborative analysis, allowing students to deconstruct these experiences and receive pedagogical guidance on appropriate responses, including discussions on how and when to deliver difficult information, how to address the right of the patient to access medical records, and how to maintain ethical conduct during clinical interactions.

In this context, active methodologies in teaching of bioethics are important for integrating theory and practice through a dialogical, critical, and reflective approach, which are at the core of ethics education. This method promoted collaborative and active learning, as students were immersed in real-world clinical scenarios while engaging with theoretical content, integrating the learning experience<sup>7</sup>. The implementation of ethics teaching and learning during the practical cycle of medical school enhances professional development<sup>8</sup>.

Routine situations in clinical care, such as professional confidentiality and fostering respectful relationships between physician and patient across different cultural contexts, were among the main practical applications of the ethical content identified by students, as they were able to incorporate this knowledge into their outpatient care.

Additionally, the integration of theoretical instruction with practical experience significantly reinforced the content and prompted genuine metanoia among students. Considering that previously acquired ethical knowledge was not retrieved and used during clinical care, after the ethics course training (or even during it), these learnings will certainly be and have been retrieved and applied in the healthcare routine, as plausible clinical cases were meticulously evaluated and solved by students during the course.

Professional confidentiality within the patient-physician relationship functions as a foundational principle, and its significance was emphasized during clinical cycle interactions. Although medical students do not yet fully assume the role of the physician, the supervised participation enables them to observe and contribute to patient care and health promotion.

In this context, the personal reflections provided by students in response to questions regarding the importance of the extension course in Bioethics and the implementation of active learning methodologies are particularly remarkable:

*The Bioethics course is essential for any healthcare professional. Many of the topics discussed, such as abortion, euthanasia, and medical confidentiality, are often viewed as controversial, but in reality, they are simply taboo topics. Ignoring them does not make them disappear. In contrast, physicians must understand how to reflect, debate, and act ethically, particularly in accordance with the law and patient rights. – Student;*

*The discussions and reflections sparked by the practical cases used in the active methodology enhanced my ability to make responsible and compassionate decisions, always prioritizing patient well-being. I learned to apply ethical principles in clinical contexts, which has given me a more critical and reflective outlook on my future medical practice. – Student;*

*Beyond impacting clinical practice, the course also made me reflect on my role as an individual within society. The discussions pushed me out of my comfort zone and taught me how to confront real dilemmas consciously and responsibly. Ultimately, the course provided tools to address difficult situations with well-grounded knowledge, responsibility, and an empathetic approach. – Student;*

*I took the bioethics course during a period when I regularly worked Sunday night shifts and had class on Monday mornings. Remarkably, every Sunday, something would happen that I'd bring up the next day, either due to doubts about proper conduct or how to protect myself in uncertain situations. In medicine, we often discuss our duties as physicians, but the unique value of this course for me was learning about my rights and how to safeguard myself appropriately in various clinical scenarios. – Student;*

Thus, active bioethics education proved to be relevant and applicable for medical students, particularly during the clinical cycle. The methodology fostered transformative learning, which relies on well-contextualized material resources combined with experiential learning, problem-solving, and engagement with ethical content. As proposed by active methodologies, this

approach contributed to promoting student autonomy and protagonism in the construction of knowledge<sup>1, 9, 10</sup>.

## DISCUSSION AND CONCLUSION

The results showed that the critical analysis of clinical cases, combined with theoretical and practical discussions, enhanced the understanding of students regarding the ethical and legal guidelines governing medical practice. The experience of the students in the clinical cycle enabled the prompt application of this knowledge, facilitating the identification of ethical dilemmas and reflection on appropriate professional conduct. Thus, this extension course not only strengthened the autonomy of students in decision-making but also consolidated a critical and responsible stance toward ethical challenges in medicine.

The integration of the problematization methodology with FC proved to be an effective strategy for fostering reflective thinking and improving ethical awareness, which are essential to professional practice. Therefore, this educational model prepared students to navigate real-world dilemmas in their academic and clinical routines, promoting a humanized and responsible approach to patient care.

Additionally, the exchange of experiences between students and mediators during case discussions strengthened argumentative skills and robust ethical reasoning. This collaborative interaction encourages students to develop a broader perspective on the challenges of professional practice.

Therefore, creating spaces for ethical dialogue, including clinical simulations and structured outpatient case follow-ups, may help reinforce the internalization of these principles and provide dynamic and practical learning. Consequently, future physicians will be better equipped to act ethically, critically, and humanely, ensuring safer and more equitable care for patients.

## FUNDING

Not applicable.

## CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

## AUTHOR CONTRIBUTIONS

**LCLQ, IVDR, LSB, and LMSE:** Data Curation, Investigation, Visualization, and Writing – Original Draft. **AAISG:** Conceptualization, Data Curation, Visualization, Writing – Original Draft. **CGS:** Conceptualization, Formal Analysis, Project Administration, Supervision, Writing – Review & Editing. All authors read and agreed with the final version of the manuscript.

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