

NOT JUST KNOWING, BUT KNOWING HOW TO BE: COOPERATIVE LEARNING IN HEALTHCARE TRAINING

NON SOLO SAPERE, MA SAPER ESSERE: L'APPRENDIMENTO COOPERATIVO NELLA FORMAZIONE SANITARIA



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ABSTRACT

The study on 170 healthcare students at Vanvitelli University assessed the effectiveness of cooperative learning with a mixed experimental design. Questionnaires and interviews showed, in the experimental group, improvements in empathy, cohesion, and classroom climate, as well as motivation, reflection, and clinical application. The methodology proves effective in integrating technical skills and relational abilities, consistent with current medical pedagogy.

Lo studio su 170 studenti dell'ambito sanitario dell'Università Vanvitelli ha valutato l'efficacia del cooperative learning con un disegno sperimentale misto. Questionari e interviste hanno mostrato, nel gruppo sperimentale, miglioramenti in empatia, coesione e clima d'aula, oltre a motivazione, riflessione e applicazione clinica. La metodologia si conferma efficace per integrare competenze tecniche e abilità relazionali in linea con la pedagogia medica attuale.

KEYWORDS

medical pedagogy; cooperative learning; empathy
pedagogia medica; approccio cooperative; empatia

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Introduction

Contemporary medical and healthcare training takes place in a complex context characterised by cultural, social, and technological transformations that necessitate a rethink of teaching practices. Alongside scientific progress and continuous technological innovation in the clinical field, there is a strong need to train professionals who can integrate technical knowledge with interpersonal, communication, and empathy skills. These skills are now considered essential for a comprehensive approach to patient care. The focus is no longer just on knowing how to 'do', but on knowing how to 'be' a healthcare professional who can combine clinical competence and ethical sensitivity to provide patient-centred care.

In this context, medical pedagogy (Zannini, 2002; Bruni, 2015) is a field of research and practice that connects scientific and humanistic knowledge. It focuses on training professionals who are reflective and responsible individuals, capable of establishing meaningful relationships, rather than mere executors of protocols. This approach is rooted in the biopsychosocial model developed by Engel (1977) and further explored by Borrell-Carrio, Suchman and Epstein (2004). This model proposes an integrated view of health and illness that moves beyond reducing care to a mere technical service. At the same time, university teaching must move beyond traditional transmissive logic, which is often centred on asymmetry between teacher and student, and embrace active methodologies that stimulate participation, motivation, and deep learning. From this perspective, cooperative learning (Johnson & Johnson, 1999; Slavin, 2014) is a valuable pedagogical tool. Based on the principles of positive interdependence, individual responsibility, and collective reflection, it fosters collaborative dynamics that mirror real working conditions in clinical settings.

Cooperative activities enable students to experience the processes of negotiating meaning, constructing shared knowledge and providing mutual support. These processes promote academic success and contribute to personal and professional development (García-Cabrero, 2021). Furthermore, collaborative learning fosters essential transferable skills such as distributed leadership, time management, problem solving and shared decision-making (Mendo-Lázaro, 2021).

An additional benefit of cooperative learning in healthcare training is the opportunity it provides to develop empathy and communication skills, which are recognised as pillars of the therapeutic relationship (Decety & Jackson, 2004; Charon, 2008). Working in groups provides students with concrete opportunities to practise active listening, conflict management, understanding others' experiences,

and developing a relational language that is appropriate for the care context. In this sense, cooperative learning provides a safe environment in which students can refine the socio-emotional skills that will be crucial in clinical practice.

Recent literature also demonstrates how integrating collaborative methodologies with the narrative and reflective practices characteristic of medical humanities (Mortari, 2015) can restore the ethical and existential dimensions to healthcare training. Through writing, storytelling and sharing experiences, students can develop personal and professional meaning and foster critical awareness and relational sensitivity that transcend mere technique.

In light of these considerations, cooperative learning presents itself not only as an effective teaching methodology, but as a genuine pedagogical strategy capable of integrating disciplinary learning, the development of transversal skills and personal growth. It allows for the training of competent, empathetic healthcare professionals who are oriented towards building authentic and responsible relationships, in line with the founding principles of medical pedagogy and medical humanities. This study aims to fit within this framework, systematically investigating the effectiveness of cooperative learning in university education in the medical-health field, with particular attention to its impact on students' relational and empathic skills.

1. Aim of the Research

This study aims to analyse the impact of cooperative learning in university education in the medical and health fields. The intention is to verify how this methodology affects not only technical and scientific learning, but also the relational and empathic dimensions, which are now considered essential for developing well-rounded professionals. The survey forms part of the theoretical framework of medical pedagogy, which advocates combining clinical and pedagogical knowledge to take a holistic approach to individuals (Zannini, 2002; Bruni, 2015). The study also seeks to provide empirical evidence of the effectiveness of cooperative approaches in teaching healthcare professions. In line with Mortari's (2015) reflections, care and relationships are fundamental aspects of healthcare training that must be permanently integrated with technical and scientific skills. From this perspective, the research aims to verify the extent to which cooperative learning promotes the quality of peer relationships by fostering group cohesion, collaboration, and mutual support. These factors are the basis of an inclusive learning environment and can be transferred to the ability to work in

multidisciplinary teams in the future (Mendo-Lázaro, 2021; García-Cabrero, 2021). At the same time, the study will explore how cooperative dynamics can affect communication and interpersonal skills when interacting with patients, with the aim of improving active listening, conflict management, and empathic communication — all of which are recognised as pillars of clinical practice (Kurtz, Silverman & Draper, 2016). Finally, the study will analyse how cooperative learning contributes to the development of empathy, which is understood as a multidimensional process involving cognitive, emotional, and behavioural components (Decety & Jackson, 2004). This is a key competence for care relationships and the overall well-being of patients. The ultimate goal is therefore to evaluate the effectiveness of integrating cooperative learning as a pedagogical tool into medical and healthcare curricula. This approach aims to train professionals who are technically competent and sensitive and empathetic, and who can build authentic and responsible relationships with patients and colleagues. This is in line with the principles of medical pedagogy and medical humanities (Mortari, 2015; Charon, 2008).

1.1. Sample Selection

The study was conducted on a health professions degree course at the University of Campania 'Luigi Vanvitelli' and involved a total sample of 170 second-year students. The participants were divided into two groups using a random procedure: an experimental group, who took part in cooperative learning activities as part of an educational intervention, and a control group who continued with traditional classroom-based teaching. Randomisation is widely recognised in the literature as one of the fundamental criteria for ensuring the internal validity of educational and health research (Creswell & Creswell, 2018; Cohen, Manion & Morrison, 2018). It ensured fairness and comparability between the two groups, minimising the risk of bias in participant selection and increasing the study's methodological soundness.

The inclusion criteria were as follows:

- Regular enrolment in the second year of the course, chosen to ensure a consistent level of preparation and academic maturity among participants, as suggested by the methodological guidelines for educational research in university contexts (Tashakkori & Teddlie, 2020);
- Compulsory attendance at all meetings scheduled for the intervention, an essential requirement to ensure full exposure to the methodology and to consistently evaluate the impact of cooperative learning (Bryman, 2016);

- willingness to actively participate in the proposed activities, an element considered crucial in studies investigating teaching methodologies based on cooperation and social interaction (Johnson, Johnson & Smith, 2014).

The exclusion criteria included:

- students who were behind in their studies, as an irregular academic path can introduce variables related to gaps in education or different study time management, reducing the homogeneity of the sample (Fraenkel, Wallen & Hyun, 2019);
- students from other universities, as this would have resulted in heterogeneous educational backgrounds and made it difficult to maintain comparability between groups (Punch & Oancea, 2014);
- unjustified absence from one or more meetings, as discontinuity in participation would have compromised the validity of the observations and data collected (Cohen, Manion & Morrison, 2018).

The adoption of these criteria, in line with good practices in educational and medical research, made it possible to select a homogeneous and stable sample, reducing the presence of confounding variables and ensuring greater reliability of the study results (Creswell & Plano Clark, 2017).

1.2. Tools

The study adopted a qualitative-quantitative experimental design to integrate objective measurements of phenomena with an understanding of students' and teachers' subjective perceptions and experiences. The choice of a mixed approach responds to the need to triangulate heterogeneous data in order to ensure greater validity and interpretative depth of the research results, as highlighted in the methodological literature (Creswell & Plano Clark, 2017; Tashakkori & Teddlie, 2020). This approach is particularly effective in educational and health studies, where quantitative variables need to be integrated with qualitative analysis capable of reflecting the complexity of relational dynamics (Greene, 2021).

The quantitative tools adopted were:

- The Jefferson Scale of Empathy (JSE) is used to measure cognitive and affective empathy levels in students. Widely validated in medical and healthcare contexts, this tool represents an international standard for measuring clinical empathy and has demonstrated good psychometric

properties in several studies conducted with medical and healthcare students (Hojat, 2016; Quince et al., 2016).

- The Group Environment Questionnaire (GEQ) is used to assess group cohesion and team dynamics. Studies have demonstrated the effectiveness of the GEQ in analysing interpersonal relationships and collaborative processes, thus validating its use in educational and professional contexts (Carron, Eys & Burke, 2007).
- The Classroom Environment Scale (CES) is designed to investigate classroom climate, mutual support, and the degree of involvement. This tool has been widely used in educational research and has been shown to detect significant differences in active learning contexts compared to traditional ones (Moos & Trickett, 1987; Fraser, 2012).

In addition to these standardised surveys, qualitative tools were employed to delve deeper into the participants' experiences and perceptions. Semi-structured interviews were conducted with teachers and learners to gather descriptive and interpretative information on relationships established, collaborative learning experiences, and perceived effects on empathy and communication. The interviews were fully transcribed and analysed using thematic analysis (Braun & Clarke, 2006), an approach that identifies emerging categories and recurring patterns in narrative data, ensuring methodological rigour in qualitative interpretation. NVivo software supported the coding, management and organisation of the data, systematising the material collected and increasing the transparency and traceability of the analytical process (Bazeley & Jackson, 2013; Nowell, Norris, White & Moules, 2017). Integrating these tools enabled multi-level analysis, providing a comprehensive and detailed overview of the effects of cooperative learning in medical and healthcare training by balancing comparable quantitative data with qualitative insights into experiences.

1.3. Methods

The educational intervention was developed over a period of 12 weeks, with two-hour meetings held weekly. The activities were designed to distinguish between the training experiences of the control and experimental groups, in order to compare the effectiveness of cooperative and traditional methodologies.

The control group followed a traditional, classroom-based approach structured around lectures given by the teacher. Each two-hour session focused on

sequentially and systematically transmitting subject content without collaborative dynamics or laboratory activities. According to a transmissive teaching model widely described in the literature (Biggs & Tang, 2011), the students mainly listened and passively assimilated information, with little opportunity for questions or clarifications.

The proposed activities included:

- Theoretical lessons supported by PowerPoint presentations and printed teaching materials aimed at acquiring basic disciplinary knowledge. These lessons are in line with didactic approaches that favour linearity of content (Kirschner, Sweller & Clark, 2006).
- Guided individual study with assigned chapters of textbooks or scientific articles for further study at home and brief in-class discussion solely to verify comprehension. This is in line with traditional models focused on individual learning and cognitive assimilation (Entwistle & Peterson, 2004).
- Individual written exercises (multiple-choice and open-ended questions), which assess memorisation of concepts and ability to reproduce ideas accurately. This is a practice that has been established in traditional university courses (Brown, Roediger & McDaniel, 2014).
- Short summaries led by the teacher aimed to consolidate key concepts without involving students in cooperative or reflective activities. This reflects the logic of the teacher as the main source of knowledge (Laurillard, 2013).

Learning assessment was carried out through standardised written tests, consistent with standard curricular methods. These tests focused on theoretical knowledge and the accuracy of the answers provided. This approach aligns with that described by Ramsden (2003), who emphasises that transmissive teaching favours summative measurements over formative assessment processes.

The experimental group, on the other hand, participated in a programme based on cooperative learning methodologies comprising laboratory, collaborative and reflective activities. Students were divided into small, heterogeneous groups of 5–6 members based on diversity in terms of skills, academic performance, and learning styles. This was intended to stimulate positive interdependence and individual responsibility (Johnson, Johnson & Smith, 2014). Each group was asked to define specific roles (e.g. coordinator, spokesperson, observer, time manager and materials manager), with the aim of encouraging periodic rotation of roles to develop shared leadership and awareness of group processes.

Gillies (2016) states that each group should be asked to define specific roles, such as coordinator, spokesperson, observer, time manager and materials manager, and that these roles should be rotated periodically to develop shared leadership and greater awareness of group processes.

The proposed activities included:

- Problem-Based Learning (PBL): Students worked on simulated clinical cases of increasing complexity, requiring critical analysis, collective discussion, and collaborative research to find solutions. The work concluded with an oral presentation of the findings and an intergroup comparison, which stimulated the ability to argue and defend one's position. Numerous studies have shown that PBL promotes the development of critical and collaborative skills in healthcare students (Hmelo-Silver, 2004; Wood, 2019).
- Role-playing the doctor–patient relationship: Students took turns playing the roles of healthcare professionals and patients to simulate complex communication situations (e.g. communicating a diagnosis or managing anxiety or conflict with family members). This exercise fosters the development of empathy, communication, and emotional management skills, providing immediate observations and feedback from peers and teachers in line with research on experiential learning in clinical settings (Nestel & Tierney, 2007; Kurtz, Silverman & Draper, 2016).
- Peer tutoring and mutual feedback: In pairs or small groups, students had the opportunity to explain concepts they had learned, correct exercises, and provide constructive feedback. This activity encouraged knowledge consolidation and the development of metacognitive skills, as explaining and receiving explanations from peers requires critical reflection on one's own learning process (Topping, 2005; Falchikov, 2013).
- Narrative debriefing: At the end of simulations or more complex activities, students recounted their feelings, the difficulties they had encountered, and the strategies they had implemented in a narrative sharing phase. Inspired by medical humanities practices (Charon, 2008), this activity promoted awareness of experiential learning and critical analysis of group dynamics, valuing storytelling as a training tool (Greenhalgh & Hurwitz, 1999).
- Guided reflection sessions: each meeting concluded with a collective moment of reflection, mediated by the teacher, in which the processes of interaction, the difficulties encountered and the relational and empathic

skills that emerged were discussed. This reflective approach, in line with the theory of reflective practice (Schön, 1983; Mortari, 2015), encouraged students to connect their experiences to real-life healthcare situations and develop greater professional awareness.

In this way, the intervention integrated theory with practical, cooperative experiences aimed at developing transferable skills such as teamwork, communication, problem solving and conflict management, which are closely linked to the future professional context. Unlike the control group, which focused on individual and transmissive learning, the sample group experienced an inclusive and participatory context. Here, the shared construction of knowledge and attention to interpersonal relationships were at the heart of the training process. This approach is in line with the latest evidence on the effectiveness of cooperative methodologies in healthcare training (Fernández-Rio et al., 2017).

2. Quantitative data analysis

A comparative analysis of the control and experimental groups revealed significant differences in all investigated areas, clearly confirming the positive impact of cooperative learning methodologies compared to traditional classroom teaching.

Regarding the Jefferson Scale of Empathy (JSE), students in the experimental group achieved an average increase of over ten points compared to the pre-test. There were significant improvements in both the cognitive dimension, relating to understanding patients' perspectives and needs, and the affective dimension, relating to sensitivity to others' emotional experiences. This increase demonstrates that, through activities such as role-playing and narrative debriefing, cooperative learning provides an authentic context in which students can practise and internalise empathetic attitudes. In contrast, the control group showed minimal and statistically insignificant changes. This confirms that, although transmissive teaching is solid in terms of content, it is insufficient to stimulate the development of socio-relational and empathic skills (Hojat, 2016; Quince et al., 2016).

Similar results were found using the Group Environment Questionnaire (GEQ): the experimental group showed clear increases in scores relating to social cohesion (i.e. sense of belonging and quality of bond between members) and operational cohesion (i.e. ability to work together towards shared goals). Significant improvements were also observed in the dimensions of collaboration and mutual

support, indicating that cooperative activities fostered the development of trust and collective responsibility dynamics.

By contrast, scores in the control group remained virtually unchanged, with a slight decline in some sub-dimensions such as sense of belonging. This was probably influenced by the absence of structured opportunities for interaction and the predominance of individual learning. These findings corroborate the literature's emphasis on the capacity of cooperative methodologies to enhance group dynamics and foster collaborative skills, which are crucial in healthcare settings (Carron, Eys & Burke, 2007; Gillies, 2016).

The Classroom Environment Scale (CES) also revealed significant disparities: students in the experimental group exhibited more positive perceptions of the classroom environment, achieving higher scores in the areas of active engagement, supportive relationships, and open participation. The differences compared to the control group in these areas were marked, confirming that structuring cooperative activities promotes an inclusive and stimulating environment. In contrast, students in the control group described a more rigid and transmissive context where opportunities for interaction and personal expression were limited. These results are consistent with Fraser's (2012) studies, which emphasised the pivotal role of classroom climate in fostering motivation and engagement among university students.

Overall, the comparison between the two groups paints a clear picture.

The experimental group benefited from a training programme that promoted the acquisition of disciplinary knowledge and the development of transversal skills such as empathy, collaboration, and teamwork, all of which are indispensable in clinical practice.

While the control group demonstrated a good level of theoretical acquisition, they did not show significant progress in terms of socio-relational skills. This confirms the limitations of a teaching approach that focuses exclusively on transmitting content.

This evidence supports the idea that integrating cooperative learning into healthcare curricula is an effective way to improve disciplinary learning and develop interpersonal, communication and empathy skills. These skills are fundamental to contemporary medical professionalism (Johnson, Johnson & Smith, 2014; Mendo-Lázaro, 2021). From this perspective, quantitative data support the idea that cooperation-centred training can transform the academic path into a more

inclusive and participatory experience that better reflects the realities of clinical work.

3. Qualitative Data Analysis

A thematic analysis of the interviews, coded using NVivo, revealed four main areas: climate and peer dynamics; communication and empathy skills; agency and engagement; and transferability to the clinical context. This allowed a cross-comparison of the perceptions of learners and teachers in the two groups.

With regard to climate and peer dynamics, students in the experimental group described an environment characterised by greater psychological safety, in which each participant felt free to express their opinions and take responsibility without fear of judgement. Role rotation within the groups and the systematic use of peer feedback strengthened awareness of group processes, stimulated shared responsibility and promoted cohesion and a sense of belonging. In contrast, students in the control group reported a more formal, competitive context focused on individual performance. While this was useful for covering theoretical content, it was not very stimulating in terms of relationships.

Regarding communication and empathy skills, participants in the experimental group directly linked role-play, problem-based learning, and narrative debriefing activities to a significant increase in perspective-taking and emotional regulation skills in their relationships with patients. Many students emphasised that putting themselves in the other person's shoes through simulations and narratives was a transformative experience. Students in the control group, on the other hand, reported treating empathy mainly as a theoretical concept learned through lectures and textbooks rather than as a practical relational skill. This made it difficult for them to internalise empathy (cf. Kurtz, Silverman & Draper, 2016; Charon, 2008).

In terms of agency and engagement, students in the experimental group reported greater communicative self-efficacy, more active participation, and a stronger sense of involvement in activities. Some students noted that being listened to and recognised by their peers and teacher increased their intrinsic motivation to study. However, a minority highlighted critical issues related to the additional workload and asymmetries in group contribution, which could result in some students being less participatory. As suggested by the literature (Johnson, Johnson & Smith, 2014), these difficulties can be mitigated through clear role definitions and fair, transparent assessment tools. In the control group, on the other hand, involvement

was limited: most students perceived themselves as playing a passive role, attending lectures and studying independently with few opportunities for meaningful interaction.

Regarding transferability to the clinical context, students in the experimental group stated that they could recognise elements typical of real ward situations in the simulations. They therefore felt more prepared to work in multidisciplinary teams in future. By contrast, students in the control group demonstrated a good grasp of the subject matter, but were less prepared to handle the relational and communicative complexities of the clinical context.

Interviews with teachers confirmed and expanded on the trends already evident in the student reports, revealing two distinct pictures. Teachers who worked with the experimental group noted a high level of participation and greater active involvement than is typical for traditional courses. They noted in particular that students asked more questions, engaged in open discussion with their peers, and developed stronger critical thinking skills thanks to continuous interaction and assuming different roles. The cooperative methodology enabled teachers to observe learning processes more clearly in action: conceptual misconceptions emerged more easily during discussions and could be corrected promptly, preventing them from becoming entrenched. There was also a gradual increase in student reflectiveness. In debriefing and guided reflection sessions, students demonstrated their ability to connect theory with clinical practice, developing awareness of their strengths and areas for improvement (Schön, 1983; Mortari, 2015). However, teachers also highlighted some critical issues. Managing group dynamics required greater organisational commitment and more time, both during the planning of activities and for the constant monitoring of cooperative processes. Some teachers acknowledged that they had to change their teaching style, moving from being "transmitters" to being facilitators and mediators. They perceived this as professionally stimulating, but also more burdensome.

On the other hand, the teachers in the control group pointed out that traditional teaching methods were more efficient for covering content and easier to manage logistically in the classroom. Lectures enabled them to follow a planned, linear path, thereby minimising unexpected variables. However, these teachers also expressed concern about students' passivity, as they were often limited to a listening role with few opportunities to develop critical or relational skills. Some acknowledged that, while this approach ensured solid factual learning, it made it difficult to assess the development of fundamental soft skills such as empathy, communication, negotiation and teamwork. Several teachers also observed that motivation in the

control group appeared to be more extrinsic (focused on passing the exam) than intrinsic (related to personal and professional growth), with less emotional engagement in the learning process.

Overall, the teachers' perceptions in both groups paint a clear picture: traditional teaching methods guarantee greater simplicity in management and the orderly transmission of content, but struggle to develop cross-curricular skills and genuine motivation. The cooperative methodology, although more challenging to design and manage, offers a more comprehensive educational experience capable of enhancing participation, reflection, and the development of relational and empathic skills, which are increasingly central to contemporary medical and healthcare training.

4. Discussion

The results of the study confirm the effectiveness of cooperative learning as a teaching methodology that influences not only subject-specific learning, but also fundamental, cross-cutting aspects of medical and healthcare training such as empathy, group dynamics, and communication skills. Quantitative analysis revealed significant differences between the experimental and control groups across all dimensions investigated, with notable increases in empathy (JSE), group cohesion (GEQ), and perceived positive classroom climate (CES). These results align with international evidence associating collaborative methodologies with the enhancement of socio-relational competencies, deemed vital for navigating the challenges of clinical practice and multidisciplinary teamwork (Hojat, 2016; Gillies, 2016; Fraser, 2012).

Qualitative analysis further enriched the picture, showing that students and teachers in the experimental group perceived the cooperative experience as more motivating, inclusive and transformative than the transmissive model. Role-playing and narrative debriefing activities in particular proved to be crucial tools for fostering students' ability to take on different perspectives, regulate their emotions, and recognise elements in the simulations that could be transferred to the clinical context (Charon, 2008; Mortari, 2015). These results confirm the hypothesis that active, participatory teaching experiences based on shared knowledge construction represent fertile ground for developing empathic and communicative skills, which are difficult to achieve through purely transmissive approaches.

An important aspect is the integration of medical humanities into cooperative practice. The narrative, reflective and dialogical dimensions have proved to be fundamental catalysts for transforming learning into a process that builds identity and career as well as cognition. This suggests that the effectiveness of cooperative learning lies not only in the organisational dimension of teaching, but also in its ability to intertwine with approaches that promote self-care, awareness, and ethical responsibility — values central to medical pedagogy (Mortari, 2015).

However, the study also highlighted some critical issues. Group management requires time, resources and specific skills on the part of teachers, who must adopt the roles of facilitator and mediator rather than simply transmitting content (Schön, 1983). This transformation of the teaching role has been highlighted previously in literature on active methodologies and requires academic staff to receive dedicated pedagogical training and institutional support to reduce the risk of 'overload' when designing and conducting activities. Additionally, some students in the experimental group reported imbalances in participation among group members, raising concerns about uneven workload distribution. These issues, which are already documented in the literature, can be mitigated through clear role assignment, the rotation of responsibilities and transparent, shared assessment tools (Johnson, Johnson & Smith, 2014; Slavin, 2014).

While there was efficiency in the transmission of theoretical content and greater linearity in the training programme in the control group, there was also widespread passivity among students and limited opportunities to practise interpersonal and empathic skills. This finding is consistent with Ramsden's (2003) observations that, while traditional classroom teaching is effective in ensuring content coverage, it tends to favour rote learning at the expense of critical reflection and transformative learning.

Another issue that arose concerns the transferability of acquired skills: students emphasised how cooperative learning experiences fostered a perception of continuity between the educational context and clinical practice, preparing them more realistically and gradually for the complex dynamics of teamwork. From a lifelong learning perspective, this aspect is particularly relevant, as it emphasises that cooperative learning develops skills that can be used in future professional contexts, not just those specific to the university course.

Overall, the data converge in indicating that cooperative learning not only supports cognitive learning but also acts as a catalyst for the development of complex professional skills, now recognised as essential in clinical practice and in the care

relationship (Johnson, Johnson & Smith, 2014; Mendo-Lázaro, 2021). The results also suggest that a training approach that integrates collaborative methodologies with reflective and narrative practices can help bridge the gap between technical-scientific knowledge and relational skills, thus responding to the needs of a person-oriented medical pedagogy and the centrality of care (Mortari, 2015).

From an applied perspective, this implies the need for a systemic review of university curricula in the medical-health field, overcoming the fragmentation of active teaching interventions and ensuring methodological consistency and continuity throughout the entire training programme. Only in this way will it be possible to train professionals who, in addition to possessing a solid scientific foundation, are capable of addressing the ethical, relational and communicative challenges of contemporary medicine.

Conclusion

This study has demonstrated that integrating cooperative learning into healthcare curricula provides a valuable opportunity to develop well-rounded professionals capable of combining technical and scientific expertise with strong interpersonal skills. Unlike traditional teaching, which focuses mainly on transmitting content to students, the cooperative approach has proven capable of generating an inclusive, stimulating and reflective environment. In this environment, students are able to experiment with concrete forms of collaboration, develop empathy, and strengthen their communication and interpersonal skills. As emphasised in existing literature, these competencies are essential for navigating the complexities of clinical settings and collaborating within multidisciplinary teams, where the capacity to engage with colleagues and patients is integral to professionalism (Hojat, 2016; Gillies, 2016).

The results confirm that methodologies based on positive interdependence, shared problem-solving, and narrative reflection promote transformative learning. This type of learning goes beyond the simple acquisition of content and is oriented towards the personal and professional maturation of students (Johnson, Johnson & Smith, 2014; Charon, 2008). Furthermore, experience has shown that practices such as role-playing and narrative debriefing contribute to the development of perspective-taking and emotional regulation — skills that are difficult to practise in transmissive contexts, yet which are essential in the care relationship (Mortari, 2015).

Although it is more challenging to design and manage, cooperative learning appears to be a pedagogical tool that can effectively respond to the challenges of contemporary medical pedagogy. This invites us to consider healthcare training as not only the acquisition of knowledge, but also as a process of integral growth. This process aims to train reflective, ethically responsible professionals who can place the individual at the centre (Bruni, 2015; Mortari, 2015). While the critical issues encountered are mainly related to group management and the organisational burden on teachers, they do not diminish the method's value. Rather, they suggest the need for institutional support, operational guidelines, and specific training courses for teachers to ensure effective and sustainable implementation.

In light of these results, we propose promoting the wider dissemination of cooperative methodologies in university training courses in the medical and health fields, integrating them with the reflective and narrative practices typical of medical humanities. This would enable the training of professionals who are technically competent as well as empathetic and aware, and who can build authentic and responsible relationships with patients and colleagues. This would contribute to training that reflects the principles of holistic care and ethical responsibility in clinical practice (Charon, 2008).

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