

Active Teaching-Learning Methodologies in Health Education: Theoretical Foundations and Applicability

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Abstract: *The history of education, from its conception in Ancient Greece to the twentieth century, reflects the evolution towards a model that emphasizes student autonomy and the critical problematization of educational reality. The adoption of active methodologies in higher education in health responds to the need to integrate theory and practice in an ethical and reflective way, preparing competent and independent professionals. In this way, meaningful learning is facilitated and a collaborative and emancipatory approach is promoted, which is essential to face complex health challenges in an integrated and humanized manner. The main objective of this study was to analyze the theoretical foundations and applicability of active teaching-learning methodologies in health education, aiming to understand their impacts on the development of skills of these professionals. The following research question was elaborated: What are the foundations of active teaching-learning methodologies in health education and how are these methodologies applied in educational practice, aiming at the development of skills for professionals in the area? To answer this question, we examined studies indexed in the Scientific Electronic Library Online (SciELO), Latin American and Caribbean Health Sciences Literature (LILACS) and Nursing Database (BDENF) databases, focusing on articles published in the last 10 years. The search was carried out using the keywords "Active methodologies", "Teaching-learning" and "Health education". Active teaching-learning methodologies in health education promote active participation, theory-practice integration, critical reflection, personalization of teaching and collaboration among students, resulting in the training of competent, ethical professionals prepared to face the challenges of clinical practice in a humanized and empathetic way.*

Key Word: *Active Methodologies; Teaching-Learning; Health.*

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I. Introduction

The conception of an institution for the dissemination of knowledge by scholars emerged between 384 and 383 B.C. In Brazil, teaching began with the Jesuits under the influence of the Catholic religion, similarly to many other countries. The first public schools appeared between 1759 and 1827, influenced by the Enlightenment and enlightened despotism. In the twentieth century, education was shaped by several thinkers and scholars who directed teaching to student autonomy. In the 1970s and 1980s, critical pedagogy gained

strength, arguing that the school should be a space to problematize reality. This vision of expanding the student's autonomy contributed to the emergence of active methodologies, which aim to train independent, critical professionals and opinion makers¹.

To achieve training aimed at developing skills, knowledge must be contextualized, which implies the use of active methodologies. These methodologies aim to integrate theoretical and practical knowledge into a dimensional unit applied to critical, reflective and ethical knowledge, transcending the theoretical assumptions offered by the teaching components in their curricular context. The active approach promotes more meaningful learning that is aligned with professional reality, encouraging the practical application of acquired knowledge and the development of skills necessary for ethical and competent practice².

The use of this type of methodology in the training of health professionals at a higher-level stem from the need for an education that values active and collaborative participation, promoting a recreation of knowledge with bold and innovative reaches. For this to be effective, it is essential that educators and learners engage in a profound review of their traditional conceptions, adopting an emancipatory praxis, enabling them to face the complex challenges of health with an integrated and humanized vision³.

The main objective of this study was to analyze the theoretical foundations and applicability of active teaching-learning methodologies in health education, aiming to understand their impacts on the development of skills of these professionals. The specific objectives are: (1) To identify the fundamentals that support active teaching-learning methodologies in health education; (2) Evaluate the impacts of active methodologies on the training of health professionals; and (3) To investigate the application of active methodologies in health education, evaluating how these theories support the development of skills in health professionals.

This work is justified by the role of active methodologies as innovative pedagogical tools in health education. In an educational scenario that increasingly seeks to prepare professionals capable of facing complex and constantly evolving challenges, active methodologies emerge as an alternative to promote meaningful learning and skills development, being able to encourage the active participation of students in the educational process and facilitate the integration of theoretical knowledge with practices. preparing future professionals for the demands of the job market and for a qualified exercise of the profession in the health area.

II. Material and Methods

The methodology adopted in this study consists of an integrative literature review, which can be characterized as a research method used in Evidence-Based Practice (EBP). For the authors, the integrative review requires the formulation of the research problem, followed by a careful and critical search of the existing literature. The evaluation of the included studies and the analysis and synthesis of the data obtained are subsequent steps in this process. In this way, there is a systematic and orderly compilation of scientific evidence on a specific topic and the generation of new perceptions and knowledge, contributing to practice and scientific development in the field of health⁴.

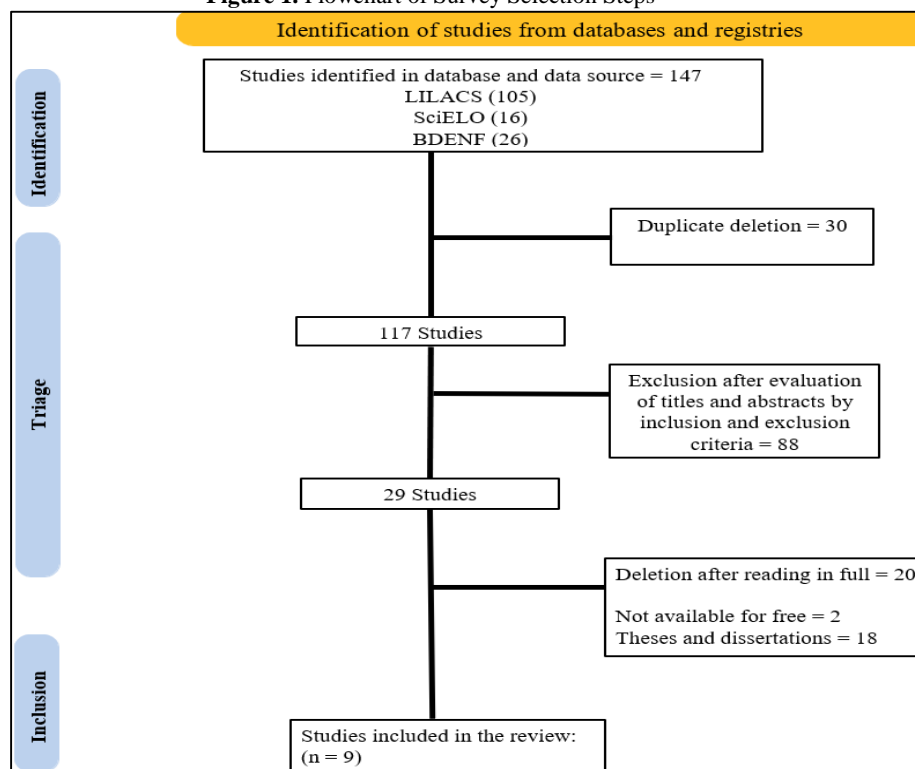
The following research question was elaborated: What are the foundations of active teaching-learning methodologies in health education and how are these methodologies applied in educational practice, aiming at the development of skills for professionals in the area?

To answer this question, we examined studies indexed in the Scientific Electronic Library Online (SciELO), Latin American and Caribbean Health Sciences Literature (LILACS) and Nursing Database (BDENF) databases, focusing on articles published in the last 10 years. The search was carried out using the keywords "Active methodologies", "Teaching-learning" and "Health education". The inclusion criteria adopted were: articles pertinent to the research theme and available free of charge in their full version. Exclusion criteria were: theses and dissertations, duplicate papers, incomplete articles, studies published outside the specified period, articles without free access, and studies that did not contribute to answering the research question.

III. Result

A total of 147 studies were identified in the Scielo, LILACS and BDENF databases. Of these, 9 were selected after a thorough check of the texts. The exclusion criteria resulted in 138 articles being discarded, mainly because they were not directly related to the research topic, were repeated studies, theses and dissertations, or were not freely available. The process of searching and selecting the studies in this review is presented in the flowchart (Figure 1).

Figure 1. Flowchart of Survey Selection Steps



Source: prepared by the authors, 2024.

The included studies were published between 2014 and 2022. Table 1 sets out the results.

Table 1. Summary of the studies selected in the sample

Study	Author (Year)	Title	Methodology	Results	Database
E1 ³	Simon <i>et al.</i> (2014)	Metodologias ativas de ensino-aprendizagem e educação popular: encontros e desencontros no contexto da formação dos profissionais de saúde	Integrative Review	Popular education has the potential to be a significant element in the analysis of active methodologies, contributing to strengthen their application in educational processes that promote liberation, especially in health courses.	SciELO
E2 ²	Antunes Ferraz <i>et al.</i> (2021)	Metodologias ativas no ensino da bioética nos cursos de graduação em saúde	Integrative Review	Most of the participants agreed with the need to develop the teaching of bioethics in a dynamic way, actively involving all agents in training. In addition, for most of them, the discussion of concrete cases was identified as a facilitating strategy for future professional performance. It is concluded, therefore, that there is an evident need to strengthen the teaching of bioethics and to adopt active methodologies, aiming to stimulate in academics the capacity for critical and reflective analysis.	SciELO
E3 ⁵	Alves; Teo (2020)	O ativo das metodologias ativas: contribuições da teoria histórico-cultural para os processos de ensinar e aprender na educação superior	Integrative Review	They suggest ways of conceiving, structuring and presenting educational activities in higher education, considering the active as a cognitive process that occurs when understanding and incorporating expressions of humanity and when developing identification processes through	SciELO

				intrinsically human activities.	
E4¹	Sfredo <i>et al.</i> (2020)	Aplicabilidade das metodologias ativas no ensino em saúde à distância: uma revisão integrativa	Integrative Review	The research confirms the increased importance of technological resources in health education, enabling the identification of the most practical and feasible resources for application in the current context of Brazil. Among the Digital Information and Communication Technologies (ICTs) that facilitate the implementation of educational methodologies, digital narratives as a learning tool and virtual teaching platforms stand out.	LILACS
E5⁶	Leite <i>et al.</i> (2021)	Utilização da metodologia ativa no ensino superior da saúde: revisão integrativa	Integrative Review	The main types of active methodologies applied in the health area were identified, including those based on problematization, participatory approaches and virtual competitions, in addition to the use of simulation in health education. These methodologies are recognized as drivers of significant changes in the teaching-learning process.	LILACS
E6⁷	Ferraz <i>et al.</i> (2021)	Metodologias ativas e o ensino tecnicista na saúde: a prática docente	Integrative Review	Comparison between active methodologies and technical teaching in teaching practice in the health area. In which, it was found that the role of the teacher as a facilitator in the teaching-learning process is crucial to adapt and respond to new needs in an open and effective way.	LILACS
E7⁸	Soster <i>et al.</i> (2022)	Ensino técnico de enfermagem e as metodologias ativas de ensino-aprendizagem: uma revisão integrativa	Integrative Review	Professors and students identified that active methodologies have a positive impact on the training of nursing technicians. Despite being qualified, the teachers were insecure about the use of these methods, emphasizing the need for investment and institutional support, in addition to valuing the teaching staff, to promote this practice.	LILACS
E8⁹	Soares <i>et al.</i> (2019)	Active Methodologies In Higher Education: Opinions, Knowledge And Teaching Attitudes	Integrative Review	Active methodologies have been used in training programs for health professionals, including nursing, and have had a positive impact on improving the quality of care offered to patients.	BDENF
E9¹⁰	Cavichioli <i>et al.</i> (2021)	Continuing education and active methodologies in distance courses in nursing: integrative literature review	Integrative Review	In the aspect of opinions, it was observed that the traditional teaching model prevails, emphasizing the limitations of higher education institutions in adopting desired changes. In relation to knowledge, the teachers showed little mastery of the principles of active methodologies. Regarding attitudes, both conservative and favorable attitudes were identified, as well as recognition of the benefits observed in the application of active methodologies.	BDENF

Source: Prepared by the authors, 2024.

IV. Discussion

Active teaching-learning methodologies have gained prominence in health education, as it is an educational approach that values students' knowledge and previous experiences, promoting co-responsibility and proactivity in the construction of new knowledge. This methodology aims at learning aimed at the transformation of professional and institutional practices, encouraging the active participation and involvement of students in the educational process, with the objective of developing competencies and skills essential for professional practice in the health area¹¹.

In this sense, one of the foundations that make up this practice is the active participation of students in the learning process for the development of critical and reflective skills. Through it, it is possible for students to engage directly with the content, promoting a deeper and more meaningful understanding^{2, 3, 5-8, 10}.

Likewise, the need to align theoretical knowledge with practical application is highlighted, considering that through this connection the understanding of the content is facilitated, while preparing students to face real situations in the professional environment, strengthening their practical competence^{2, 3, 5-8, 10}.

By stimulating critical reflection among students, the ability to analyze, evaluate and continuously improve professional practice is developed. That is, critical reflection is a tool that enables the identification and correction of flaws, improvement of skills, and promotion of evidence-based practice^{2,3,5,6,10}.

It is also discussed that with this methodology, there is the personalization of teaching and the consideration of students' previous experiences. Thus, one must respect and value what the student has already experienced, using this knowledge as a starting point for new learning. This personalization of teaching facilitates the motivation and engagement of health graduates^{5,8,10}.

The importance of collaboration between students is emphasized, with emphasis on the promotion of teamwork. The practice of working in groups enables the sharing of knowledge, collaborative problem solving, and the development of interpersonal skills that are fundamental for professional performance in the health area^{3,5}.

In line with these aspects, it is observed that the Brazilian educational scenario is in a phase of significant changes, requiring adaptations and the implementation of new teaching models. Within this context, active teaching-learning methodologies emerge as effective strategies. As already mentioned, they stand out for the integration of knowledge, for stimulating the development of critical and reflective thinking, for promoting proactivity, for the interaction between students and teachers, for the connection of learning with practical reality and for the development of skills to intervene in reality. In other words, the objective is to strengthen the commitment of students in the health area to the transformation of the reality around them¹².

Active methodologies are recognized as transformative instruments in professional training, standing out for breaking with massifying processes¹³. In this context, valuing the construction of knowledge by students is mentioned as an effective strategy, because when health students are able to build their own knowledge through practical and reflective experiences, autonomy and responsibility are encouraged in the learning process, characteristics that are essential for the training of competent and critical professionals^{2, 5, 7}.

In the same way, the use of active methodologies regarding the appreciation of students' life and work experiences is discussed. It promotes an investigative, curious and reflective attitude, in addition to stimulating cooperation and solidarity, connecting learning to the context in which individuals are inserted, contributing to their human formation and performance in the world¹⁴.

In addition, the use of digital technologies is mentioned as a tool that helps to organize experiences, promote reflection and increase understanding of the student experience. In this field, it can be a powerful ally in education, facilitating the creation of more dynamic and interactive learning environments¹.

However, for this pedagogical practice to be effective, adequate training of educators is essential, thus, it is necessary to invest in continuous teacher training to maximize the benefits of active methodologies⁹.

It can be seen that the pedagogical change to active methodologies is motivated by the need to improve professional performance and improve the quality of patient care^{9,10}. Since with its application, there is the training of more competent professionals, capable of solving complex problems and making decisions. This indicates a positive impact on health education^{2,3,5-9}.

The autonomy of students provided by this type of training also has a positive effect, increasing their confidence, self-esteem and motivation. Enabling health professionals to act independently and effectively, adapting to the varied and challenging demands of the work environment⁷⁻⁹.

A resignification of professional training is highlighted, making it more centered on the patient and their social context, and this focus is fundamental to develop more empathetic health professionals, prepared to offer humanized and welcoming care¹.

In a study carried out, it was possible to verify that students from schools with curricula based on active methodologies, with a specific focus on Problem-Based Learning (PBL) exhibit more patient-centered attitudes, showing greater sensitivity and empathy compared to those from schools that use traditional teaching methods, where a more pronounced deficiency of these qualities is observed¹⁵. Such skills are seen as fundamental for

clinical practice^{2,5}. It is also noteworthy that active methodologies contribute to better retention of information and improvement of professional attitudes and skills^{8,10}.

Active methodologies, through simulations, case studies and practical activities, allow students to apply theoretical knowledge in real or simulated situations. This facilitates the understanding of concepts, prepares students to face practical challenges in the health area, and provides a dynamic and interactive learning environment, which are important aspects for the training of competent health professionals^{2, 3, 5-8}.

The literature highlights that these activities are presented as a potential in the educational process. The problematization of the reality experienced by students in care scenarios, such as urgencies and emergencies, helps in the discussion of leadership aspects, both in practical situations and in laboratory practices and skills, and in the classroom with situations of clinical cases and problems. certain situations, using participatory and explicitly problematized methodologies, thus enriching the teaching-learning process¹⁶.

These methodologies encourage students to reflect on their experiences, organize their knowledge and develop an understanding of the social and professional context in which they work, thus being able to analyze and continuously improve their practice^{1,3,9}.

In this context, a collaborative learning environment is provided, where students can develop interpersonal skills and learn to work ethically and empathetically with colleagues and patients^{5,8}. In order to implement it, in accordance with the Brazilian National Curriculum Guidelines (DCNs), for courses in the health area, it is necessary to seek an adaptation of professional training to contemporary demands.

V. Conclusion

The results show that active teaching-learning methodologies represent an effective pedagogical approach in health education, standing out for valuing students' prior knowledge and promoting their active participation in the construction of knowledge. These methodologies facilitate theory-practice integration, stimulate the development of critical and reflective skills that enhance professional practice. The emphasis on student autonomy strengthens the preparation of future professionals to face complex and dynamic challenges in the health work environment. Added to this, critical reflection emerges as a tool that enables students to continuously analyze, evaluate, and improve their practices, grounding them in evidence and adapting them to patients' needs.

It is also clear that the personalization of teaching, considering individual experiences, motivates learning and fosters an environment of collaboration and solidarity. The implementation of active methodologies in the DCNs thus becomes a necessary response to align academic training with contemporary demands, ensuring that health professionals are able to face emerging challenges with competence and ethics, promoting a more reflective, high-quality, humanized professional practice aligned with the social and health needs of the population.

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