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# LEARNING THAT INSPIRES: ACTIVE METHODOLOGIES IN ACTION

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## ABSTRACT

This study investigated how active methodologies influence student learning and engagement in the context of higher and basic education. The objective was to analyze the impacts of these methodologies on students' academic performance, motivation and autonomy. The research was conducted through a qualitative approach, with bibliographic analysis, using secondary sources such as academic articles, books and dissertations. The analysis focused on methodologies such as the flipped classroom and problem-based learning (PBL). The results indicated that the implementation of active methodologies resulted in a significant increase in student engagement, in addition to promoting greater autonomy in the learning process. The methodologies also contributed to the development of cognitive skills, such as problem-solving and critical thinking, essential aspects for both academic training and professional preparation. The survey also revealed challenges related to the infrastructure of educational institutions and the resistance of educators, highlighting the relevance of continuous teacher training for the full adoption of these practices. The final considerations suggest that active methodologies offer a pedagogical alternative, but their implementation requires a continuous effort from institutions and educators. Future research is needed to broaden the analysis of the impacts of these methodologies in different educational contexts.

**Keywords:** Active Methodologies. Higher education. Primary education. Active Learning. Commitment.

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## INTRODUCTION

The learning that inspires, through active methodologies, has been consolidated as a significant educational trend in the current context. The movement of active methodologies emerges as a response to traditional teaching approaches, proposing a dynamic, participatory and student-centered model. Instead of passive teaching, in which the student assumes the position of receiver of knowledge, active methodologies prioritize the construction of knowledge in an autonomous and interactive way, which fosters student engagement in the educational process. Such methodologies, which include practices such as problem-based learning, flipped classroom, collaborative teaching, and others, have been shown to be effective in improving academic performance, developing superior cognitive skills, and strengthening students' critical capacity.

The justification for this research lies in the need to understand in depth the impacts of active methodologies on the teaching-learning process, especially in the face of contemporary demands for innovative methodologies. The transformations in the educational environment, driven by technological innovation and the constant evolution of educational paradigms, require educators to adapt to new pedagogical practices. In this context, active methodologies stand out as a proposal for facing educational challenges, such as the lack of student motivation and resistance to passive learning. The understanding of how these methodologies influence the teaching and learning process is, therefore, of great relevance for the improvement of pedagogical practices and the construction of student-centered teaching.

The central question that guides this study is: how do active methodologies influence student learning and engagement in the context of higher and basic education? This question arises from the need to investigate how the application of active methodologies contributes to the development of students' competencies and skills, in addition to providing a collaborative and participatory learning environment. By addressing this issue, it is hoped not only to understand the benefits of active methodologies, but also the difficulties encountered by educators and the limitations of the model in different contexts.

The objective of this research is to analyze the impacts of active methodologies on academic performance and student engagement, highlighting the main advantages and challenges faced during implementation. This analysis will provide an insight into the

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effectiveness of these methodologies, considering both the educators' and students' points of view, based on recent studies and cases on the subject.

The text is structured in order to offer a detailed view of the topic addressed. Next, the theoretical framework will be presented, which underlies the active methodologies, discussing their origins, concepts and main educational theories. Then, the development topics will be explored, dealing with active methodologies in the context of higher and basic education, as well as the challenges and opportunities in their implementation. The methodology adopted in the research will be described in detail, followed by an analysis of the results and discussions about the impacts observed in pedagogical practices. Finally, the final considerations summarize the conclusions of the research, offering suggestions for the improvement of active teaching methodologies.

## THEORETICAL FRAMEWORK

The theoretical framework of this work is structured in order to provide a basis for understanding the active methodologies and implications in the teaching-learning process. Initially, the concept of active methodologies will be addressed, exploring their definitions, characteristics and their evolution over time. Then, the main educational theories that support these practices will be discussed, with an emphasis on approaches such as constructivism and sociocultural theory, which underlie the idea of active and collaborative learning. In addition, the theoretical framework will include an analysis of the different active methodologies, such as problem-based learning, flipped classroom, collaborative teaching, and others, highlighting their practical applications and the results of studies that demonstrate the effectiveness of these approaches in the educational context.

## ACTIVE METHODOLOGIES IN HIGHER EDUCATION

The application of active methodologies in higher education has gained prominence as an innovative strategy to promote dynamic and engaging learning. Active methodologies, such as the flipped classroom and problem-based learning (PBL), are adopted in higher education with the aim of transforming the student's role from passive receiver to active participant in the learning process. According to Berbel (2012, p. 30), "active methodologies, by promoting greater autonomy and protagonism of the student, contribute to the development of critical and reflective skills", fundamental for academic and professional training. This process of change in educational dynamics implies an active

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role of the student, who, by becoming responsible for his learning, develops essential skills, such as critical thinking and problem-solving skills.

The flipped classroom, for example, has proven to be an effective practice in higher education, as it allows the content to be studied autonomously by students before face-to-face classes, being discussed and deepened in the classroom, with the mediation of the teacher. Borges and Alencar (2014, p. 54) highlight that this approach "facilitates collaborative learning and promotes an enriching discussion environment, in which students can exchange ideas, resolve doubts and apply the knowledge acquired". This methodology, therefore, favors active learning, providing greater interaction between students and teachers, in addition to stimulating meaningful learning, in which the student builds knowledge in an autonomous and contextualized way.

Another active methodology used in higher education is problem-based learning (PBL), which encourages students to develop solutions to real and complex problems. Diesel, Santos Baldez and Neumann Martins (2017) state that PBL is a strategy to promote critical thinking and problem solving, as it places the student in a learning context in which he must seek answers through research and information analysis. In this model, the teacher acts as a facilitator, guiding students through the investigation process and helping to build a cooperative and problem-solving learning environment. The use of PBL in higher education, as pointed out by Moran (2015), has been shown to be relevant in areas such as health, engineering and social sciences, where teamwork and complex problem solving are fundamental skills for professional training.

In addition, Pavanelo and Lima (2017) point out that these active methodologies allow for the personalization of teaching, since students can learn at their own pace, depending on their needs and interests. This flexibility in the learning process contributes to improved academic performance and increased student engagement, who feel more motivated to actively participate in classes. In an increasingly dynamic and challenging educational context, active methodologies offer an alternative to make the teaching process relevant, collaborative, and student-centered. The authors explain that:

> The flipped classroom is characterized, according to Valente (2014), as a form of *e-learning,* in which the contents and instructions are studied online before the face-to-face class, where practical activities are carried out such as problem solving and projects, group discussion, among others (Pavanelo; Lima, 2017, p. 739).

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This approach becomes even more significant in a society where technology exerts a great influence on communication and access to information. The authors point out that: "nowadays society has a great influence of technology, becoming accustomed to high-speed data transmissions and real-time exchange of information" (Pavanelo; Lima, 2017, p. 740)

Given this reality, education also needs to keep up with these transformations to keep up-to-date. To this end, it is essential to reevaluate traditional teaching methods, as Pavanelo and Lima (2017) point out:

> When reflecting on an Education focused on technology, it becomes necessary to rethink the educational parameters, aiming at changes in the work of formulating didactic activities that can be associated with the use of computers or any other media (Pavanelo; Lima, 2017, p. 740).

The incorporation of new methodologies is not limited to the use of technology alone, but implies deeper structural changes in teaching. According to the authors:

> This process of renewal suggests a reorganization of the contents worked, a transformation of pedagogical methodologies, redefinition of teaching theories, a new role of the institution in relation to society and, therefore, a new posture of the teacher. (Pavanelo; Lima, 2017, p. 740)

In this way, it is evident that the implementation of active methodologies, such as the flipped classroom, not only modernizes teaching, but also promotes a more meaningful, interactive learning environment adapted to the demands of the twenty-first century.

Therefore, the application of active methodologies in higher education, such as the flipped classroom and problem-based learning, has shown promise for the development of essential skills in students, such as autonomy, collaboration, and problem-solving. The impact of these methodologies on higher education is significant, as they not only modify the teacher-student relationship, but also transform the way knowledge is constructed and applied in the academic context.

## ACTIVE METHODOLOGIES IN BASIC EDUCATION

The adoption of active methodologies in basic education has been increasingly discussed as a fundamental strategy to transform the school environment, with the aim of providing students with participatory and engaging learning. These methodologies, by focusing on autonomous and collaborative learning, have demonstrated positive results in

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academic performance and the development of critical skills in children and adolescents. Berbel (2012) argues that, by using active methodologies, educators can create dynamic learning environments, where students become protagonists of their own knowledge, rather than mere receivers of information. In this sense, the implementation of practices such as the flipped classroom and problem-based learning can also be an alternative for basic education, since it favors interaction, questioning, and reflection on the content studied.

In the context of basic education, the change in educational paradigms brought about by active methodologies is one of the notable aspects. Borges and Alencar (2014) highlight that active methodologies have the potential to break with the traditional teaching model, centered on the teacher and on the unidirectional transmission of knowledge, promoting teaching centered on the student and their needs. This change implies a new form of interaction within the classroom, in which the student assumes an active and collaborative role, and the teacher becomes a facilitator of the learning process. This dynamic results, in many cases, in increased motivation and interest of students, who start to get involved with the content, seeking solutions and reflecting critically on what they are learning.

Regarding the impacts on student performance, the application of active methodologies has shown positive results, as observed by Diesel, Santos Baldez and Neumann Martins (2017), who point to a significant increase in the understanding and retention of content when students actively participate in the teaching process. Problem-based learning (PBL), for example, has been shown to be a methodology for the development of cognitive skills and for the improvement of problem-solving capacity, an essential competence in the educational process. In addition, Pavenelo and Lima (2017) emphasize that, by being exposed to this type of methodology, students not only improve their academic performance, but also acquire socio-emotional skills, such as teamwork, communication, and empathy, which are fundamental for their integral education.

Therefore, the adoption of active methodologies in basic education contributes to the change of educational paradigms, promoting active, collaborative and meaningful learning. The impacts observed on student performance indicate that these methodologies not only favor academic development, but also help in the formation of critical and social skills, preparing students for the challenges of the future. The transformation of the student's roles, from spectator to protagonist, is one of the main benefits provided by active

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methodologies, which, by promoting greater interaction between students and teachers, create a learning environment.

## CHALLENGES AND OPPORTUNITIES OF ACTIVE METHODOLOGIES

The implementation of active methodologies, although a promising strategy for improving the teaching-learning process, faces several challenges, especially with regard to the adaptation of the teaching staff and the structure of educational institutions. According to Berbel (2012), one of the main challenges is related to the resistance of many educators to adopt new pedagogical approaches, which can be attributed to the lack of adequate training and insecurity regarding the effectiveness of these methodologies. Many teachers are still accustomed to the traditional teaching model, in which they play the role of knowledge transmitters, and have difficulties adapting to practices that require greater interaction with students and a facilitator and mediator. In addition, the implementation of active methodologies requires time and planning, which can be a significant obstacle, in a scenario of overload of activities and few hours of continuing education.

Another significant challenge is the infrastructure of educational institutions. Borges and Alencar (2014) highlight that the adoption of active methodologies requires an adequate technological infrastructure, which is often not available, especially in public schools or in needy regions. Resources such as digital platforms, quality internet access, and multimedia materials are essential for the application of some of these methodologies, such as the flipped classroom, which depends on the availability of online content so that students can study them before face-to-face classes. The lack of these resources can limit the effectiveness of active methodologies and create a scenario of inequality in access to learning opportunities.

However, despite the challenges, active methodologies offer numerous opportunities for pedagogical innovation, which can transform educational practice and bring significant benefits to students. Diesel, Santos Baldez and Neumann Martins (2017) state that, by promoting participatory teaching, active methodologies allow students to develop essential skills, such as problem solving, collaboration and critical thinking, skills that are increasingly required in the job market. In addition, Pavenelo and Lima (2017) highlight that the implementation of these methodologies can contribute to the personalization of teaching, since it allows students to learn at their own pace, according to their needs and interests. Problem-based learning, for example, can be applied in various areas of

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knowledge and adapted to the realities of different groups of students, allowing for contextualized and meaningful learning.

In terms of pedagogical innovation, active methodologies offer the opportunity to renew educational practices, making them aligned with the demands of contemporary society. Moran (2015) points out that, by applying active methodologies, educators can break with the traditional teaching model, creating flexible, interactive and collaborative learning environments. These methodologies also favor the use of educational technologies, which, in addition to expanding access to knowledge, also prepares students for the demands of a digitized world.

Therefore, while the implementation of active methodologies faces significant challenges, such as resistance from educators and a lack of infrastructure, it also presents several opportunities for pedagogical innovation. By overcoming these difficulties, educators can provide students with rich, meaningful learning that is aligned with the competencies required by today's society.

## METHODOLOGY

The present research is characterized as a bibliographic investigation with a qualitative approach, as it seeks to understand and analyze the theoretical contributions on active methodologies and their implications in the teaching-learning process. For this, a careful selection of secondary sources was carried out, including academic articles, books, dissertations and theses that discuss the implementation and effects of these methodologies in the educational context. This approach allows the systematization of the main concepts and theories, as well as the critical analysis of the results of studies already conducted on the subject, based on references consolidated in the literature.

The methodological choice is based on principles discussed by Narciso and Santana (2024) in *Scientific Methodologies in Education: A Critical Review and Proposal of New Paths*, which emphasize the importance of bibliographic reviews for the construction of solid theoretical references in educational research. In addition, this research dialogues with the discussions presented by Santana and Narciso (2025) in *Pillars of Educational Research: Authors and Featured Scientific Methodologies*, which highlight the relevance of the analysis of previous studies to understand emerging methodological trends in teaching. Thus, the investigation did not involve the collection of primary data, focusing exclusively

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on the review and analysis of the knowledge already produced, in order to offer a critical and grounded overview of the active methodologies and their impact on education.

For data collection, resources such as academic databases, digital libraries and scientific journals were used, in order to ensure the quality and relevance of the sources consulted. The selection of sources followed criteria of topicality, academic relevance and reliability of the authors, seeking works and studies that addressed in depth the methodologies active in higher and basic education. The technique used was the systematic review of the literature, which allowed the identification of the main academic debates on the subject, in addition to providing a critical view on the impacts of active methodologies in different educational contexts.

The following table presents a survey of the main sources consulted during the research, organized by author(s), title as published, year and type of work. This table aims to facilitate the visualization of the main references used to support the discussion on active methodologies, evidencing the diversity and depth of the studies consulted.

**Table 1:** Survey of the main bibliographic references consulted

| Author(s) | Conforming title published | Year | Type of Work |
|---|---|---|---|
| BERBEL, N. A. N. | Active methodologies and the promotion of student autonomy | 2012 | Article |
| BORGES, T. S.; ALENCAR, G. | Active methodologies in the promotion of critical student education: the use of active methodologies as a didactic resource in the critical education of higher education students | 2014 | Article |
| DIESEL, A.; SANTOS BALDEZ, A. L.; NEUMANN MARTINS, S. | The principles of active teaching methodologies: a theoretical approach | 2017 | Article |
| MORÁN, J. | Changing education with active methodologies | 2015 | Article |
| PAVANELO, E.; LIMA, R. | Flipped Classroom: the analysis of an experience in the discipline of Calculus I | 2017 | Article |

**Source:** authorship.

After inserting the table, it is possible to perceive that the selected sources include studies on active methodologies in various educational contexts. These studies were crucial for the construction of the theoretical framework of the research, offering a base of academic knowledge that supports the analyses and discussions present in the work. The diversity of the works consulted allowed a critical analysis of the impact of active

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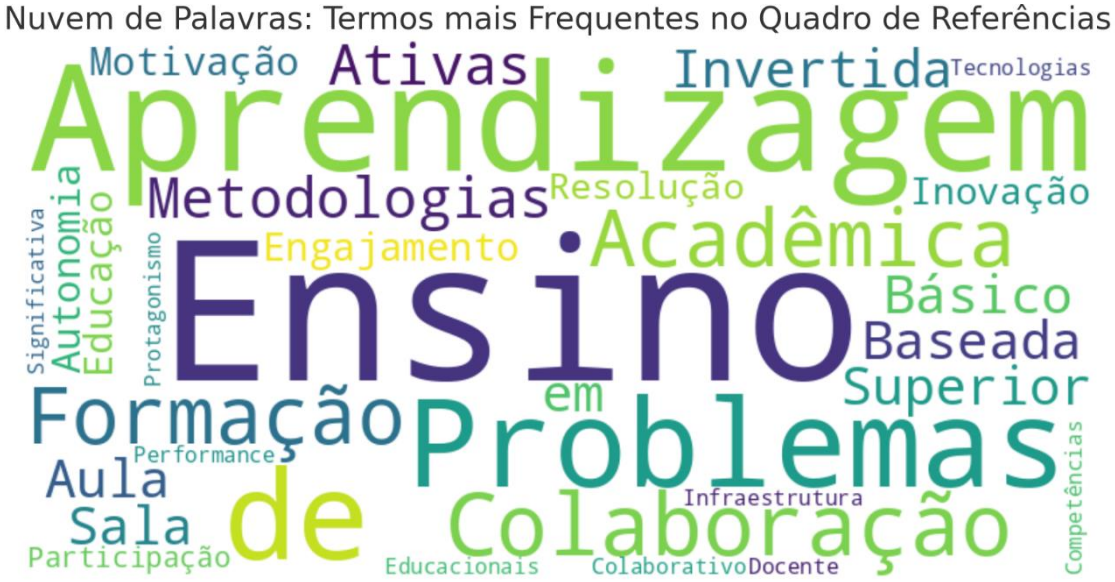
methodologies in education, contributing to a deep understanding of the benefits and challenges of this pedagogical approach.

## RESULTS AND DISCUSSION

The presented Word Cloud highlights the frequent and significant terms that have emerged from the frame of reference, reflecting the key concepts that will be explored in the following topics, outcomes and discussions. These terms, such as 'active methodologies', 'higher education', 'engagement', 'motivation', 'autonomy', and 'collaboration', are fundamental to understanding the impact of pedagogical approaches on the learning process and on the development of students. The cloud serves as a visual resource to emphasize the importance of concepts such as educational innovation, problem solving, active student participation, and the skills developed through the application of active methodologies.

**Image** - Word Cloud




**Source:** authorship.

By observing the word cloud, it is possible to notice the predominance of terms that are related to the central themes of the research, such as the transformation of the student's role and the adaptation of pedagogical practices. These concepts will be deepened throughout the text, providing a critical analysis of the benefits and challenges of active methodologies, in addition to highlighting the opportunities for innovation in the

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educational field. The word cloud visually summarizes the essence of the debates that will be developed in the next chapters.

## IMPACT OF ACTIVE METHODOLOGIES ON STUDENTS' MOTIVATION AND AUTONOMY

Active methodologies have shown a significant impact on student motivation and autonomy, being recognized for their ability to engage students in a deep and participatory way in the learning process. Berbel (2012, p. 40) points out that, by promoting a student-centered approach, these methodologies encourage the active participation of students, making them responsible for their own learning. This protagonism is one of the key factors that contributes to the increase in students' motivation, since they start to engage with the content, not only passively, but actively, applying their knowledge and reflecting on the learning process. Autonomy, in this context, is essential, as students develop skills to manage their own learning, which makes them prepared to face academic and professional challenges.

The flipped classroom, for example, has been one of the active methodologies cited in the context of higher education, precisely because it promotes this autonomy in learning. Borges and Alencar (2014) highlight that this methodology allows students to learn the concepts outside the classroom, through *online* materials, and to use face-to-face time to expand the content and discuss issues with the teacher and colleagues. This practice contributes to the student having greater control over their learning pace, which strengthens their autonomy and motivation. By choosing how and when to study, students feel in control of their learning, which makes them engaged and committed to the process.

In addition, problem-based learning (PBL) has proven to be a highly effective approach to developing student autonomy, as students are challenged to solve complex, often real, problems collaboratively. Diesel, Santos Baldez and Neumann Martins (2017) point out that, when involved in problematic situations, students need to seek solutions independently, which stimulates the development of research, critical analysis and decision-making skills. These activities favor autonomous learning, as students not only acquire knowledge, but also learn to apply it in a practical way. This, in turn, increases motivation as students realize the usefulness of what they are learning and how this knowledge can be applied in real-world contexts.

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According to Pavenelo and Lima (2017), another important aspect of active methodologies is the development of intrinsic motivation in students. The activities proposed by these methodologies encourage students to seek learning autonomously, instead of depending on the direct instruction of the teacher. This type of motivation is long-lasting and meaningful, as it is related to genuine interest in the content and the desire for personal improvement. The autonomy acquired during the active learning process contributes to students feeling confident in their ability to learn and solve problems, which also reflects on their willingness and involvement in the proposed activities.

Therefore, active methodologies have a positive impact on students' motivation and autonomy, by encouraging protagonism in learning and providing opportunities for students to develop essential skills for academic and professional life. The autonomy acquired through these methodologies, combined with the increase in intrinsic motivation, contributes to a meaningful educational experience.

## RESULTS OF THE IMPLEMENTATION OF ACTIVE METHODOLOGIES

The implementation of active methodologies has generated positive results, as evidenced in several case studies, which point to improvements in students' academic performance and engagement in the proposed activities. Berbel (2012) highlights that, when applied in different educational contexts, active methodologies promote meaningful and lasting learning, unlike traditional methods, which focus on the unidirectional transmission of knowledge. The results of comparative studies between active and traditional methodologies show that students who participate in active approaches, such as the flipped classroom and problem-based learning, demonstrate greater understanding of concepts, better content retention, and greater ability to apply than those who are taught through traditional methods.

In studies carried out by Borges and Alencar (2014), it was observed that the application of active methodologies in higher education resulted in greater interaction between students and the content, as well as between the students themselves and the teacher. This type of interaction was considered fundamental for increasing student engagement, as active methodologies create a dynamic and participatory environment, in contrast to the traditional model, where the student assumes a passive posture. The flipped classroom, for example, has been shown to improve student motivation by allowing them to

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study content independently and use classroom time to discuss and expand knowledge, rather than just receiving information.

In addition, problem-based learning (PBL) has also been investigated in several case studies as an active methodology for teaching complex concepts. Diesel, Santos Baldez and Neumann Martins (2017) report that students who participated in problem-based activities had a higher performance in practical problem-solving tasks, when compared to students who were taught with traditional methods. PBL favored the development of superior cognitive skills, such as critical analysis and problem-solving in a real context, competencies that are often underdeveloped in traditional education. The comparison between these methodologies revealed that, while traditional teaching focuses on memorization and the application of pre-established rules, active methodologies stimulate contextualized learning and problem solving, which favors deep and lasting learning.

Pavanelo and Lima (2017) also observe that, when comparing the results of active methodologies with traditional methods, students who participated in interactive activities demonstrated not only a greater understanding of the content, but also an improved ability to apply knowledge in new situations. According to the authors, "from the data collected, we perceive the students' anxiety about changes related to the teaching and learning process." (Pavanelo; Lima, 2017, p. 757).

In addition, the results indicate that student engagement is not limited to the acquisition of knowledge, but is also related to emotional and motivational factors. As the authors point out, "the presence of positive affectivity both in the relationships between teacher and student, as well as in the pedagogical practice assumed, favors the establishment of a positive relationship between the subject and the academic contents." (Pavanelo; Lima, 2017, p. 758).

The adoption of active methodologies, such as the Flipped Classroom, showed promise in the context analyzed. Pavanelo and Lima (2017) state that "The concept of the Flipped Classroom is an interesting alternative for the development of the discipline of Calculus." (Pavanelo; Lima, 2017, p. 758). These results suggest that active methodologies not only improve academic performance, but also prepare students to face professional challenges, by promoting practice-oriented learning and real problem solving.

Therefore, the results observed in the case studies indicate that the implementation of active methodologies provides significant benefits when compared to traditional teaching

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methods. Improving academic performance, increasing motivation, and developing essential competencies such as problem-solving and the practical application of knowledge are aspects that highlight active methodologies as an innovative pedagogical approach. These results reinforce the need for a change in educational paradigms, towards a dynamic, participatory teaching focused on the student's protagonism.

## PEDAGOGICAL AND INSTITUTIONAL CHALLENGES

The full adoption of active methodologies in the educational context faces several barriers, both in the pedagogical and institutional spheres. One of the biggest challenges is related to the infrastructure of educational institutions, which is often not adequately prepared to support the demands of these methodologies. According to Borges and Alencar (2014), the implementation of active methodologies requires adequate technological resources, such as computers, quality internet access and digital platforms that allow the sharing of content and interaction in real time. The lack of adequate infrastructure can limit the effectiveness of active methodologies, as without the necessary technological support, it becomes difficult to implement practices such as the flipped classroom or collaborative teaching, which depend on the use of digital tools.

In addition to infrastructure, another major obstacle to the adoption of active methodologies is the resistance to change on the part of educators and managers. Berbel (2012) points out that many teachers still feel insecure about changing their traditional pedagogical practices, as they are used to teaching models that prioritize the unidirectional transmission of knowledge. This resistance is fueled by the lack of continuous teacher training and the absence of institutional support for the implementation of the new approaches. Fears that active methodologies may be difficult to manage or less effective than traditional methods may result in a hesitancy to adopt them, even when these practices have proven successful in other contexts.

Teacher training, therefore, emerges as a fundamental point to overcome these barriers. Diesel, Santos Baldez and Neumann Martins (2017) state that teacher training is essential for active methodologies to be successfully applied. The change in the educator's posture, from a transmitter of knowledge to a facilitator of learning, requires a constant updating of pedagogical knowledge and the development of new skills in the use of educational technologies. Resistance to the adoption of active methodologies can be mitigated if educators receive adequate training and have the necessary institutional

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support to feel confident in the implementation of these methodologies. In addition, it is important that educational policies encourage the continuous training of teachers, promoting a learning environment in which pedagogical innovation is seen as an opportunity and not a challenge.

Therefore, the challenges for the full adoption of active methodologies involve not only issues related to infrastructure, but also the resistance of educators and the urgent need for up-to-date teacher training. Overcoming these barriers is essential to ensure that active methodologies can be implemented and that their benefits, such as increasing student motivation and promoting autonomous and meaningful learning, can be harnessed.

## FINAL CONSIDERATIONS

Active methodologies emerge as an innovative approach in the educational scenario, being applied both in higher education and in basic education, with the aim of transforming the learning dynamics and promoting student-centered teaching. The main findings of this research indicate that the adoption of these methodologies has generated significant positive impacts, especially with regard to student engagement, the development of autonomy and the improvement of cognitive skills. Methodologies such as the flipped classroom and problem-based learning have been shown to be effective in promoting active and collaborative learning, favoring a teaching environment that encourages student participation and contributes to the development of essential practical skills.

By answering the central question of the research — 'how do active methodologies influence student learning and engagement in the context of higher and basic education?' — the results indicate that these methodologies, when properly implemented, favor not only academic performance, but also students' intrinsic motivation. The active learning process, centered on problem-solving and collaborative work, proved to be an important ally for the development of students' autonomy, since it allows them to assume a leading role in their educational process. In addition, the use of active methodologies strengthened the students' ability to apply the knowledge acquired in practical and real situations, which contributes to the training of professionals prepared for the challenges of the job market.

The contributions of this study are significant, especially in the field of education, by providing an analysis of the effects of active methodologies on teaching and learning. The research offers an in-depth understanding of the benefits of this pedagogical approach,

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highlighting the transformations it can bring about in both the student's and the teacher's role. In addition, the study contributes to the debate on the barriers and challenges faced in the implementation of these methodologies, such as difficulties related to infrastructure and resistance to change on the part of educators. The survey also underlines the need for continuous training of teachers to ensure the application of active methodologies.

However, although the results obtained are promising, this study does not exhaust the discussion on active methodologies, and it is necessary to carry out other studies that can expand the analysis of the impacts of these methodologies in different educational contexts and in other areas of knowledge. The impact of active methodologies in basic education, for example, deserves a detailed investigation, considering the particularities of this level of education, such as age group differences and the various school realities. In addition, the research did not address in depth the socioeconomic variables that can influence the implementation and results of active methodologies, which would be a relevant line of research to complement the findings of this investigation.

Active methodologies present themselves as a pedagogical alternative to promote active learning and student engagement, with significant potential to transform education. However, the full implementation of these methodologies requires a continuous effort from educational institutions in terms of teacher training, infrastructure, and institutional support. Future studies should explore these dimensions comprehensively, ensuring a thorough understanding of the effects of active methodologies in the educational context.

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## REFERENCES

1. BERBEL, N. A. N. As metodologias ativas e a promoção da autonomia de estudantes. Semina: Ciências Sociais e Humanas, [S. l.], v. 32, n. 1, p. 25–40, 2012. DOI: <10.5433/1679-0383.2011v32n1p25>. Disponível em: https://ojs.uel.br/revistas/uel/index.php/seminasoc/article/view/10326. Acesso em: 6 fev. 2025.

2. BORGES, T. S.; ALENCAR, G. Metodologias ativas na promoção da formação crítica do estudante: o uso das metodologias ativas como recurso didático na formação crítica do estudante do ensino superior. Cairu em Revista, v. 3, n. 4, p. 119-143, 2014. Disponível em: https://www.academia.edu/download/47300771/08_METODOLOGIAS_ATIVAS_NA_PROMOCAO_DA_FORMACAO_CRITICA_DO_ESTUDANTE.pdf. Acesso em: 6 fev. 2025.

3. DIESEL, A.; SANTOS BALDEZ, A. L.; NEUMANN MARTINS, S. Os princípios das metodologias ativas de ensino: uma abordagem teórica. Revista Thema, Pelotas, v. 14, n. 1, p. 268–288, 2017. DOI: <10.15536/thema.14.2017.268-288.404>. Disponível em: https://periodicos.ifsul.edu.br/index.php/thema/article/view/404. Acesso em: 6 fev. 2025.

4. MORÁN, J. Mudando a educação com metodologias ativas. Coleção Mídias Contemporâneas. Convergências Midiáticas, Educação e Cidadania: Aproximações Jovens, v. 2, n. 1, p. 15-33, 2015. Disponível em: https://edisciplinas.usp.br/pluginfile.php/4941832/mod_resource/content/1/Artigo-Moran.pdf. Acesso em: 6 fev. 2025.

5. NARCISO, Rodi; SANTANA , Aline Canuto de Abreu. Metodologias Científicas na Educação: uma Revisão Crítica e Proposta de Novos Caminhos. ARACÊ , [S. l.], v. 6, n. 4, p. 19459–19475, 2024. DOI: 10.56238/arev6n4-496. Disponível em: https://periodicos.newsciencepubl.com/arace/article/view/2779. Acesso em: 12 feb. 2025.

6. PAVANELO, E.; LIMA, R. Sala de aula invertida: a análise de uma experiência na disciplina de Cálculo I. Bolema: Boletim de Educação Matemática, v. 31, n. 58, p. 739–759, ago. 2017. Disponível em: https://www.scielo.br/j/bolema/a/czkXrB369jBLfrHYGLV4sbb/#. Acesso em: 6 fev. 2025.

7. SANTANA, A. C. de A.; NARCISO, R. Pilares da pesquisa educacional: autores e metodologias científicas em destaque. Aracê, v. 7, n. 1, p. 1577-1590, 2025. DOI: <10.56238/arev7n1-095>.