

Towards Innovative Education: Challenges and Perspectives of Active Methods in Congolese Teaching

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Abstract This paper explores the challenges and perspectives of active methods in teaching, focusing on improving student learning. The main challenge lies in the effective adoption of these methods by teachers and education policymakers. Our objectives are to explore these challenges, identify barriers to their adoption, and propose strategies to overcome them. We rely on active methods such as Problem-Based Learning; Project-Based Learning; Peer Teaching; Case Method; Flipped Classroom; Guided Debates and Discussions; Role-Playing and Simulations; Brainstorming; and Learning Portfolios. Our methodology is based on documents observation, and the steps include: (i) identifying relevant documents; (ii) developing an analysis framework; (iii) comprehensive document collection; (iv) analyzing the documents to identify trends, recurring themes, and gaps. The results highlight the diversity of active pedagogical methods and underscore the specific benefits of each approach. The main challenges include student engagement, the need for preparation and assessment, and classroom management complexity. In light of the above, we suggest (a) providing institutional and professional support to help teachers effectively integrate active methods into their practice; (b) encouraging ongoing teacher training on active methods; (c) promoting future research on the impact of different methods on student learning outcomes; (d) exploring necessary adaptations of active methods to meet the specific needs of learners with disabilities.

Keywords: *active pedagogical methods, teaching, learning, challenges and perspectives, teacher trainin*

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1. Introduction

1.1. Problem Statement and Study Objective

Active Learning methods aim to contextualize knowledge in real or meaningful situations for students, thereby fostering better understanding and greater relevance of the concepts taught [1]. They seek to actively involve students in the learning process, encouraging them to participate, reflect, and interact with the learning content [2].

Active Learning Methods emphasize experiential learning, allowing students to explore, discover, and construct their own understanding of concepts through practical activities and experimentation [3]. They promote collaboration and interaction among students, fostering knowledge sharing, group problem-solving, and the development of social skills [4].

Active Learning methods encourage students to reflect on their own learning process, identify their own cognitive strategies, and develop their ability to regulate their learning autonomously [5].

The objective of this study is to examine the

characteristics, procedures, advantages, and limitations of certain active methods, in order to promote the integration of active pedagogical methods and techniques into educational practices, improve the learning experience of students, and foster their academic and personal success.

1.2. Importance of Active Learning Methods

During practical work with students in Education Sciences, we found that primary and secondary school teachers do not sufficiently master active pedagogical methods and techniques and struggle to implement them in their teaching. This is why Dreyfus & Mazouz [6] showed that teachers rarely or never use new teaching methods. Meanwhile, Bipoupout et al. [7] remind us that the trainer must resort to a wide range of techniques, each with its specific objectives.

This study highlights the importance of active pedagogical methods and techniques in the field of teaching and learning. These methods, designed to foster learner engagement and stimulate their active participation, have emerged in response to traditional teaching approaches. Renowned educators such as Célestin Freinet [8,9], John Dewey [5,6,7,8,9,10], Maria Montessori

[11,12], and many others have contributed to the development and promotion of these innovative methods, emphasizing children's spontaneous interest, their freedom to intervene, and consideration of their emotional and social needs.

The application of active methods in educational practices is of paramount importance for several reasons. First, these methods foster intrinsic motivation in learners by placing them at the heart of the learning process. By encouraging autonomy, creativity, and initiative, they help develop essential skills in students, such as problem-solving, critical thinking, and collaboration.

Furthermore, the use of active methods addresses the diverse needs of learners by providing inclusive and adaptable learning environments. These methods also promote the development of transversal skills necessary for success in everyday and professional life, such as communication, decision-making, and conflict resolution.

Moreover, the implementation of active methods aligns with a learner-centered pedagogical approach, where students are encouraged to become proactive agents in their own learning. This paradigm shift enhances student engagement and fosters meaningful and lasting learning experiences.

In this context, it is essential that teachers are trained and supported in the application of active pedagogical methods and techniques. This requires a change in mindset and practices within educational institutions, as well as an investment in the professional development of teachers.

1.3. Active Learning: A Pedagogical Approach

Active learning is a pedagogical approach that emphasizes the active engagement of learners in the learning process, as opposed to passive methods like listening to lectures. In the context of this paper, here is a precise definition: Active learning is a teaching method that directly involves learners through activities that prompt them to think about what they are doing, rather than passively absorbing information.

Key characteristics of active learning:

1. *Interaction*: Learners regularly interact with each other and with the instructor, asking questions, sharing ideas, and collaborating on projects or problems.
2. *Cognitive engagement*: Activities require critical thinking, problem-solving, and the application of knowledge to new situations.
3. *Feedback*: Learners receive immediate feedback on their performance, allowing them to adjust their understanding and approaches in real time.
4. *Responsibility*: Learners take charge of their own learning by setting goals, self-assessing their progress, and actively seeking additional resources.

Advantages of active learning:

- *Better retention*: Learners retain information better when they are actively engaged in the learning process.
- *Skill development*: Active learning helps develop essential skills such as critical thinking,

communication, and collaboration.

- *Increased motivation*: Learners are often more motivated and invested in their learning when they actively participate and see the practical relevance of the concepts studied.

Examples of active learning activities:

- ✓ *Group discussions*: Learners discuss questions or topics in small groups, sharing their perspectives and deepening their collective understanding.
- ✓ *Problem-solving*: Learners work individually or in groups to solve complex problems or case studies.
- ✓ *Simulations and role-playing*: Learners engage in simulated activities or take on specific roles to explore concepts or real-life situations.
- ✓ *Collaborative projects*: Learners collaborate on long-term projects, applying concepts learned in class to practical, concrete tasks.
- ✓ *Questioning techniques*: The instructor poses challenging questions that prompt learners to think deeply and articulate their thoughts clearly and logically.

Thus, active learning transforms the classroom into a dynamic environment where learners are active participants rather than passive recipients of information.

1.4. Conceptual and Theoretical Overview of Active Learning Methods

A pedagogical method is a set of techniques followed so that the learner acquires a body of knowledge aligned with training objectives. Thus defined, methods can be grouped into two categories: the first, teacher-centered, and the second, learner-centered. The diametrically opposed techniques corresponding to these categories are the traditional lecture and fieldwork.

Between the two extremes exists a continuum of techniques that either increase the teacher's action while reducing the learner's activity or vice versa [13]. Given that in the Competency-Based Approach, the learner is at the center of teaching-learning activities, it follows that techniques that promote learners' autonomy and activity should be prioritized. For this, the trainer must use a wide range of techniques, each with its specific objectives [7].

The teacher must first and foremost create a safe environment so that learners can express and share their personal experiences, opinions, and knowledge. At the beginning of the lesson, the teacher uses activities to establish a sense of safety and trust.

Active methods involve dynamic participation from learners, encouraging them to be active agents in their own learning. These methods promote intrinsic motivation, autonomy, and creativity, which are essential for cultivating critical and competent learners in a constantly evolving world.

The pedagogical techniques associated with active methods offer a variety of approaches to stimulate learning, whether through interactive discussions, group projects, role-playing, or problem-solving. These techniques aim to make learning more concrete, relevant, and engaging for learners, encouraging them to develop transferable skills essential in their daily lives and future careers.

The competency-based approach, which underlies many active methods, emphasizes the development of practical and transferable skills rather than just the acquisition of theoretical knowledge. This involves providing learners with opportunities to apply their knowledge in real-world contexts, solve complex problems, and collaborate with their peers.

By integrating theoretical and practical knowledge, modern education aims to create learners well-prepared to navigate a rapidly changing world. This integration helps learners understand the relevance and applicability of what they learn, aiding in the development of a holistic and deep understanding of concepts.

Overall, these key concepts underscore the necessity of adopting dynamic, learner-centered educational approaches focused on developing essential skills for personal and professional success in the modern world.

Table 1. Conceptual and theoretical overview of major Active Learning Methods

Active teaching method	Concept	Underlying Theory
1. Problem-Based Learning	Learners confront complex, real-world problems and explore solutions using prior knowledge and collaboration with peers.	Social Constructivism and Problem-Solving Theory
2. Project-Based Learning	Learners undertake complex, multidisciplinary projects, promoting practical application of knowledge and development of transversal skills.	Constructivism and Socio-Constructivism, Experiential Learning
3. Peer Teaching	Learners teach and learn from each other, promoting collaboration, feedback, and social construction of knowledge.	Social Constructivism and Cooperative Learning
4. Case Method	Learners analyze real or hypothetical situations, developing problem-solving, decision-making, and critical thinking skills.	Constructivism and Experiential Learning
5. Flipped Classroom	Learners study content at home while class time is devoted to interactive activities and problem-solving.	Active Learning and Cognitive Engagement
6. Guided Debates and Discussions	Learners participate in structured discussions, promoting critical thinking, argumentation, and perspective-taking.	Critical Thinking and Social Learning
7. Role-Playing and Simulations	Learners immerse themselves in specific roles to explore realistic situations, promoting empathy, problem-solving, and decision-making.	Experiential Learning and Simulation
8. Brainstorming	Learners generate ideas creatively and spontaneously, promoting divergent thinking and innovative idea generation.	Creativity and Problem-Solving
9. Learning Portfolio	Learners collect evidence of their learning in a portfolio, promoting metacognitive reflection and demonstration of progress.	Reflective Learning and Self-Regulation

Source: Osborn [14]; Barrows, & Tamblyn [15]; Topping [16]; Herreid [17]; Gredler [18]; Thomas [19]; Brookfield, & Preskill [20]; Boud, & Falchikov [21]; Bergmann, & Sams [22]. These active methods are supported by well-established pedagogical theories and offer varied approaches to promote active learning, critical reflection, and learner engagement in their learning process.

1.5. Literature Review

The literature review in previous discussions highlights

the evolution of educational paradigms through the contributions of progressive education. These educators challenged traditional teaching methods by emphasizing active student engagement, the freedom to explore, and the importance of individual needs in the learning process.

- Freinet [8,9] introduced revolutionary concepts such as school correspondence, school printing, and working libraries. These initiatives encouraged social participation among students and promoted a more practical approach to learning.
- Dewey [5,6,7,8,9,10] emphasized the importance of experience in learning. He believed that students learn best when engaged in concrete and meaningful activities that make sense to them.
- Montessori [11,12] developed an educational approach centered on autonomy and self-directed learning. Her educational system highlights the idea that children are naturally curious and capable of learning independently if placed in a supportive environment.

These educators laid the foundations for active methods, which involve dynamic participation of learners in their own education. Concepts such as freedom of intervention, consideration of emotional and social aspects of development, and autonomy have been highlighted as key elements of these methods.

Dreyfus and Mazouz [6] underlined the challenges faced by teachers in applying modern pedagogical methods and techniques. It was noted that many teachers struggle to master these approaches and integrate them into their educational practice. This gap can be attributed to a lack of appropriate training and institutional support.

Moreover, the competency-based approach has been highlighted as an educational philosophy that underpins active methods. This approach emphasizes the development of practical and transferable skills in learners, rather than the mere acquisition of theoretical knowledge.

Overall, the literature review underscores the growing importance of active methods in contemporary education and the challenges faced by teachers in implementing these approaches. Previous studies highlight the need for appropriate training and continuous support to help teachers effectively integrate active methods into their pedagogical practice.

Advantages and criticisms of active learning

Active learning offers numerous advantages; however, it is not without its criticisms. Concerns regarding cognitive load, preparation requirements, and variable effectiveness highlight the importance of a balanced approach in education. Explicit and direct instruction, supported by solid evidence, can complement active learning methods by providing a structured foundation and minimizing cognitive load, especially for novices and in subjects requiring strong foundational knowledge. A judicious combination of these approaches can maximize benefits for all types of learners.

Arguments in favor of explicit and direct instruction

1. **Proven effectiveness:** Direct instruction has demonstrated its effectiveness through numerous empirical studies, particularly for structured subjects like mathematics and science. Rosenshine

[23] synthesized research on effective teaching practices, highlighting the benefits of explicit instruction. Hattie and Yates [24], as well as Clark and Mayer [25], also underscored the advantages of this approach for student performance.

2. **Clarity and structure:** Explicit instruction provides a clear structure and step-by-step guidance, which is especially beneficial for students with learning difficulties or gaps in foundational knowledge. Archer and Hughes [26] presented direct teaching strategies as effective means for progressively imparting knowledge and skills. Rosenshine [24] and Hughes et al. [27] emphasized the importance of clarity and structure in teaching.
3. **Reduction of cognitive load:** By providing clear and structured instructions, direct instruction can reduce the cognitive load on students, allowing them to focus on learning fundamental concepts before moving on to more complex tasks. Clark, Kirschner, and Sweller [28] discussed the benefits of reducing cognitive load through explicit instruction. Sweller, Ayres, and Kalyuga [29], as well as Van Merriënboer and Sweller [30], explored the implications of cognitive load for instruction.
4. **Adaptability:** Explicit instruction can be easily adapted to meet the needs of diverse students and educational contexts, enabling teachers to adjust their approach based on students' skill levels and the complexity of the subject. Hattie [31] compiled extensive research on effective teaching practices, supporting the importance of direct instruction in various contexts. Good and Brophy [32] and Rosenshine and Meister [33] discussed the flexibility and adaptability of explicit instruction.

Criticisms of Active Learning

While active learning is widely supported for its benefits in engagement and critical skill development, it has also faced criticism.

1. **Variable effectiveness:** Some studies suggest that active learning may be less effective than traditional methods for certain types of learners. For instance, Kirschner, Sweller, and Clark [34] argued that novices, in particular, might need more explicit guidance as they lack the cognitive schemas necessary to fully benefit from self-directed learning. Additionally, Mayer [35] and Moreno [36] showed that without proper guidance, students might not achieve the desired learning outcomes.
2. **Cognitive load:** Critics point out that active learning approaches can impose excessive cognitive load on learners, hindering their ability to learn effectively. Sweller [37] developed cognitive load theory, suggesting that pedagogical methods should minimize unnecessary cognitive load to optimize learning. Chandler and Sweller [38] and Paas, Renkl, and Sweller [39] expanded on this theory, demonstrating how cognitive load can affect information retention and comprehension.
3. **Preparation and resources:** Active learning often requires substantial preparation from teachers and may require additional resources (time, materials, space), which might not be feasible in all

educational settings. Michael [40] highlighted the logistical and training challenges associated with implementing active learning. Bligh [41] and Prince [43] also discussed the practical obstacles and resource demands.

2. Methodology

2.1. Observation Method

For our study on the challenges and perspectives of active methods in teaching, we opted for a methodological approach based on documentary observation. This methodology allows us to deeply explore pedagogical practices and the challenges encountered in adopting active methods in different educational contexts.

The study of active methods in teaching is essential to understand how to improve student learning and promote quality education. To explore the challenges and perspectives associated with these methods, a rigorous documentary observation methodology is indispensable.

2.2. Documentary Observation Technique

The documentary observation technique used followed these steps:

1. Identification of relevant documents

The first step of our methodology involves identifying relevant documents related to teaching and active methods. These documents include textbooks, pedagogical guides, research articles, government reports, educational policies, and previous academic work on the subject.

2. Development of an analytical framework

We developed an analytical framework to guide our documentary observation. This framework includes dimensions such as the description of each method, procedures, advantages, limitations, and illustrative cases.

3. Document collection

We conducted an exhaustive collection of documents using academic databases, online libraries, educational websites, government publications, and open educational resources. We ensured a diversification of our sources to obtain a holistic perspective on the subject.

4. Document analysis

Once the documents were collected, we performed an in-depth analysis using our analytical framework. We examined each document to identify trends, recurring themes, divergent viewpoints, and gaps in existing research on active methods in teaching.

From our document analysis, we developed a comprehensive understanding of the challenges and perspectives of active methods in teaching. We identified the main obstacles to adopting active methods, as well as potential benefits and strategies to overcome these obstacles.

The results of our documentary observation will be presented clearly and structured in the following section. We will provide concrete examples drawn from the documents to illustrate our findings and recommendations, highlighting the implications for future practice and

research in the field of education.

3. Results

The documentary analysis revealed that Active Learning Methods in education offer considerable potential for improving student learning, but their effective implementation requires sustained commitment from teachers and education policymakers.

The figure describes the procedures of active pedagogical methods according to various criteria. Leading the way is Problem-Based Learning (21.21%), followed by Project-Based Learning (18.18%) and Role-Playing (15.15%). Debates and Guided Discussions, Peer Teaching, and Case Methods follow (12.12%). Flipped Learning closes the list (9.09%). Methods like Brainstorming or Portfolios do not score any points. Authentic assessment is valued, with a variety of stimulating methods for learners. The collaborative approach is common to several methods, and these results highlight the diversity of active pedagogical approaches, each bringing specific advantages to learning.

This figure outlines the implementation strategies for active pedagogical methods. Project-Based Learning and Guided Debates score the highest points (each with 27.78%), followed by Case Methods, Role-Playing, and Brainstorming (each with 22.22%). Clear guidelines and critical thinking stimulation are common to several methods. Portfolios promote autonomy. Peer collaboration fosters teamwork, while simulations encourage creativity. Flipped Learning and problem-solving methods require more support. These diverse strategies illustrate the importance of adapting to the specific needs and objectives of each active pedagogical method. This figure highlights the benefits of active pedagogical methods. Methods such as Debates, *Role-Playing*, and *Brainstorming* encourage active learner engagement and stimulate critical thinking, each scoring 4 points. Application to real-life situations is a dominant feature in most methods, with 7 occurrences (44.44%), demonstrating a pragmatic approach. *Portfolios* and *Flipped Learning* promote learner autonomy and responsibility (33.33%). The development of transversal and interpersonal skills is noted, emphasizing the importance of interactions and the holistic development of the learner.

This figure illustrates the limitations of active pedagogical methods. *Role-Playing* presents the highest number of limitations (55.56%), followed by *Peer Teaching* and *Case Methods* (44.44%). Challenges related to learner engagement are a common concern, noted in several methods. The need for preparation and evaluation is also highlighted, affecting most methods. The complexity of classroom management is particularly noted for *Role-Playing* and *Simulations*. These limitations underscore the need for planning, resources, and support to maximize the effectiveness of active methods.

4. Discussion of Results

4.1. Procedures of Active Pedagogical Methods

The analysis of the results from various active pedagogical methods according to different authors reveals a complex and diverse landscape of contemporary teaching. These methods, designed to foster learner engagement and encourage the active construction of knowledge, are widely studied and discussed in educational literature.

Problem-Based Learning (PBL) Leading with 21.21% of the results, problem-based learning is often praised for its effectiveness in engaging learners in real-life situations and solving complex problems. According to Jonassen [43], this method encourages learners to develop problem-solving, collaboration, and critical thinking skills by placing them at the center of the learning process. Indeed, by confronting learners with authentic problematic situations, PBL stimulates intrinsic motivation and fosters a deeper understanding of concepts.

Project-Based Learning (PjBL) In second place with 18.18%, project-based learning is also widely recognized for its potential to promote authentic and contextualized learning. According to Thomas [19], projects provide learners with the opportunity to develop practical skills and solve concrete problems by engaging them in meaningful and relevant activities. Furthermore, projects can foster the development of transversal skills such as communication, collaboration, and time management.

Role-Playing Games Accounting for 15.15%, role-playing games hold a significant place in active pedagogical methods by offering learners the opportunity to explore different situations and perspectives. According to Kapp [44], role-playing allows learners to immerse themselves in realistic scenarios and experiment with various roles, promoting the development of social, emotional, and cognitive skills.

Debates and Guided Discussions, Peer Teaching, and Case Methods Each representing 12.12%, these methods illustrate the importance of social interaction and collaboration in the learning process. According to Brookfield and Preskill [20], debates and guided discussions encourage learners to develop their ability to argue, defend their ideas, and challenge the perspectives of others. Similarly, peer teaching allows learners to play an active role in teaching and learning, enhancing their understanding of concepts and fostering the development of metacognitive skills.

Flipped Classroom Closing the list with 9.09%, the flipped classroom represents an innovative approach that reverses the traditional teaching model by providing learners with prior access to resources and content, allowing more time in class for interactive and collaborative activities [22]. Although this method is gaining increasing interest in the field of education, its results vary depending on the context and implementation.

Omissions and Additional Methods It is noteworthy that methods such as brainstorming or portfolio were not mentioned in the graphical results. However, this does not necessarily mean that they are less effective or less relevant in the context of active teaching. Indeed, different methods can be adapted to specific contexts and particular learning objectives, and their effectiveness can vary depending on various factors such as the target audience, field of study, and available resources.

Importance of Authentic Assessment Finally, the results highlight the importance of authentic assessment in active pedagogical methods. According to Wiggins [45], authentic assessment involves tasks and activities that reflect the real-world skills and knowledge necessary, providing a more accurate and meaningful evaluation of learners' achievements.

The results from the graph illustrate the diversity of active pedagogical approaches and underscore the importance of selecting methods suited to the specific needs and objectives of learning. The authors examined offer valuable insights into the advantages and implications of different methods while emphasizing the importance of active learner engagement in the learning process.

4.2. Implementation Strategies for Active Pedagogical Methods

The analysis of the results presented in the Figure 2 on the implementation strategies of active pedagogical methods reveals a rich and varied panorama of approaches used in contemporary teaching. These methods, designed to foster learner engagement and encourage the active construction of knowledge, are central to discussions and research in education.

Project-Based Learning and Directed Debates Project-based learning and directed debates stand out as the most utilized strategies, each with 27.78% of the results. According to Thomas [19], project-based learning provides learners with an opportunity for deep engagement in meaningful tasks, where they can practically apply their knowledge and solve real-world problems. Similarly, directed debates, as highlighted by Brookfield and Preskill [20], encourage learners to develop their argumentative skills and challenge their own ideas through structured and guided dialogue.

Case Methods, Role-Playing, and Brainstorming Case methods, role-playing, and brainstorming, each at 22.22%, represent varied approaches that promote interaction and learner engagement. Case methods allow learners to immerse themselves in complex scenarios and make informed decisions, fostering the development of critical thinking and problem-solving skills [46]. Role-playing offers learners the chance to explore different perspectives and develop their social and emotional skills [44]. Finally, brainstorming is an idea-generation technique that encourages creativity and divergent thinking by prompting learners to explore various solutions to a given problem [14].

Clear Guidelines and Critical Thinking Stimulation Clear guidelines and the stimulation of critical thinking emerge as common elements across several active pedagogical methods. According to Paul and Elder [47], critical thinking involves analyzing, evaluating, and synthesizing information and can be encouraged through precise guidelines and challenging tasks that prompt learners to reflect critically on their own thinking and that of others.

Autonomy Through Portfolios Portfolios promote autonomy by allowing learners to track their own progress and make informed decisions about their learning [48]. Portfolios provide learners with an opportunity for metacognitive reflection and demonstration of their skills and achievements, fostering greater responsibility and

engagement in the learning process.

Peer Collaboration Collaboration with peers is a crucial skill in the contemporary world, where teamwork is increasingly valued [4]. Working with peers allows learners to share ideas, solve problems together, and learn from one another, enriching their learning experience and fostering the development of interpersonal skills.

Simulations Simulations encourage creativity and experimentation by placing learners in virtual environments where they can explore various situations and scenarios [49]. Simulations provide learners with practical and immersive experiences that promote experiential learning and discovery.

Flipped Classroom and Problem-Based Learning On the other hand, flipped classroom and problem-based learning require more support for their effective implementation. The flipped classroom, while promising, necessitates careful planning and appropriate resources to ensure learner engagement and understanding [22]. Similarly, problem-based learning, although offering rich learning opportunities, may require additional support to guide learners through the problem-solving process and ensure effective feedback.

The results from the graph highlight the diversity of implementation strategies for active pedagogical methods, each bringing specific benefits to learning. The authors examined provide valuable insights into the implications and best practices associated with each method, emphasizing the importance of adapting to the specific needs and objectives of each learning context.

4.3. Advantages of Active Pedagogical Methods

The analysis of the results presented in the Figure 3 on the advantages of active pedagogical methods offers significant insights into the benefits they can bring to learners' education. These methods, designed to foster active engagement, critical thinking, and practical application of knowledge, hold a central place in discussions on contemporary educational practices. In this discussion, we will explore the graph's results by drawing on the perspectives and conclusions of various authors regarding the advantages of active pedagogical methods.

Debates, Role-Playing, and Brainstorming Debates, role-playing, and brainstorming emerge as particularly effective methods for encouraging active learner engagement and stimulating critical thinking, each scoring 4 points in the graph. According to Brookfield and Preskill [20], debates provide learners with a platform to explore different perspectives, develop argumentative skills, and learn to articulate and defend their views coherently. Similarly, role-playing allows learners to experience various roles and situations, promoting the development of empathy, communication, and problem-solving skills [44]. Brainstorming, on the other hand, encourages creativity and idea generation in groups, providing learners with a space to explore innovative solutions to complex problems [14].

Real-World Application Real-world application is a dominant characteristic of most active pedagogical methods, occurring 7 times (44.44%) in the graph. According to Thomas [19], learning based on real-world situations

enables learners to contextualize their knowledge and apply it in practical contexts, reinforcing their understanding and facilitating transfer to real-world situations.

Learner Autonomy and Responsibility Learner autonomy and responsibility are promoted by portfolios and flipped classroom, representing 33.33% of occurrences. Portfolios [50], give learners increased control over their learning by allowing them to select and present their work thoughtfully, promoting metacognitive reflection and self-assessment. Flipped classroom, on the other hand, gives learners pre-access to resources and content, enabling them to take a more active role in their learning and dedicate more time in class to interactive and collaborative activities [22].

Development of Transferable and Interpersonal Skills The development of transferable and interpersonal skills is an important aspect of active pedagogical methods,

highlighting the importance of interactions and holistic learner development. According to Johnson & Johnson (4), interactions with peers foster the development of social skills such as communication, cooperation, and conflict resolution, which are essential for success in the professional and social world.

The results from the graph highlight the multiple advantages of active pedagogical methods for learner education. The examined authors offer valuable perspectives on the benefits of each method, emphasizing the importance of fostering active engagement, critical thinking, and practical application of knowledge. Ultimately, continued research in this field is essential to inform pedagogical practices and promote stimulating and meaningful learning environments that effectively prepare learners for the challenges and opportunities of the modern world.

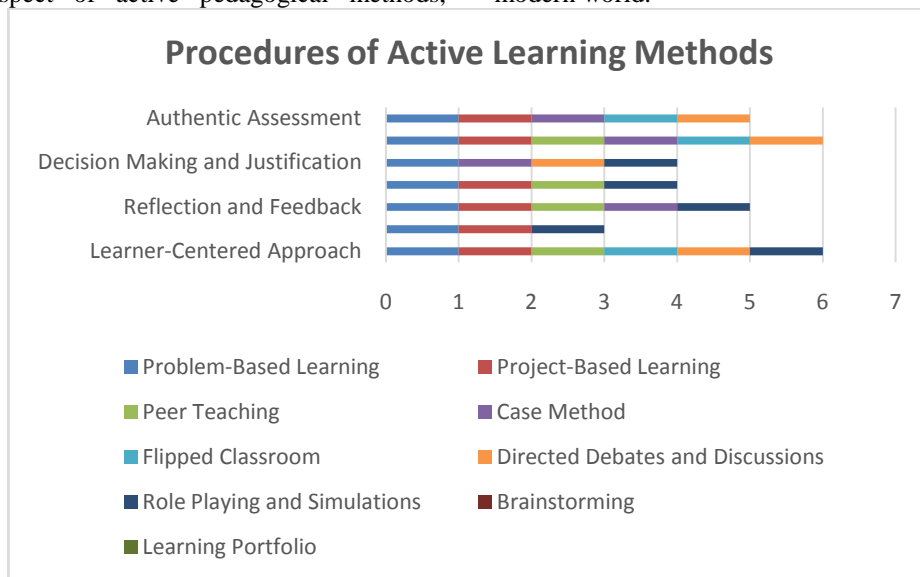


Figure 1. Procedures of Active Learning Methods

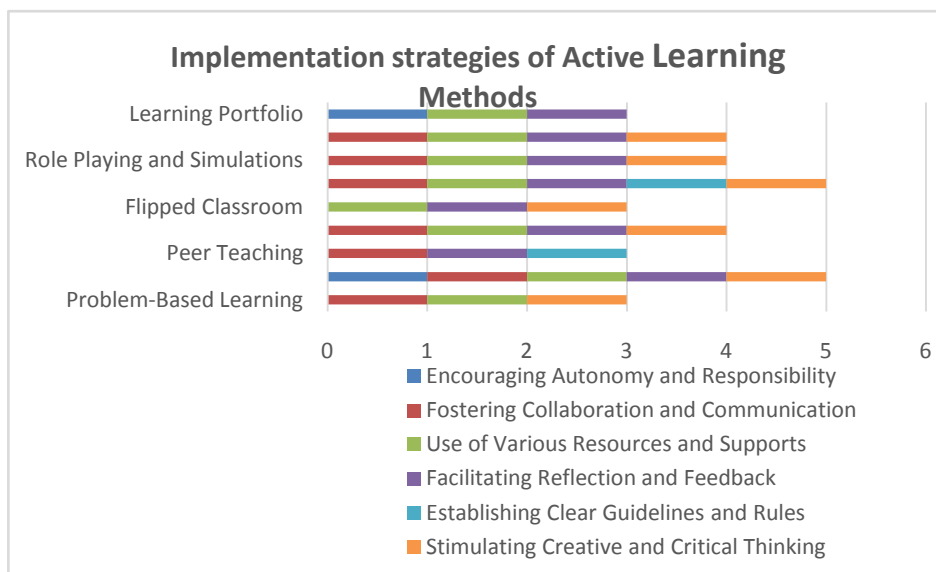


Figure 2. Implementation strategies of Active Learning Methods

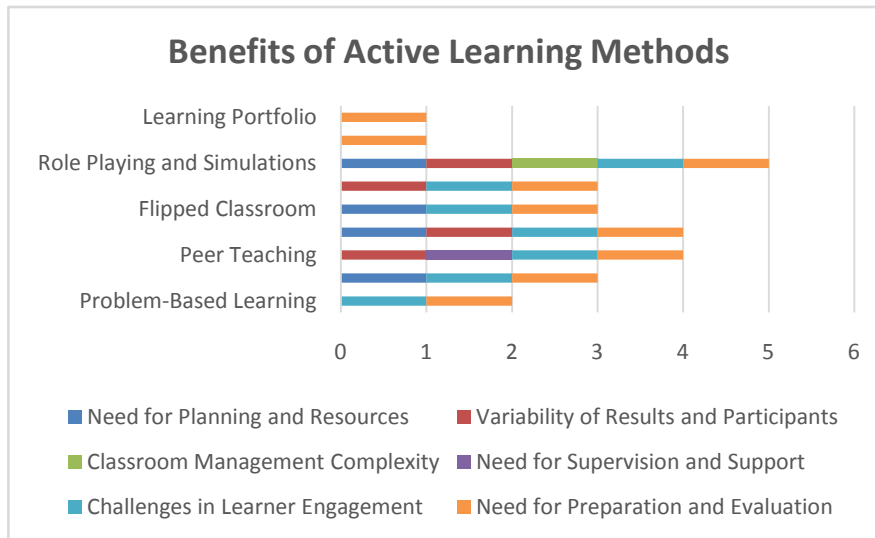


Figure 3. Benefits of Active Learning Methods

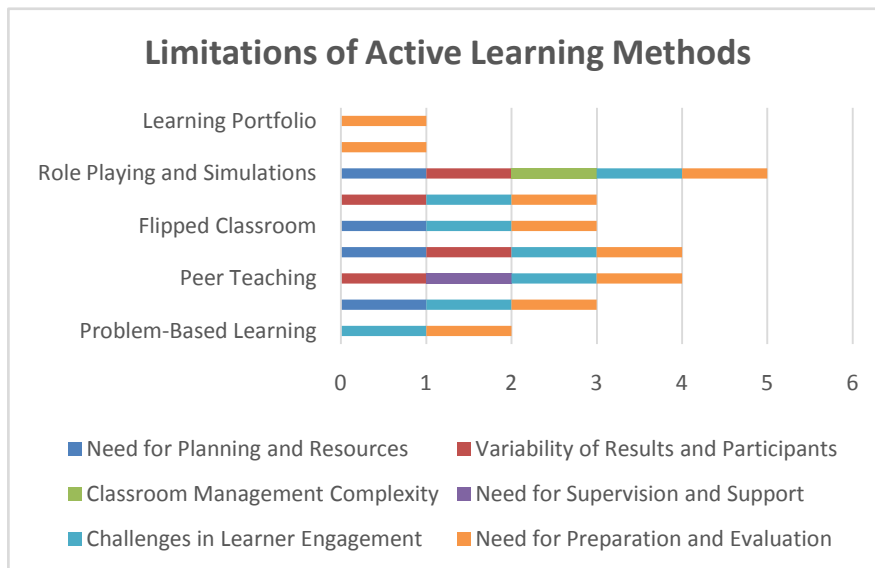


Figure 4. Limitations of active Learning methods

4.4. Limitations of Active Pedagogical Methods

The analysis of the Figure 4 on the limitations of active pedagogical methods provides a critical overview of the challenges encountered in implementing these educational approaches.

Role-Playing Role-playing stands out as the method with the highest number of limitations, accounting for 55.56%. This finding suggests that while role-playing can offer significant educational benefits, it also presents substantial challenges in terms of planning, classroom management, and supervision [44].

Peer Teaching and Case Method Peer teaching and the case method are identified as presenting significant challenges, each with a percentage of 44.44%. These methods raise questions about how to ensure effective and equitable learning when students are responsible for teaching or problem-solving [16-51].

Learner Engagement Challenges related to learner engagement emerge as a common concern across several methods. This suggests that even when active pedagogical

approaches are employed, it can be difficult to ensure active participation and involvement from learners, which compromises their effectiveness [50].

Preparation and Evaluation The necessity of preparation and evaluation is also highlighted across the methods. This underscores the time and resources required to design and implement active pedagogical activities effectively, as well as the importance of measuring the impact of these activities on learner outcomes [51].

Classroom Management Complexity The complexity of classroom management is specifically noted for role-playing and simulations. This finding highlights the practical challenges faced by teachers when integrating interactive and immersive activities into their teaching, including managing time, resources, and interactions among learners [51].

These limitations underscore the need for a thoughtful and planned approach in the implementation of active pedagogical methods. Teachers must be aware of the potential challenges associated with these approaches and be prepared to invest the necessary time and effort to overcome them.

Institutional and Professional Support Additionally, the results emphasize the importance of institutional and professional support to help teachers develop the skills needed to implement active pedagogical methods effectively. This can include professional development opportunities, appropriate teaching resources, and administrative support to create an environment conducive to pedagogical innovation.

The analysis of the limitations of active pedagogical methods highlights the practical and conceptual challenges associated with these approaches. While these methods can offer significant benefits in terms of learner engagement and skill development, their effective implementation requires careful planning, adequate resources, and professional support. By proactively recognizing and addressing these limitations, teachers can maximize the potential of active pedagogical methods to enhance learner outcomes and promote holistic development.

5. Conclusion

The discussions highlight the importance of active methods in the teaching and learning process. These methods promote learner engagement, critical thinking, and the active construction of knowledge. The exchanges emphasize the diversity of available active methods, ranging from brainstorming to project-based learning, role-playing, and cooperative learning. Each method offers specific advantages depending on learning objectives and learner preferences. Each active method has its pros and cons. For instance, brainstorming encourages creativity but may lack structure, while project-based learning promotes knowledge application but requires meticulous planning.

The discussions underscore the crucial need for ongoing teacher training in active methods. Educators must be familiar with these approaches and able to integrate them effectively into their pedagogical practices. The implications of using active methods are vast, ranging from enriching pedagogical practices to evolving learning theories. These methods also support adaptation to individual learner needs and enhance the overall effectiveness of education.

Active Learning Methods represent a dynamic and crucial area of contemporary pedagogy. Their adoption and integration into educational practices offer significant opportunities for improvement for both teachers and learners, contributing to the creation of more stimulating, inclusive, and learner-centered learning environments.

Several research avenues could enrich the field of active methods in education. It would be pertinent to further explore the impact of different methods on student learning outcomes, taking into account their individual characteristics and teaching contexts. An in-depth comparative analysis between traditional methods and active methods could also provide valuable insights into their respective effects on learner engagement and academic success.

Moreover, a thorough study on strategies for training teachers to effectively integrate active methods into their pedagogical practice could offer concrete

recommendations for improving teaching quality. It would also be interesting to explore the necessary adaptations of active methods to meet the specific needs of learners with disabilities or special educational needs.

Additionally, longitudinal research could be undertaken to track the development of skills in students trained through active pedagogical approaches throughout their educational journey and beyond. Finally, reflecting on the integration of educational technologies into active methods and their impact on learning would also deserve particular attention. By exploring these various avenues, future research could contribute to a better understanding of effective educational practices and the continuous improvement of educational systems.

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