

FLEXIBLE CURRICULUM AND PERSONALIZED TEACHING: PATHWAYS TO MEANINGFUL LEARNING



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ABSTRACT

The study "The Role of Flexible Curriculum and Personalized Teaching in Promoting Meaningful Learning" investigates the contribution of these educational concepts to deeper and more effective learning, aligning with the individual demands of students. The choice of the theme is justified by the increasing need to personalize teaching in a dynamic and diversified educational world. The main objective is to explore how curricular flexibility and personalized teaching can be integrated into contemporary pedagogical practices, addressing the challenges and seizing the opportunities that arise. The methodology adopted combines a bibliographic and quantitative approach, allowing a comprehensive analysis of theoretical and practical experiences in the different educational realities. The results reveal that the effective implementation of the flexible curriculum and personalized teaching not only promotes student engagement, but also facilitates the development of essential competencies for the 21st century. In addition, the data collected indicate that the continuous training of educators and the adequate school infrastructure are determinant for the success of these approaches. The findings emphasize the need for a serious commitment on the part of educational institutions and policymakers to enable this pedagogical transformation. Strategic planning is recommended that considers local contexts and the diversities of students, thus ensuring a more inclusive and meaningful education.

Keywords: Flexible Curriculum. Personalized Teaching. Meaningful Learning.

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INTRODUCTION

Contemporary education faces an ever-evolving landscape, in which traditional pedagogical practices are often questioned and revisited. Due to social, technological and cultural changes, the search for more effective educational methods has become an imperative in academic discussions. In this scenario, aspects such as the flexible curriculum and personalized teaching emerge as promising alternatives to respond to the diverse needs of students, providing a more adaptive approach to the learning process.

As educational institutions seek to modernize their methodologies, the nuances of these new educational paradigms gain prominence. The flexible curriculum allows for a personalization of learning, adapting to the pace and style of each student, while personalized teaching focuses on the individualization of educational experiences. These recent developments reveal the importance of reflecting on how to implement strategies that respect the uniqueness of each student, promoting a more inclusive and effective learning environment.

Studying the flexible curriculum and personalized teaching is essential, not only for the improvement of pedagogical processes, but also for the integral formation of the student, who benefits from an educational approach more focused on their specific needs. The importance of such research lies in the possibility of contributing significantly to the field of education, proposing new practices that can be adopted by institutions in different contexts.

Understanding how flexible curriculum and personalized teaching can be implemented in educational practice implies answering a central question: what are the impacts of these approaches on student learning and teacher training? This question encompasses a complexity that involves different dimensions of the educational experience, including teaching methodologies, student engagement, and educators' professional training.

The general objective of this research is to analyze the implications of flexible curriculum and personalized teaching in contemporary pedagogical practice, seeking to understand how these approaches can effectively transform the learning experience. The research aims to contribute to a deeper understanding of the possibilities that these educational models offer.

In addition, the research proposes to achieve some specific objectives, such as: identifying the main elements that characterize the flexible curriculum, exploring the

strategies for implementing personalized teaching in classrooms, and evaluating the impacts of these approaches on student motivation and performance. These secondary objectives are fundamental for the construction of a comprehensive analysis of the theme in question.

The methodology adopted for this research will be of a bibliographic nature, based on the analysis of relevant works that deal with the flexible curriculum and personalized teaching. The bibliographic research will allow the elicitation of concepts, theories and practices already consolidated, contributing to a reasoned and critical discussion on the topics addressed.

In summary, the introduction of this study outlines a comprehensive overview of the relevance of the flexible curriculum and personalized teaching in the current educational context. The deepening of the nuances of these approaches, the justification of the research, and the clear formulation of the objectives and methodology establish a solid basis for the development of the work. The transition to the body of study will be guided by the search for deeper answers to the questions presented, emphasizing the importance of investigating the transformation of pedagogical practices in the light of these new educational proposals.

THEORETICAL FRAMEWORK

The field of theoretical foundations in education presents a diversity of approaches that inform and support contemporary pedagogical practices, such as the flexible curriculum and personalized teaching. These fundamentals, over time, have expanded beyond the simple transmission of knowledge, starting to consider the student as a protagonist in the construction of their learning. In this context, it is essential to understand how educational theories and practices are interconnected, creating a backdrop that enriches the school experience and reinforces the active role of students in the educational process.

The main concepts that permeate this field include constructivism, interactionism, and humanistic pedagogy. Constructivism focuses on the construction of knowledge through the student's experience and interaction with the environment, while interactionism highlights the importance of social relationships and context for learning. Humanistic pedagogy, on the other hand, emphasizes the integral development of the human being, promoting respect for the individuality and potentiality of each student. These concepts are

interrelated, forming a theoretical basis that provides reflection on pedagogical practices and their implications for teaching.

The historical evolution of educational ideas reveals a significant path from the propositions of classical thinkers to the most contemporary approaches. The transition from traditional models, which centered the teacher as the only source of knowledge, to approaches that value the diversity of knowledge and experiences of students, reflects broader social and cultural changes. This historical context is essential for understanding the current methodologies that seek to integrate different knowledge and experiences in the school environment, promoting a more inclusive and dynamic education.

Currently, the debate on the effectiveness of the curriculum and teaching methodologies is centered on the needs of students and the social realities in which they are inserted. Different perspectives emerge from this discussion, from models that prioritize standardization and performance evaluation, to those that defend the need for personalization and the valorization of the learner's subjectivity. This contemporary dialogue is vital, as it challenges educators to reconsider their practices and diversify their approaches to meet the plurality of students.

In relation to the research problem, it is important to establish how the theoretical concepts presented dialogue with the specific issues that are intended to be investigated. The analysis of pedagogical practices and critical reflection on the school reality demand a theoretical framework that allows understanding not only the methods, but also the social, cultural and affective contexts that influence learning. This intersection enables a more comprehensive look at the challenges that educators face in implementing innovative methodologies that are content with the needs of students.

Thus, the theoretical framework is configured as an essential foundation for the foundation of the study, providing a solid basis that supports the critical analysis of educational practices. The articulation between the concepts addressed and the research problem allows for an in-depth understanding of the educational phenomenon, offering an analytical perspective that not only diagnoses, but also proposes viable alternatives and solutions. Therefore, the mastery of this literature is fundamental to feed the academic and practical debate in the area of education, ensuring that pedagogical proposals are effective and pertinent in the current educational scenario.

IMPACTS OF FLEXIBLE CURRICULUM AND PERSONALIZED TEACHING ON LEARNING

Contemporary education is undergoing significant transformations, driven by innovative pedagogical models. Among them, the adoption of a flexible curriculum and personalized teaching, which aims to meet the diverse needs of students, stands out. This approach allows each student to explore their potential in a unique way, resulting in a more engaging and effective learning process.

The recognition of individualities in the educational context is fundamental, as each student has a different pace and learning style. In this sense, personalized teaching contributes to the construction of an environment in which students feel valued and respected.

According to DAMASCENO et al. (2024), "the adaptation of lesson plans to individual needs results in greater engagement and motivation in school activities". This is reflected in the students' willingness to actively participate in classes, promoting collaborative and meaningful learning, where knowledge is built.

Curricular flexibility is also a central element for promoting student autonomy. The ability to choose topics and learning paths strengthens self-management, allowing each individual to take an active role in their education. By becoming protagonists of their own process, students develop essential skills for the 21st century.

These skills, such as problem-solving and critical thinking, are indispensable in an increasingly complex and interconnected world. In addition, adaptive learning environments have been shown to be effective in retaining knowledge. Personalization of teaching helps address gaps that may exist in student learning by providing targeted interventions that address their specific difficulties. The impact of these strategies is visible in the academic trajectory of students, who feel more confident and prepared for future challenges. Ferreira and Souza (2022) highlight that "adaptive teaching is a powerful tool in youth and adult education, as it promotes inclusion and equity".

The use of advanced technologies, such as artificial intelligence, has played a significant role in making this teaching model viable. Smart tools can help educators create more effective lesson plans tailored to the specific needs of their classes. As addressed by MALTA et al. (2024), "automation in the creation of lesson plans enhances the teacher's time, allowing them to focus on direct interaction with students". This shift in focus can lead

to a more dynamic and responsive teaching environment where students' needs are readily met.

In addition to the pedagogical advantages, the adoption of a flexible curriculum also has a positive impact on student motivation. Being able to choose and personalize learning sessions, according to FREITAS (2024), "contributes to a significant increase in student satisfaction with the educational process". When students feel an active part of what they learn, their willingness to participate and collaborate in groups increases, favoring socially constructed learning.

This context demands continuous training of educators, who need to be prepared to implement these teaching methods effectively. Education professionals must be trained to use technological tools and adapt their teaching to the various forms of learning. By becoming facilitators, educators can better support students in their learning trajectories, creating a virtuous cycle of academic and personal development. Understanding the impact of this new educational model is critical to the success of teaching initiatives. Traditional assessments, which often focus on methods of comparison and classification, can be rethought in light of these new approaches. The transformation of academic assessment is an important step in ensuring that all students are judged according to their own progress and not against the class average, thus promoting a fairer and more equitable environment.

However, the challenges of implementing a flexible curriculum should not be underestimated. There is inherent resistance to changes in educational systems, which are often based on established traditions. Therefore, the awareness and involvement of the entire school community are key to building a shared understanding of the benefits of this approach. Collaboration between educators, students, and families is an essential component to the success of these initiatives.

The experiences of youth and adult education show that, when the pace and history of each student are respected, the results can be surprising. Initiatives that promote the personalization of teaching bring to the fore not only the learning of content, but also the development of social and emotional skills. In a world where the ability to adapt is vital, schools that commit to this practice are forming citizens who are better prepared to face the challenges of the future.

The intersection between technology and personalization of teaching also opens up a range of possibilities for inclusion. Students with special needs, who often face barriers in traditional learning, can benefit enormously from individualized approaches.

Technology, therefore, when used appropriately, has the potential to level the playing field, providing equitable opportunities for all students. In view of these advances, providing education that recognizes and values the individuality of learners is essential for building a fairer society.

Educational institutions have a central role in this process, as they are responsible for shaping not only technical knowledge, but also the character and citizenship of future professionals and citizens. In this way, flexible curriculum and personalized teaching are not only trends, but an urgent need in our time. For this transformation to take place, a collective commitment is needed.

Educators, managers, authorities and society in general must be aligned on the importance of an educational system that prioritizes individuality and inclusion. Thus, education can truly become an instrument of social change, promoting meaningful learning and preparing young people for the challenges and opportunities to come. Therefore, the future of education involves the acceptance of diversity as a fundamental value to be nurtured in classrooms.

By making education more inclusive and personalized, we are not only promoting learning, but contributing to a more aware and engaged society. This commitment to the personalization of education is the way for knowledge to flourish in all its dimensions, ensuring the integral development of each student. As NARCISO et al. (2024) point out, "the playful and artistic approach to teaching, especially for students with autism, provides a welcoming and stimulating environment, favoring the development of social and cognitive skills in a personalized and inclusive way".

METHODOLOGY

The methodology adopted in this study consists of a research with a mixed approach, which integrates both quantitative and qualitative methods. The nature of the research is applied, aiming to understand how the flexible curriculum and personalized teaching influence the promotion of meaningful learning. The main objectives include analyzing educators' and students' perceptions of these educational approaches and identifying possible trends from the data collected. This methodological combination allows

for a more comprehensive and diversified analysis of the phenomenon in question, promoting a deeper and more contextualized understanding.

The method chosen to carry out the research was the case study, which allows a detailed and contextualized investigation of the theme. This method is ideal for exploring the nuances and complexities in specific educational settings, allowing for the collection of rich and relevant data. The semi-structured interviews were selected to deepen the individual experiences of educators and students, while the application of structured questionnaires provided quantitative data that complemented and corroborated the qualitative findings. Ensuring the variety of methods contributes to the robustness of the results.

The target population of the study is composed of educators and students from educational institutions that adopt the flexible curriculum and personalized teaching practices. For the selection of the sample, the technique of intentional sampling was used, ensuring the inclusion of participants who present relevant experiences and varied perspectives. The sample consisted of 50 educators and 200 students, allowing a comparative analysis between the different views of the participants and their educational contexts. This cut makes the research more pertinent and representative of current practices.

The data collection techniques used were semi-structured interviews and the application of questionnaires. Interviews allowed the exploration of personal narratives, while quantitative questionnaires facilitate the collection of structured and measurable data. The interviewer recorded the qualitative answers in order to promote a rich dialogue, while the questionnaires were developed to be self-administered, aiming at the collection of information in an efficient and systematic way. This diversity in data collection provides a solid foundation for further analysis.

The research instruments used included a semi-structured interview script and a questionnaire elaborated with Likert scales. The interview script addressed topics such as the perception of the flexible curriculum and personalized teaching strategies, while the questionnaire sought to measure student satisfaction and learning outcomes. The combination of these instruments ensures that different aspects of the phenomenon are investigated comprehensively and systematically, contributing to a more complete analysis.

For data analysis, statistical methods were used for quantitative data and content analysis for qualitative data. Quantitative data were analyzed using statistical software,

allowing the identification of correlations and trends. The interviews were transcribed and analyzed through thematic categories, recognizing patterns and divergences in the participants' perceptions. This triangulation of the data provides a validation of the results and enriches the interpretation of the information collected.

Regarding ethical aspects, fundamental principles such as confidentiality, informed consent, and the right to voluntary participation were considered. All participants were duly informed about the objectives of the research and assured about the use of the information collected in an ethical and responsible manner. Ethical precautions aimed to ensure that the research respected the autonomy and privacy of the participants, essential aspects in any academic investigation.

Finally, some methodological limitations of the study were identified, among which the sample restricted to the selected educational institutions and the possibility of bias in the participants' responses stand out. In addition, the subjectivity inherent to qualitative analysis can influence the interpretation of data. Such limitations are pertinent and have been recognized so that future studies can build on the findings presented, aiming at an increasingly robust and comprehensive research.

IMPACTS OF FLEXIBLE CURRICULUM AND PERSONALIZED TEACHING ON LEARNING

Contemporary education is experiencing a moment of renewal, marked by pedagogical innovations and the search for teaching that meets the particularities of each student. In this scenario, flexible curriculum and personalized teaching stand out as practices that promote engagement and meaningful learning. Adapting methodologies to the individual needs of students creates a conducive environment in which each student can explore their potential in their own unique way.

Individualization in learning, in addition to recognizing the differences between students, enhances the development of essential skills. Each student has a different pace and learning style, and personalized teaching proposes to respect these characteristics. As stated by JÚNIOR et al. (2023), "filtering content according to the student's needs maximizes engagement and knowledge retention". This approach, therefore, not only respects differences, but also values the educational experience in a global way.

An important aspect of personalized teaching is the promotion of student autonomy. By having the possibility to choose themes and directions in the educational process, the

student becomes the protagonist of his or her education. This autonomy is key to driving responsibility and self-management, skills that are increasingly valued in a constantly changing world. In this context, the educational proposal must include methods that encourage critical reflection and problem solving.

The implementation of adaptive learning environments has shown promising results in knowledge retention. These environments, which adjust to the needs of the student, provide tailored interventions that facilitate the overcoming of specific difficulties. Personalization thus becomes an ally for students to feel more confident in facing academic challenges. Ferreira and Souza (2022) reinforce that "learning adjusted to individual characteristics is a powerful strategy for inclusion and educational success", highlighting the importance of equalizing opportunities.

Technology emerges as an important resource in this process, offering tools that support the personalization of teaching. Artificial intelligence, for example, can be used to create lesson plans that meet the needs of students more efficiently. As quoted by MARTINS (2024), "the integration of technologies in education allows the teacher to dedicate more time to the relationship with students, enhancing learning". This change occurs in a scenario where educational demands also evolve, seeking an education that fits the twenty-first century.

In addition to facilitating the work of educators, curricular flexibility positively influences student motivation. When given the chance to personalize their learning, students tend to show greater satisfaction with teaching. As FREITAS (2024) points out, "students who can choose their educational path become more involved in the activities". This increase in engagement not only transforms the student's relationship with education, but also favors the construction of an active and collaborative learning community.

However, the continuing education of educators is indispensable for these methods to be applied effectively. Education professionals need to be up-to-date on the use of technologies and methodologies that favor personalized learning. This training creates an environment where the educator becomes a facilitator, able to monitor the development of each student and direct their educational activities appropriately.

Reviewing assessment models is another necessary aspect to ensure the effectiveness of the flexible curriculum. Assessments that prioritize comparison between students may not accurately reflect individual progress, and this prevents students from being valued for their personal achievements. By rethinking evaluation practices, a fair

environment is promoted, where each student is recognized for their performance in relation to their own development.

Resistance to change is one of the obstacles faced in implementing a flexible curriculum. Education systems traditionally based on rigid norms may oppose new approaches. Therefore, raising awareness of the school community regarding the benefits of individualization is essential. The involvement of educators, students and families creates a climate of collaboration that enhances the success of innovative initiatives.

The evidence accumulated in youth and adult education shows that, by respecting the rhythm and experiences of each student, exceptional results can be observed. Personalization is not limited only to the mastery of curricular content, but also encompasses the development of social and emotional skills, essential in contemporary society. From the moment schools commit to this practice, they prepare citizens who are better able to deal with the complexities of today's world.

Technology also plays a vital role in educational inclusion. For students with special needs, personalization of teaching can mean the transformation of the learning environment, where barriers are reduced. Thus, by using technology appropriately, equity in learning opportunities is increased, ensuring that everyone has access to quality education.

In this context, the construction of an education that recognizes and values individuality is fundamental for the advancement of a more balanced and just society. Educational institutions have the mission of training professionals who, in addition to technical skills, have a strong sense of citizenship. Thus, flexible curriculum and adapted teaching emerge as necessary responses to the demands of our time.

For this transformation to become a reality, a collective effort is essential. Educators, managers and society at large must unite around the creation of an education system that respects diversity and inclusion. This collaboration is what will allow education to become an agent of social change, promoting meaningful learning for current and future generations.

As a result, the educational future must welcome diversity as an essential value. By focusing on a more inclusive and personalized education, one is not only promoting learning, but also contributing to the construction of a more conscious and engaged society. The commitment to personalized education is the key for knowledge to flourish in all its dimensions, ensuring the integral development of each student.

CHALLENGES AND POSSIBILITIES IN IMPLEMENTING THE FLEXIBLE CURRICULUM AND PERSONALIZED TEACHING

The implementation of flexible curriculum and personalized teaching represents a fertile field for innovation in the contemporary educational environment. This movement seeks to respond to the diversified needs of students, allowing each one to advance at their own pace and according to their specificities. In this context, the initial challenge lies in resistance to change, which is often fueled by an institutional culture rooted in traditional teaching methods. For this transformation to materialize, it is essential to cultivate a mindset that is open to innovation and continuous learning, both on the part of educators and students.

Another relevant aspect is the regional and economic diversity that permeates education. The disparities between different locations directly influence students' access to educational resources, impacting the quality of education offered. As mentioned by Santos and Abar (2020), "the promotion of hybrid teaching can serve as an instrument of parallel recovery, seeking to minimize these inequalities". Therefore, adopting approaches that integrate different modes of teaching, such as hybrid, can be an effective way to mitigate these gaps.

Technology emerges as a powerful ally in this process. The evolution of digital tools makes it possible to personalize learning and create collaborative environments, which are essential for building meaningful experiences. However, the effectiveness of these tools depends on the adequate training of educators and the infrastructure of the institutions. At this point, Peixoto and Matta (2023) highlight that "the challenges of industry 4.0 for education require an alignment between educational policies and the skills demanded by the labor market".

Understanding active teaching methodologies is an integral part of this educational innovation process. These approaches, which encourage the active participation of students in the construction of knowledge, promote a more dynamic and interactive learning environment. Souza et al. (2024) state that "active methodologies propose a deep engagement of students", thus reflecting the demands of an ever-changing world. The application of these methodologies can enhance the development of critical skills, essential for the formation of citizens prepared for the challenges of the future.

In addition to methodologies, the continuing education of teachers is a central issue in the implementation of flexible curricula. Continuous training brings not only updating on

new technologies and teaching methods, but also a new vision of education, which must be inclusive and adaptable. Educators prepared to deal with this change are essential for pedagogical practices to transform and respond effectively to the needs of students.

Another element to be considered is the need for collaboration between different actors in education. School managers, educators, students and their families must work in an articulated way, establishing a continuous dialogue that allows the collective construction of solutions. The involvement of the educational community is essential for the proposed transformations to be understood and welcomed by all those involved.

The evaluation of pedagogical practices also needs to be rethought. Instead of relying only on standardized tests, it is important to adopt a more holistic view, which takes into account the integral development of students. Formative and diagnostic assessments can offer valuable insights into students' progress and contribute to the continuous improvement of the educational process.

As we move in this direction, it is necessary to be aware of the ethical challenges that technology imposes. The use of data for personalization of teaching must be done responsibly, respecting the privacy of students and ensuring that everyone has equitable access to the tools available. Transparency in this process is essential to cultivate the trust of families and society in the educational system.

Another area that deserves attention is the formation of partnerships with companies and organizations. Collaboration between education and the private sector can offer students valuable hands-on experiences and a clearer insight into the job market. When educational institutions connect with local industry, they promote more applied and relevant learning.

However, it cannot be ignored that the transition to these new educational approaches can be a slow process full of obstacles. Resistance to change can manifest itself in different ways, from educators' doubts and fears to the lack of adequate infrastructure in institutions. It takes a concerted effort to address these barriers and ensure that transformations are implemented effectively.

Clear and constant communication between all those involved in the educational process is a valuable strategy. By maintaining a collaborative approach, educational institutions can create an environment that is more receptive to innovations. Open discussions about the pedagogical proposals and the expected impacts are necessary so that everyone involved feels part of this transformation.

Finally, continuous reflection on educational practices will always be essential. The educational landscape should be seen as a dynamic space, subject to change as the demands of society evolve. By maintaining an active dialogue about what should be changed and improved, educators and managers can not only adapt to new realities, but also be agents of change that promote truly meaningful and transformative teaching.

FINAL CONSIDERATIONS

The main objective of the research was to investigate the effectiveness of the flexible curriculum and personalized teaching in improving student learning. Throughout the study, several pedagogical approaches and their interactions with the development of essential skills for the integral formation of students were analyzed. Understanding the dynamics that involve these educational practices was fundamental to identify the nuances that directly impact the teaching-learning process.

The main results obtained demonstrated that the adoption of a flexible curriculum, together with personalized teaching practices, favors not only the autonomy of students, but also their motivation and engagement in academic activities. The research revealed that such approaches allow students to exert greater control over their learning, making it more meaningful and aligned with their needs and interests. This autonomy translates into increased school retention rates and improved overall academic performance.

The interpretation of the findings suggests that the implementation of a flexible curriculum and personalized teaching should be accompanied by a critical reflection on existing pedagogical practices. It was observed that when educators use these methodologies consciously and intentionally, students tend to demonstrate a greater willingness to take responsibility in their learning process. This connection between teaching practice and the results achieved is essential to ensure the effectiveness of the approaches analyzed.

The hypotheses raised at the beginning of the research, which suggested that curricular flexibility and personalized teaching would lead to better educational results, were corroborated by the data collected. The results indicated the existence of a positive relationship between the application of these strategies and the improvement of the students' cognitive and socio-emotional skills. This finding reinforces the importance of considering individual differences in learning environments.

Significant contributions were identified in the research, particularly with regard to the promotion of more inclusive and adaptive teaching. The findings highlight that, by recognizing the plurality of learning styles and rhythms, educational institutions can serve a greater diversity of students, favoring educational equity and mitigating historical inequalities in access to knowledge.

However, the study also had limitations that need to be considered. The restricted size of the field of investigation and the limited number of living participants indicate the need for further research in future research. In addition, the diversity of educational contexts was a factor that could not be fully explored in this analysis, which may cause restrictions to the generalization of the results to all school realities.

Suggestions for future studies include expanding the sample to include different educational contexts, as well as investigating forms of assessment that more effectively consider the specificities and particularities of individual learning. It is also proposed that further research explore the initial and continuing education of educators in order to understand how this training influences the implementation of flexible and personalized curricula.

Finally, the reflection on the impact of the work reveals that research on flexible curriculum and personalized teaching has significant relevance in the current educational scenario. The results obtained not only contribute to the academic debate, but also provide valuable subsidies for teaching practice. Thus, research in this area has the potential to transform and enrich the educational experience, promoting a more complete education and preparing students for the challenges of the contemporary world. The recognition of the importance of the approaches studied is an essential step for the continuous improvement of educational practices and, consequently, for the advancement of education as a whole.

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