SCHOOL MANAGEMENT AND INCLUSION: BUILDING SCHOOLS FOR ALL STUDENTS

Kássia Reijane dos Santos Andrade[1], Welington José Rosa Silva[2], Francislena Falavine do Rosário Flor[3], Luciana Martins Araújo Gomes[4] and Alex Junior Grander[5]

ABSTRACT

The article looked at how school management can integrate inclusive practices, educational technologies, and neuroscientific knowledge to promote accessible and equitable educational environments. The objective was to identify strategies that enhance inclusion through the use of adaptive digital platforms and continuing education of teachers, highlighting the relevance of personalization of teaching. The study used a bibliographic research as a methodology, based on specialized literature, as described by Amaral (2007) and Macedo (1994), to understand the theoretical and practical contributions on the subject and avoid redundancies. The data were collected and critically analyzed, allowing the organization of the article into three main axes: the construction of inclusive schools, the overcoming of structural and pedagogical challenges, and the connection between management, technology and neuroscience. As a result, it was found that school inclusion depends on strategic management that integrates adaptive technologies and teacher training, combined with collaborative planning with the entire school community. Despite identifying limitations related to infrastructure and technical preparation in specific contexts, the study reinforced the importance of continuous investments in professional training and the development of accessible resources. It was concluded that the integration of neuroscientific technologies and knowledge represents a promising path to make schools more inclusive and effective, but that further research is needed to deepen the impacts of these practices in different educational realities.

[1] Specialist in Education Management
State University of Santa Cruz (UESC)
E-mail: kassia.krandrade@hotmail.com
LATTES: http://lattes.cnpq.br/6439845531709455
[2] Master's student in Educational Sciences
Inter-American Faculty of Social Sciences (FICS)
Email: welingtonjoserosa@hotmail.com
LATTES: https://lattes.cnpq.br/2826368480217139
[3] Special Education Specialist
Higher Institute of the Coast of Paraná (ISULPAR)
Email: franfalavine@gmail.com
[4] Degree in Pedagogy
State Faculty of Philosophy, Sciences and Letters of Paranaguá
Email: lucianamartins3t@gmail.com
[5] Master's student in Emerging Technologies in Education
MUST University
Email: ajgrander@gmail.com
LATTES: http://lattes.cnpq.br/1952345795186197

INTRODUCTION

Inclusive school management was widely debated as a strategic field for the construction of educational environments capable of meeting the demands of all students, regardless of their conditions or characteristics. School inclusion has become a central objective of contemporary educational policies, requiring an integrated approach that articulates technology, neuroscience and inclusive pedagogical practices. The relevance of this theme stemmed from the need to overcome structural, pedagogical and cultural barriers that still limit the equitable participation of all students in the educational process. In view of this scenario, we sought to investigate how school management can act in the promotion of inclusion, using technological and neuroscientific resources to build more accessible and welcoming schools.

The main objective of this study was to analyze school management practices that promote inclusion, identifying strategies that integrate educational technologies and neuroscientific principles in pedagogical planning. The guiding research question was: 'how can school management, through the use of technologies and neuroscience, contribute to the construction of a more inclusive and equitable educational environment?' To answer this question, a bibliographic research was carried out, as defined by Amaral (2007), as a fundamental stage of all scientific work, which influences all subsequent stages. Macedo (1994) also emphasized the importance of bibliographic research as the first step in any type of scientific investigation, aimed at reviewing the existing literature and avoiding thematic redundancies.

The methodology used was based on a survey of scientific literature, with the collection of data from academic works and articles published in specialized journals. The analysis of the information was conducted in a critical and interpretative way, seeking to identify relationships between the theoretical references consulted and the school management practices analyzed. The discussions were organized into three main parts: the first addressed the construction of inclusive schools based on management strategies that promote equity; the second discussed the challenges and solutions to overcome barriers in the implementation of inclusive practices; and the third explored the connections between technology, neuroscience, and school management, highlighting the potential of adaptive digital platforms to personalize learning.

Finally, the results were analyzed to highlight the main advances, limitations, and implications of inclusive school management strategies. The research provided theoretical

and practical subsidies that can guide managers and educators in the construction of a fairer and more accessible educational system. Therefore, the study reaffirmed the importance of integrated and strategic school management for the promotion of inclusive education, which is capable of responding to contemporary challenges with innovative and sustainable solutions.

SCHOOL MANAGEMENT AND INCLUSION

Contemporary school management faces the challenge of building truly inclusive educational environments that meet the needs of all students, regardless of their individual conditions or characteristics. According to Santana *et al*. (2024, p. 14),

> The integration of innovative technologies in school management can significantly enhance the engagement of the school community and the efficiency of administrative and pedagogical processes.

Thus, it is essential that school management develops strategies that promote not only accessibility, but also the effective participation of all those involved in the educational process. In fact, inclusion requires that the school environment be connected to the daily lives of students, as observed by Jenkins (2008, p. 23, cited in Santana *et al.,* 2021, p. 2086), who states that "being educated today in a school environment disconnected from everyday life is frustrating for any student". This implies the need for school management to create spaces that dialogue with the realities of students, using methodologies and technologies that make learning meaningful and relevant.

In this context, managers face challenges such as insufficient teacher training to deal with diversity, lack of adequate resources, and prejudice rooted in the school community. As highlighted by Weizenmann *et al.* (2020), it is essential that teachers have access to continuous training and technical support to adequately serve students with Autism Spectrum Disorder (ASD). In addition, the implementation of visual materials and structured activities has proven effective in facilitating the learning of these students.

Still, overcoming these challenges requires well-designed strategies. Continuing education for teachers is one of the main tools to ensure that inclusion is effective, providing them with the necessary technical and pedagogical skills. In addition, investment in school infrastructure, such as assistive technologies and accessible spaces, is indispensable for all students to be able to fully participate in school activities. In this

regard, Santana *et al*. (2024) emphasize that the use of innovative technologies not only contributes to inclusion, but also improves administrative and pedagogical management.

Therefore, it is up to the school manager not only to identify the needs of the school community, but also to promote a collaborative environment, where parents, teachers and other professionals work together towards inclusion. To this end, strategies such as workshops and support groups can strengthen the involvement of families and raise awareness of the importance of diversity.

Therefore, building schools for all students is a process that requires continuous commitment, strategic planning, and practical actions. The dialogue between the theoretical frameworks of Santana et al. (2024), Jenkins (2008) and Weizenmann et al. (2020) shows that inclusive school management is both a challenge and an opportunity to transform the educational environment into a meaningful and accessible learning space.

SCHOOL MANAGEMENT AND INCLUSION: OVERCOMING CHALLENGES AND PROMOTING EQUITABLE ENVIRONMENTS

School management plays a key role in promoting inclusion, seeking to overcome structural, pedagogical, and cultural challenges to ensure the participation of all students in the educational environment. In this sense, Alves (2016) highlights that the school inclusion of students with Autism Spectrum Disorder (ASD) demands a careful look at teacher training and the adaptation of school spaces, promoting environments that are simultaneously welcoming and accessible. In addition, Montoan (2003, cited in Narciso *et al*., 2024) defines inclusion as a process that requires strategic and continuous actions, aiming at the equitable insertion of all students in regular classrooms, regardless of their individual differences.

Thus, it is observed that teacher training is one of the main pillars for the effectiveness of school inclusion. Favoretto and Lamônica (2014) point out that teachers often feel unprepared to meet the needs of students with ASD, which reinforces the need for specific and continuous training. In consonance, Narciso *et al*. (2024, p. 724) point out that

> Teacher training should not be seen as an isolated event, but as an ongoing process that emphasizes constant updating and collaboration among education professionals.

In this way, school management has the responsibility to implement training programs that integrate theory and practice, training teachers to deal with diversity in the educational environment. In addition, it is essential that school management adopts practical strategies to facilitate inclusion. Alves (2016), when analyzing the case of the Professora Ondina Maria Dias School, in Tijucas/SC, shows that the inclusion of students with ASD was enhanced through actions such as the creation of individualized service plans, the use of visual materials for pedagogical support and the promotion of structured activities that meet the specificities of each student. This practical example demonstrates how management can act directly in the articulation of inclusive resources and methodologies, promoting a more equitable environment.

In addition, the management must prioritize the awareness of the entire school community, promoting a collaborative and inclusive environment. Favoretto and Lamônica (2014) suggest that training should not be limited to teachers, but should also involve other members of the school team and parents, strengthening the support network for students with specific needs. In this regard, school management acts as a mediator between the different actors, ensuring that the inclusion process is understood and valued by all.

To exemplify in practice, a school in the interior of Santa Catarina developed a continuing education project for teachers, with an emphasis on strategies for teaching students with ASD. The program included workshops on alternative communication, the use of assistive technologies, and the creation of sensory spaces within the school. As a result, there was a significant increase in student engagement and an improvement in the relationship between teachers and families, demonstrating the effectiveness of proactive school management committed to inclusion.

Therefore, school inclusion is not a goal that can be achieved in isolation, but a continuous and collaborative process. The dialogue between theoretical frameworks, such as Narciso et al. (2024), Alves (2016) and Favoretto and Lamônica (2014), shows that teacher training, strategic planning and the articulation of resources are indispensable elements for the construction of inclusive schools. Thus, it is up to school management to lead and sustain these initiatives, ensuring that all students have access to quality, equitable, and meaningful education.

SCHOOL MANAGEMENT, INCLUSION AND TECHNOLOGY: EXPLORING CONNECTIONS WITH NEUROSCIENCE

The integration of technology in school management, combined with advances in neuroscience, has significantly transformed inclusion strategies, enabling more adaptive and personalized learning. Narciso *et al.* (2024, p. 409) highlight that

> Digital platforms that offer personalization and control can become protected and nurturing environments for autistic people, allowing them to learn, work, and express themselves in ways that match their interests and abilities.

From this perspective, technology emerges as a powerful ally to promote inclusive educational environments, adapted to the individual needs of each student. In this sense, adaptive learning platforms play a central role in the personalization of teaching. Mendes *et al.* (2024) point out that these tools use artificial intelligence algorithms to adjust the content and pace of learning according to the performance of each student, promoting efficient and directed learning. Thus, school management, by implementing these technologies, can meet the specificities of each student, ensuring that progress is respected at an individual pace and enhancing engagement.

In addition, neuroscience offers theoretical subsidies that support the use of adaptive platforms as an inclusive resource. By understanding how the human brain processes information, it is possible to create learning experiences that stimulate specific areas of the brain, respecting cognitive differences and promoting the integral development of students. According to Mendes *et al.* (2024, p. 235), these platforms "provide efficient and targeted learning", evidencing their effectiveness in meeting educational needs in an inclusive manner.

In practice, a relevant example is the application of an adaptive platform in a public school aimed at the inclusion of students with Autism Spectrum Disorder (ASD). In this case, the platform was configured to offer activities that mixed visual and sound stimuli, automatically adjusting the complexity of the tasks according to the student's performance. As a result, students showed greater concentration and progress in learning, while teachers reported greater ease in identifying each student's areas of difficulty and success.

In addition, the implementation of adaptive technologies demands active and strategic school management. The adoption of these tools requires continuous training of teachers, as well as technical support to ensure their effective use. As Narciso *et al.* argue. (2024, p. 409), the personalization offered by digital platforms can create "protected and

stimulating environments", as long as management is prepared to integrate these solutions into daily school life in a structured way that is aligned with student demands.

Therefore, the combination of technology, neuroscience and school management not only facilitates inclusion, but also redefines the boundaries of personalized teaching. The dialogue between Narciso *et al.* (2024) and Mendes *et al.* (2024) shows that digital platforms are indispensable tools for promoting inclusive, efficient and scientifically based education. Thus, it is up to school managers to lead this transformation process, ensuring that all students have access to meaningful and equitable learning.

RESULTS AND DATA ANALYSIS

The following table reflects the main authors and studies used in the research, addressing topics related to school management, inclusion, technology and neuroscience. It highlights the name of the authors, the year of publication, the subjects covered in their research and the relevance of their work for the development of inclusive and innovative educational practices.

Table 1 - main authors

Author(s)	Year of Publication	Research Subject	Relevance of the Research
Santana et al.	2024	Integration of innovative technologies in school management	It highlights how technologies can improve the engagement of the school community and the efficiency of administrative and pedagogical processes.
Jenkins (cited in Santana *et al.*)	2008	Connection between the school environment and the daily life of students	It emphasizes the importance of a school environment connected to the realities of students, making learning meaningful.
Weizenmann *et al.*	2020	Teacher training and use of visual materials for the inclusion of students with ASD	It emphasizes the need for ongoing training and technical support to adequately meet the needs of students with Autism Spectrum Disorder.
Alves	2016	School inclusion of students with ASD	It highlights practical strategies such as individualized plans, visual materials and structured activities, showing the effectiveness of inclusive actions in schools.

Favoretto and Lamônica	2014	Teachers' knowledge and needs about ASD	It points out the lack of preparation of teachers to deal with students with ASD, reinforcing the need for specific and continuous training.
Montoan (cited in Narcissus *et al*.)	2003	Inclusion as a comprehensive process	It defines inclusion as an equitable insertion of all students in regular classrooms, regardless of their individual differences.
Narciso *et al.*	2024	Continuous teacher training and collaboration between professionals for inclusion	It argues that teacher training should be continuous and collaborative, promoting inclusion and adapting educational practices to the needs of students.
Mendes *et al.*	2024	Adaptive learning platforms and educational personalization	It explores the use of artificial intelligence algorithms in adaptive platforms to adjust content and learning pace according to individual student performance.

Source: author himself.

The analyses carried out throughout this study allow us to identify relevant conclusions with regard to inclusive school management and the role of technologies and neuroscience in promoting equitable educational environments. The main conclusions point to the effectiveness of adaptive platforms in the personalization of teaching, highlighting that these tools not only meet the specific needs of students, but also enhance active participation in the educational process. Additionally, it was observed that the continuing education of teachers constitutes one of the fundamental pillars for the successful implementation of inclusive practices, as evidenced by Narciso *et al.* (2024) and Favoretto and Lamônica (2014).

The significance of these discoveries lies in the consolidation of an educational approach that integrates technological advances and neuroscientific knowledge with inclusive pedagogical practices. This model allows school managers to develop more assertive and evidence-based strategies, promoting learning adapted to the cognitive and emotional specificities of students. In addition, the findings reinforce that inclusion is not limited to the physical adaptation of spaces, but involves a continuous commitment to teacher training and the promotion of a welcoming and collaborative school environment, as highlighted by Alves (2016) and Montoan (2003, cited in Narciso *et al.*, 2024).

When compared to studies by other authors, these findings are in line with the perspectives defended by Mendes *et al.* (2024), which point to adaptive platforms as indispensable tools for the personalization of learning. However, they also expand this view

by dialoguing with the works of Jenkins (2008, cited in Santana *et al.*, 2021), which highlight the importance of connecting the school environment to the daily reality of students. Such a connection is essential for the technologies implemented to be effective and promote inclusion in a meaningful way.

However, it is necessary to recognize the limitations inherent to this study, especially with regard to the generalization of the findings. The literature consulted, although rich in practical examples and well-founded theories, has gaps regarding the applicability of technological solutions in school contexts with financial or infrastructure constraints. As pointed out by Alves (2016), the adaptation of school spaces and the implementation of inclusive technologies require significant investments, which many public institutions have difficulty in making feasible.

In addition, some explanations for surprising or inconclusive results can be found in the literature. For example, Mendes *et al.* (2024) indicate that the effectiveness of adaptive platforms depends on the degree of familiarity of teachers with these tools. In schools where teachers do not receive sufficient technical support or training, the results may be limited, suggesting that technology alone is not enough to promote inclusion.

Finally, this study points to the need for more research that explores the intersection between technology, neuroscience, and inclusive practices in different educational contexts. It would be relevant to investigate, for example, how adaptive platforms can be adjusted to meet the cultural and socioeconomic specificities of different school communities. In addition, longitudinal studies that assess the impact of these technologies on students' learning and emotional development can provide more complete data to support future educational policies.

Therefore, the results and discussions presented reinforce the importance of a holistic and strategic approach to school inclusion, integrating continuous teacher training, use of adaptive technologies and understanding of the individual needs of students, aligned with the contributions of neuroscience and modern school management.

CONCLUSION

The present study fulfilled its objectives by exploring how school management can integrate technology, neuroscience, and inclusive practices to build educational environments that meet the needs of all students. Through a grounded theoretical approach and practical examples, it was possible to demonstrate that school inclusion is

not an isolated objective, but rather a continuous process that requires strategic planning, quality teacher training and investment in adaptive technological resources. Throughout the analysis, it became evident that the use of adaptive digital platforms, aligned with the findings of neuroscience, contributes significantly to the personalization of teaching and the development of more efficient and equitable pedagogical strategies. Such tools allow students to advance at their own pace and meet their specific demands, thus promoting greater engagement and active participation in the educational process.

In addition, the survey highlighted that school management must take a leading role in integrating these inclusive technologies and practices into everyday school life. The continuing education of teachers, addressed as one of the pillars for effective inclusion, was pointed out as essential to ensure that educators are prepared to deal with diversity in the classroom. The implementation of technologies cannot be seen in isolation, but as part of an integrated system that encompasses the professional development of teachers, collaboration between the various actors in the school community, and the adaptation of physical and pedagogical spaces. Thus, this study reinforces the relevance of educational policies that prioritize inclusion and point to the construction of accessible, welcoming school environments capable of responding to contemporary demands.

Despite the contributions presented, this work also recognizes the limitations that need to be overcome for inclusive practices to be more widely adopted. Many school contexts still face financial, structural, and cultural barriers that hinder the implementation of adaptive technologies and continuous teacher training. In this sense, future studies are essential to assess how these initiatives can be applied in different socioeconomic realities, as well as to analyze the long-term impacts of these approaches on the academic, social, and emotional development of students.

In addition, further research could explore the integration between neuroscience and inclusive pedagogical practices in a more in-depth way, with a focus on understanding how these connections can be expanded to meet the demands of an increasingly diverse society. Thus, it is encouraged that more research be carried out on these topics, contributing to the formulation of fairer, more innovative and inclusive educational policies and practices. It is hoped that the results of this study will serve as a starting point for reflections and actions that promote the transformation of the educational system, ensuring that each student, regardless of their characteristics or conditions, has access to meaningful and quality education.

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