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UNIVERSAL DESIGN: ARCHITECTING AN EDUCATION FOR ALL

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Kleyton Holond de Lima Rocha[1], Renato Marchesini[2], Genesis Soares Pereira[3], Luis Humberto Caparroz[4] and Valéria Cristina Malta[5].

ABSTRACT

This study aimed to analyze how Universal Design for Learning (UDL) can be applied to promote inclusive and equitable education, ensuring access to the learning process for all students. The research was qualitative and was carried out through a literature review, which involved the analysis of academic sources, articles and books on UDL and inclusive education. The results indicated that UDL can be a tool in adapting curriculum and pedagogical practices, allowing students with special needs, as well as those with different learning styles, to have equal access to content. The diversification of forms of representation, expression, and engagement contributes to creating an inclusive educational environment, but the implementation of UDL faces challenges related to educator training, institutional resistance, and the lack of adequate resources, such as assistive technologies. The final considerations pointed out that the UDL, although promising, requires investments in infrastructure and teacher training for its implementation to be full. In addition, new studies were suggested to expand the impact of UDL in different educational contexts and explore solutions to overcome the barriers that still exist.

Keywords: Universal Design for Learning. Inclusive Education. Assistive Technologies. Pedagogical Methodologies. Accessibility.

[1] Doctorate student in Educational Sciences
Inter-American Faculty of Social Sciences (FICS)
Email: holondsismedio@gmail.com
LATTES: http://lattes.cnpq.br/4577071094046705
[2] Master of Science
Universidade FedUNIFESP São Paulo (UNIFESP)
E-mail: minimo_impacto@yahoo.com.br
LATTES: https://lattes.cnpq.br/0376503646329356
[3] Master's student in Emerging Technologies in Education
MUST University
Email: geneses.pereira@fale.ufal.br
LATTES: http://lattes.cnpq.br/7187581852762058
[4] Doctorate student in Education
National University of Rosario (UNR)
E-mail: luishumberto@alumni.usp.br
LATTES: http://lattes.cnpq.br/2933062776421840
[5] Master's student in Education
Ibero-American University Foundation (FUNIBER)
Email: valcris3917@yahoo.com.br

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INTRODUCTION

Universal Design for Learning (UDL) is an educational concept that aims to ensure that all students, regardless of their needs or abilities, have access to educational content in an equitable and inclusive manner. Originally inspired by the concept of Universal Design, which seeks to create accessible products and environments for all, the UDL was adapted to the educational context, with the aim of promoting personalized and flexible learning. Based on the idea that each student learns in a unique way, the UDL proposes a curriculum that adapts to the diversity of students, allowing everyone to participate meaningfully in the educational process. By offering multiple means of representation, expression, and engagement, UDL seeks to remove barriers to learning, creating an inclusive and accessible educational environment for all students, including those with disabilities.

The rationale for the study of Universal Design for Learning lies in the growing need to promote inclusive education that caters to the diversity of learners. In many educational institutions, the traditional approach to teaching, based on a single learning model, is not effective for all students, especially those with special educational needs. UDL emerges as an innovative solution, offering pedagogical strategies that adapt to different ways of learning and ensuring that all students, regardless of their cognitive, sensory or motor abilities, have full access to knowledge. In addition, the growing debate on inclusion and equity in education highlights the urgency of rethinking pedagogical practices and seeking solutions that favor the participation of all students, especially those in vulnerable situations. In this context, the study of UDL presents itself as a significant contribution to the construction of an accessible educational system.

The question that guides this research is: how can Universal Design for Learning be applied to promote inclusive and equitable education, ensuring access to the learning process for all students? This question seeks to explore the pedagogical practices that utilize UDL and how these practices can transform education, meeting the needs of a diverse population of students. By answering this question, the research aims to provide subsidies for the understanding and implementation of UDL in schools, contributing to the construction of inclusive educational environments.

The objective of this research is to analyze the main characteristics of Universal Design for Learning and its application in the educational context, identifying the advantages and challenges of this approach for the promotion of inclusive education. The

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research seeks to understand how UDL can be a tool for adapting curriculum and pedagogical practices, ensuring that all students can learn in a meaningful way.

This text is structured as follows: at first, a theoretical review will be presented on the concept of Universal Design for Learning, its principles and the relationship with inclusive education. Next, the impact of UDL on pedagogical practices will be discussed, focusing on the challenges and opportunities for educators. The methodology used in the research will be described, detailing the approach adopted for the analysis of sources and data. The discussion and results will present a critical analysis of the implementation of UDL in schools, followed by final considerations, which will include conclusions and suggestions for future research in the area.

THEORETICAL FRAMEWORK

The theoretical framework of this research is structured in order to provide a broad understanding of the Universal Design for Learning (UDL), addressing its origins, fundamental principles and the relationship with inclusive education. At first, the basic concepts of UDL will be discussed, detailing the three essential pillars: representation, expression and engagement, and how these principles contribute to the construction of an educational environment accessible to all students. Then, the history of UDL will be addressed, tracing its evolution from Universal Design applied to the design of products and environments, to its adaptation to the educational context. The importance of UDL in promoting school inclusion will also be discussed, exploring its practical applications and the benefits for the learning of students with different needs. In the end, the theoretical framework emphasizes the contributions of relevant authors to the field of inclusive education and UDL, providing a basis for the analysis of the results presented in the research.

PRINCIPLES OF UNIVERSAL DESIGN FOR LEARNING

Universal Design for Learning (UDL) is grounded in three essential principles that aim to create an inclusive and accessible educational environment. The first principle, related to representation, defends the diversification of the means of presenting information. This implies offering multiple ways of presenting the content, in order to meet the different ways of perceiving and understanding learning. According to Bock, Gesser and Nuernberg (2018), the diversification in the presentation of information allows students

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with different learning styles, such as visual or auditory, to access the content efficiently. This variety of formats, such as texts, graphics, videos, and other representations, is critical to ensuring that all students can understand what is being taught.

The second principle of UDL, which concerns expression, deals with the diversification of the ways in which students express what they have learned. By providing different means for students to express themselves, whether through writing, speech, art, or other means, the UDL recognizes that each student has a unique way of demonstrating their understanding. According to Ribeiro (2018), the use of various forms of expression contributes to all students being able to communicate their ideas, allowing for personalized and meaningful learning. This approach is also relevant for students with disabilities, such as those who are deaf or have motor difficulties, who may face barriers when using conventional methods of expression, such as writing or speaking.

The last principle, engagement, focuses on strategies to keep students motivated and engaged in the learning process. Motivation plays a central role in learning, and UDL emphasizes the importance of providing an environment that is conducive to students' interest and active participation. According to Zerbato and Mendes (2018), engagement in the educational context can be stimulated through challenges appropriate to the students' level of competence, as well as by the use of technologies and interactive resources that make learning dynamic and engaging. In addition, it is essential to offer choices to students, allowing them to control their learning process, which increases their autonomy and interest in the proposed activities.

These three core principles of UDL — representation, expression, and engagement — are interdependent and contribute significantly to the creation of inclusive education. Each of them proposes an adaptation of teaching that seeks to meet the individual needs and potentialities of students, allowing everyone to have access to the content in a full and meaningful way. By applying these principles, UDL not only facilitates learning but also fosters an educational environment that respects and values the diversity of students, regardless of their conditions or needs (Góes and Costa, 2021).

IMPACTS OF THE UD ON THE EDUCATION OF CHILDREN WITH SPECIAL NEEDS

Universal Design for Learning (UDL) plays a key role in the education of children with special needs, as it aims to create an inclusive environment that caters to the diversity of abilities and learning styles. By promoting the diversification of teaching methods, UDL

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contributes to the adaptation of the curriculum, ensuring that students with disabilities have full access to educational content.

The application of Universal Design for Learning (UDL) in early childhood education makes it possible to adapt the content in an inclusive way, meeting the different forms of perception of students. Bettio, Miranda, and Schmidt (2021, p. 69) exemplify this approach through a structured pedagogical practice to teach the number 3 to young children:

> An Early Childhood Education teacher had as part of her work plan to teach the number 3 to her students (the numbers 1 and 2 had already been taught). According to her objective, her students should, at the end of the lesson, 'Identify the numeral 3 and count to 3'. To teach this new content, she: drew the number on the board and said its name repeatedly, asking the students to speak as well; and proposed a 'treasure hunt' game, then. In the game, the class was divided into trios and, for this, the teacher called a student to the front of the room and then two more classmates - she counted the children in the group from 1 to 3 and asked the students to count together. Each trio was identified by a bracelet of a specific color. The task of the game was for each trio to find three toys and take them to the center of the room for the teacher. When handing them to the teacher, the trio should count the objects. Each group that completed the task could play with a toy of their choice. If the group had difficulties in achieving the goal, the teacher offered help until they completed the task.

This example demonstrates the importance of diversifying teaching methods to ensure the inclusion and learning of all children, regardless of their individual needs. Bock, Gesser and Nuernberg (2018) highlight that the flexibility of pedagogical strategies is essential to deal with the different barriers that these students face, such as cognitive, sensory and motor difficulties. The implementation of varied methods, such as the use of assistive technology and multimodal activities, allows students to connect to knowledge in ways that respect their individual capacities, ensuring their active participation in the learning process.

In addition, exposing content in different environments expands learning possibilities and strengthens knowledge retention. Bettio, Miranda, and Schmidt (2021, p. 70) present an illustrative case of this strategy:

> Professor Lucas was carrying out a project on plants and would like to teach the children the parts that make up plants. In this way, he planned to teach about the word 'stem' and decided to develop an activity that aimed to enable children to identify different types of stems. Lucas planned to present this content to the children from the reading of a story, which presented the definition of the word stem and figures of different stems. At the end of the narration of the story, Lucas started a circle of conversations about the word stem, directing questions to the children such as, for example, 'What is a stem?', 'Who has seen a stem?', 'Where have you seen a stem?', 'What color can stems be?', among other questions, allowing the children to talk about what they knew about the word 'stem'. Then, Lucas took the

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> children to the school garden, showed them stems of different plants and asked each child to identify a stem.

The practice of taking learning to different spaces contributes to student engagement and provides a meaningful experience, reinforcing the knowledge acquired in the classroom. However, the adoption of UDL presents challenges for educators, who need adequate training to implement these practices. In this sense, Oliveira and Munster (2019, p. 556) highlight:

> The inappropriate behaviors of the three students analyzed decreased with the insertion of the principles of UDL in the lesson plans and in the school routine. [...] In addition to the intervention having improved students' global motor skills, the planning of an intervention in Physical Education based on the principles of UDL favors the participation and engagement of students in the proposed activities.

This finding reinforces the effectiveness of UDL in promoting a more accessible and inclusive education, highlighting its relevance to different areas of education, including Physical Education. Ribeiro (2018) points out that, although UDL offers tools to personalize teaching, implementation requires substantial changes in traditional pedagogical practices, which can be an obstacle for many teachers, especially those who do not have experience with inclusive education. In addition, the use of assistive technologies, which are essential to facilitate the learning of students with disabilities, can be limited by school infrastructure and the lack of adequate resources. According to Zerbato and Mendes (2018), educators often face difficulties in accessing and integrating these technologies, which can compromise the effectiveness of UDL in meeting the needs of all students.

Despite these challenges, the benefits of DUA for students with special needs are evident. According to Góes and Costa (2021), the inclusive approach promoted by UDL favors the development of cognitive and social skills in students with disabilities, while reinforcing self-esteem and autonomy. The fact that students can learn in a variety of ways, respecting their limitations and exploring their strengths, makes for a meaningful and engaging educational experience. In addition, UDL also favors the creation of an equitable school environment, in which all students have the same opportunities to learn and develop (Bock, Gesser, and Nuernberg, 2019). Therefore, the impact of UDL on the teaching of children with special needs is positive, although it requires a concerted effort to overcome the challenges associated with its implementation.

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TECHNOLOGIES AND TOOLS IN UNIVERSAL DESIGN FOR LEARNING

Educational technologies play a key role in the implementation of Universal Design for Learning (UDL), as they offer resources that allow for the personalization of teaching and make it easier to adapt the curriculum to the individual needs of students. According to Zerbato and Mendes (2018), assistive technologies, such as software and devices that help with communication and accessibility, are essential to ensure that students with disabilities, such as the deaf or those with motor difficulties, can interact with the content. These tools enable the diversification of forms of representation, expression and engagement, three fundamental pillars of UDL, expanding the options for access to information and offering adequate means for students to get involved in the learning process.

In addition, educational technologies promote the flexibility of teaching, allowing educators to adapt to activities in a dynamic and interactive way. Bock, Gesser, and Nuernberg (2019) highlight that the use of digital platforms, such as virtual learning environments and content management systems, facilitates the personalization of teaching, as it offers resources that adjust to the pace and learning style of each student. These platforms allow students to access study materials in different formats, such as videos, texts, and audios, catering to the various forms of learning, as suggested by the principles of UDL. In addition, technologies allow for individualized tracking of student progress, providing important data for educators to adjust their teaching strategies as needed.

However, the implementation of technologies in the context of UDL also presents challenges. Ribeiro (2018) points out that the integration of technologies in the classroom requires investments in infrastructure and continuous training of teachers, who need to be trained to use these tools. The lack of financial resources and the resistance of some educators to the use of technologies can hinder the full implementation of UDL, especially in schools with poor infrastructure. However, when these technologies are used, they have the potential to transform pedagogical practice, allowing all students, regardless of their limitations, to have equitable access to learning (Góes and Costa, 2021). Therefore, educational technologies, although they present challenges, are tools to promote inclusive and personalized education, aligned with the principles of UDL.

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METHODOLOGY

The research was of a bibliographic nature, with the objective of analyzing the main characteristics of the Universal Design for Learning (UDL) and its application in the educational context. This approach allowed the collection of information from existing sources, such as books, academic articles, dissertations, theses and other specialized materials in the area of inclusive education and UDL. As Santana, Narciso and Fernandes (2025) point out, bibliographic research is essential for the construction of scientific knowledge, as it enables the systematization of concepts and theories already consolidated, allowing an analysis of the object of study. The research had a qualitative character, as it focused on the analysis and interpretation of theoretical data, seeking to understand the concepts and practices related to the theme.

For data collection, research resources such as academic databases, such as *Google Scholar*, *Scielo* and *ResearchGate*, as well as physical and digital libraries of educational institutions, were used. The data analysis techniques consisted of the reading and critical interpretation of the selected works, with the identification of trends, approaches and key concepts within the study area.

The research was structured based on the selection of works that address UDL and inclusive education, taking into account the relevance and timeliness of the materials according to the ideals of Santana and Narciso (2025). The search for sources was carried out, ensuring that the publications were pertinent to the objective of the research. The analysis of the data collected followed an interpretative approach, focusing on the identification of the main challenges and benefits of UDL in inclusive education, as described in the works consulted. The data were organized and systematized in order to allow a reflection on the application of UDL in pedagogical practices.

The following table presents a synthesis of the main sources consulted for this research, organized by author, title of the work, year of publication and type of material. This framework is fundamental to understand the theoretical basis that supported the analysis carried out, evidencing the main contributors to the study of UDL and inclusive education.

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Table 1: Main Authors and Consulted Works

AUTHOR(S)	CONFORMING TITLE PUBLISHED	YEAR	TYPE OF WORK
BOCK, G. L. K.; GESSER, M.; NUERNBERG, A. H.	Universal Design for Learning: scientific production in the period from 2011 to 2016.	2018	Scientific Journal
RIBEIRO, G. R. P. S.	Analysis of the use of Universal Design for Learning.	2018	Scientific Journal
ZERBATO, A. P.; MENDES, E. G.	Universal design for learning as a strategy for school inclusion.	2018	Scientific Journal
BOCK, G. L. K.; GESSER, M.; NUERNBERG, A. H.	The universal design for learning in the accommodation of the expectations of participants in distance education courses.	2019	Scientific Journal
OLIVEIRA, A. R. P.; MUNSTER, M. A.	Universal Design for Learning and Inclusive Education: a Systematic Review of the International Literature.	2019	Scientific Journal
BETTIO, C. D.; MIRANDA, A. C. A.; SCHMIDT, A.	Universal design for inclusive learning and teaching in early childhood education.	2021	Annals of Congress
GÓES, A. R. T.; COSTA, P. K. A.	From Universal Design to Universal Design for Learning.	2021	Book Chapter
ZERBATO, A. P.; MENDES, E. G.	The universal design for learning in teacher education: from research to inclusive practices.	2021	Scientific Journal

Source: The authors.

After the presentation of the table, it can be observed that the works consulted cover different perspectives on the UDL, providing a comprehensive and multidisciplinary view on the subject. The diversity of sources allowed for an enriching analysis, considering both theoretical and practical aspects of the implementation of UDL in the educational context.

RESULTS AND DISCUSSION

The word cloud presented below highlights the frequent and significant terms found in the frame of reference. These terms, such as 'Universal Design for Learning', 'Inclusive Education', 'Technologies', 'Accessibility' and 'Inclusive Methodologies', emerge as key concepts that will be addressed in the following topics, as well as in the results and discussions. These terms represent the pillars and central ideas of the study, reflecting the main focuses of the sources consulted, which deal with the implementation of UDL, the personalization of teaching and the promotion of inclusive education.

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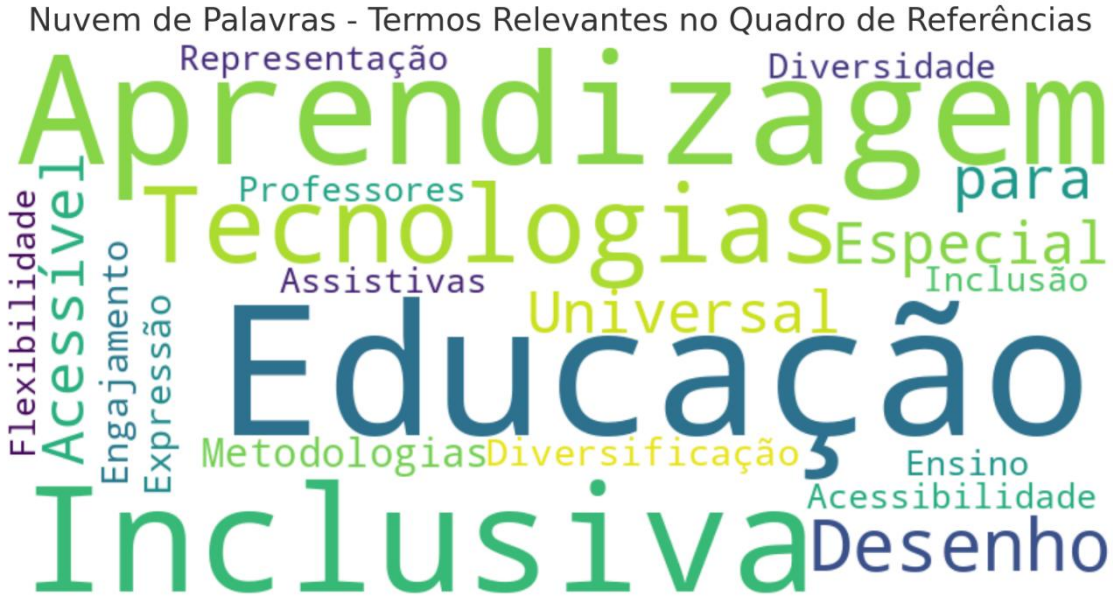
Image 1 - Word Cloud



Source: The authors.

The word cloud clearly and concisely visualizes the essential concepts that will guide the analyses carried out in this work, allowing the reader an immediate understanding of the issues addressed in the research. These terms will serve as a basis for discussing the challenges, benefits, and strategies associated with the implementation of UDL, emphasizing the importance of accessibility, flexibility, and diversification in the educational context.

CHALLENGES AND OPPORTUNITIES IN THE IMPLEMENTATION OF THE DUA

The implementation of Universal Design for Learning (UDL) in schools faces a number of challenges, but it also offers significant opportunities for the transformation of the educational environment. One of the main obstacles is the need to adapt traditional pedagogical practices to an inclusive and flexible model, which requires a significant change in the approach of educators. Ribeiro (2018) points out that many teachers face difficulties in adjusting their teaching methodologies to meet the diversity of students' learning styles and needs, especially when they do not have the necessary training to apply the principles of UDL. In addition, the resistance to change, often present in educational institutions, can hinder the full implementation of UDL, since there is a certain fear on the part of educators to adopt new pedagogical strategies and technological tools.

Another relevant challenge is the lack of adequate resources, such as assistive technologies and specialized teaching materials, which are essential for the personalization

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of teaching in the context of UDL. Bock, Gesser, and Nuernberg (2019) highlight that school infrastructure is often not prepared to offer the necessary tools for an implementation of UDL. The scarcity of financial resources and the lack of investment in accessible technologies compromise the transformative potential of UDL, limiting its applicability in many schools, especially in the periphery. Therefore, the lack of infrastructure can be a considerable barrier to the promotion of inclusive education, which is able to fully meet the diversity of students.

Despite these barriers, UDL offers a number of benefits that can transform education by creating an inclusive and accessible environment. According to Zerbato and Mendes (2018), one of the main benefits of UDL is the creation of personalized learning opportunities, which respect the individual needs and rhythms of each student. In addition, UDL allows educators to offer multiple means of representation, expression, and engagement, which contributes to the development of cognitive and social skills in students with different needs. Góes and Costa (2021) state that, by diversifying the ways of teaching and learning, UDL not only favors the inclusion of students with disabilities, but also benefits those who have learning difficulties or who have different learning styles. This flexibility in teaching provides an equitable educational environment in which all students have the chance to reach their full potential.

The pedagogical training of educators plays a central role in overcoming the challenges and maximizing the benefits of UDL. Bock, Gesser and Nuernberg (2018) highlight the relevance of training teachers to understand the principles of UDL and know how to implement them in the classroom. Continuous training, which includes both theory and practice, is essential for educators to feel prepared to adopt inclusive methodologies and use available technologies. In this way, the challenges of implementing UDL can be overcome, and the opportunities it provides for creating inclusive and personalized education can be well used.

CASE STUDIES AND PRACTICAL EXAMPLES

The implementation of Universal Design for Learning (UDL) in schools has shown positive results, with several institutions adopting this inclusive approach to better serve their students. A significant example comes from schools that have incorporated UDL gradually, adjusting their pedagogical practices and using assistive technologies to ensure equal access to learning. Bock, Gesser, and Nuernberg (2019) highlight that, in some

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schools, the introduction of UDL resulted in an inclusive environment, in which students with disabilities, as well as those with learning difficulties, could benefit from methodologies adapted to their individual needs. These schools adopted technologies such as digital whiteboards, educational software, and multimodal materials, ensuring that the content was accessible to everyone, regardless of their conditions or difficulties.

Another practical example of successful implementation of UDL occurs in schools that have reformulated their pedagogical practices to allow greater flexibility in how content is presented and how students express themselves. According to Zerbato and Mendes (2018), a school that used UDL with a focus on diversifying methods of expression noticed a significant increase in student participation, especially those with special educational needs. Offering different means for students to express their knowledge, such as videos, drawings, oral presentations, and even alternative communication apps, allowed all students, regardless of their abilities, to have opportunities to engage in the learning process. The lessons learned in this case indicate that flexibility in expression and the creation of an environment that respects the various forms of learning are essential for the successful implementation of UDL.

In addition, the use of virtual learning environments, combined with UDL, has proven effective in schools that seek to integrate technology into the educational process. Góes and Costa (2021) report a success case in which the use of digital learning platforms allowed students to access content in different ways, such as videos, interactive texts, and *quizzes*. This ensured that students had varied options for interacting with the teaching material, meeting the diversity of needs and learning styles present in the class. This practice has not only facilitated the learning of students with disabilities but has also benefited those with distinct learning styles, making the environment inclusive and equitable. Thus, the implementation of UDL, through the use of technologies, expanded the possibilities of learning, allowing students to feel motivated and engaged.

These examples demonstrate that the adoption of UDL, with the use of appropriate technologies and diversified methodologies, can result in inclusive and adaptable educational environments, meeting the needs of students. Although challenges related to infrastructure and teacher training still need to be overcome, the experiences of schools that have successfully implemented UDL indicate that flexibility in teaching and the use of technological resources are key elements for accessible and personalized education.

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RELATIONSHIP BETWEEN THE DUA AND PUBLIC POLICIES FOR INCLUSIVE EDUCATION

Public policies for inclusive education play a fundamental role in the implementation of the Universal Design for Learning (UDL), since they offer the necessary support for the adaptation of the educational system to the needs of all students, regardless of their disabilities or difficulties. The UDL, as an inclusive model, is aligned with the guidelines of several public policies that seek to ensure an education accessible to all, promoting equity and diversity in the school environment. According to Bock, Gesser, and Nuernberg (2019), educational policies that emphasize inclusion and diversity of learning create fertile ground for the application of UDL, as they offer a normative framework that guides schools to adopt flexible and diversified pedagogical practices. These policies, by promoting accessibility and equity in education, make the UDL a tool for adapting the curriculum and teaching methodologies, facilitating the participation of students with special educational needs.

In addition, public policies for inclusive education involve the creation of resources and institutional support, essential elements for the effective implementation of UDL. According to Ribeiro (2018), government initiatives aimed at educational inclusion, such as the Brazilian Inclusion Law (LBI) and accessibility policies in schools, are fundamental to ensure that UDL is adopted. Government support is not only limited to the creation of standards, but also to the provision of financial and technological resources, such as assistive tools and adapted materials, which are crucial for the application of UDL principles in classrooms. Thus, public policies not only regulate, but also provide the necessary means for schools to implement UDL, meeting the needs of students with disabilities.

However, the relationship between UDL and inclusive education public policies also presents challenges. Zerbato and Mendes (2018) observe that, although there has been progress in public policies that promote inclusion, there are still significant difficulties related to the practical implementation of these policies in schools. The lack of adequate resources, the resistance of some education professionals, and the insufficient training of educators on UDL and its methodologies are obstacles that hinder the implementation of policies effectively. Therefore, while public policies provide a solid foundation for the promotion of inclusive education, a sustained effort is needed to overcome the practical barriers that prevent full implementation of UDL in schools.

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In short, inclusive education public policies play a key role in creating an environment that favors the adoption of UDL, as they provide the necessary guidelines, resources, and support for schools to adapt their pedagogical practices and make teaching accessible to all. However, it is necessary that these policies be accompanied by continuous investments in infrastructure and in the training of educators, in order to ensure that the UDL is implemented and benefits all students, especially those with special needs (Góes and Costa, 2021).

FINAL CONSIDERATIONS

The final considerations of this study seek to synthesize the main findings obtained throughout the research, focusing on the answer to the central question that guided the work: how can the Universal Design for Learning (UDL) be applied to promote inclusive and equitable education, ensuring access to the learning process for all students? The analysis of the data and examples presented demonstrated that the UDL offers an effective pedagogical approach to the construction of an inclusive educational environment, especially for students with disabilities or special educational needs.

The results indicated that UDL, by diversifying the means of representation, expression and engagement, can be a tool to ensure that all students, regardless of their abilities or difficulties, have the opportunity to learn fully. By offering multiple pathways to access learning, UDL creates an environment that respects and caters to the diversity of students, promoting an education that not only recognizes differences, but integrates them in a meaningful way into the educational process. In this way, the application of the principles of UDL, such as the diversification of the ways of presenting the content and the flexibility in the forms of expression of the students, contributes to the creation of an accessible curriculum that is adaptable to the individual needs of the students.

Regarding the challenges identified during the research, it was evident that while UDL is a promising approach to inclusion, its implementation still faces considerable obstacles. The lack of adequate resources, such as assistive technologies and adapted pedagogical materials, and the need for continuous training for educators are aspects that limit the effective application of UDL in many educational institutions. In addition, resistance to change, both on the part of educators and the school structure as a whole, constitutes an additional challenge for the adoption of UDL. However, the benefits seen in schools that have implemented this approach indicate that even in the face of these challenges, UDL

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can bring substantial improvements to teaching in terms of promoting inclusive and personalized education.

The contributions of this study are significant, as they allow an understanding of the potential of UDL in the educational context, especially with regard to the inclusion of students with special educational needs. The study provided an analysis of the principles of UDL and how its application can transform education, making it accessible and equitable. In addition, the evidence presented suggests that by adopting UDL, schools can create an inclusive environment, which favors the active participation of all students, regardless of their conditions or limitations.

However, it is important to recognize that this study does not exhaust all possibilities for research on UDL and inclusive education. There is a need for research that explores different educational contexts, especially in schools that still face difficulties in terms of infrastructure and resources. It would also be interesting to investigate the impacts of UDL on diverse groups of students, including those with learning disabilities and students of different age groups. In this way, future studies could complement the findings of this work, deepening the understanding of the effectiveness of UDL and contributing to the construction of an inclusive and accessible education for all. The implementation of UDL represents an important step forward for the promotion of inclusive education, but it is essential to continue research and training professionals so that this approach is adopted effectively in all educational contexts.

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