THE IMPLEMENTATION OF UNIVERSAL DESIGN FOR LEARNING (UDL) AS AN INCLUSION STRATEGY IN SPECIAL EDUCATION: OVERCOMING THE LOGIC OF INDIVIDUALIZED

A IMPLEMENTAÇÃO DO DESENHO UNIVERSAL PARA A APRENDIZAGEM (DUA) COMO ESTRATÉGIA DE INCLUSÃO NA EDUCAÇÃO ESPECIAL: SUPERANDO A LÓGICA DA ADAPTAÇÃO INDIVIDUALIZADA

LA IMPLEMENTACIÓN DEL DISEÑO UNIVERSAL PARA EL APRENDIZAJE (DUA) COMO ESTRATEGIA DE INCLUSIÓN EN LA EDUCACIÓN ESPECIAL: SUPERANDO LA LÓGICA DE LA ADAPTACIÓN INDIVIDUALIZADA

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ABSTRACT

Contemporary inclusive education demands a transition from the integration model to a perspective of full inclusion, questioning the effectiveness of reactive curricular adaptations. This study aims to analyze the implementation of Universal Design for Learning (UDL) as a fundamental strategy to replace individualized adaptation practices with a teaching model that is accessible and inclusive from its conception. Methodologically, the research is characterized as a qualitative bibliographic study using a deductive method, based on databases such as SciELO and Google Scholar, with theoretical support from authors such as Zerbato, Pletsch, and Sebastián-Heredero. The results indicate that UDL, grounded in neuroscience and structured around the pillars of engagement, representation, action, and expression, enables the creation of flexible curricula that recognize brain variability as the norm. Unlike a posteriori accommodations, which often stigmatize students with disabilities and reduce learning expectations, universal planning eliminates systemic barriers and promotes the autonomy of all learners. It is concluded that the application of UDL represents a necessary paradigmatic shift, moving the focus from the pathology of the individual to the rigidity of the curriculum. The implementation of this approach requires a reconfiguration of teaching culture and instructional design, transforming the school into a democratically accessible space where diversity is valued as pedagogical potential and equity is organically ensured, consolidating the inalienable right to knowledge for all students.

Keywords: Universal Design for Learning. Special Education. School Inclusion. Curricular Accessibility. Pedagogical Practices.

RESUMO

A educação inclusiva contemporânea demanda a transição do modelo de integração para uma perspectiva de inclusão plena, questionando a eficácia das adaptações curriculares reativas. Este estudo tem como objetivo geral analisar a implementação do Desenho

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Universal para a Aprendizagem (DUA) como estratégia fundamental para substituir as práticas de adaptação individualizada por um modelo de ensino acessível e inclusivo desde a sua concepção. Metodologicamente, a pesquisa caracteriza-se como um estudo bibliográfico de natureza qualitativa e método dedutivo, fundamentado em bases de dados como SciELO e Google Acadêmico, com suporte teórico em autores como Zerbato, Pletsch e Sebastian-Heredero. Os resultados indicam que o DUA, alicerçado nas neurociências e nos pilares do engajamento, representação, ação e expressão, permite a criação de currículos flexíveis que reconhecem a variabilidade cerebral como regra. Diferente das adequações a posteriori, que frequentemente estigmatizam o aluno com deficiência e reduzem expectativas de aprendizagem, o planejamento universal elimina barreiras sistêmicas e promove a autonomia de todos os estudantes. Conclui-se que a aplicação do DUA representa uma ruptura paradigmática necessária, deslocando o foco da patologia do sujeito para a rigidez do currículo. A implementação dessa abordagem exige uma reconfiguração da cultura docente e do design instrucional, transformando a escola em um espaço democraticamente acessível, onde a diversidade é valorizada como potência pedagógica e a equidade é garantida de forma orgânica, consolidando o direito inalienável ao conhecimento para todos os discentes.

Palavras-chave: Desenho Universal para a Aprendizagem. Educação Especial. Inclusão Escolar. Acessibilidade Curricular. Práticas Pedagógicas.

RESUMEN
La educación inclusiva contemporánea exige la transición del modelo de integración hacia una perspectiva de inclusión plena, cuestionando la eficacia de las adaptaciones curriculares reactivas. Este estudio tiene como objetivo analizar la implementación del Diseño Universal para el Aprendizaje (DUA) como estrategia fundamental para sustituir las prácticas de adaptación individualizada por un modelo de enseñanza accesible e inclusivo desde su concepción. Metodológicamente, la investigación se caracteriza como un estudio bibliográfico de naturaleza cualitativa y método deductivo, fundamentado en bases de datos como SciELO y Google Académico, con soporte teórico en autores como Zerbato, Pletsch y Sebastián-Heredero. Los resultados indican que el DUA, sustentado en las neurociencias y estructurado en los pilares del compromiso, la representación, la acción y la expresión, permite la creación de currículos flexibles que reconocen la variabilidad cerebral como norma. A diferencia de las adecuaciones a posteriori, que con frecuencia estigmatizan al alumnado con discapacidad y reducen las expectativas de aprendizaje, la planificación universal elimina barreras sistémicas y promueve la autonomía de todos los estudiantes. Se concluye que la aplicación del DUA representa una ruptura paradigmática necesaria, desplazando el foco de la patología del sujeto hacia la rigidez del currículo. La implementación de este enfoque exige una reconfiguración de la cultura docente y del diseño instruccional, transformando la escuela en un espacio democráticamente accesible, donde la diversidad se valora como potencia pedagógica y la equidad se garantiza de forma orgánica, consolidando el derecho inalienable al conocimiento para todos los discentes.

Palabras clave: Diseño Universal para el Aprendizaje. Educación Especial. Inclusión Escolar. Accesibilidad Curricular. Prácticas Pedagógicas.

1 INTRODUCTION

Contemporary inclusive education requires a movement that goes beyond the simple integration of students with disabilities in the school environment, demanding a reconfiguration of pedagogical practices. In this scenario, Universal Design for Learning (UDL) emerges as a revolutionary approach that aims to plan teaching in order to meet human diversity from its conception. Unlike traditional models, which focus on remediating difficulties after planning, UDL proposes the creation of flexible curricula and learning environments that eliminate barriers for all students, recognizing variability as the rule rather than the exception.

Historically, Special Education has been guided by the logic of individualized adaptation, in which the curriculum is designed for an "average student" and, later, "adjusted" for those who do not fit this standard. This practice ends up indirectly segregating the student, burdening the teacher with the need to create multiple lesson plans and keeping the focus on the disability instead of the potential. The problem lies in the fact that these specific adaptations are usually reactive and insufficient to guarantee autonomy and effective engagement, perpetuating a clinical view of inclusion that ignores the systemic barriers of the education system itself. In view of this, this work sought to answer the following Central Question: How can the implementation of the principles of Universal Design for Learning contribute to overcoming the logic of individualized curricular adaptation and promote effective inclusion in Special Education?

The general objective of this study was to analyze the implementation of Universal Design for Learning (UDL) as a fundamental strategy to replace individualized adaptation practices with an accessible and inclusive teaching model from its conception. And as specific: 1 - Identify the main theoretical foundations and the three pillars of UDL (engagement, representation, action and expression) in the context of Special Education; 2 - To contrast the limitations of reactive curricular adaptations against the potentialities of a universally planned curriculum; 3 - Propose pedagogical guidelines that assist teachers in the practical application of UDL to minimize learning barriers in different classrooms.

The choice of this theme is justified by the urgency of updating teaching methodologies in view of the national inclusion guidelines. The persistence in individualized "adjustment" models has proven to be exhausting for educators and ineffective for the integral development of students. By studying UDL, it seeks to offer a methodological path that not only facilitates the teaching work, but also transforms the school into a space where accessibility is a right guaranteed in an organic and transversal way.

From a social point of view, this research contributes to the democratization of knowledge and to the appreciation of diversity, combating the stigma associated with Special Education. Scientifically, the work enriches the field of pedagogy and inclusive education by providing theoretical and practical subsidies on an approach based on neuroscientific evidence. The relevance lies in fostering a paradigm shift: moving from an education that "corrects the student" to an education that "corrects the curriculum", promoting equity and academic excellence for all.

2 METHODOLOGICAL PROCEDURES

The research was characterized as a bibliographic study, developed with the aim of analyzing the implementation of the Universal Design for Learning (UDL) from theoretical contributions already published. The study method adopted was deductive, starting from the general premises about school inclusion to investigate the specificity of the UDL strategy in overcoming individualized adaptations. This choice allowed a deep dive into the specialized literature, ensuring that the topic was explored from different theoretical and empirical perspectives. As Gil (2002, p. 44) has argued, the bibliographic research "is developed based on material already prepared, consisting mainly of books and scientific articles", which provided the necessary basis to sustain the argument about the transition from the medical-clinical model to the social model of learning in the context of Special Education.

The way to obtain the data occurred through a systematic survey in digital libraries and databases such as SciELO and Google Scholar, using specific descriptors related to curricular accessibility and UDL. The treatment and analysis of the data were carried out in an analytical-descriptive manner, organizing the collected material in order to identify patterns, divergences and convergences in contemporary inclusion practices. For Lakatos and Marconi (2003, p. 183), bibliographic research "is not a mere repetition of what has already been said or written on a certain subject, but the examination of a theme under a new focus or approach, reaching innovative conclusions". Thus, the treatment of the information sought not only to describe the concept of Universal Design, but to critically analyze its effectiveness in deconstructing the logic of reactive adaptation, which often segregates the student with disabilities from the common curriculum.

Regarding ethical issues, the research was guided by absolute respect for intellectual property and the reliability of the sources consulted, ensuring that all ideas from third parties were duly credited. Although the bibliographic research does not require registration in Ethics Committees because it does not involve direct intervention with human beings, the commitment to scientific integrity and impartiality in the interpretation of the texts was

maintained. As explained by Severino (2007, p. 122), scientific work must be conducted with rigor, because "research is an activity of investigation that produces knowledge, being a procedure that is both theoretical and practical". Thus, the methodological path was carried out with transparency and academic honesty, ensuring that the data analysis ethically reflected the reality of the advances and challenges of school inclusion through the UDL.

The main theoretical foundations and the three pillars of UDL (engagement, representation, action and expression) in the context of Special Education

Historically, Special Education has been marked by processes of exclusion that restricted the full participation of students with functional specificities in the common education system. In the contemporary scenario, the transition to a truly inclusive model lacks tools that subvert the logic of curricular standardization, focused on a supposed "ideal student" who disregards human singularities. Universal Design for Learning (UDL) is a pedagogical philosophy that recognizes brain variability as a rule, proposing that the environment adapts to the individual and not the other way around. In this context, the scientific literature asserts that "UDL aims to remove barriers to learning and increase opportunities for all students, regardless of their abilities" (Zerbato, 2021, p. 150). Such a premise shifts the focus from the subject's pathology to the rigidity of teaching, requiring that educational planning foresees cognitive plurality from its initial conception, without the need for subsequent patches that only reinforce the stigma of difference.

Neuroscientifically, UDL is based on the functioning of three primordial neural networks that dictate how the brain processes knowledge. The understanding that each student has a unique neurocognitive profile invalidates linear or homogeneous methodologies that once dominated classrooms. When the school ignores this biological reality, it ends up marginalizing those whose psychic processing deviates from the statistical norm, generating insurmountable obstacles to academic progress. As the Brazilian research highlights, "educational evaluation requires a sensitive look at the particularities of the subject's cognitive development" (Anache, 2022, p. 45). Recognizing such pedagogical sensitivity means accepting that the instruction process lacks a biopsychosocial foundation that values human potential to the detriment of the diagnosed limitation, promoting an environment of full intellectual acceptance.

Engagement is the first structuring pillar of this model, operating directly in the affective networks of the brain to arouse the student's motivation and sustained interest. Without the emotional involvement and pragmatic sense of what is being taught, concept retention becomes an arduous task for students facing sensory or intellectual barriers. Providing individual choices and safe environments for experimenting with error is essential to keep the

student active in his or her path of discovery. Reinforcing this need, the theory postulates that "inclusion policies aim to overcome the barrier of physical access to ensure the appropriation of scientific knowledge" (Pletsch, 2020, p. 22). Engagement, therefore, acts as the engine that drives the desire to learn, transforming the classroom into a space of belonging and not just physical presence.

Representing information in various ways configures the second pillar, focusing on recognition networks that allow the student to identify and interpret sensory patterns. In the context of Special Education, the provision of content only by textual or oral means summarily excludes students with visual or hearing impairments or neurodevelopmental disorders. The diversification of visual, auditory and tactile stimuli ensures that the reception of the message occurs without noise, respecting the different ways of decoding the world. According to the specialized literature, "the visual support and structuring of the environment facilitate pedagogical mediation for students with ASD" (Nunes, 2021, p. 88). By making the presentation of content more flexible, the teacher removes the obstacles that prevent access to semantics and formal knowledge, ensuring that knowledge reaches everyone in a clear and intelligible way.

Enabling action and expression represents the third pillar of UDL, aimed at the strategic networks that manage the planning and execution of motor and cognitive tasks. Many students with disabilities possess the knowledge but encounter physical or intellectual barriers to demonstrating it through traditional written tests. Offering alternatives such as oral presentations, videos, concept maps or the use of assistive technologies allows the student to reveal their learning in an authentic way. Zerbato corroborates this view by stating that "curricular flexibility constitutes the basis for teaching to cease to be standardized and become accessible" (Zerbato, 2021, p. 158). The freedom to express what has been learned through different paths ensures that the evaluation is a reflection of real progress and not a punishment for the functional limitations of the subject.

From the perspective of pedagogical mediation, the dialogue between the pillars of the UDL and Special Education reveals that inclusion is not limited to isolated assistive technology resources. The integration of these fundamentals requires a change in school culture, where accessibility is thought of universally and not as a favor granted to a few. Anache complements this idea by emphasizing that "each individual has a biological and social rhythm that directly interferes in the appropriation of school content" (Anache, 2022, p. 52). Thus, the teaching practice lacks a clinical-pedagogical look that identifies the student's potential, using the pillars of engagement and representation as foundations for a solid and isonomic intellectual construction.

Teachers who work in the Specialized Educational Service (AEE) find in the DUA a robust theoretical framework to guide collaborative work with teachers in the common room. The articulation between these professionals is the nodal point for the curriculum to stop being a burden and become a path of possibilities. Pletsch observes that "SEA is configured as a service that supplements or complements the training of students with disabilities" (Pletsch, 2020, p. 30). When the principles of action and expression are applied in a coordinated way, the chances of school success increase dramatically, as the student realizes that his or her unique ways of acting in the world are valued and legitimized by the educational institution.

Concomitantly, the use of diversified sensory stimuli favors not only students with disabilities, but the entire heterogeneous group present in the classroom. Neuroplasticity is stimulated when the brain is challenged by multiple languages, promoting deeper and longer-lasting learning. Nunes points out that "the diversification of sensory stimuli promotes greater attention retention in children with developmental disorders" (Nunes, 2021, p. 101). This finding reinforces that Universal Design is not a specific method for disability, but an approach that qualifies teaching for all, transforming heterogeneity into a pedagogical richness instead of a problem to be solved.

Monolithic and rigid curricula represent the greatest barrier to the effectiveness of school democracy, as they presuppose that everyone must learn in the same way and at the same time. The UDL proposes to break this paradigm by suggesting that flexibility should be imbued at the core of institutional planning. Zerbato points out that "brain variability implies that there is no single path for processing information" (Zerbato, 2021, p. 144). By adopting this perspective, the school assumes the ethical commitment to leave no one behind, ensuring that the curricular structure is fluid enough to accommodate the multiple intelligences and the various ways of existing.

Through the critical analysis of evaluation practices, it is perceived that the focus often falls on what the student cannot do, ignoring his qualitative progress. The pillar of action and expression invites the educator to rethink the evaluation instruments, making them less punitive and more procedural. Anache asserts that "the pedagogical diagnosis moves away from the clinical view to focus on the student's learning possibilities" (Anache, 2022, p. 60). This change in mentality is crucial for students with intellectual or physical disabilities to feel capable of overcoming their limits, seeing the school as a space for empowerment and the construction of their citizen autonomy.

Criticism of the traditional teaching model intensifies when we observe that the mere presence of the student in the regular classroom does not guarantee his superior psychic

development. Inclusion lacks pedagogical intentionality and an architecture that supports difference without segregating it into parallel and decontextualized activities. Pletsch stresses that "the inclusive school demands a reorganization of teaching work and school time" (Pletsch, 2020, p. 35). Without this structural reorganization based on the three pillars of UDL, the discourse of diversity remains in the field of intentions, failing to provide an education that is, in fact, an inalienable right and accessible to each and every human being.

Synthesizing the fundamentals exposed, the implementation of UDL in Special Education transcends technique to achieve human dignity in the act of learning. The intertwining of engagement, representation, and expression creates a network of intellectual protection that prevents veiled exclusion within the academic environment. Recognizing the uniqueness of each student is the path to a practice that values existence in its fullness. As the contemporary literature summarizes, "social interactions mediated by language become the engine of higher psychic development" (Nunes, 2021, p. 110). This analysis ends by reaffirming that quality education depends on the courage to break with static curricula in favor of a school open to all minds.

The limitations of reactive curricular adaptations in the face of the potential of a universally planned curriculum

The transition from a clinical perspective to an educational approach based on Universal Design for Learning (UDL) requires the abandonment of segregating practices that have historically guided school inclusion. The rigid curriculum, by ignoring human variability, requires constant tinkering that rarely touches the essence of the pedagogical process. "The Universal Design for Learning presupposes that the barrier is not in the student, but in the curriculum and in the teaching environment, which need to be designed for everyone" (Zerato, 2018, p. 25). Such an inversion of values shifts the focus from individual disability to advance planning, establishing that accessibility should constitute the central pillar of didactic architecture from its primordial conception.

The model of reactive curricular adaptations operates under a logic of exception, intervening only when school failure becomes evident or exclusion manifests itself. This palliative method overloads the teacher and stigmatizes the student, reinforcing the idea that learning needs simplifications instead of diversified paths. "Curricular adaptations, because they are made a posteriori, end up keeping the focus on the student's limitation and not on the flexibility of the environment" (Pletsch, 2020, p. 42). The maintenance of this fragmented system prevents the school institution from reaching a level of institutional maturity where diversity is the standard and not the deviation.

Unlike the improvisation of late adjustments, universal planning foresees multiple means of engagement, representation and expression, ensuring that knowledge is assimilated through different sensory and cognitive pathways. The structure of the UDL is based on neurosciences, seeking to stimulate distinct neural networks that optimize information retention. "The application of the principles of UDL requires the offer of varied options so that the learner can access the content according to their characteristics" (Nunes, 2021, p. 88). When the teacher designs his class contemplating such premises, he eliminates in advance obstacles that would be insurmountable in a traditional and monolithic format.

The criticism lies in the fact that the inflexible curriculum generates an artificial need for specialized support, transforming the regular classroom into a space of merely physical coexistence, devoid of effective learning. The effort to adapt content after it has been developed consumes temporal and intellectual resources that would be better used in an inclusive instructional design. "Often, curricular adaptation is seen as a simplification of content, which reduces learning expectations about students with disabilities" (Zerato, 2018, p. 30). This reductive view restricts intellectual development, depriving the student of access to complex concepts in their entirety.

Establishing a dialogue between the foundations of UDL and teaching practice requires the teacher to assume the role of learning designer, abandoning passive and unidirectional transmission. The multiplicity of technological and methodological resources currently available allows instruction to occur in a fluid way, without the need for visible differentiations that segregate the groups within the same space. "Planning from the perspective of UDL allows the teacher to organize teaching strategies that reach everyone simultaneously" (Nunes, 2021, p. 95). The simultaneity of the pedagogical offer guarantees genuine belonging, strengthening the affective bond with knowledge and with the school community.

It is observed that the rigidity of the evaluation systems constitutes one of the greatest obstacles to the implementation of a universally planned curriculum, since the measurement of performance is usually standardized. The reactivity of the adaptations is reflected in tests that only mask the exclusion, without actually allowing the student to demonstrate his competence in alternative ways. "The evaluation must be consistent with the teaching process, allowing the student to express his knowledge through multiple modalities" (Pletsch, 2020, p. 55). Without a reform in the evaluation instruments, UDL remains a theoretical concept, far from the bureaucratic reality of contemporary educational institutions.

Considering the scenario of educational policies, teacher training lacks a critical basis that replaces the habit of "adapting for one" with "planning for all". Knowledge of the brain

networks involved in learning — recognition, strategic, and affective — provides the scientific substrate for this paradigm shift. "Understanding executive functions is essential to propose strategies that help students in the planning and execution of their tasks" (Prazeres, 2022, p. 112). The technical training of educators becomes the engine that drives the deconstruction of static curricula and the construction of dynamic and responsive learning environments.

The effectiveness of the UDL is manifested in the reduction of the feeling of inadequacy on the part of the student body, promoting a culture of autonomy and self-regulation. When access to information is guaranteed by various formats — visual, auditory, tactile or interactive — the language or sensory barrier is no longer an impediment to academic progress. "Curricular accessibility is not limited to physical space, but encompasses access to knowledge and communication" (Zerato, 2018, p. 45). The distancing from reactive practices allows the school to fulfill its social function of promoting the full development of all human potentialities without prior distinctions.

Paradoxically, institutional resistance often rests on the false premise that UDL would require Herculean work, when in fact it simplifies classroom management over time. Punctual adaptations generate a vicious cycle of dependence on specific materials and tutors, while the universal curriculum fosters learner independence. "By offering choices within the curriculum, the educator stimulates the student's intrinsic motivation and engagement in his own process" (Prazeres, 2022, p. 128). Engagement becomes the catalyst for persistence, minimizing the dropout and disinterest commonly associated with traditional teaching models.

Pletsch (2020) asserts that inclusion requires deep structural changes that go beyond the simple discourse of acceptance, reaching the hard core of didactics and school organization. The limitations of curricular adaptations lie in their remedial character, treating diversity as a problem to be solved and not as an intrinsic characteristic of the collectivity. "School inclusion demands a review of pedagogical practices so that the curriculum is accessible to all students, without exception" (Pletsch, 2020, p. 60). This revision assumes that universality is the initial parameter of any educational proposal, eliminating the dichotomy between regular and special education.

Nunes (2021) corroborates the thesis that flexibility needs to be inscribed in the marrow of teaching plans, allowing each individual to find their point of connection with knowledge. The fragmentation of the curriculum into "common" and "adapted" creates a silent hierarchy that perpetuates exclusion within inclusion itself, limiting the horizon of possibilities of the subjects. "Universal design does not propose a single method for everyone, but rather a variety of methods that meet the uniqueness of each one" (Nunes, 2021, p. 102). The

multiplicity of pedagogical paths enriches the collective experience, preparing citizens for a world characterized by plurality and constant transformation.

It is concluded that the abandonment of reactive strategies in favor of Universal Design for Learning represents the scientific maturation of contemporary pedagogy. Replacing adaptation with universal planning ensures that the architecture of education is robust enough to accommodate variability without collapsing or excluding. "Only through a universally designed curriculum can we ensure that the right to education is fully exercised by all subjects" (Prazeres, 2022, p. 140). The construction of a truly accessible school depends on the intellectual courage to reformulate the curricular foundations, establishing diversity as the cornerstone of the entire educational process.

Pedagogical guidelines that assist teachers in the practical application of UDL to minimize learning barriers in diverse classrooms

The reconfiguration of educational environments under the aegis of Universal Design for Learning (UDL) presupposes the recognition of neurological variability as an inherent norm of the student collective. Pedagogical planning, by moving away from standardized models, seeks to anticipate solutions that contemplate the plurality of cognitive profiles present in contemporary classrooms. "UDL proposes that teaching be planned in such a way as to offer multiple forms of representation, expression, and engagement, removing barriers before they impede learning" (Bock, 2019, p. 115). This proactive posture breaks with the tradition of emergency adjustments, establishing that accessibility must be inscribed in the genetic code of the curricular proposal.

Unlike one-off interventions, universal guidelines seek to base teaching on scientific evidence that explains how the brain processes information and maintains focus. The diversification of sensory stimuli allows knowledge to reach the student through alternative paths, ensuring that specific limitations do not translate into cognitive exclusion. "The application of UDL in teaching practice requires the teacher to know the neural networks of their students to offer diversified learning paths" (Sebastian-Heredero, 2020, p. 58). By understanding the recognition networks, the educator selects visual, auditory and tactile supports that facilitate the decoding of complex concepts autonomously.

Strategies focused on action and expression enable individuals to demonstrate their competencies without the constraints of rigid evaluation instruments. Formal rigidity often prevents subjects with distinct abilities from manifesting their mastery over content, generating performance metrics that do not reflect intellectual reality. "It is necessary to ensure that the student has different means to express what he has learned, using technologies or other languages that surpass traditional writing" (Gewehr, 2021, p. 74). The

offer of options for the execution of tasks promotes a scenario where creativity and critical reasoning prevail over the mere mechanical repetition of pre-established patterns.

Fostering engagement requires that the teacher establish connections between academic knowledge and the reality experienced by the learner, arousing genuine interest through practical relevance. When the curriculum ignores intrinsic affections and motivations, the educational process becomes an exercise in resistance and apathy. "Engagement is the engine of learning and depends on offering appropriate challenges that keep the student motivated and focused on the task" (Oliveira, 2023, p. 42). Providing individual choices about the level of difficulty or the format of the activities strengthens self-regulation, allowing the student to manage his own route with greater security.

Sebastian-Heredero (2020) emphasizes that universal design is not to be confused with the facilitation of content, but rather with the provision of scaffolding that supports access to rigorous knowledge. The distinction between the essential and the accessory in the teaching plan allows the teacher to maintain high expectations while making the ways of achieving the proposed objectives more flexible. "Accessibility in UDL does not mean lowering the level of demand, but rather offering the necessary support for everyone to achieve the same learning objectives" (Sebastian-Heredero, 2020, p. 65). Such a perspective combats the pedagogical prejudice that limits the development horizon of students with atypical trajectories.

Bock (2019) argues that the transition to this model requires a deep reflection on the role of assistive technology, which must be integrated invisibly and fluidly into school daily life. The use of reading software, adapted keyboards or transcription resources benefits the entire class, optimizing the flow of communication between peers. "Technology should act as a mediation resource that enhances human capabilities, eliminating physical or communicational impediments in the school environment" (Bock, 2019, p. 128). Technology, from the perspective of UDL, ceases to be an instrument of segregation to become a catalyst for collective intelligence.

Gewehr (2021) highlights that the support offered by the teacher needs to be dynamic, adapting to the fluctuations of student development throughout the school year. Constant monitoring of progress allows the educator to adjust support resources, withdrawing them as autonomy is consolidated. "Effective pedagogical mediation is one that identifies the needs of the group and adjusts teaching materials to ensure full access to information" (Gewehr, 2021, p. 89). This thorough monitoring ensures that no student remains stagnant due to lack of adequate tools or excessive ease, keeping the learning flow balanced.

Oliveira (2023) analyzes that the construction of inclusive environments depends on the institutional capacity to organize times and spaces in a less linear way. Classrooms that allow different grouping configurations and active methodologies favor the implementation of universal guidelines, as they welcome different work rhythms. "Universally planned learning environments are spaces that celebrate difference and encourage cooperation among peers as a teaching strategy" (Oliveira, 2023, p. 55). Collaboration among students, mediated by the teacher, transforms diversity into a valuable didactic resource, promoting the exchange of knowledge and the strengthening of social bonds.

Considering teacher training, it is observed the urgency of technical knowledge that equips the professional for instructional design. Knowing how to design a class that already contains subtitles, image descriptions and voice syntheses requires a competence that goes beyond traditional didactics. "Teacher training for UDL requires mastery of digital tools and a new understanding of how the brain works in the learning process" (Sebastian-Heredero, 2020, p. 72). The scientific updating of teaching becomes, therefore, the guarantee that learning barriers are systematically identified and removed from daily practice.

Bock (2019) reinforces that the removal of attitudinal barriers is the biggest challenge for the consolidation of universal curricula in educational institutions. The belief in the existence of a standard student prevents methodological innovations from gaining scale, keeping the system in a cycle of veiled exclusion. "Overcoming the view that special education is a parallel system is the first step towards implementing a truly universal curriculum" (Bock, 2019, p. 142). The unification of pedagogical practices under the umbrella of UDL strengthens the school as a democratic space, where the right to know is not mediated by clinical diagnoses.

Gewehr (2021) points out that the sustainability of a proposal based on UDL lies in the creation of professional learning communities where experiences are shared and refined. Teacher isolation prevents creative solutions from circulating and benefiting other educational contexts within the same school unit. "Collaborative work among education professionals is essential to create pedagogical guidelines that respond to the complexity of the diverse classroom" (Gewehr, 2021, p. 101). The exchange of successful practices accelerates the process of curricular flexibility, reducing the individual workload and increasing the effectiveness of interventions.

Oliveira (2023) concludes that the success of universal guidelines is manifested in the full social and academic participation of all subjects, without anyone needing to be "integrated" through late patches. Universal design for learning offers the roadmap for a school that recognizes the beauty of human uniqueness and transforms it into educational

power. "A universally planned curriculum is the maximum expression of respect for diversity and commitment to human development in all its dimensions" (Oliveira, 2023, p. 68). The practical application of these principles ensures that the educational institution fulfills its mission of forming autonomous, critical citizens who are able to contribute to a plural society.

3 CONSIDERATIONS

The implementation of Universal Design for Learning (UDL) at the heart of Special Education represents a paradigmatic break with the logic of exclusion and instructional standardization. By moving from a clinical perspective, centered on the pathology of the individual, to a critical analysis of curricular rigidity, the school institution recognizes its responsibility in the genesis of pedagogical barriers. This philosophy is based on the premise that neurocognitive variability is the biological norm, not the deviation, requiring the educational ecosystem to adapt to human plurality. Thus, accessibility ceases to be a reactive adjustment and becomes a constitutive pillar of planning, ensuring that the right to education transcends rhetoric and materializes in effective participation.

The structuring axes of UDL — engagement, representation, and action and expression — provide the scientific substrate for the operationalization of an inclusive praxis. By stimulating the affective, recognition, and strategic networks of the brain, instructional design ensures that knowledge is mediated by multiple sensory inputs and processed under conditions of sustained motivation. This approach overcomes the insufficiency of a *posteriori* curricular adaptations, which often stigmatize the student and promote conceptual reductionism. On the other hand, universal planning anticipates diversity, offering supports that allow students to internalize and externalize knowledge in an authentic and equitable way.

In the context of pedagogical mediation, the transition to this model requires a reconfiguration of the teaching culture and the architecture of school times. Assistive technology and the diversification of stimuli are no longer peripheral resources of the Specialized Educational Service (AEE) to integrate the core of regency in common rooms, benefiting the entire student body. When the educator assumes the role of architect of learning, prioritizing the provision of dynamic supports to the detriment of passive transmission, he fosters self-regulation and intellectual autonomy. Such transformation is essential for heterogeneity to be converted into pedagogical power, mitigating the feeling of inadequacy and strengthening the bonds with the object of knowledge.

Thus, the maturation of contemporary Special Education lies in the consolidation of fluid curricula that replace the deficient view with the valorization of subjective potentialities.

The overcoming of monolithic models in favor of universal learning paths ensures the fulfillment of the social function of the school in an isonomic and democratic manner. By institutionalizing diversity as a cornerstone of the educational process, the education system breaks with veiled forms of segregation and establishes a territory of genuine belonging. The rigorous implementation of UDL therefore sets the path to quality education that respects human dignity and promotes the integral development of all subjects.

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