Universal Learning Design (UDL) For Students With Autism Spectrum Disorder In The 3rd Year Of Escola Estação Do Saber José Carlos Tanuri, Juazeiro – BA.

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SUMMARY:
The purpose of this article is to analyze the results of the application of the Universal Learning Design (UDL) in a specific case involving a student with Autism Spectrum Disorder (ASD) enrolled at Escola Estação do Saber José Carlos Tanuri, belonging to the municipal public network of municipality of Juazeiro, Bahia. The study used a methodological approach that incorporated several steps, comprising readings of specialized texts and the investigation of a case study. The latter was organized into six distinct categories, namely: 1) Methodological framework, 2) Assessment with the student, 3) Dialogue with the family, 4) Collaboration between specialized care professionals and regular classroom teachers, through the implementation of continuing education programs, 5) Preparation of the lesson plan and, finally, 6) Reflection on pedagogical practice and its consequences.

The analysis carried out within the scope of this study aims to deepen the understanding of teaching practice as a driving agent for educational inclusion. More specifically, it directs its attention to the development of a lesson plan based on the principles of UDL, adopting a pedagogy guided by the individual potential of all students, in line with the precepts of inclusive education. This approach represents a significant step in the search for more open and accessible pedagogical strategies, which enable the active participation and full development of students with ASD, thus contributing to a more egalitarian and inclusive education.

Keyword: *ASD – Autism Spectrum Disorder. DUA Universal Design of Learning. Inclusion. Education for all. Accessibility.*

I. INTRODUCTION

Throughout history, education has undergone several reforms. In Brazil, people with disabilities began accessing schooling during the Empire with the creation of two institutions: the Imperial Instituto dos Meninos Cegos, in 1854, currently the Benjamin Constant Institute.– IBC, and the Institute for the Deaf and Mute, in 1857, currently the National Institute for the Education of the Deaf. The LDB– Education Guidelines and Bases Law defines the audience for special educationArt. 58. Special education, for the purposes of this Law, is understood as the type of school education offered preferably in the regular education network, for students with disabilities, global developmental disorders and high abilities or giftedness.Currently, there is a lot of talk about deficiencies and disorders in a general way, where the role of the teacher and the attitudinal barriers towards the student have been rethought.

Reflecting teacher training according to Gatti (2013), in a study carried out on the set of subjects that make up Pedagogy courses, found 3378 different names for the subjects in that course. It was also found that this is not just a characteristic of the Pedagogy course, but of other degrees, such as Biology, Arts, Literature, among others. This means that there is no definition regarding the knowledge necessary to train the teacher, even though it is possible to recognize a social representation that the pedagogy course trains teachers for the education of young children (GATTI, 2013, p2.).

Recognizing teacher training as a barrier in theoretical and methodological learning is to understand the existing impacts on special education from the perspective of including an education for all, guaranteeing access and permanence where education systems must ensure an environment that recognizes people with disabilities as learning subjects.

The present work resulted from the research of a case and practical experience, in a room with 25 students with 1 student with a disability, intended in the DUA for a student diagnosed withASD – Autism Spectrum Disorder (level 1 of support), has difficulties in communication, socialization, motor coordination and sensory changes. Attending the 3rd year of primary education at a school with a proposalfull-time pedagogical course, initial years, during the year 2023.

II. METHODOLOGICAL FRAMEWORK

The concept of DUA was proposed by Meyer, Rose and Gordon in 2000, based on the concept of Universal Design. According to the authors, DUA expands the concept of universal design when working on learning and does so in two ways: the first way, through curricular flexibility in relation to approaches and application, which become adjustable to different learning styles and rhythms of each student; and, second, through the differentiation between access to information and access to learning (MEYER, ROSE, GORDON, 2000.P29.). In the case of people with ASD - Autism Spectrum Disorder, a neurodevelopmental disorder where there are barriers in social communication, socialization,ith difficulties of interpretation, fixed and restricted interests and stereotypical behaviors, the DUA has shown great results in teaching practice.

This approach has as its starting point that the teacher identifies the learning needs in the class, seeks resources and teaching procedures that improve student performance and promotes an educational action based on and for learning the content (PRAIS, 2017; ZERBATO, 2018).

Rethinking pedagogical practice, and the search for methodologies that take into account the classroom audience, contemplates an education based on equity, recognizing students as subjects of learning, enhancing their skills.

DUA follows three main basic principles, which are: 1) supporting multiple and flexible methods of presenting content; 2) support strategic learning and offer multiple and flexible methods of expression and learning; 3) support affective learning and promote multiple and flexible options for participation. (BRIZOLA,2023, p20.).

The perspective of education for everyone using the DUA, following the 3 steps, provides access to the curriculum accessible to the different levels in the class, with a didactic proposal, using different tools covering the same content.

The research includes 6 stages that will guide satisfactory results on the student's performance in the methodology used.

The following flowchart represents the methodology applied in this study, aiming to demonstrate the process of implementing Universal Design for Learning (UDL) as a pedagogical strategy for students with Autism Spectrum Disorder (ASD). The flowchart outlines the steps that were followed, from the initial assessment to the partnership between Specialized Educational Assistance (SEA) and the regular classroom teacher, culminating in the development and execution of a lesson plan based on Universal Design for Learning principles. Each step in this process is crucial to ensure an inclusive and effective approach that caters to the diverse needs of students, promoting equitable access and the development of their skills. The flowchart provides an overview of the actions taken throughout the research and pedagogical support (Figure 1).

Figure 1: In this flowchart: "Methodological Framework" is the starting point.
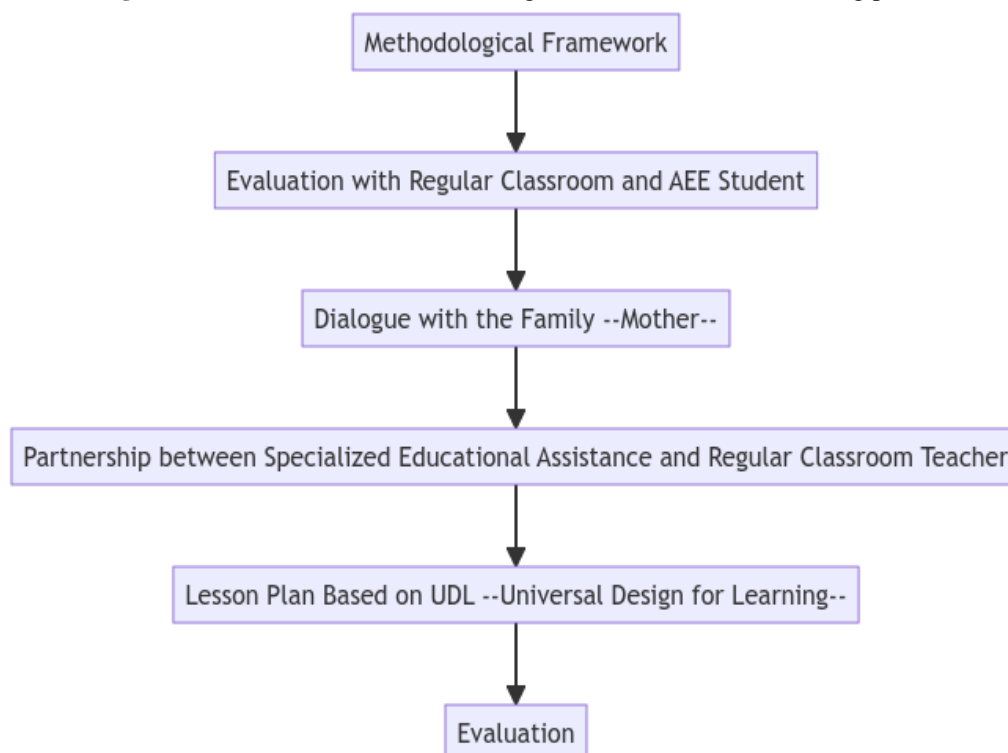
In this flowchart:
"Methodological Framework" is the starting point.
"Evaluation with Regular Classroom and AEE Student" represents the first step in the methodology.
"Dialogue with the Family (Mother)" is the second step.
"Partnership between Specialized Educational Assistance and Regular Classroom Teacher" is the third step.
"Lesson Plan Based on UDL (Universal Design for Learning)" is the fourth step.
"Evaluation" is the final step in the methodological process.

1st STAGE: EVALUATION WITH THE STUDENT REGULAR ROOM AND AEE
In the case analyzed, the student is diagnosed with ASD– Autism Spectrum Disorder level 1 support. The student is very receptive, calm and kind, demonstrates good behavior, follows regular teaching activities with some necessary adaptations in their learning process, understands the content in a functional and participatory way according to their learning pace, is able to express orally when requested, reading and writing level– syllabic with value, encountering difficulties in writing and reading. Considering the hyperfocus andinterests with technology and computers as a zone of proximal development for their learning. Has difficulty socializing, motor coordination and sensory changes. According to the World Health Organization (OMS), O (TEA) is a set of conditions characterized by some degree of difficulty in social interaction, verbal and non-verbal communication and specific interests in some activities performed repetitively. The dialogue between the regular classroom and the AEE is significant in the learning of public special education students. According to the Special Education Operational Guidelines for specialized educational services in Basic Education, the duties of the specialized educational service teacher are:
Identify, develop, produce and organize services, pedagogical resources, accessibility and strategies considering the specific needs of students Target audience for special education; to accompany; the functionality and applicability of pedagogical and accessibility resources in the common regular education classroom, as well as in other school environments; guide teachers and families about the pedagogical and accessibility resources used by the student. Establish coordination with teachers in the common classroom, aiming to provide services, pedagogical and accessibility resources and strategies that promote student participation in school activities. (MEC, 2008, p.4).
Access to schooling and the classroom has increased the ability to overcome obstacles that appear in their schooling, however the objective centered on learning has as its main focus achieving its teaching goal which is reading, interpretation and writing, for this it requires some necessary adaptations to its development according to your needs. Therefore, creating pedagogical strategies in partnership with the regular classroom teacher and AEE, through resources and assistive technologies to resolve the demands already seen in this case, is essential.
The study carried out in order to develop the student's skills through the school team and implementation within the family is also based on the Salamanca Declaration that emerged during the World Conference on Special Education, between June 7 and 10, 1994 in Salamanca in Spain, with the participation of 88 government representatives and 25 international organizations. This conference reviewed and confirmed the importance of a change in global inclusive education. Where they began to put into action, adverse questions considering the vast diversity. "those with special needs must have access to a regular school that should accommodate them in a child-centered pedagogy capable of satisfying such needs". Needs that require attention and an effective action plan, so that progress can be madehave the power to provide and equalize the structure and posture of regular education with special education. (MEC, 1994, p. 1)

2ND STAGE: DIALOGUE WITH THE FAMILY (MOTHER)
An interview was carried out with the mother responsible for the student, with the aim of identifying the pointsimportant, outlining and sharing methods and resources for meaningful teaching and learning. The information collected on: communication, self-care, home life, social skills, performance in the community, independence and mobility, health and safety, academic skills and leisure were extremely important to evaluate summative development from prenatal to toddlerhood. current affairs, check the conditions of family education, determinethe CARACTERISTICS of psychological development and its particularities in learning, characterizing the education receivedus different moments of your life.
Based on the student's case study, seeking information about their process since pregnancyuntil now, identified that methodologies and pedagogical practices are necessary considering their specificity, as well as diagnostic assessment identifying existing skills.

3rd STAGE:PARTNERSHIP BETWEEN SPECIALIZED EDUCATIONAL SERVICE AND REGULAR CLASSROOM TEACHERS THROUGH CONTINUING TRAINING
We start from the idea that every day that passes we receive students with disabilities in the classroom at different levels of learning, mainly, considering the various deficiencies in teacher training, in the theoretical

methodological aspects it is to reflect that lack of preparation is an impactful factor, but It is necessary to research, dialogue and seek methodologies that address students' learning needs.

According to Libâneo (In: PIMENTA; GHEDIN, 2002, p.73), when he states:

[...] it would be foolhardy to believe that we are facing a new theory of teaching or learning based on reflection or facing the great solution for teacher training, either because the notion of reflexivity is in no way new, or because the contributions theories are insufficient to constitute a teaching theory, either because, from a didactic point of view, it lacks content that covers all the complexity of the relationships between teaching and learning. (PIMENTA; GHEDIN, 2002, p.73)

From this perspective, reflect teaching practice, the school's pedagogical proposal, practice for the sake of practice, covering the necessary skills according to the students' learning pace and the BNCC - National Common Curricular Base using the DUA - Universal Learning Design as a learning instrument from the perspective of education for everyone with equality, equity, conditions of access and retention of public students in special education is an alternative for good results.

The DUA (Universal Learning Design) seeks to eliminate barriers to learning, promoting equity and inclusion in education. It recognizes that all students have different needs and that a single teaching method may not be effective for everyone. Therefore, educators are encouraged to adapt their teaching practices to meet the varied needs of students, providing them with more opportunities for successful learning from a regular classroom perspective. We realized that the guiding principles of UDL involve the ability to plan and evaluate the teacher's own pedagogical practice in the context of regular education, during the development and implementation of pedagogical activities with inclusive intentions (CAST, 2011; PRAIS, 2016; ZERBATO, 2018, p4.).

Ensuring art. Art. 59 of the LDB, education systems will ensure that students with disabilities, pervasive developmental disorders and high abilities or giftedness: (Wording given by Law No. 12,796, of 2013)

I - Specific curricula, methods, techniques, educational resources and organization, to meet your needs; (MEC, 1996, p27.).

According to the principles of DUA, understanding that students have different learning rhythms and that the pedagogical, didactic and assessment practice used must include different strategies as a teaching methodology when creating a lesson plan for meaningful learning. In this case, a person with ASD – Autism Spectrum Disorder, which according to the etymology of the word AUTISM, a word of Greek origin "Autos" which is "one's own or one's own". The word "autism" has its origins in ancient Greek and means "of oneself same" or "isolation". ASD is characterized by challenges with social interaction, repetitive, and restricted behaviors. The word was chosen to describe the disorder due to the tendency of people with ASD to socially isolate themselves, difficulty connecting with others and understanding social and interaction norms. It is important to highlight that the term "autism" is used to refer to the spectrum that includes a wide variety of presentations and levels of support. The aforementioned term does not cover all the nuances and variations of ASD, the disorder may also be accompanied by other pathologies.

In this sense, the school plays a fundamental role in the development of children with ASD

The school receives a child with difficulties in relating, following social rules and adapting to the new environment. This behavior is quickly confused with a lack of politeness and limits. And due to lack of knowledge, some education professionals do not know how to recognize and identify the characteristics of an autistic person, especially those with high functioning, with a low level of impairment. Education professionals are not prepared to deal with autistic children and the scarcity of appropriate bibliographies makes access to information in the area difficult. (Santos, 2008, p. 9).

The student with ASD - Autism Spectrum Disorder encounters numerous barriers when entering the educational system, mainly in deficiencies in teacher training, however it is the student's right and extremely necessary to be included, as they have the capacity to learn and develop, it is up to professionals involved in the learning process identify their favorable access route in their learning considering their hyperfocus as a zone of proximal development. Stimulation and curricular adaptation are some of the possible strategies for promoting the learning of students with disabilities, in this case the methodology used has a theoretical reference for the regular classroom lesson plan, the DUA that brings the perspective of equity in education for all.

LESSON PLAN BASED ON DUA

The lesson plan took place in a 3rd year class at Escola Estação do Saber José Carlos Tanuri, in the municipality of Juazeiro – BA, with 25 students at the alphabetical writing and reading level. Using objectives and skills according to BNCC– National Common Curricular Base, (EF35LP03) identify the central idea of the text, demonstrating global understanding. (EF15LP03) find explicit information in texts. (EF15LP19) orally retell, with and without image support, literary texts read by the teacher. (EF02LP27) rewrite literary narrative texts read by the teacher. As a guide for practice, the Book Menina Bonita do Laço de Fita. As a methodology addressed at different times. At first, it was prepared by the regular classroom teacher that the student attends the lesson plan with dialogue and guidance from the AEE teacher (Specialized Educational Service) using the book "Menina

Bonita do Laço de Fita by the author Ana Maria Machado". At the beginning of the class, the teacher asked questions to the class about the students' prior knowledge through reading the book. What is this story going to talk about? You know? Who are the characters in this story? Then begin reading the book, telling the story, involving the students and bringing the character to life in an auditory, visual and kinesthetic way. After telling the story, the teacher will use a video that portrays the story told visually and aurally. After telling the story and the students watching the video, the teacher will conduct a survey of the knowledge acquired by the students about her proposal. Who is the author of the story? What did you think of the story? Who are the characters? What reason led the rabbit to try to be black? What steps did the rabbit take? What did the rabbit understand about the girl? After this contextualization and intervention, the teacher will ask students to produce a text, for literate students he will retell the text, for students at another learning pace that describes the characters and short sentences from the story in written form. For the case student, the written form of words will be used. Soon after, the teacher will ask students to read what they wrote, sharing each student's interpretation. After this moment, the teacher will use the computer as a tool, using Word Wall through a questionnaire with images and texts, reflecting on the knowledge of the methodology used.

ASSESSMENT

When reflecting the evaluation of historically rooted discourses, which according to Gallo (2004) seem natural to us, but are recent. A historical look reveals to us that for Education to be able scientificizewith Pedagogy, it was necessary to do more than control the students, [...] it was also necessary to be able to quantify them in their learning process, to order them through máthêsis and taxonomy. One of the most effective instrumental tactics was provided precisely through exam technology (GALLO, 2004, p.92).

Foucault highlights the technologies of disciplining, surveillance, normalization and control, used by modern institutions, especially in the 18th century, which resulted, among other manifestations, in the quantification and hierarchization of students, practices easily found in school settings. And through the game of this quantification, this circulation of advances and debts, thanks to the permanent calculations of more or less notes, the disciplinary apparatus hierarchizes, in a mutual relationship, the 'good' and 'bad' individuals (FOUCAULT, 1999, p. 151).

In this conception of reflection on practice, rethinking assessment from the perspective of UDL is recognizing the various multifaceted assessment methodologies as an accessible strategy for all students, whether in a procedural, continuous way in qualitative aspects, through observation, carrying out the necessary interventions depending on the learning pace of each student in the class, motivating their learning process with praise and completing the summative assessment.

III.   REFLECTION OF RESULTS

AGuiding teaching practice with a methodological framework consolidates a mechanism for reflection and practice. Understanding the different levels of learning in the class was of great importance for the results of an accessible class, the partnership between the specialized service and the regular classroom teacher via continued training, reflection of practice by practice and student needs, identifying existing barriers in the regular classroom it was a fundamental factor, in this context the teacher in the regular classroom had guidance in preparing the lesson plan, reflecting the theoretical methodological practice.Initially, the student focused on the reading carried out by the teacher, learning and reflection were consolidated in an auditory, visual and kinesthetic way with the physical book, the use of video, the use of the computer as an accessibility tool, bringing different strategies for understanding. After guidance from the AEE teacher with the use of the pencil thickener for better writing functionally, the student used the resource with improved motor coordination, the student wrote the names of the characters in the story, was able to read what he wrote in an interpretative and meaningful way. Had a good performance with the use of the computer as assistive technology and interpretation in the Word Wall questionnaire methodology used, factors contributions to their meaningful learning. The adapted learning environment was to provide a safe and suitable place for the student with ASD. A well-defined routine can be beneficial to the student, minimizing necessary visual and sound stimuli, as students with ASD are sensitive to light, sounds and textures.The shape methodology visual, auditory and kinesthetic using physical mechanisms or computers are valid, simple and effective, in addition to addressing the neurobiological and information processing needs of ASD, using the principles of UDL with different methodologies for education for everyone , multifacetedly considering the different learning levels of the class.

IV.   FINAL CONSIDERATIONS

Theoretical and practical reflection on the inclusion of students with disabilities from the perspective of the regular classroom is extremely important for promoting a more comprehensive and reflective education. In the context of current educational policy in Brazil, as well as teaching methodologies, the Universal Learning Design (UDL) emerges as a significant reference.

DUA stands out as a set of principles that proposes the creation of learning environments accessible to everyone, regardless of their physical, neurobiological characteristics or disabilities. Through this approach, the inclusion of students with Autism Spectrum Disorder (ASD) at school gains relevance, considering their individual specificities. It is worth highlighting that, according to current legislation, every child has the right to a quality public education.

Pedagogical practice assumes a fundamental mediating role in promoting learning when it is properly planned and adapted to the different learning levels of the class, regardless of the presence of students with disabilities. In this context, the school plays a crucial role as an agent of social inclusion, being responsible for systematically implementing scientific, methodological and attitudinal strategies that favor the evolution and insertion of these students into society and the job market.

The ethical commitment to providing all students with equal opportunities and the continuous commitment to pedagogical innovation are fundamental to the advancement of inclusive education in Brazil, ensuring a fairer and more equal society.

BIBLIOGRAPHIC REFERENCES

[1]. Brazil. Civil House. Ministry Of Education. Law N.9394/96. Guidelines And Bases Of National Education. Brasília: MEC/SEEP, 1996.BRAZIL. Ministry Of Education. Common National Curriculum Base. Available At: Https://Www.Planalto.Gov.Br/Ccivil_03/Leis/L9394.Htm. Accessed September 25, 2023.

[2]. BRIZOLA, F.2023.CONCEPTIONS OF DISABILITY AND INTRODUCTION TO THE PRINCIPLES OF DUA. 1st Edition.Rio Grande Do Sul.Unipampa.2023.19. P.

[3]. Law No. 12,764, Of December 27, 2012. Establishes The National Policy To Protect The Rights Of People With Autism Spectrum Disorder. Recovered From Httpsw.Planalto.Gov.Br/Ccivil_03/_Ato2011-2014/2012/Lei/L12764.

[4]. Ministry Of Education. (2008). Special Education Operational Guidelines For Specialized Educational Services In Basic Education. Brasilia. Available At Http://Portal.Mec.Gov.Br/Index. Php?Option =Com_ Doc Man & View=Download&Alias=428-Diretrizes-Publicacao&Itemid=30192. Accessed September 23, 2023.

[5]. OLIVEIRA, F. L. (2000). Autism And School Inclusion: The Challenges Of Including Autistic Students. Revista Educação Pública, 20(34), 423-428.

[6]. PIECZKOWSKI, T. M. Z. Assessment Of Learning In Special Education And The Influences Of National Policies. Ibero-American Journal Of Studies In Education, Araraquara, V. 13, No. 5, P. 1612–1631, 2018. DOI: 10.21723/Riaee.Unesp.V13.N4.Out/Dez.2018.10882.

[7]. Poker, RB And Mello, Adrl (2016), INCLUSION AND TEACHER TRAINING. Jresspeceducneeds,16:619-624. Https://Doi.Org/10.1111/1471-3802.12193.

[8]. SANTOS, A.M.T. (2008). Autism: A Challenge In Literacy And School Life. São Paulo: CRDA.

[9]. Tozetto, S. S., & Gomes, T. De S. (2009). PEDAGOGICAL PRACTICE IN TEACHER TRAINING. Reflection And Action, 17(2), 181-196. Https://Doi.Org/10.17058/Rea.V17i2.1150

[10]. UNESCO. (1994). Salamanca Declaration And Framework For Action In The Area Of Special Educational Needs. World Conference On Special Educational Needs: Access And Quality. Salamanca: UNESCO. Available At Http://Portal.Mec.Gov.Br/Seesp/Arquivos/Pdf/Salamanca.Pdf. Accessed On: September 20, 2023.

[11]. VITALIANO, C. R., Praia, J.L.S & Santos, K.P. (2019). Universal Design For Learning Applied To The Promotion Of Inclusive Education: A Systematic Review. Teaching In Revista,26(3),805-827.