

THE ADAPTATION OF TECHNOLOGICAL INSTRUMENTS AND THE EVALUATION PROCEDURE IN INCLUSIVE EDUCATION

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SUMMARY:The theme of this study is “the adaptation of technological instruments and the evaluation procedure in inclusive education”, given numerous concerns about the infinitive verb evaluate. The objective of this article is to recognize and apply different methodologies that increase inclusion policies to enable students with autism to learn in regular schools. It is considered that in assessment it is essential to recognize the dissimilarity of each student's abilities, using inclusive approaches with adaptive approaches to ensure fair and meaningful learning. The foundations of the approach have a qualitative character, where the main procedures used were data collection, interviews, reports and observations, in the approach to monitoring and evolution involving the 1st year high school student: Maria Isadora Gonçalves de Melo, accompanied by the teacher of AEE (Specialized Educational Service) Bruna Freitas Ricarte de Melo head of the Plácido Aderaldo Castelo state school in the municipality of Caririçu, state of Ceará. We also add the valuable testimonies of the second interviewee: Caregiver Regina Felix Roque Valentim. The results showed that students with ASD (Autism Spectrum Disorder) present difficulties and slowness in learning, in the specific case of the student under study, they also have low vision, which increases the challenges. However, it is important to trust the teaching resources and understand that the teaching methodology is vast and flexible, thus increasing the quality of teaching. Other technological resources that deserve to be highlighted: AT (Assistive Technology), ICTs (Information and Communication Technology), Platform 123 autism, among others, which undoubtedly provides quality in teaching, autonomy and independence in the student's development. **Key words:**Inclusive assessment, technological, evaluative methodology.

ABSTRACT:The present study has as its theme “the adaptation of technological instruments and evaluative procedures in inclusive education”, in view of numerous concerns about the infinitive verb evaluate. The objective of this article is to recognize and apply different methodologies that increase inclusion policies to enable the learning of students with autism in regular schools. It is considered that in the evaluation it is fundamental to recognize the dissimilarity of the abilities of each student, using in this procedure including approaches with adaptive investments to ensure a fair and meaningful learning. The fundamentals of the approach have a qualitative character, where the main procedures used were data collection, interviews, reports and observations, in the approach of monitoring and evolution involving the student of 1st year of high school: Maria Isadora Gonçalves de Melo, accompanied by the teacher of the AEE (Specialized Educational Service) Bruna Freitas

Ricarte de Melo holder of the state school Plácido Aderaldo Castelo in the municipality of Caririçu state of Ceará. . The results showed that the student with ASD (Autism Spectrum Disorder), present difficulties and slowness in learning, in the specific case of the student under study, also has low vision, where the challenges increase. However, it is important to rely on didactic resources and understand that the teaching methodology is vast and flexible, thus increasing the quality of teaching. Other technological resources that deserve to be highlighted: AT (Assistive Technology), ICTs (Information and Communication Technology), Platform 123 autism among others, which undoubtedly provides quality in teaching, autonomy and independence in development within the limitations of the learner.

Keywords:Including evaluation, technological methodology, evaluative.

1. INTRODUCTION

The inclusion of students with special needs in the regular education network has raised importance. decision-making with respect to fundamental, legal and methodological rights. The normative entities designated for the rights to social inclusion analyze and guide diverse styles as well as different learning rhythms that are peculiar to each individual. The result of the inclusive system in its essence is very slow, which implies a complex collective effort with teaching resources and partnership implements. There are diverse teaching strategies combined with endless educational associations, whether within the school community or outside it, everyone must collaborate and discuss the best curricular form appropriate to the student's training. In slow steps, but gradually, this idea of defending inclusion has been gaining tiny spaces in the hope of quality education for all.

Schools with inclusive proposals must recognize and respond to the diverse difficulties of their students, accommodating different learning styles and rhythms and ensuring quality education for all through appropriate curricula, organizational modifications, teaching strategies, resources and partnerships with communities. Inclusion requires new positions from the school that imply an effort to update and restructure current conditions, so that teaching can be modernized and teachers can improve, adapting pedagogical actions to the diversity of learners (VELTRONE; MENDES, 2007, p. two).

In this sense, the school group seeks to promote the difficult full inclusion of autistic people in the regular classroom. It is necessary that the education professionals who work there have adequate and specialized training. With this, they allow them to understand the peculiar characteristics, acting directly on the individual difficulties of each individual. The new positions and updates to the pedagogical curriculum when dealing directly with students with ASD (Autism Spectrum Disorder) require the teacher to faithfully improve by adapting their methodological modifications in teaching practice. The continued training and pedagogical improvement of these education professionals are essential factors for the development and training of the student, in the hope of improving the effective results of social inclusion, which, in turn, is a slow process that depends on a complex collective spirit and especially investments in teaching, technological and physical resources (SILVA; BROTHERHOOD, 2009).

2 THEORETICAL FRAMEWORK

2.1-NATIONAL LAWS THAT ENSURE SCHOOL INCLUSION

Some national laws are detailed that support and establish support for school inclusion, which, in most cases, refers to people with some type of disability within the educational learning process. Laws in general bring about important advances in addressing the right to equal access to education. It is also recommended that the aforementioned educational access should be covered at all levels and types of education, without any extra charges on the part of school entities for the implementation of financial resources and investments in accessibility. There is a conflict regarding the enrollment of autistic students, for example, being enrolled in the regular education network. The highlighted text faces stiff opposition from several educators who study the subject in depth, they emphasize that the text does not explicitly mention that instead of special schools, they are enrolled in the regular education network. They highlight that the Ministry of Education (MEC) is reviewing the current National Policy on Special Education from the Perspective of Inclusive Education (PNEEPEI), which dates back to 2008. Let's look at some national laws that support school inclusion in chronological order:

1961 – Law No. 4,024: Law of Guidelines and Bases for National Education (LDBEN) provided the basis for educational assistance to people with disabilities, called “exceptional” in the text (currently, this term is at odds with the fundamental rights of people with disabilities). Below is an excerpt: “The Education of exceptional people must, as far as possible, fit into the general Education system, in order to integrate them into the community”.

two 1988 – Federal Constitution: Article 208, which deals with free and compulsory Basic Education from 4 to 17 years old, states that it is the State's duty to guarantee “specialized educational assistance to people with disabilities, preferably in the regular education network”. In articles 205 and 206, it is stated, respectively, “Education as a right for all, guaranteeing the full development of the person, the exercise of citizenship and qualification for work” and “equal conditions of access and permanence in school”. **1990 – Law No. 8,069:** Better known as the Child and Adolescent Statute, Law No. 8,069 guarantees, among other things, specialized educational assistance to children with disabilities, preferably in the regular education network; protected work for teenagers with disabilities and priority of assistance in actions

and public prevention and protection policies for families with children and adolescents in this condition. **1996 – Law No. 9,394:**The current Education Guidelines and Bases Law (LDB) has a specific chapter for Special Education. It states that “there will be, when necessary, specialized support services, in the regular school, to meet the peculiarities of the Special Education clientele”. It also states that “educational assistance will be provided in classes, schools or specialized services, whenever, depending on the specific conditions of the students, integration into common regular education classes is not possible”. Furthermore, the text deals with teacher training and curricula, methods, techniques and resources to meet the needs of children with disabilities, pervasive developmental disorders and high abilities or giftedness.

2007 – Education Development Plan (PDE):Within the scope of **Inclusive Education (IE)**, PDE works with the issue of school infrastructure, addressing the accessibility of school buildings, teacher training and multifunctional resource rooms.

2008 – Decree No. 6,571:It provides for specialized educational assistance (AEE) in Basic Education and defines it as “the set of activities, accessibility and pedagogical resources organized institutionally, provided in a complementary or supplementary way to the training of students in regular education”. The decree obliges the Union to provide technical and financial support to public education systems in offering the modality. Furthermore, it reinforces that AEE must be integrated into the school’s pedagogical project.

2019 – Decree No. 9,465:Creates the Secretariat for Specialized Education, abolishing the Secretariat for Continuing Education, Literacy, Diversity and Inclusion (Secadi). The department is made up of three fronts: Directorate of Accessibility, Mobility, Inclusion and Support for People with Disabilities; Directorate of Bilingual Education Policies for the Deaf; and Directorate of Policies for Specialized Modalities of Education and Brazilian Cultural Traditions.

Available at: <https://todospelaeducacao.org.br/noticias/conheca-o-historico-da-legislacao-sobre-educacao-inclusive/> Access: 25 Aug. 2023.

Considering the characteristics of students with ASD, especially related to difficulties in communication and social interaction, inclusive education is considered of fundamental importance for the development of these students and constitutes a right for them. “School inclusion provides students with ASD with opportunities to coexist with other students of the same age, becoming a space for learning and social development” (FILHO; LOWENTHAL, 2013, p. 134). It is important to note that students with ASD have a different cognitive style, requiring specific teaching strategies and adapted teaching resources (MORAES, 2004).

It is important to highlight that Inclusive Education has a more extensive concept, covering not only students with some type of disability but also all those students who, for some reason, have been denied their right to remain included in a regular school community. It also includes those who clearly present minor difficulties with concentration, conversation and social exchange. Therefore, school inclusion establishes and seeks out opportunities for collective coexistence in students with ASD (Autism Spectrum Disorder). Therefore, educational inclusion must be quality education for all (SILVA, 2011).

Those evaluated have the right to have their characteristics known, understanding that their deficiencies and limitations are not immutable attributes, in a fatalistic and deterministic view. “This reasoning also extends to the identified potentialities that can be framed and conformed to minimum performance standards (Delou, 2002, Apud Delou 2001).

It is understood that any student with any type of special educational needs has the right to be accompanied in carrying out daily activities and consequently to be recognized and included within the educational process. The mediator, with all preparation, is aware of the student's main learning difficulties for a possible methodological intervention in order to add potential and skills. It is important to highlight that inclusion in the complex educational process is faced with numerous challenges and limitations which, in turn, are neither stagnant nor immutable, requiring different pedagogical interventions aimed at the significant development of the student, such interventions carried out through specific interactivity that favor the minimum evolution of learning.

3

3. MATERIAL AND METHOD

AUTISM 123: MATHEMATICAL TOOL THAT FACILITATES THE EVALUATION PROCESS

This mathematical technological method essentially helps the principles of counting organization, stimulates reasoning, structuring activities and running time, involves and distracts the mind, the tool



used by the student aims to compensate for the deficits characteristic of the autism spectrum and provide entertainment and significant gains for intellectual and social interaction (FONSECA, CIOLA, 2014).

In this sense, the technological tool used as an instrument to evaluate students aims to counterbalance the deficits characteristic of autism, Assmann (1998 apud Faria, 2001, p. 67) mentions that: "Education will only achieve the desirable quality when it generates learning experiences, creativity to build knowledge and skills to know how to access sources of information on the most varied subjects".

For these and other reasons, teaching methodologies specifically aimed at students with any degree of autism require collective caution and immediate intervention from the entire school community. The aim is to compensate for the difficulties and natural deficits that exist and are specific to students on the autism spectrum. With everyday recreational activities combined with the "autismo 123" application, preferably assisted by a professional specialized in the area, it certainly reduces inequality and boosts concentration in the classroom. The inclusion of these methodologies and their applicability mentioned, assisted by the specialized professional, promotes effective learning by stimulating logical mathematical reasoning as well as in other subjects.

It is clear that the alignment of responsibilities for education is of enormous importance, which must be combined together, aiming for the benefit of individuals diagnosed with Autism Spectrum Disorder. Collectiveness through education is necessary to achieve successful learning and minimal evolution. With this, the right to inclusion is implemented through direct action in the form of a diagnosis, which previously verifies the individual needs and difficulties of the student. Diagnostic activities are evaluative forms that must be constantly reviewed and improved to discover a profile for an intervention according to the need for learning in the constant search for interaction and inclusion.

4. RESULTS AND DISCUSSION

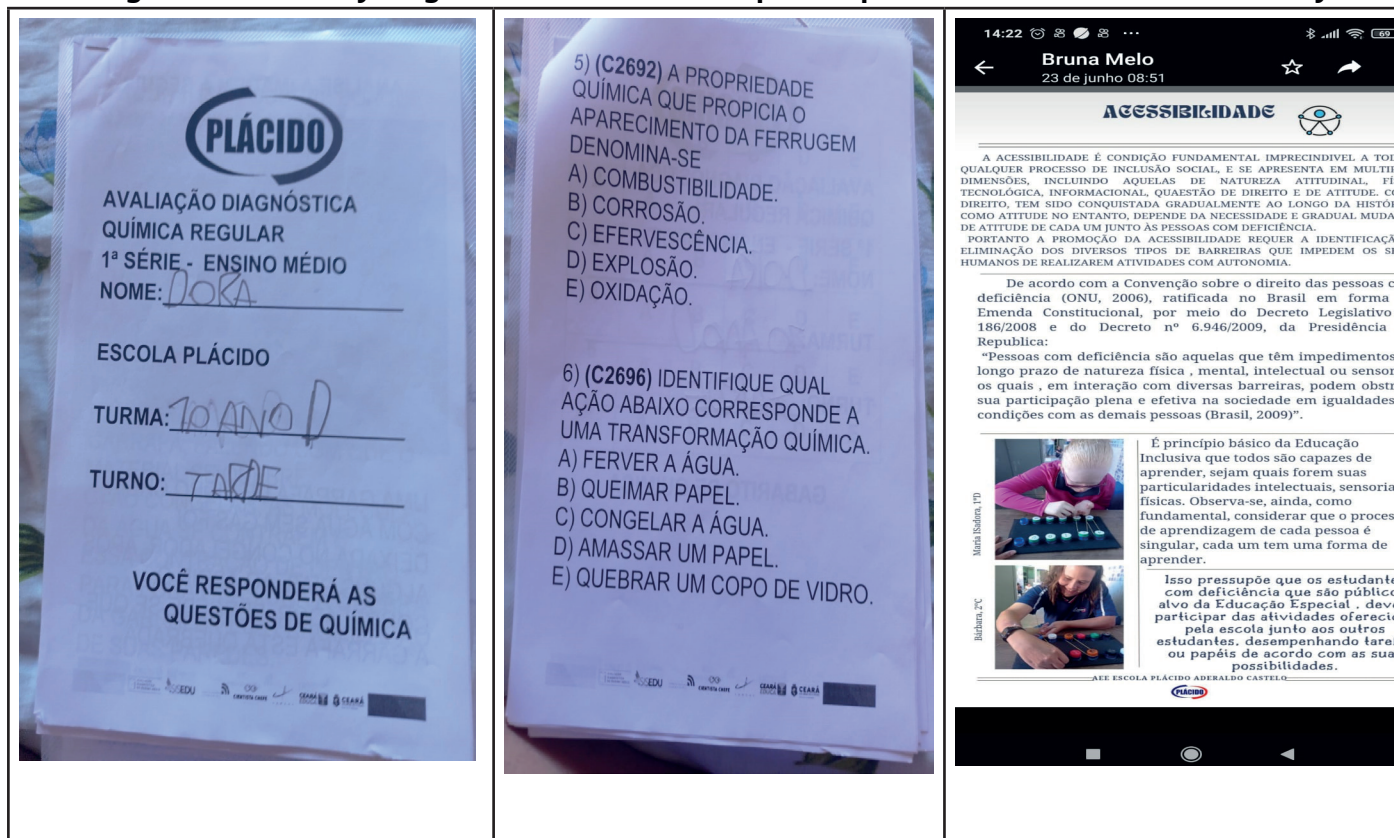
EXPERIENCE REPORT: SERVERS OF PLACIDO ADERALDO CASTELO SCHOOL IN CARIRIAÇU - CEARÁ

It is necessary to provide contextualized and dynamic tasks from the perspective of an evaluation procedure, ensuring respect and the learning pace of each individual. As for the methodological procedures, it is analyzed systematically, it is still worth highlighting that the evaluation seeks to broadly value the socio-affective dimension. There is no separation between reason and emotion. There is a concern with the development of values necessary for a healthy, supportive life for a sensitive human being. It is a formative, continuous and integrated assessment of teaching and learning (VEIGA, 2008).

In this view, we highlight reports, photos and interviews carried out with two employees who serve students with special educational needs who study in the regular education system at the Plácido Aderaldo Castelo school, in the municipality of Caririaçu in the state of Ceará. Relevant issues of a curricular nature, methodologies and evaluation procedures were instigated with special students. The AEE (Specialized Educational Service) tutor Bruna Freitas (33 years, Psychopedagogue) highlighted that:

When dealing with inclusive assessment, we can state that it must be linked to diversified attention, by adapting the curriculum to the different characteristics and educational needs of each student. Therefore, we must pay attention to the specifications of each student so that they can advance. It is understood that each student is unique, regardless of disability, as this means that each individual's level of learning will be taken into account. Assessment is carried out through observations of each student's progress. Depending on the abilities of each student, adaptations were made to external assessments to meet the needs of each student. For example, we have students with low vision in which we expanded the source of the material so that they could have access to the tests sent by the state, as well as selecting the questions according to the student's understanding of the language.

Figure 1: Chemistry diagnostic assessment adapted expansion and work on accessibility



A second employee of the Plácido Aderaldo Castelo school was questioned in an interview, at the time, providing care to the autistic student Maria Isadora Gonçalves de Melo. The questions addressed deal with some basic requirements such as: How is the student's coexistence inside and outside the classroom? Is she getting confidence from walking alone in the yard? Does she understand the collective rules required by the school? Regina Felix Roque Valentim (28 years old, Caregiver) stated that:

She is gradually gaining confidence and slowly mastering her own form of communication and small interaction with other colleagues. Most of the time, she looks for her snack alone during break time, and understands where the trash is in the trash can. This seems irrelevant, however, it raises the student's level of development by identifying rules to be followed and that are required within society. The advances are tiny, however, it is essential and makes all the difference to freedom and consequently to the student's quality of life.

Figure 2: Student Maria Isadora demonstrating complete confidence in relation to the aforementioned interviewees



The quality of life of autistic students begins with small details, which encourage autonomy of the student advancing through small gestures, respecting the individual's peculiar limits. In this process, patience is recommended to understand the needs of others. Mastering communication for the purpose of teaching is essential, making a powerful natural methodological procedure, as good, clear diction promotes cooperation and evolution between those involved. Objectives become more alive and accessible when applicability tools come into connection, in this case, the listener and the speaker. In this way, Moran (2009, p. 32) defines:

Each teacher can find their most appropriate way of integrating the various technologies and the many methodological procedures. But it is also important that you learn to master forms of interpersonal/group communication and audiovisual/telematic communication.

In order for the student's progress and development to be monitored with more clarity and precision, different forms of assessment and methodologies should be reflected and reviewed throughout the process. It is necessary to change the attitude of the student, as well as the teacher's method of individualized assistance, which contributes significantly to academic success. Aiming to contribute to the student's development, formative assessment, when incorporated into the regular educational procedure, gives quality to classroom practices and meets the student's real needs in order to keep teachers informed of the control of the learning acquired, as well as in the sense of to identify difficulties and help overcome them. (UNESCO, 1994).

[...] the evaluation process must focus on: the context of the class (methodologies, teaching procedures, teacher performance, interpersonal relationships, individualization of teaching, physical-environmental conditions, curricular flexibility, etc.); the school context (pedagogical project, functioning of the teaching and technical team, curriculum, organizational climate, management, etc.). (BRASIL, 1999, p. 57).

It is identified that carrying out formative assessment requires changes in the methods and attitudes of education professionals. A kind of mutation in function and execution as facilitators of learning is requested from them, they are eternal learners in the assessment situation with students, acting in a flexible and cooperative way. Dialogue is essential to harmonize feedback, always with the aim of promoting student development and autonomy. This evaluation methodology, when executed truthfully, its results are surprising and efficient. With a wide-ranging format, formative assessment invades the entire school body in this process. School entity managers, for example, play a crucial role from the perspective of open and democratic management to contribute to the construction of knowledge. It is known that improvements in results are not immediate, are quite challenging and involve different school and extra-school sectors. Students are expected to take a gradual and responsible active stance towards the formation of participatory beings towards the construction of autonomy and their own knowledge.

Figure 3: Student Maria Isadora in activities Figure 4: The Plácido school yard



Maria Isadora, 1ºD



For inclusion to occur with minimum quality, an in-depth analysis is necessary, prioritizing goals in conjunction with the entire school community. This requires large-scale government investments, such as: Continuous training of professionals, construction of the appropriate physical structure, preparation and

application of projects that guarantee the autonomy of people with disabilities. adequate technological resources and evaluation methods. According to Gil (2005, p.18):

[...] the best response for students with disabilities and for all other students is an education that respects the characteristics of each student, that offers pedagogical alternatives that meet the educational needs of each student: a school that offers all of this in a inclusive and welcoming environment, where everyone can live and learn from differences.

For meaningful learning and harmonious development, the levels of tasks and proposals are peculiar to each individual, in order to evaluate the learning of students with special educational needs. The methodology applied must be checked carefully by the teacher. In this sense, each technological tool must be investigated and adapted to use conventional methods. Keeping in mind that people with ASD (Autism Spectrum Disorder) become distracted or distracted from the proposed content quite easily (FERREIRA; FRANÇA, 2017) and have significant difficulties with attentive focus, explanatory concentration in the classroom and logical reasoning required for learning mathematical concepts (REDERD; SANTOS; HEES, 2018).

The teacher needs to have full knowledge of the difficulties of students with special needs so that they can pedagogically study and enhance learning within the peculiar limitations of each individual. The existence of other students within the school universe who need extra support aimed at better understanding and development is identified, thus favoring collective evolution with a balance of programmatic contents. Caregiver support is extremely important in this process, supporting routine activities, which extends to the entire class when required, whether the student has a disability or not. This support professional must participate in constant training and specialized training to carry out this role concisely. It is therefore hoped that this support professional, as important as the teacher, understands the basic school content applied in the classroom so that it serves as a connecting bridge, complementing the advancement of the autistic student's quality of life.

FINAL CONSIDERATIONS

The inclusion of students with special needs in the regular education network has led to important decision-making with respect to fundamental, legal and methodological rights. With the considerable increase in ICT (Information and Communication Technology) in regular schools, it has stimulated a significant advance in the use of such pedagogical equipment, however, it is still timid due to a lack of adequate handling on the part of the teacher. It is identified that with the implementation of the media increases the possibilities in the quality of education, thus, insulting the skills of students.

It is noted that progress in the perspective of inclusiveness on a large scale is a reality far from being achieved, the lack of investment in qualifying professionals and in the construction of standardized classrooms is a worrying factor that reduces the quality of inclusive education. The absence of organizational policies causes delays in results, even with countless difficulties and very few resources, let us believe in work and commitment.

It is concluded that for formative assessment and school inclusion to occur, changes in methods must be reviewed by education professionals. These must act as learning facilitators, they are eternal learners in the assessment environment with students, acting in a flexible and cooperative way. Dialogue is essential to harmonize feedback with the aim of promoting the development and autonomy of students with special needs. When the subjects are relevant to the student's experience, what we call contextualization, making it a pleasure to understand, thinking this way, the "autism 123" application is a pleasant teaching method focused on basic mathematics.

Concluding the research, we identified in the interviews that when the student Maria Isadora was insulted, forced to get your own lunch from the canteen, this generates a profound automatic freedom that increases your social resourcefulness. It is these small and invisible gestures that give quality and meaning to education. O
7 The process is painful and slow, but with hope and perseverance, we believe that anything is possible, including inclusion.

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