

## **Digital information and communication technologies as a facilitator in the reception of early childhood education students: Lipids and neuroatypicals**

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### **ABSTRACT**

The present case report proposes to present the process of development and distribution of the *e-book* entitled "Welcome to the Advanced Center for Early Childhood Education (NAEI) Sebastião Luiz Tatagiba", held in a municipal school in Niterói – RJ. The digital book was shared with the students of the school through their guardians, especially for the guardians of students with Autism Spectrum Disorder. The purpose of the *e-book* is to enable the "visual anticipation" of the school space and to get to know the management team and teachers who will welcome them. Initially, we will present the importance of welcoming in early childhood education and the need to think about the inclusion of students with Autism Spectrum Disorder. Then, we will report on how the *e-book was developed and distributed* to those responsible. We will conclude the work by presenting the conclusions about the creation of the *E-book*, its applicability and suggesting its replicability in other schools in Niterói and also at the national level, as it is a successful practice aiming at greater inclusion.

**Keywords:** Foster care, Early childhood education, *E-book*, Digital information and communication technologies, Autism spectrum disorder.

### **INTRODUCTION**

It is possible to affirm that students who feel welcomed and respected by the school unit, and necessarily by the teachers, end up developing affective bonds that are decisive for the creation of a favorable environment for their development, because in this way, the child feels pleasure in studying (Silva, 2021).

In this experience report, we will initially present the importance of welcoming in early childhood education and how inclusion is essential for children with Autism Spectrum Disorder. We will report below how the creation of a *Electronic book*, developed at the Sebastião Luiz Tatagiba Advanced Center for Early Childhood Education (NAEI), of the municipal school system of Niterói - RJ, which aimed to welcome students, especially those with Autism Spectrum Disorder at the beginning of the 2024 school year. We will conclude by suggesting the replicability of the project in other schools of the municipal network of Niterói and perhaps in other networks in the country due to the result.

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When you offer to students, by sending a *Electronic book*, the possibilities of "knowing" the team that will receive him and performing the "visual anticipation" of the school spaces, we are welcoming this child and facilitating his adaptation. According to Pereira et al. (2022), "adaptation" refers to the ability of human beings to adjust to a new reality presented, in the case of our students, access to basic education.

This work aims to point to the real possibility of using Digital Information and Communication Technologies to create a *Electronic book*, which aims to improve the process of welcoming children in early childhood education, especially those with Autism Spectrum Disorder.

Every child, with or without a disorder, has the need to feel safe, and entering the school space requires courage, boldness... We know that each individual has their own uniqueness and therefore may have more or less ease to face this moment. It is in this perspective that, as researchers and teachers, we create a product to help the entire school community.

## **RECEPTION IN EARLY CHILDHOOD EDUCATION**

According to article 29 of the Law of Guidelines and Bases of National Education – LDB, early childhood education is the first stage of Basic Education.

Article 29. Early childhood education, the first stage of basic education, aims at the integral development of children up to six years of age, in their physical, psychological, intellectual and social aspects, complementing the action of the family and the community (Brasil, 1996, p. 21)

According to Farias (2015), welcoming children and their families in this new stage of their lives, recognizing their singularities is a fundamental attitude for the effective work of the school. We recognize that each student, when they arrive at the school unit, already brings a story, with their experiences of the world.

Adaptation and reception are directly interrelated and should be prioritized at this time of school startup. Adaptation is a process that must be built among all "educational peers" (parents, student, teachers and school), which occurs by the child through an adjustment and accommodation of determined actions, making the maximum effort for their well-being in the social and collective space, which is often still unknown (Barbosa; Menezes, 2022).

The National Common Curriculum Base deals with affective welcoming, in the transition between early childhood education and elementary school, but we believe in the importance that the same welcoming should be carried out at the entrance of students into basic education.

In order for children to successfully overcome the challenges of transition, it is essential to strike a balance between the changes introduced, the continuity of learning and the affective welcome, so that the new stage is built on the basis of what the learners know and are capable of doing, avoiding fragmentation and discontinuity of the pedagogical work. (Brazil, 2018, p. 53)



We know that the teaching-learning process involves feelings and, especially in early childhood education, it is necessary that there is affection in the pedagogical practice. According to Barbosa and Menezes (2022), it is important to understand that for the child to develop, both emotionally and intellectually, it is essential that there is an emotional bond with the teachers.

## **AUTISM SPECTRUM DISORDER – ASD**

Scholar Michael Ruter was the first to establish a definition on the topic of Autism Spectrum Disorder (ASD). This definition was incorporated into the third version of the Diagnostic and Statistical Manual of Mental Disorders (DSM III) in 1980 as Pervasive Developmental Disorder (PDD).

The latest edition is the DSM V and was published in the year 2022 classifying autism as a disorder that lies within a spectrum, as there is great variability in behavioral signs (American Psychiatric Association, 2022).

According to Cunha (2013),

The term autism originates from the Greek *autós*, which means "of oneself." [...] Autism comprises the observation of a set of behaviors grouped into a main triad: impairments in communication, difficulties in social interaction, and restricted repetitive activities. The DSM-TR (Diagnostic and Statistical Manual of Mental Disorders), published by the American Psychiatric Association, and the ICD 10 (International Classification of Diseases), of the World Health Organization, are consonants when describing autism (Cunha, 2013, p. 20).

Including children with Autism Spectrum Disorder in schools involves contemplating their permanence in the classroom, but associated with inclusion in group and individual activities (Machado, 2019). There needs to be a multiplicity of attitudes and reflections that need to be implemented by the entire school community, so that students with Autism Spectrum Disorder understand the educational routine and feel more comfortable and safe.

In order for children with Autism Spectrum Disorder to establish a routine, it is essential that, whenever possible, they anticipate what is about to occur. Corroborating this idea, Machado (2019, p. 103) states that for the inclusion of children with ASD in the school environment, one should "establish routines and visual anticipation so that they can orient themselves and prepare for activities and events at school". Thus, creating strategies for the "presentation" of the school team and performing the visual anticipation of the facilities that the student with ASD will attend is essential for the inclusion process.

## **THE USE OF DIGITAL INFORMATION AND COMMUNICATION TECHNOLOGIES FOR THE REALIZATION OF VISUAL ANTICIPATION**

In order to facilitate the process of welcoming early childhood education students, the management team of the Sebastião Luiz Tatagiba Advanced Center for Early Childhood Education, of the municipal



school system of Niterói, in the State of Rio de Janeiro, decided to use Digital Information and Communication Technologies so that students with 4 and 5 years of age could perform the "visual anticipation" of the school environment.

The school where the project was developed has two "G4" classes (4-year-old students) and two "G5" classes (5-year-old students). At the end of the 2023 school year, the students of the two "G5" classes went to elementary school and, in 2024, the two "G4" classes became "G5" classes, thus, vacancies were opened for two new "G4" classes. In January 2024, the school enrolled the two classes of 4-year-olds and filled remaining vacancies of 5-year-olds.

To carry out this welcoming process, the *Electronic book* "Welcome to the Advanced Center for Early Childhood Education (NAEI) Sebastião Luiz Tatagiba", available at:  
[https://www.canva.com/design/DAF11\\_sGp4Q/9EvpF1HY0npGcbfAYPqN7A/view?utm\\_content=DAF11\\_sGp4Q&utm\\_campaign=designshare&utm\\_medium=link&utm\\_source=editor](https://www.canva.com/design/DAF11_sGp4Q/9EvpF1HY0npGcbfAYPqN7A/view?utm_content=DAF11_sGp4Q&utm_campaign=designshare&utm_medium=link&utm_source=editor)

Using the online tool Canva ([www.canva.com/pt\\_br/free/](http://www.canva.com/pt_br/free/)) and a camera that takes 360° photos and videos, "*Insta 360 ONE X2*".

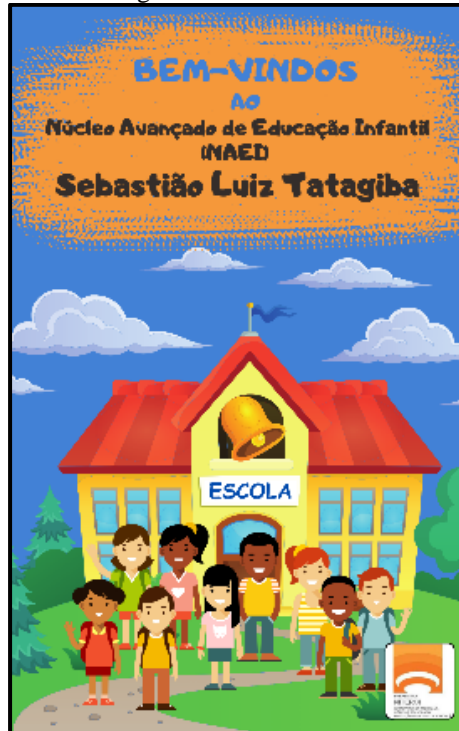
The choice of the Canva online tool was made for its ease of use of the platform, for being free, and also for allowing the educational use of its image gallery at no cost. The Canva platform was launched in 2013, works online and aims to allow the creation of different forms of visual communication by anyone, making it possible to publish their productions for free (Canva, c2023).

The use of a camera that allows the production of 360° photos was made so that early childhood education students can immerse themselves in the school space where they will be welcomed.

Or *Electronic book* It has twenty pages and was made available in PDF format so that there would be no change in its formatting when viewed by those responsible. The 360° photos for the development of the *Electronic book* were made on December 5, 2023 and the book was produced during the month of December of the same year. The photos of the school team were received until January 12, 2024 and those responsible received the *Electronic book* January 24 of the current year. It should be noted that in this school unit, the beginning of the school year took place on Monday, February 5, 2024.

Sending the *Electronic book* for those responsible it was carried out through the mobile phone application WhatsApp. The choice to send through this application was due to the fact that it is free, multiplatform, and can be installed on phones with Android or IOS systems, and is installed on 99% of Brazilians' phones (Oliveira et al, 2014).

Figure 1. *E-book cover*



Source: The Authors

In the presentation of the *e-book*, the authors clarify to those responsible for the students that the objective of the book is to facilitate the integration of new students, especially those who have Autism Spectrum Disorder – ASD, their new/first school.

Figure 2. *E-book presentation page*



Source: The Authors

Next, the book brings photos of the employees of the school unit, with the identification of the management team, the teachers and the support teachers. With this presentation, it was possible for the new students to meet the team that would receive and welcome them before the beginning of the school year.

Figure 3. *E-book* page with introduction of school staff.



Source: The Authors

In order for the new students to be able to visually anticipate the school space, they were presented in the *Electronic book* the entrance to the school, the external areas I and II - entrance to the classrooms and recreation space, the multimedia room, the classroom and the cafeteria. In these pages of the book, students, in addition to seeing a photo of the indicated location, also have the possibility of accessing a 360° photo of the environment. By clicking on the "360°" icon, the new student can navigate through the photo by touching the cell phone screen, enjoying an immersive experience, as if he were inside the place being viewed. By clicking on the "360°" icon in the classroom, for example, the student is directed to the link: <https://s.insta360.com/b/0P4089DF26Da70998A5B8B4B5AC3417B>.

Figure 4. *E-book* page with classroom presentation.



Source: The Authors

Or *Electronic book* It ends with a message from the authors to those responsible for them, expressing the hope that the book can facilitate the inclusion of new students, especially students with Autism Spectrum Disorder, their new/first school.

Figure 5. *E-book* page with the final message.



Source: The Authors



## FINAL THOUGHTS

As we had students enrolled in the remaining vacancies of the two "G5" classes, the book was forwarded to the WhatsApp groups of those responsible for the 4 classes of the school unit: the two "G4" classes because they were new students and the two "G5" classes because of the remaining enrollments. In this way, 75 responsible persons received the *Electronic book* "Welcome to the Advanced Center for Early Childhood Education (NAEI) Sebastião Luiz Tatagiba", even though some of these students from the "G5" classes, having already studied at the school in 2023. The book was also made available in the WhatsApp group of the school's teachers.

By the amount of positive messages, compliments and emojis (applause, okay sign and hearts) that were expressed through the WhatsApp groups where the book was made available, we can say that there was an excellent acceptance from those responsible. The teachers reported that the project developed was of great value and presented two suggestions: i) that every year a new one be prepared *Electronic book* and, ii) in the next books, the employees who work in the kitchen and in the cleaning of the school unit will be included. We recognize our failure in not having included all members of the school, due to the relevance of each one in the educational space for all, especially for children.

We highlight that in the year 2024 we had the enrollment of two students with Autism Spectrum Disorder - ASD in the "G4" class. For children with ASD, it is essential to establish a routine and, whenever possible, anticipate what will happen. Corroborating this guideline, Machado (2019, p. 103) states that in order to include children with ASD in the school environment, one should "establish routines and visual anticipation so that they can orient themselves and prepare for activities and events at school".

The guardians of these two students, in addition to receiving the *Electronic book* In the class groups where their children were enrolled, they also received the book by private message to ensure that students had access to the material. One of the guardians thanked the school's initiative, but decided to cancel the enrollment and opted to place her son in a private school.

The mother of the student L. reported to the principal that her son really liked the project and that he was entertained for several minutes moving, looking at the teachers and the support team and opening to "navigate" through the 360° images to get to know all the environments. The mother said she recognizes the importance of her child having the opportunity to visually anticipate the school space before their arrival at the school environment.

Thinking about ways for students to feel welcomed in early childhood education, especially students with ASD, is essential to truly have an inclusive school. We believe that the *Electronic book* "Welcome to the Advanced Center for Early Childhood Education (NAEI) Sebastião Luiz Tatagiba" can facilitate this welcoming process and we hope that this pedagogical practice will be replicated in different schools in the municipality of Niterói and even in other Brazilian municipalities. In this way, all new





students will be able to "get to know" their school and the professionals who work in it, before the beginning of the school year, thus enabling the adaptation process to take place in a smoother and more inclusive way.



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