TEACHING PRACTICES WITH STUDENTS WITH COMPLEX COMMUNICATION NEEDS DURING THE PANDEMIC: REPORTS FROM BRAZILIAN TEACHERS

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Abstract:

The global impact of the ongoing pandemic has been unprecedented, including in the field of education. Emergency adaptations to teaching and learning methods have become a reality for students and teachers alike, highlighting the significant structural challenges that already existed within the Brazilian education system, particularly for students facing socioeconomic and communication-related difficulties. This study presents and discusses reports from Brazilian teachers in the state of Rio Grande do Norte regarding their pedagogical practices with students with complex communication needs in the early years of primary school, in the context of the pandemic. A semi-structured individual interview was conducted with 14 male and female teachers who supported children with complex communication needs between the ages of six and ten in the early years of primary school in the state of Rio Grande do Norte, to inform the methodological operationalization. The main results indicated that, following the announcement of the pandemic, teaching took place in different ways in the surveyed contexts. The participants listed several difficulties, such as limited contact between students and teachers, inadequate monitoring of students' progress and a lack of suitable technological

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resources for teaching. WhatsApp and smartphones were also the most frequently used means of communication during remote classes, facilitating communication and learning during the pandemic. The participants considered the use of augmentative and alternative communication systems important for communicating with children during the pandemic, but felt it could have been more effective if technological and material resources had been available during remote classes. Finally, the recommendations focus on providing teachers with training in Augmentative and Alternative Communication Systems, as well as expanding studies on the subject.

Keywords: pedagogical practices, augmentative and alternative communication systems, complex communication needs, teachers

1. Introduction

The SARS-CoV-2 pandemic, which reached global proportions in early 2020, forced governments to implement emergency measures to contain the virus. This created an unprecedented global scenario, including in education, as it required adaptations to teaching and learning methods. The Organisation for Economic Co-operation and Development (2020) highlights the major challenges around the world posed by the suspension of face-to-face classes and the adoption of remote or hybrid models to ensure the necessary support for students and their families, as well as the implementation of a communication system adapted to each student to monitor their learning.

In Brazil, the pandemic exacerbated existing structural challenges in the education system, such as social and economic inequalities (Tomaz & Cruz-Santos, 2023), while also necessitating new pedagogical and communication strategies. This transition meant reorganizing time, spaces and resources for teachers and students, who often lacked the necessary infrastructure to ensure equity in the teaching and learning process. These difficulties have been particularly acute in the field of inclusive education, especially for students with Complex Communication Needs (CCN) (Bonotto et al., 2020), as their ability to communicate and access learning depends heavily on specialized resources, given their limited capacity to meet their communication needs (Beukelman & Mirenda, 2005) consequences from developmental disorders or acquired conditions that impact speech and communication competencies (Bonotto et al., 2020, p. 1731). Thus, the pandemic has exacerbated historical inequalities and exposed shortcomings in the implementation of inclusive teaching methods, particularly in areas lacking technological infrastructure and other resources (Dias & Pinto, 2021; Vieira & Seco, 2020). In the case of Rio Grande do Norte state, socioeconomic contrasts and the disparity in resources available to urban and rural schools were evident (Tomaz, 2023). Additionally, teachers lacked the training required to support students with CCN, resulting in limitations in this area (Bonotto et al., 2020). Innovative strategies supported by technology, quick solutions, curricular adaptations and equal and quality communication and learning opportunities redefined teaching, particularly with regard to students with CCN.

Teachers therefore experienced a variety of pedagogical approaches based on creativity and resilience, exacerbated by communication difficulties, inadequate strategies and insufficient technological resources (Nunes & Zancanaro, 2024; Tomaz, 2023).

This study, therefore, sought to answer the following questions: How did pedagogical practices with students with complex communication needs in the early years of elementary school in the state of Rio Grande do Norte occur during the pandemic? What resources, technologies and support did teachers use to facilitate communication during the teaching and learning process? What difficulties did these teachers encounter during the pandemic?

Based on this, the present study aims to present and discuss reports from Brazilian teachers in the state of Rio Grande do Norte regarding their pedagogical practices with students with complex communication needs in the early years of primary school during the pandemic.

Understanding these practices can contribute to academic and social reflection on the role of augmentative and alternative communication systems (AACS) in promoting educational equity and inclusion.

2. Literature Review

Communication is fundamental to any human interaction with their environment. As such, it is a means of social regulation and an excellent tool for transmitting knowledge (Beaudichon, 2001), which begins after birth (Nunes, 2003).

Although spoken language is widely regarded as the primary means of communication, it is not the only means. The symbolic nature of language means that meaning can be attributed not only through voice, speech and hearing, but also through visual and manual modes of communication (Tomaz, 2023). According to Vygotsky (2009), the primary function of language is communication. According to Vygotsky (1998), learning first occurs on a social level, mediated by instruments and signs, and is then internalized by the individual.

Therefore, the ability to communicate is essential for interaction, learning, development and socializing. When difficulties or limitations arise in this process, augmentative and/or alternative communication methods must be adopted for these individuals (Tetzchner & Martinsen, 2000). Augmentative and Alternative Communication Systems (AACS) are understood to be a set of resources, strategies, and technologies that augment or replace speech and/or writing. This enables people with temporary or permanent limitations to express themselves and interact socially (Beukelman & Light, 2020). AAC is a field of assistive technology that can benefit people with CCN by expanding their communication skills (Borges & Lourenço, 2023). In an educational setting, these systems are essential for enabling the participation and learning of students with complex communication needs. They act as cultural mediators, providing access to the curriculum and facilitating social interactions (Togashi et al., 2017).

According to Lev Vygotsky's historical-cultural theory, which emphasizes the importance of symbolic mediation, social interaction and culture in human development, communication is crucial because, as Vygotsky (2009, p. 12) states, 'in the absence of a system of signs, linguistic or otherwise, only the most primitive and limited type of communication is possible'. By enabling individuals with communication difficulties to express their thoughts, feelings and desires, AACs can extend the Zone of Proximal Development (ZPD), facilitating tasks and interactions that would otherwise be beyond their immediate capabilities (Manzini, 2013).

During the pandemic, studies have shown that inequalities in digital access and the lack of specific public policies for assistive technologies have exacerbated existing barriers (Tomaz, 2023). In some cases, the same teaching strategies used in face-to-face classes were adopted during remote classes, demonstrating a misguided transposition of the face-to-face format to the online format with the mediation of digital technological resources without considering students with CCN (Moreira & Schlemmer, 2020; Tomaz, 2023).

3. Material and Methods

This article is an excerpt from the first author's Master's thesis, entitled 'Augmentative and Alternative Communication Systems (AACS) Used by Children with Special Educational Needs in the State of Rio Grande do Norte, Brazil', which followed the academic procedures for authorization in Brazil. It was approved on 16 September 2022 by the National Ethics Committee for Research (CONEP) under Opinion No. 5,634,011. This was based on the standards defined by Resolution No. 466 of 12 December 2012 of the National Health Council of the Ministry of Health, which guides research involving human subjects. A qualitative approach of a descriptive and interpretive nature was adopted for this purpose. This approach seeks to gain a more detailed understanding of a situation (Marconi & Lakatos, 2021). In descriptive methodology, results are analyzed in terms of their importance in a specific context; details are studied, but cannot be generalized (Bell, 2016).

Participants were recruited through a broad invitation disseminated via social media, WhatsApp and email, which was sent to teachers who taught in the early years of elementary school in Rio Grande do Norte during 2020 and 2021. This invitation included a text introducing the authors, the study's theme and objectives, its relevance, how to participate, and assurances of confidentiality and anonymity, with the consent of the Rio Grande do Norte State Secretariat. The first author then contacted teachers who had agreed to participate individually, in order to verify that they met the following criteria:
 a) They had taught in the state of Rio Grande do Norte in 2020 and 2021.
 b) They had supported students with CCN in 2020 and 2021.
 c) Their students had been enrolled in the first five years of elementary school/early years.

Based on the initial screening, teachers who supported students with communication difficulties were identified to form the study sample. Thus, 14 teachers, aged between 25 and 45 years old (as described in Table 1), participated in this study.

Table 1: Profile of participating teachers

Participant	Education	Current role	Scope of work	Support for students aged 6 to 10 with
Camila	Pedagogy	Regular classroom teacher	Public school	Cerebral palsy
Margarida	Pedagogy Specialization in Early Childhood Education	Multi-grade classroom teacher	Public school	Intellectual disability/ Dyslexia
Marta	Pedagogy Specialization in Portuguese Language and Master's Degree in Mathematics Sciences	Specialized Educational Services Teacher	Pedagogical Support Center for People with Visual Impairments – CAP-RN	Visual impairment/ Low vision/ Intellectual disability/ Autism
Camila	Pedagogy Specialization in Early Childhood Education	Regular classroom teacher	Public school	Nonverbal autism
Rosa	Pedagogy	Regular classroom teacher	Public school, rural area	Intellectual disability
Bia	Pedagogy	Multi-grade classroom teacher	Public school	Dyslexia/ Autism
Maria	Pedagogy Psychology graduate Specialization in Psychopedagogy and Neuropsychology	Regular classroom teacher	Private school	Nonverbal autism/ Hearing impairment/ Down syndrome/ Cerebral palsy
Paulo	Pedagogy Specialization in Educational Psychology	Institutional educational psychologist	Private school	Autism/ Down Syndrome/ Motor disability
Ana	Pedagogy Specialization in School Management	Regular classroom teacher	Public school, rural area	Intellectual disability
Glória	Pedagogy	Regular classroom teacher	Philanthropic school	Autism/ Intellectual disability/

	Specialist in Literacy and Early Childhood Education			Cerebral palsy
Laura	Pedagogy and Business Administration	Regular classroom teacher and educational support	Public school	Down syndrome
João	Pedagogy Specialization in Specialized Educational Services (AEE) and Inclusive Education	Special Education Teacher	Public school	Down Syndrome/ Dyslexia/ Intellectual disability
Patricia	Pedagogy	Regular classroom teacher	Private school	Autism
Ester	Pedagogy Specialist in Psychopedagogy Neuroscience and literacy	Pedagogical Coordinator	Private school	Motor disability/ Autism

Source: Authors (2025).

To obtain the data, the authors conducted semi-structured interviews with the 14 participating teachers. The authors prepared a script consisting of 18 questions, organized into the following two thematic blocks: Thematic Block I: Sociodemographic Characterization; and Thematic Block II: Identification and Description of AACS in the Context of the Covid-19 Pandemic.

The interviews were conducted individually with the first author via videoconference using the Google Meet platform. Each interview lasted between forty minutes and an hour and a half, and took place at a predetermined location and date. All interviews were recorded with the participants' authorization using an audio recording application. The virtual Informed Consent Form (ICF) was made available to all interviewees and explained at the beginning of each interview.

Data processing was based on content analysis, which systematically obtains a description of the content acquired from statements and texts with indicators (quantitative or otherwise) that allow knowledge related to the production/reception of these messages to be inferred (Bardin, 2016). After transcribing the interviews, a preliminary analysis table was created to systematize the material. This was followed by categorizing the indicators, which were organized by context and theme units according to the research objectives, and discussed in light of the literature. The organization and presentation of the participants' statements are descriptive. To protect the participants' identities and confidentiality, fictitious names have been used to identify them.

4. Results and Discussion

This section presents and discusses the data obtained from interviews with participants. The data is organized into themes and sub-themes for comparison, based on the literature reviewed.

4.1 School Context During the Pandemic

In this category, participants described how the health and pedagogical measures adopted by their schools during the pandemic were implemented. These practices were found to be configured according to the realities encountered by participants and students in 2020 and 2021.

In 2020, it was found that all public school teachers began their educational activities with students late. According to teacher Marta (P. AEE, CAP-RN), "*there was a delay in responding to what was happening*". Classes did not start immediately. No one was prepared! But I think that in May and June, we started classes in a very experimental way.' Rosa (P. S. R., public school in a rural area) said, *"We waited for guidance from the administration and the Department of Education to know what to do. It took about two months to start setting up classes in a non-face-to-face format, but it was all very simple."* Private schools, on the other hand, implemented teaching strategies more quickly in response to school closures and social isolation caused by the pandemic, as revealed in the report below:

> *"[...] when they said, "You will need to close the schools", the next day we had training on digital tools, and the day after that we started working online using Google Meet. It was very quick, and we continued like that until September 2020"* (Maria, P.S.R., private school)

According to the 2021 School Census (Inep, 2022), the average number of days that face-to-face teaching and learning activities were suspended in public schools in Brazil in the 2020 school year was 287; in private schools, the average was 248.

It was also evident that, in most public schools and at the Pedagogical Support Centre for People with Visual Impairments (CAP-RN), the teaching and learning process was asynchronous. Teachers prepared blocks of activities on a weekly, fortnightly and monthly basis, which were then delivered to parents at the school itself. According to participant João (P. Edu. Esp., Esc. Púb.), *"[...] it was totally remote teaching"*. The interviewee and the regular classroom teacher prepared the activity blocks every two weeks and left them at the school on Monday so that parents could pick them up. In contrast, the philanthropic school opted to send activities and hold synchronous meetings to answer students' questions. In private schools, classes were held synchronously. Across Brazil, 73.1% of private schools broadcast live classes and 74.7% adopted asynchronous learning (Brazil, 2022). According to Tomaz (2023), private schools were better prepared than public schools in terms of teaching strategies and methodologies. This is because organization, planning, monitoring and decision-making

are more straightforward and efficient in the private sector than in the public sector. However, it was found during remote classes that some teaching strategies were not adequate for students with communication difficulties, as reported below:

"Every day, at practically the same time. The teachers recorded the classes and made them available on Google Classroom. We organized study groups via Google Meet with the teacher and three or four children who had questions at the end of the day. However, we had an autistic student who did not speak. During the pandemic, he did not participate in any classes. So, his mother took him out of school" (Ester, Educational Coordinator, Private School).

"[...] We created a WhatsApp group with all the parents who had mobile phones to keep in touch. At the end of July, I organized some activities and left them at the school for the parents to pick up. However, at the beginning of the pandemic, an autistic student ran away from school, and we still have no news of him." (Rosa, P.S.R., public school, rural area).

During the pandemic, it was expected that all students would be able to achieve their educational goals. For students with special educational needs (SEN), this right should be guaranteed at home too (Castro, 2021), through adjustments to methodologies, strategies and activities that meet their specific needs (Secundino & Santos, 2022). However, distance learning possibilities were very limited for SEN students with communication difficulties (Bonotto et al., 2020; Castro, 2021; Orlando et al., 2021). This was exacerbated by a lack of studies and guidelines on SEN education, resulting in severe and detrimental consequences for cognitive, emotional, and psychosocial development (Ceccim & Correa, 2021; Oliveira-Neta et al., 2020). This made it challenging for teachers and families to monitor these students' progress.

Teachers reported that WhatsApp was the most widely used instant messaging application for teaching, as it was considered the most accessible resource for most families, particularly in the public school system. This finding aligns with the 41.9% of Brazilian schools that adopted digital applications or tools (e.g. WhatsApp, Zoom, Google Meet and YouTube) for online classes in 2020 (Brazil, 2022). In contrast, private schools adopted a wider range of digital platforms, including Zoom, Google Meet, Google Classroom, Google Forms and Google Drive for file storage. These findings are consistent with the results of studies by Machado (2020), Santos et al. (2020) and Vieira and Seco (2020). Thirteen of the interviewees identified the family as a fundamental factor in communicating with students during remote classes. According to the interviewees, the family assisted and mediated interventions in the class dynamics, the proposed activities, the dialogues and the children's own needs.

One of the interviewees was Ana (P.S. R.). Public School, Rural Area): *"Communication was complicated. We were very restricted because the dialogue was really with the families via WhatsApp."*

Glória (P.S.R., Philanthropic School): "*Interactions were very complicated. We were very restricted because the dialogue was really with the families via WhatsApp*"; Púb., Rural Area): "*Communication was complicated. We were very restricted because the dialogue was really with the families via WhatsApp.*"

Glória (P.S.R., Philanthropic School): "*The interactions were very fast! During the Google Meet videoconference, the student responded with smiles, blinking her eyes and pointing when her mother or I showed her pictures*". Patricia (P.S.R., private school) said: "*[...] the family helped me a lot with managing the student at home. I needed that support; without it, it would have been difficult for my student to concentrate and complete the activities.*"

Based on this, it can be observed that, during the pandemic, the roles of families were reinterpreted, with families often helping to mediate communication and socialization for people with communication difficulties or CCN. These students and their families required support and organization to continue with global and educational development processes (Tomaz, 2023). Thus, Augmentative and Alternative Communication Systems (AACS) enable this audience to understand and express themselves in various activities and situations, contributing to inclusion, social participation, self-determination and communication (Bonotto et al., 2020).

However, some interviewees highlighted that the methodologies and strategies for delivering content did not undergo the necessary adjustments. Even if they were carried out effectively, their implementation depended on families' understanding, availability and resources.

> "*I planned activities every week, focusing on the child's psychomotor needs. I sent these activities via WhatsApp every day, but the mother was overwhelmed because the child continued with therapy at home, so she did them when she could.*" Glória (P. S. R., Philant. School)

> "*As the child was the son of a politician, he had a tutor. So, I dealt with everything with her. She participated in classes a lot, helped me a lot, brought materials and attended meetings, but she was the one who did the activities with him. I never had contact with the parents.*" (Maria, P. S. R., Esc. Priv.).

According to Machado (2020), distance learning prevented teachers from controlling the mediation carried out by families. According to Ceccim and Correa (2021) and Secundino and Santos (2022), many of the proposed alternatives only served as temporary solutions. While such alternatives appeared effective, they proved ineffective in practice, primarily due to social limitations.

According to respondents from public and philanthropic schools, in 2021, classes began remotely and resumed in person in the middle of the year in a staggered format, with students and classes attending on alternate days, to avoid crowds and minimize the risk of contagion until the end of the school year. Regarding private schools, all

respondents mentioned that the return took place in a hybrid format in 2020 and subsequently in-person only in 2021.

Nine interviewees mentioned that some families preferred their children not to attend in-person classes for fear of contracting the disease, and continued with remote learning. Camila (P.S.R., public school) revealed that one family had decided it was better to keep their child at home to avoid disruption if they fell ill, while Bia (multi-level public school) said that one child had always been unwell and his parents thought it best for him to stay home to avoid catching the virus. Conversely, some families felt that it was important for their children to return to school in person, as reported by Paulo (Psychologist, Private School): *"We had a non-verbal autistic student. He did not pay attention in class. His mother did not accept individualized care. He was the first to return to in-person classes. We could see that she was tired."* According to Ceccim and Correa (2021), the pandemic triggered strong feelings of fear and despair about the spread of the disease. In addition, social isolation led to a significant decline in the mental and social health of students, families, and teachers.

Ultimately, all participants recognized that in-person classes would be best for students with CCN. For most respondents, basic learning skills such as attention, concentration and sociability were greatly compromised, particularly during remote learning. These skills are normally developed and strengthened in the school environment. Vygotsky (1998) emphasizes that social interaction is fundamental to learning, and that teachers play an active role in this process.

4.2 Difficulties During the Pandemic

Most respondents listed the evaluation process as an obstacle during the pandemic, as it was difficult to assess student progress and monitor their development with CCN. Limited contact with students to check behaviour, attitudes and knowledge acquisition, as well as the irregularity of the activities performed by students, were identified as worrying factors. Laura (P.S.R. and Sup. Pedag., Public School) stated that *"[...] the lack of physical contact hindered the assessment process. I had more contact with the families than with the students. So, there was no way for me to properly monitor their progress".* Rosa (P.S.R., public school, rural area) said:

> *"[...] It is very difficult to assess progress during a pandemic because the activities done at home were often done with help. So, I wasn't sure about the report accurately reflecting what the student was able to do. In addition, I didn't receive feedback from all students."*

Furthermore, three participants reported difficulties in teaching mediation due to the low level of education of the families. Camila (P.S.R., Public School) stated that *"one mother was illiterate and therefore unable to explain the activities. I told her that she didn't need to explain because I would, but she ignored me. Consequently, the student did not complete any activities during the remote classes."*

These statements are consistent with the findings of Machado (2020), who found that during remote learning, families often completed activities on behalf of their children. Limited contact with students and the impracticality of didactic-pedagogical control of classes via WhatsApp were major challenges with regard to monitoring learning progress. Additionally, Santos et al. (2020) state that families were responsible for creating appropriate learning conditions and ensuring students watched class broadcasts and completed activities aimed at successfully completing different subjects during the pandemic.

Another difficulty mentioned by the interviewees was the lack of technological resources provided by schools for teachers and students. Most of the interviewees, especially those from public and philanthropic schools, stated that no equipment or devices were provided during remote classes. This is reflected in the following statements: *"The school did not offer any technological resources to teachers or students during the pandemic"* (Bia, P. S., Mult., Public School) and *"None! We teachers had to find a way to teach, and the students had to find a way to learn!"* (Rosa, P.S.R., public school, rural area). All participants agreed that no subsidies were made available to schools to provide teachers and students with internet access. Furthermore, respondents felt that the available resources were insufficient and inadequate for developing effective teaching practices for students with CCN, particularly during remote classes. According to Nunes and Zancanaro (2024), access to and use of technological and digital resources should be recognized as a fundamental right in light of the social changes brought about by the pandemic.

In private schools, however, technologies, innovative equipment and resources were allocated to digital communication platforms focused on typical students, according to interviewees who worked in this context. Conversely, no technological resources were allocated to support teaching methods and strategies for atypical students based on their specific needs and characteristics. This revelation is confirmed in the following excerpt:

"When the school closed, the administration ordered the replacement of the entire school's internet network with a better one. For typical students, it was perfect! The school thought of everything. They made it happen! Whatever was needed, innovation was brought in. They provided everything except the internet. They spared no effort, but nothing was thought of for students with special needs. They didn't pursue it; I only succeeded because I ran around on my own." (Maria, P.S.R., private school)

We would like to emphasize that these statements relate to the research results of Machado (2020) and Vieira and Seco (2020), who stated that the pandemic further highlighted the existing socioeconomic and cultural disparities in Brazil. According to Dias and Pinto (2020), substantial differences emerged between families during the lockdown period, with some being better able to support their children's learning due to the technological resources available.

It is worth noting that some teachers reported difficulties in implementing and using technology for remote and hybrid classes. João, a Special Education Teacher in a public school, stated: *"I'm not good with technology […] I wasn't used to teaching like this, with videoconferencing. So, for me, it was quite complicated."* This corroborates the findings of Vieira and Seco (2020), who found that most teachers had never used such resources for learning.

4.3 AACS Teaching Practices During the Pandemic

Regarding the use of Augmentative and Alternative Communication Systems (AACS) in teaching practices during the pandemic, all participants recognized their importance in facilitating communication and supporting the teaching and learning process. A similar finding was reported by Schirmer et al. (2017), who surveyed teachers in Multifunctional Resource Rooms and found that they considered AAC to be fundamental to the development, communication and autonomy of non-verbal students.

Furthermore, all respondents stated that they had received no specific training in AAC to support children who required it during the pandemic. Furthermore, all participants agreed that the lack of AAC training was a barrier to providing differentiated and appropriate interventions for children with CCN. All participants also considered AAC training crucial during the pandemic as it would have enabled them to develop more effective interventions. Teacher Rosa (P. S. R., Public School, Rural Area) mentioned this: *"It would have been ideal if we had received training on forms of communication during the pandemic to achieve better results with students."*

These findings are consistent with the views of Silva et al. (2021) and Tomaz and Cruz-Santos (2023), who emphasized the necessity of training in the use of various technologies and AACS during the pandemic. This would have enabled more appropriate and effective practices to be implemented with children with CCN, given their unique characteristics. According to Hoepers et al. (2024), a lack of knowledge and experience in remote teaching was a challenge imposed by the pandemic.

According to Tomaz (2023), the use of AAC in pedagogical practices was affected during the suspension of face-to-face classes due to the technological and socioeconomic conditions experienced by its users and communication partners. Furthermore, the author emphasizes that digital resources were crucial for facilitating the use of AAC to assist individuals with communication challenges.

Regarding the use of AAC and technological resources implemented during the pandemic, the interviewees revealed that gestures, smiles, eye blinking, pointing, drawings, cards with images and texts in PowerPoint, and the WhatsApp application on computers, tablets and smartphones were used in 2020, particularly by those from private and philanthropic schools. In the case of teacher Marta (P. AEE, CAP-RN), Braille was the most used resource, although she sought to insert tactile symbols via family members. Five participants (Rosa – P. S. R. [rural area]; Margarida – P. S. Mult.; Laura – P. S. R. and Sup. Ped.; Bia – P. S. Mult.; and Ana – P. S. R.), who taught in public schools, stated that they did not use any AAC to communicate with the children during this period, since

most contact was with the families only. Thus, they reported not knowing which AAC the children used. This was revealed by Laura (P. S. R. and Sup. Ped., public school): *"I did not use any resources to communicate with my student, and I also do not know if she used any because I only had contact with her mother. I sent the activities via WhatsApp for her mother to do with her."* Participant João (Special Education Teacher, Public School) made the following statement: *"I didn't think about using […] because I find it difficult to know when to use AAC. Therefore, my contact with them was minimal. I had no one to guide me."* The interviewees' statements revealed a gap in teacher training: the knowledge and practical application of Assistive Technology resources and AACS in schools, particularly during the pandemic. For AT and AACS to be implemented effectively, it is essential that teachers, family members, and other professionals be able to identify and use the appropriate resources for the specific needs of the student. In fact, opportunities for students with CCN to access knowledge, interactions, and communication will be part of inclusion in the school environment.

In the 2021 scenario, eleven of the interviewed teachers stated that they found it easier to use AAC with students with CCN because most schools had returned to face-to-face teaching. Maria (P. S. R., Private School) said, *"In the classroom, it was easier to use some form of communication because I was close to the student without relying directly on technology."* Participants cited various communication aids, including boards with pictures, signs indicating social rules and school dynamics, and signs with emojis representing feelings and emotions. Other aids included drawings, communication cards, images, texts in PowerPoint from computers and tablets, Braille, sensory notebooks, and concrete materials.

Based on this, it is clear that communication partners, including parents, family members, teachers, and health professionals, need support in using AAC. According to Bonotto et al. (2020), the more guidance and support partners receive, the greater the potential for positive interactions during educational activities.

5. Recommendations

The pandemic has exacerbated the challenges of ensuring inclusion for students with complex communication needs (CCN). Few studies have addressed teaching practices for students with special educational needs during the pandemic (Beukelman & Light, 2020; Ceccim & Correa, 2021; Dias & Pinto, 2020; Machado, 2020; Vieira & Seco, 2020), particularly those based on augmentative and alternative communication systems (Bonotto et al., 2020; Tomaz, 2023).

Due to the varying circumstances in the state of Rio Grande do Norte and across Brazil, we recommend conducting further research with additional professionals who taught in the state of Rio Grande do Norte during the pandemic. The topic is highly relevant, and there is scope to delve deeper into the educational practices experienced by teachers during this period, as well as providing specific training on Augmentative and Alternative Communication Systems for teachers.

6. Conclusion

This study highlights the importance of presenting and discussing reports by Brazilian teachers in the state of Rio Grande do Norte about their pedagogical practices with students with complex communication needs (CCN) in the early years of primary school, in the context of the Covid-19 pandemic. It is important to understand how such practices were carried out during such a sensitive and challenging period for society as a whole.

Additionally, this research provided evidence of the varied experiences of teachers in Rio Grande do Norte, Brazil, particularly in public versus private education networks. It also examined the resources and technologies employed by teachers to facilitate communication during the pandemic and the challenges they faced. For students with CCN, Augmentative and Alternative Communication Systems were important for facilitating communication during the pandemic. It is concluded that training in AAC during the pandemic would enable more appropriate and effective pedagogical practices to be implemented with children with CCN.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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