EDUCATION AND ITS CHALLENGES IN A RURAL SCHOOL WITH TECHNOLOGY-MEDIATED FACE-TO-FACE TEACHING

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ABSTRACT

This study aimed to analyze technology-mediated face-to-face education, which is a project developed by the government of the state of Amazonas that aims to bring education to the population in rural communities distant from major urban centers. This article discusses the characteristics of face-to-face education with technological mediation in rural communities and its challenges, with a focus on the "Liberdade" school. It is divided into introduction, theoretical framework, methodology, results, and conclusion. In the theoretical framework, we present a summary of the history of face-to-face education with technological mediation, its characteristics, and its challenges. The methodology contains the specificities and step-by-step process of the study's development. The results include descriptions and discussions of the problems encountered. The conclusion provides a closing remark on the need for further research on the study's topic. Several problems were found in the implementation of the project in the researched school, such as inadequate adaptation of the school calendar, absence of school transportation, insufficient resources and materials to support the students and the school's operation, partnerships that do not always work, and authoritarian management, among others. Therefore, the research demonstrated the need for significant changes in the institution under study for quality education to truly happen, as well as the need for further studies on the mentioned topic.
Keywords: Education. Intermediate Teaching. Sow. Field Communities.

INTRODUCTION

Face-to-face teaching mediated by technology is a project developed by the government of the state of Amazonas to provide education to the population in rural communities distant from major urban centers. In this regard, classes are transmitted from the capital city via IPTV to the municipalities in the interior where students and in-person teachers gather to follow the lessons.

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Despite all the progress made in the last few decades in the field of rural education, significant gains are still needed to ensure quality education in rural communities, especially in remote and hard-to-reach areas. In this sense, face-to-face teaching with technological mediation emerges as a solution to mitigate these issues, bringing knowledge to a population that has lived and continues to live with the absence of the State.

The present article discusses the characteristics of face-to-face teaching with technological mediation in rural communities and its challenges, with emphasis on the "Liberdade" school. It is divided into introduction, theoretical framework, methodology, results, and conclusion. In the introduction, the work and its objectives are presented. In the theoretical framework, we provide a summary of the history of face-to-face teaching with technological mediation, its characteristics, and its challenges. The methodology section contains the specifics and step-by-step process of the study's development. The results include descriptions and discussions of the problems encountered. Finally, in the conclusion, the article is concluded with an emphasis on the need for further research on the study's topic.

Thus, the present study aims to: Understand the project of face-to-face teaching with technological mediation in the "Esperança" community., analyze the characteristics and challenges of this teaching modality in rural areas and describe the difficulties faced by teachers and students in the school under study.

FACE-TO-FACE TEACHING WITH TECHNOLOGICAL MEDIATION

Face-to-face teaching with technological mediation emerges as an alternative to bring education to rural populations living in remote and sparsely populated communities away from major urban centers. The classes are transmitted from the state capital via satellite to different rural communities scattered throughout the vast territory of Amazonas. This study is characterized as a field study, involving the observation of facts and

phenomena by the researcher, as well as the recording of variables deemed important for analysis.

> For the residents of riverside communities and other hard-to-reach areas in the Amazon, the right to education has been nothing but a dream for many years. These are typically locations that are geographically distant from major cities, which receive the largest investments in all areas. It is evident that the lack of prioritization of resources for these places creates challenges for residents to thrive, resulting in a lack of access to basic rights such as education (Lubiana, 2022, p.2).

In this regard, face-to-face education with technological mediation aims to reduce the significant disparity between education provided in urban and rural areas, as the Brazilian state has historically prioritized the former over the latter. When it comes to the Amazon region, due to local peculiarities such as a large number of communities located far from cities and with limited accessibility, public education policies either do not reach these areas or are implemented ineffectively.

Regarding the emergence of face-to-face education with technological mediation in Amazonas, it originated from an initiative by the state government, commencing its activities in municipalities in the year 2007. Over the past years, the project has been reaching an increasing number of communities, demonstrating that this alternative has been achieving the initially proposed objectives.

> An initiative of the Government of the State of Amazonas, implemented through the State Department of Education and Quality of Education (SEDUC/AM). It was created by Resolution No. 27/2006 - CEE/AM and began its activities in the year 2007, in the rural areas of its 62 municipalities. The Project emerged as an emergency necessity and aimed to promote educational and social inclusion of students, becoming part of the set of public education policies of the State through the Amazonas Educational Development Acceleration Program (PADEAM) in 2012 (AZÊDO, 2022, p. 168).

According to Melo Neto (2012), the emergence of the Blended Learning through Technology project was due to several challenges experienced in the state of Amazonas, one of which was providing education to a large number of students living in rural communities who did not have access to secondary

education. The logistical peculiarities of the state, stemming from its vast territory, posed difficulties for the implementation of regular education in all locations with student presence.

> Carrying out educational projects in the state of Amazonas faces an initial challenge due to its immense natural hydrographic network, considered the largest in the world. According to the Brazilian Institute of Geography and Statistics (IBGE), there are over a thousand rivers, limiting road access in the state. There are only 62 municipalities in 1.6 million square kilometers, which accounts for 1/5 of the national territory, with low population density. The logistical challenge also involves the precarious supply of electricity in the Amazon region, especially in rural communities, and the lack of telecommunications infrastructure (MELO NETO, 2012, p.6).

Regarding the challenges of providing education to all rural communities in the state of Amazonas, Maia (2010) emphasizes the diversity of obstacles that hinder the implementation of regular education in all inhabited areas of the state. In this context, the Blended Learning through Technology emerges as an alternative capable of overcoming these hindrances without compromising the quality of education.

> In addition to the vastness, several other obstacles arise, such as the unique climatic and geographical characteristics of the Amazon Region, means of transportation, river receding as the main navigable routes, and the lack of qualified teaching professionals in all curriculum components of the second stage of Basic Education (MAIA, 2010, p. 47).

The classes transmitted by the Center for Media are taught by professionals with specific qualifications in their respective fields. The structure provided by the Amazonas Media Center, from where the classes are transmitted, enables the transmission of high-quality content. The system also includes the presence of on-site teachers who assist students in the respective communities where the students receive the broadcasts.

> The classes offered by CEMEAM are taught by expert teachers from the knowledge areas of the state education network, stationed at the headquarters of the Amazonas Center for Media Education (CEMEAM) in the capital city of Manaus, where the classes are transmitted. The specialized teachers in each curriculum component who work in the television studios are referred to as Teaching Professors, as they possess qualifications in specific knowledge areas (NASCIMENTO, 2018, p. 15).

The students in rural communities, where they gather daily to attend classes, are accompanied by on-site teachers. These professionals, following the guidelines proposed in the lesson plans, provide guidance for students to carry out the didactic activities sent by the specialized teachers in their respective curriculum components.

> The on-site teachers assigned to each classroom in the rural communities are co-participants in the pedagogical process in the daily life of the classroom. They follow the guidelines proposed in the Lesson Plans (LP) and implement the didactic procedures developed by the specialized teachers in each curriculum component. These responsibilities are established in the Curricular Pedagogical Proposal of CEMEAM, presented in the attached document (NASCIMENTO, 2018, p. 15).

The system used for transmitting the classes not only allows the delivery of video lessons to the communities but also enables interaction between students and teachers from rural schools and the students in the transmission studios in the capital. They can interact to address doubts, present local dynamics, or contribute their opinions. Valente (2011, p. 30) emphasizes that the advent of the internet was fundamental for the implementation of projects like this because it "created means for these interactions to be intense, allowing the student's progress to be monitored and creating conditions for the teacher to be 'there' (by the student's side), experiencing and virtually assisting them in solving their problems."

Distance learning (DL), the modality used by face-to-face education with technological mediation to reach rural communities, has become an instrument for democratizing education that has facilitated access to education for thousands of Brazilians in the most remote areas of the country. According to Gonzalez (2005, p. 25), DL was officially recognized in the country through the Education Guidelines and Bases Law of 1996.

> Legally, DL was officially recognized in Brazil in 1996 by the Education Guidelines and Bases Law (LDB) 9394 of December 20, 1996, by Decree No. 2494 of February 10, 1998, published in the Official Gazette of the Union (DOU) on February 11, 1998, Decree No. 2561 of April 27, 1998, and by Ministerial Ordinance No. 301 of April 7, 1998, published in the DOU on April 9, 1998. Its predecessors, the old correspondence courses, and more recently, the telecourses, gained a

> new lease of life with the advent of the Internet (GONZALEZ, 2005, p. 25).

Despite using many tools of Distance Education (DE) and having certain similarities, technology-mediated teaching and DE are different teaching models. The project implemented by the Amazonas Media Center, unlike the traditional DE mode, involves live streaming of classes and the presence of on-site teachers. The combination of the technological kit installed in the classrooms enables interactions with the professionals at the studio in the capital city during the exact moment of the broadcasts (NASCIMENTO, 2018, p. 27).

Educational challenges in technology-mediated face-to-face teaching in riverine communities.

Brazil is a country historically marked by little attention given by the government to education, although in recent decades we have made significant progress in this area, especially when compared to the previous century. Nevertheless, despite the improvements, in many areas of the Brazilian territory, the quality of services offered to the population still leaves much to be desired.

> It is known that the infrastructure provided in most Brazilian public schools is not the most favorable for education. In the northern region, this situation worsens as we have the geographical factor as a predominant factor, which significantly increases the costs of resource allocation and people's mobility (NASCIMENTO, 2018, p. 45).

The reality experienced in many schools in rural communities in the Amazon region demonstrates the complexity of the educational problem in our country. Unlike schools located in large urban centers, the day-to-day life for teachers and students in many rural schools is completely different. These institutions often lack almost everything, except for the courage of the professionals and the students' determination, who, even in unfavorable conditions, persist in their pursuit of knowledge construction.

> The reality experienced by individuals in schools located in rural areas still reveals immense challenges that need to be addressed in order to fulfill the existing constitutional precepts and operational frameworks defined in specific legislations, which establish the parameters of

> quality in public education achieved through the struggles of popular social movements in rural areas (HAGE, 2005, p. 17).

Among the main problems that challenge educational practice in educational institutions in many rural schools, the following stand out: schools without adequate infrastructure for the development of educational work that promotes learning, absence of pedagogical materials, lack or poor quality of school transportation, insufficient or even nonexistent travel allowances for professionals working in these areas. These are just some of the problems that are part of the daily reality of education in many rural educational institutions.

> Just like schools facing serious problems, we find teachers who are able to communicate meaningfully with their students and help them learn despite organizational limitations, contributing to the transformation of the school into a creative space, a learning community by making use of available technologies (MORAN, 2003, p. 151).

Given the difficulties and the lack of public policies, teachers stand out as the main protagonists in the functioning of these institutions because, despite all the challenges, they manage to bring knowledge to a significant portion of the Brazilian population living in these communities through dedication and creativity. However, despite all the effort and dedication, with few exceptions, they struggle to prepare students so that by the end of basic education, they can compete on an equal footing for a place in university or opportunities in the job market, alongside students from well-resourced schools with quality infrastructure, especially in urban areas.

Hage; Cruz (2015) also describes the problems in schools located in communities far from major cities, where the conditions experienced by students and teachers are completely demotivating. The author describes the reality of education in rural areas as follows:

> Unfortunately, the Brazilian educational reality still reveals that it is in rural areas where we find the highest rates of illiteracy, schools with precarious infrastructure, high rates of school exclusion, the highest rates of teachers without proper training and with precarious employment contracts, curricula that do not consider local knowledge, and the closure of schools, especially in small rural communities,

> where the number of students is compatible with the sociocultural and territorial configuration of these communities (HAGE; CRUZ, 2015, p.6).

It is evident the difficulties and even the lack of willingness on the part of government officials and authorities to implement serious and effective educational policies that meet the needs of rural populations. The proof of this is that there are still rural schools currently using the same planning as urban institutions, demonstrating a total lack of respect from the government towards the cultural peculiarities of these populations. In the absence of government intervention, social movements have taken on a certain protagonism in the fight for quality education that is designed according to the local characteristics of rural communities. "The social movement is more demanding because it places us in the realm of rights, it leads us to link education with health, cooperation, justice, and citizenship. Rights placed education in the realm of the great values of life and human development" (CORRÊA; SILVA, 2015, p. 35).

In addition to all the problems mentioned earlier, there are also difficulties caused by the natural characteristics of the region, which, with its peculiarities, challenge the mobility and work of people in the Amazon communities. Given this reality, overcoming such challenges requires investments and planning on the part of the government so that the difficulties can be minimized, something that is still far from the current panorama.

> Allied to the immensity, several other obstacles arise, such as the unique climatic and geographical characteristics of the Amazon Region, transportation methods, the ebbing of rivers, which are its main navigable routes, and the lack of qualified teaching professionals in all the curricular components of the second stage of Basic Education (which is a national problem, not just an Amazonian one). These are just a few of the difficulties that turn this task into a real challenge (MAIA, 2011, p. 3).

In light of the above, it is worth highlighting the need to reconsider current policies and even discuss new educational proposals for rural populations, taking into account their real needs. This implies involving them in debates and discussions about the decisions to be made. The educational

challenges faced in rural communities require much more than the promulgation of legislation and guidelines, which can sometimes be disconnected from reality. It requires the active and continuous participation of the state, with efficient public policies that are capable of minimizing difficulties and providing a conducive learning environment.

METODOLOGY

From a technical standpoint, this work is characterized as field research, which according to Prodanov and Freitas (2013, p. 59), "involves observing facts and phenomena as they occur spontaneously, collecting data related to them, and recording variables that are presumed relevant for analysis." In terms of objectives, it is considered qualitative research. According to Silva and Menezes (2005, p. 27), qualitative study is one that "does not require the use of statistical methods and techniques. The natural environment is the direct source for data collection, and the researcher is the key instrument. It is descriptive. Researchers tend to analyze their data inductively." The data was collected from July to September 2023 at "Liberdade" School located in the "Esperança" community situated on the "Caminho Suave" river. For ethical reasons, fictitious names were given to the school, community, and river.

Data collection was conducted through the technique of observation, which according to Prodanov and Freitas (2013, p. 104), occurs "when we use our senses to obtain data about specific aspects of reality." The observed facts during the data collection process were recorded in notes for further elaboration of the work. Additionally, during the field research, a literature review was conducted through articles, theses, and dissertations to deepen the understanding of the topic. The search for these documents was carried out on the internet using databases such as Scielo and Google Scholar. Only works relevant to the research topic were selected. After reading and selecting the relevant literature, the writing of this article began.

RESULTS

One of the problems observed in the school that directly affects students' learning is the organization of the academic year, as it is structured in alternating periods, something allowed by current legislation. The National Education Guidelines and Framework Law (LDB) in Article 28 makes it clear that:

> In providing basic education for the rural population, the education systems will promote the necessary adaptations to suit the peculiarities of rural life and each region, especially: I - curriculum content and methodologies appropriate to the real needs and interests of rural zone students; II - specific school organization, including adapting the school calendar to the phases of the agricultural cycle and climatic conditions; III - adaptation to the nature of work in rural areas (BRAZIL, 1996).

The problem is that the classes are broadcasted through IPTV, which has a regular transmission schedule for the entire state. This means that the students in question have a break for a certain period of time, but the broadcasts continue. As a result, the students miss out on content and even entire subjects. When they return for the next session, the in-person teacher who is supposed to make up for the missed classes faces a series of difficulties, one of which is the lack of proficiency in many subjects due to not having training in all areas. Based on these facts, an inadequate adaptation of the school calendar is observed because such adjustments are incompatible with the transmission system of CEMEAM, negatively impacting students' learning.

The difficulties for students to reach the educational institution are another demotivating challenge. The school is located in a hard-to-reach area, and being the only one offering secondary education in the region, it serves students from various communities, some of which are up to a day's travel away. During the dry season, in addition to the distance, the journey to the school presents several other challenging obstacles. Waterfalls, rocks, sandbanks, and tree trunks appear along the way, making navigation difficult and increasing the risk of accidents. To make the situation even more complex, up until the preparation of this work, the state has not fulfilled its duty to provide transportation for the students. In other words, the students

travel in their own canoes without any safety measures, which goes against the provisions of the Federal Constitution, Article 208.

> Article 208. The State's duty with education will be fulfilled by guaranteeing:
>
> VII - assistance to the student, at all stages of basic education, through supplementary programs for educational materials, transportation, meals, and health assistance.
>
> Access to mandatory and free education is a subjective public right.
>
> The failure to provide mandatory education by the Public Authority, or its irregular provision, entails the responsibility of the competent authority (BRAZIL, 1988, p. 124).

Another issue that needs adjustments are the partnerships between the State Department of Education and Quality Education (SEDUC) and the schools in the communities where face-to-face education with technological mediation is implemented. In the case of the school in question, there is a partnership with the Amazonas Sustainable Foundation (FAS). Conflicts of interest and schedule incompatibilities are observed in the execution of the activity schedule between the two institutions. Since the academic year is organized in alternations, in order to fulfill the school calendar with the required instructional days according to current legislation, it is necessary to provide two shifts: one for students to watch the classes through IPTV broadcasts, and another for teachers to make up for the content that students missed during their absence due to the alternations. However, this arrangement is not always accepted and provided by the manager of FAS, who makes decisions autocratically without involving the school's teaching staff. This goes against the principles outlined in the Law of Guidelines and Bases of National Education, which in Article 3 defines democratic management of public education as one of its principles: "VIII - democratic management of public education, in accordance with this Law and the legislation of the education systems" (BRASIL, 1996). The same law further states in Article 14 that such management shall occur as follows:

> Article 14. Education systems shall establish the rules for democratic management of public education in basic education, according to their

> peculiarities and based on the following principles: I - participation of education professionals in the development of the school's pedagogical project; II - participation of the school and local communities in school councils or equivalent bodies.

Furthermore, regarding the management of schools with face-to-face education mediated by technology and considering the issues found in the researched institution, it is evident that the SEDUC needs to reconsider how to manage such a project. The schools where the students are studying are typically administered through partnerships, with the institutions in the communities functioning as an annex of another school in the city. Consequently, the director of the urban institution is also responsible for the students in rural communities regarding matters related to SEDUC. Given the presence of the project in many locations, it becomes unfeasible for a single person to handle such a significant responsibility. Ideally, the rural schools should be separated, and there should be a dedicated manager or team to oversee only the mediated education in the municipality. This would allow them to have available time to maintain a schedule of visits to the communities, understand the issues, and seek solutions.

The resources provided for the maintenance of the school and students during the alternating periods need to be reviewed, as SEDUC has not been supplying sufficient materials and supplies to meet the students' needs and ensure the functioning of the institution throughout the school year. This goes against what is stipulated in the LDB, which clearly states in Article 4 that one of the State's duties towards basic education is as follows: "VIII - providing students, at all stages of basic education, with supplementary programs for teaching materials, transportation, meals, and healthcare assistance" (BRASIL, 1996).

CONCLUSION

The present study found a series of deficiencies on the part of the government in the provision of educational services in the researched school, problems that directly interfere with student learning. Thus, it is hoped that with the dissemination of the information contained in this work, authorities will somehow be prompted to comply with the current legislation, ensuring access and the continuity of rural students in school.

The development of further research on education in rural areas is also a need that needs to be addressed, as despite all the progress made in recent years in the field of education in rural communities, there are still few studies on this subject. Therefore, it is hoped that this work will stimulate the interest of other researchers in the field, as it represents a broad and complex topic.

REFERENCES

AZÊDO, D. **Aprendizagem ativa no ensino médio mediado por tecnologia: uma abordagem didática para o desenvolvimento nas comunidades rurais no município de Parintins/AM.** Educação e o ensino contemporâneo: práticas, discussões e relatos de experiências. Vol. 2, DOI: 10.47573/aya.5379.2.76.12. Aya Editora, 2022.

BRASIL. Presidência da República. **Lei de Diretrizes e Bases da Educação Nacional**, LEI Nº 9.394 de 20 de dezembro de 1996. Disponível em: http://www.planalto.gov.br/ccivil_03/leis/l9394.htm. Acesso em: 03 abr. 2023.

BRASIL. **Constituição da República Federativa do Brasil, 1988.** Disponível em: http://www.planalto.gov.br/ccivil_03/ constituicao/constituicao.htm. Acesso em: 20 mar. 2023.

CORRÊA, I. SILVA, M. **Educação do campo e o trabalho docente com as classes multisseriadas.** Trabalho de Conclusão de Curso. Universidade Federal Rural da Amazônia. Capanema – PA, 2015.

GONZALEZ, M. **A arte da sedução pedagógica na tutoria em educação a distância.** In: GONZALEZ, M. **Fundamentos da tutoria em educação a distância.** São Paulo: Avercamp, 2005.

HAGE, S. **Educação do Campo na Amazônia: retratos de realidades das escolas multisseriadas no Pará.** Belém: Gutemberg, 2005.

HAGE, S. CRUZ, C. **Movimento de educação do campo na Amazônia paraense: ações e reflexões que articulam protagonismo, precarização e**

regulação. 37ª Reunião Nacional da ANPEd – 04 a 08 de outubro de 2015, UFSC – Florianópolis.

LUBIANA, A. **Educação mediada por tecnologia em uma comunidade de difícil acesso na Amazônia.** Jornal de Políticas Educacionais. V. 16, e87366. Outubro de 2022.

MAIA, H. **Ensino Médio Presencial com Mediação Tecnológica no Estado do Amazonas: Um estudo sobre competências inerentes ao professor Presencial, no município de Manaus.** Dissertação (Mestrado em Educação). Faculdade de Educação: Universidad de Los Pueblos de Europa. Malaga: Espanha, 2010.

MAIA, H. **Competência docente no ensino a distantes.** Secretaria de Estado de Educação e Qualidade do Ensino – SEDUC/AM. Centro de Mídias de Educação do Amazonas – CEMEAM. Manaus/AM – junho/2011.

MELO NETO, J. **Superando as barreiras naturais: a EAD na região amazônica.** In: Litto, F. M. e Formiga, M. (Orgs.). **Educação a Distância: o estado da arte.** Vol. 2. São Paulo: Editora Pearson Education, 2012.

MORAN, J. **Gestão inovadora da escola com tecnologias: Gestão Educacional e tecnologia.** Publicado em VIEIRA, Alexandre (org.). São Paulo, Avercamp, 2003.

NASCIMENTO, C. **Programa ensino médio presencial com mediação tecnológica: tempos e espaços escolares em transformação.** Dissertação. Universidade Lusófona de Humanidades e Tecnologias. Faculdade de Ciências Sociais, Educação e Administração. Instituto de Educação. Lisboa, 2018.

PRODANOV, C; FREITAS, E. **Metodologia do trabalho científico: Métodos e Técnicas da Pesquisa e do Trabalho Acadêmico.** 2. ed. Novo Hamburgo - Rio Grande do Sul – Brasil, 2013.

SILVA, M; MENEZES, E. **Metodologia da Pesquisa e Elaboração de Dissertação.** Universidade Federal de Santa Catarina – UFSC. 4ª edição revisada e atualizada. Florianópolis, 2005.

VALENTE, J. (2011). **Educação a Distância: Pontos e Contrapontos.** SP. Ed. Summus.