RESEARCH REPORT ON EDUCATION AND PANDEMIC IN THE SOUTH-FLUMINENSE REGION

RELATÓRIO DA PESQUISA SOBRE EDUCAÇÃO E PANDEMIA NA REGIÃO SUL-FLUMINENSE

INFORME DE INVESTIGACIÓN SOBRE EDUCACIÓN Y PANDEMIA EN LA REGIÓN SUR-FLUMINENSE

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How to reference this paper:


Submitted: 22/07/2023
Revisions required: 10/08/2023
Approved: 18/09/2023
Published: 31/10/2023

Editor: Prof. Dr. Paulo Rennes Marçal Ribeiro
Deputy Executive Editor: Prof. Dr. José Anderson Santos Cruz

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ABSTRACT: This work presents the results of a research study on the Impacts of the Pandemic on Education conducted by the Violence Observatory in 2021. The research aimed to understand how the scenario presented by the Coronavirus affected schools in the South-Fluminense Region and what managerial and pedagogical measures were taken. The research methodology used was a qualitative-quantitative approach. We had 61 respondents, who were school administrators, participating in an online questionnaire covering the following topics: interactions among the educational community, families, teachers, and students; the use of technological resources; the teaching, learning, and assessment process; and school meals. Some weaknesses were evident, including limited communication between the Education Department and schools in decision-making regarding the epidemic, difficulties in accessing the Internet and using online platforms, resulting in challenges in delivering lessons, a lack of technological infrastructure in the education departments, timid use of technical resources and new strategies for content development and learning assessment.

KEYWORDS: Education. Pandemic. Municipal Education Departments. South-Fluminense Region.

RESUMO: Este trabalho apresenta o resultado da pesquisa sobre Os Impactos de Pandemia na Educação, realizado pelo Observatório da Violência no ano de 2021. A pesquisa teve como objetivo compreender como o cenário apresentado pelo Coronavírus impactou as escolas da Região Sul-Fluminense, e que medidas, de caráter gerencial e pedagógico, foram tomadas. O método de pesquisa utilizado foi a abordagem quali-quantitativa. Tivemos 61 gestores respondentes ao questionário on-line, com os seguintes tópicos: interações entre comunidade educativa, família, professor e alunos; uso dos recursos tecnológicos; processo de ensino, aprendizagem e avaliação; e merenda escolar. Algumas fragilidades foram evidenciadas: comunicação entre a Secretaria de Educação e escolas na tomada de decisão, frente à epidemia, acesso à Internet e ao uso de plataformas, acarretando dificuldade na disponibilização das aulas, falta de infraestrutura tecnológica das secretarias, utilização tímida dos recursos tecnológicos e de novas estratégias para o desenvolvimento de conteúdos e da avaliação da aprendizagem.


RESUMEN: Este trabajo presenta los resultados de la investigación sobre Los Impactos de la Pandemia en la Educación, realizada por el Observatorio de la Violencia en 2021. La investigación tuvo como objetivo comprender cómo el escenario presentado por el Coronavirus impactó a las escuelas de la Región Sur-Fluminense, y qué medidas, de carácter gerencial y pedagógico. El método de investigación utilizado fue el enfoque cualitativo y cuantitativo. Tuvimos 61 directivos que respondieron el cuestionario en línea, con los siguientes temas: interacciones entre la comunidad educativa, familia, docente y estudiantes; uso de recursos tecnológicos; proceso de enseñanza, aprendizaje y evaluación; y almuerzos escolares. Se destacaron algunas debilidades: comunicación entre el Departamento de Educación y las escuelas en la toma de decisiones, frente a la epidemia, el acceso a Internet y el uso de plataformas, provocando dificultades para la disponibilidad de clases, falta de infraestructura tecnológica en los departamentos, uso tímido de recursos tecnológicos y nuevas estrategias para el desarrollo de contenidos y evaluación del aprendizaje.

Introduction

This research was developed based on the experience of the situation generated by the Covid-19 pandemic. Its objective was to understand how the scenario presented by the Coronavirus impacted the schools in the South-Fluminense Region and what managerial and pedagogical measures were taken to serve their clientele. Thus, we realized that, as researchers and educators, we could not remain inactive in the face of the context that revolutionized the world entirely, resulting in profound transformations in all areas of knowledge, including education. This demonstrates that, despite the human aspiration to master all aspects of life, humanity is susceptible to unknown phenomena, which presents new challenges and prompts the search for solutions.

Due to the essential need to discuss the ramifications of the global health crisis in educational institutions, it was considered pertinent, in the first place, to revisit some concepts related to the educational mission of the school. This mission can be understood as the environment for the acquisition and reinterpretation of knowledge constructed socially and historically, as well as the practice of reflection as an analytical tool for understanding the society in which we are embedded. This understanding of society empowers us to act in order to promote its transformation.

In this place of so many uncertainties, the question arose forcefully: How to fulfill the school's function? How do we ensure the learning of the students? What conditions would the school have to support the new ways of educating? And also to think about the diversity of the students who attend the school and how these differences, stemming from their economic situations, impact their learning. The Report from the United Nations Children's Fund (UNICEF, 2021) and the United Nations Development Programme (UNDP, 2021) point out that remote learning has revealed inequalities in access to tools, the internet, and suitable learning environments, exposing our disparities and highlighting various vulnerable groups: children and youth in rural areas, indigenous populations, and those with disabilities (PNUD; UNICEF; UNESCO; UNESCO, 2021).

However, in the face of the significant socioeconomic inequalities that permeate Brazilian society, it is essential to address the issue of school meals, given its considerable relevance in times of pandemic. In this context, schools play a crucial role as executors of social policies, particularly concerning the food security and nutrition of children and adolescents, especially those belonging to the most vulnerable segments of the population.
According to the IPEA (2020) and the National Union of Municipal Education Leaders (Undime), in-person classes were suspended in all municipal and state education networks. However, there is no available information regarding how many municipalities and schools effectively provided school meals to students' families. Nevertheless, there is knowledge of the mobilization on the part of state and municipal education departments, both in terms of service and distribution logistics, due to the adopted sanitary measures.

It is in this context that we can reflect on the role of school meals, not only in the student's learning and development process but also as a guarantor of access to a minimum supply of food for needy populations. From an educational perspective, one can add the crucial role that school meals have played in the attendance of students from the poorest segments at school, thus ensuring access to education and reducing dropout rates.

**Methodology**

Initially, the researchers conducted a literature review to create a theoretical framework for discussing the findings, supported by authors and institutions that address such topics, such as Alpino et al. (2020), the Centro de Inovação para a Educação Brasileira (Center for Innovation in Brazilian Education) (2022), GESTRADO (2021), and the Rede PENSSAN (PENSSAN Network) (2022). This was done to meet the objectives proposed in this study, which aimed to understand the social impacts that the pandemic has brought to schools and to identify the strategic actions offered to schools to fulfill their social role during the pandemic period.

The participants in this research consisted of 41 administrators from 3 Municipal Education Departments in the South Fluminense Region of Rio de Janeiro, Brazil. These participants covered the spectrum from Early Childhood Education to Elementary Education and responded to an online questionnaire. Ethical standards and data confidentiality were strictly maintained. The inclusion criteria for this research encompassed all administrators from the Municipal Education Departments in this region who were actively serving in the year 2020, had formal affiliations, and expressed their willingness to partake in the study. Other professionals who did not meet these criteria were excluded.

This study adopted a qualitative-quantitative research approach to analyze perceptions related to the performance of schools in the region during the pandemic period. Furthermore, it sought to identify challenges related to available resources, assess the interaction between
schools, students, and teachers, and quantify the utilization of various tools in implementing lessons.

The research instrument was administered online as a semi-structured questionnaire comprising 20 closed-ended questions and space for suggestions. The questions were organized around three main themes. The first theme focused on communication between the Municipal Education Department and students, encompassing the department, teachers, students, and parents. The second theme centered on teaching work, addressing items such as access conditions, teaching strategies, the teaching-learning process, and evaluation. The third theme explored the use of technological resources, including websites, platforms, and connectivity.

The questionnaire was created using Google Forms and made accessible to the participants. Additionally, there was a section where administrators could identify their specific department, providing further information for the researchers. The questionnaire was distributed through a link to the Municipal Education Departments in the South Fluminense Region.

Results

The project was conceived and submitted to the UBM Ethics Committee, obtaining the Certificate of Ethical Appreciation Presentation (CAAE) number 40208220.7.0000.5236, in December 2020. In the first half of 2021, the research was conducted, and preliminary results are now being presented. This study has led to another research project, which will be released later. Throughout this investigation, we engaged with teachers and school administrators affiliated with the Municipal Education Networks through focus groups created for this purpose.

Regarding the respondents' profiles, it was observed that 39% were in the age range of 36 to 45 years, while 29.3% were in the 46 to 55 age group. The age group of 25 to 35 years represented 12.2% of the respondents, and those aged 56 or older accounted for 19.5%. Therefore, the majority of administrators were concentrated in the age group of 36 to 55 years. Concerning their educational qualifications, 82.9% of the administrators held postgraduate degrees, 14.6% had undergraduate degrees, and 3.5% had teacher training.

It is also noteworthy that most administrators were women, with 92.7%, as opposed to 7.3% of male administrators overseeing the schools. Regarding their roles as administrators, the following percentages of respondents were involved in our research: Early Childhood
Education (34.1%); Elementary School (1st to 5th grade) (39%); Middle School (6th to 9th grade) (9.8%); and Comprehensive Elementary Education (1st to 9th grade) (17.1%).

In terms of professional experience, it is observed that 19 administrators have between 20 and 29 years of teaching experience, 15 administrators have between 10 and 19 years of experience, 3 administrators have less than 10 years of experience, and 4 administrators have accumulated over 30 years of experience in the field of education. These data highlight the presence of professionals with extensive knowledge and preparation in leadership roles. Initially, the research had 61 respondents, but only 41 forms were returned after data collection.

Data Evaluation

For data collection, a semi-structured questionnaire with 20 closed-ended questions was used as the instrument, the responses to which we are now analyzing. A sample of 41 responses was worked with, with the first theme being the communication between the Municipal Education Department and the schools.

The communication between the Education Department and the schools, aimed at providing the necessary guidance to adapt teaching work to the demands imposed by the pandemic, received a positive evaluation from the respondents. Approximately 52.5% of the respondents regarded the communication as "very good," while 42.5% classified it as "good." Only 5% of the respondents found the communication to be "average."

It is important to emphasize that, even though the communication was considered satisfactory, a deeper understanding of the content of the provided guidance is necessary, both regarding the operation of the schools and access to classes. Additionally, it is worth mentioning that parents played a crucial role as mediators in transmitting this information to the various clientele served in the schools. The guidance covered different aspects, including the operation of the schools and the procedures for accessing classes.

The feedback regarding communication between schools and parents was positive, with a 73.2% response rate. The perception was "excellent" for 14.6% of the respondents and "average" for 12.2%. It is necessary to reexamine that parents responded promptly to the schools. However, there is still a lack of information about the topics addressed and the agreements made for this communication to be effective. Furthermore, it is essential to investigate how this communication evolved throughout the year and what adjustments were made to meet the needs of the students better.
The feedback regarding communication between the school and its teachers was considered "very good" by 65.9% of the participants and "good" by 34.1%. It is evident that this communication was effective. This significant rating was anticipated as teachers demonstrated a commitment to education, and in the face of the challenges imposed by the pandemic, it was natural for all involved to come together in coordinated efforts. Since the beginning of the pandemic, there has been a collective effort by professionals to develop strategies that enable distance learning.

Regarding the analysis of responses to questions 1 and 2 - "How do you evaluate the communication between the Education Department and the schools regarding decision-making to guide teaching work in response to the challenges of the pandemic?" and "What was the feedback from the school to the teachers?" - It is observed, in general, that the school's feedback on the provided guidelines was positive. Approximately 51.2% of administrators considered this interaction good, while 19.5% rated it as "very good." Another group of 19.5% viewed the communication as "average."

Addressing the lower percentage, this finding can be explained by the limitations imposed by various identified challenges. Among these difficulties are the loss of employment by parents, the lack of technological infrastructure in schools, the absence of mobile devices and computers for students and their parents, the lack of adequate internet connectivity, and other obstacles, such as the absence of a conducive home study environment and the number of people in the household, with some trying to study and others to work. All these factors played a significant role in communication effectiveness between the school and the students.

A detailed analysis of the student's situation regarding school meals was conducted. The research is grounded in the vulnerability experienced by the most disadvantaged groups and those who rely on school meals for their sustenance. Access to school meals was feasible for 34.1% of students, while 19.5% faced difficulties in access. The remaining 46.4% of students received assistance in various ways: some received food kits for a limited period, distributed by some Municipal Education Departments between May and September. Other students benefited only in the first month due to the impacts caused by mayoral elections, which affected the distribution of school meals due to contracts being suspended until the confirmation of the municipal administrator and decisions related to services provided by the municipality, including education.

Regarding the access to non-face-to-face classes, 63.4% of the respondents considered it "good" overall. For 17.1%, the access was "very good," while 14.6% rated it as "average."
Some respondents mentioned that the access was insufficient (2.4%), and others did not express a clear opinion (2.4%). The importance of the internet in this context becomes evident. This raises the question: what different access modalities did students have to the school? Was it predominantly virtual or through printed materials provided by the school? What methods were used to reach the students? Therefore, there is a need to obtain additional information to clarify these issues with the respondents.

It was observed that 43.9% of teachers used remote teaching as a resource to deliver their content, while 43.9% of students relied on workbooks as a means of accessing the taught content. These workbooks were used in different situations: some were distributed at the school, while in 9.8% of cases, schools sent them to the students. Additionally, 2.4% of students used the AVA platform, while 2.4% had access only to printed materials. In 4.9% of cases, some schools used remote teaching and printed materials. Notably, only 2.4% of the participants mentioned other circumstances, such as a lack of interaction. The results show that nearly 50% of those involved used digital platforms, while the other half relied on printed materials, a scenario repeated in schools and among teachers and students to meet the presented needs.

The assessment of students' learning during the remote teaching period revealed that 43.9% of students considered their learning "average." For 26.8%, it was deemed "good," while 14.6% assessed it as "weak." A portion of 7.3% of students regarded their learning as "very good." However, in terms of determining knowledge based on scores, gaps were observed, as these were situations that could not be tested previously due to the lack of experience in similar circumstances. The pandemic forced a rapid transition to remote teaching, catching everyone off guard. When cross-referencing the data from question 7 - what types of technological resources were used to reach the students - with question 8 - how teachers assessed the lessons during this period - it is evident that the most interaction occurred through workbooks, and there was no significant exchange between teachers and students, which affected the evaluation. If the evaluative act marks the end of a process, these indicators certainly point to the need to reconfigure teaching and learning in its various stages of development.

As for assessing the lessons taught, specifically regarding the organization and clarity of the proposed activities, 58.5% of the research participants evaluated the activities as good quality. Additionally, 24.4% considered them excellent, while 9.8% judged them average. On the other hand, 4.9% indicated that the assessment was insufficient, and 2.4% chose not to express an opinion. The study emphasized that the engagement of teachers at this time, marked by the reinvention of education, was crucial. Even in the face of the challenges to be overcome,
teachers adopted actions to mitigate students' difficulties. However, this situation highlighted the need to address the needs of students more equitably, considering the geographical diversity of Brazil.

The study also addressed the interaction between students and teachers during non-face-to-face classes, focusing on clarifying doubts. The results indicate that 51.2% of the participants considered this interaction as "average," 28.7% assessed it as "good," while 7.3% found the exchange to be insufficient, and another 7.3% deemed it "very good."

These data highlight that the difficulties faced in teaching and learning are closely linked to the conditions of access to classes (64%), the technological resources used (43.9%), the assessment of students' learning (43%), and the evaluation of the lessons taught (58.8%). Therefore, these indicators suggest that there is still much work to be done to enhance what was offered to students and developed by teachers, as well as to plan future actions aimed at addressing learning gaps after the return to school.

The difficulties teachers face, from using platforms (4.10%) to interaction through video conferences (19.18%), reveal significant obstacles. Additionally, issues such as the lack of a computer at home (9.59%), lack of internet access (9.59%), the need to conduct teaching at home (home office - 49.42%), and the need to provide differentiated support to students (5.48%), have become constant challenges in the teachers' routine. These difficulties arose due to numerous changes, often without proper planning, as classes were suspended without a foreseeable return. Educational authorities recognized the need to take measures in favor of teachers and students to maintain education, but the complexity of serving such a diverse clientele in a country as heterogeneous as Brazil proved to be a significant challenge.

Despite a significant score of 68.3% being attributed, qualified as "good," and 14.9% as "very good," it is essential to consider that many teachers and students did not have access to remote classes due to a lack of resources, such as computers and the internet. This raises questions about the content teachers deliver and the effectiveness of student learning. The reflection that can be made is: how much of the proposed content was grasped by the students? What was the level of absorption of this content, given that each student had a different learning condition, and how were the results assessed in the face of such diverse student realities?

As for the format of the educational materials made available to students, videos (55.2%), e-books (29%), and recorded video conferences (7.9%) predominated. However, there is no detailed information about how these videos were used, on which platform, whether they were recorded lessons or content taken from YouTube, whether students created videos, and
whether it was the school's directive or the teachers who recommended the videos. The lack of data on this aspect leaves several questions open about how the content was developed and how students managed to learn amid the complexity of the pandemic scenario.

Furthermore, the feedback from assessments was observed, showing a balance between the "good" (37.5%) and "average" (37.5%) scores, totaling the previously mentioned 68.3% for content development. In light of this result, there is a need to reflect on the significance of this 68.3% of feedback with "good" and "average" ratings. Other ideas arise: which students are these who are not keeping up? Where are these students? What are their learning conditions? What is needed for the improvement of the teaching and learning process in the face of the challenges faced in this pandemic moment?

The strategies employed during this period received diverse evaluations, with 65.9% of them considered "good," 14.6% rated as "average," and 17.1% qualified as "very good." However, 2.4% of the respondents did not express an opinion on the matter. Despite these assessments, there are information gaps that need to be filled. It is essential to understand how these strategies are directly related to content development to map real needs and provide appropriate support to teachers in planning and delivering their lessons.

Regarding the technological resources provided by the Municipal Education Departments, the research revealed a high usage rate of platforms (87.8%), followed by the department's website (24.4%) and applications (12.2%). However, if the departments provided platforms for offline lesson delivery, why did teachers have so much difficulty accessing their students? What were these platforms? How were teachers trained or guided to use all the technological tools offered by the departments?

The most frequently adopted technologies during non-presential classes were Google Hangouts Meet and Google Classroom, accounting for 31.9% of choices. This may generate some conflict with the response provided to question 15 (what strategies were used for student learning?), as in that question, there was a mention of the use of other platforms.

Other indicators, such as videos (6.9%) and internet activities (2.4%), reflect teachers' efforts to seek resources to enhance their lessons. However, it is indicated that students and teachers had limited opportunities for online interaction (36.8%). This suggests a perception that students had few chances to access quality content due to the scarcity of technological resources available in the departments. These indications suggest the need for investments in technical infrastructure by education departments.
The media played a crucial role during the experience period, establishing a communication channel between the school, teachers, parents, and students. Interactions through mobile phones, using the WhatsApp application to communicate with the school community, proved valuable. However, the emphasis lies not only on the communication itself but also on the content and relevance of the information transmitted to teachers, parents, and students. Furthermore, it is essential to consider how this communication was conducted. These are reflections that require attention to develop work strategies and plan actions that assist both students and teachers in seeking solutions to their learning needs.

The availability of support (97.6%) and the quality of service (65.9%) provided by the department to schools raise several reflections from these significant indicators. Many questions linger in our minds! If there was so much support, why was the interaction so limited, especially since there was no remote learning and the use of Google Meet or Educational Platforms was also very restricted? This leads us to wonder: What technological resources did the Education Departments have to deal with the demands of the contemporary world, which require technology-mediated learning environments? To what extent are our teachers being updated to renew and create practices, facing the changes posed and currently imposed by the pandemic? What will the future look like? What kind of school do we want?

It is evident that deficiencies in our educational system were highlighted at this time, and therefore, the answer is not simply to return to "normal" but to reevaluate and implement new strategies, both in terms of school and technological infrastructure and in teacher training. In the long term, significant changes in teacher education will be necessary, considering the ongoing context of dealing with Covid-19. We need to reinvent our schools to ensure that children and young people are not excluded from one of the most fundamental rights that can transform the world: the Right to Education.

The managers expressed their evaluations of the support service as follows: 65.9% considered it "good," 26.8% rated it as "very good," 4.8% evaluated it as "average," and 2.5% had no opinion. Regarding communication, this can be interpreted in various ways and may have been carried out through various means to reach teachers, parents, and students. When we consider this broad scenario, it becomes pertinent to question the extent to which schools could effectively cover all segments, considering the varied characteristics of the student population that attend the school.
Final consideration

For an extended period, education predominantly followed the in-person model without considering atypical situations, such as during the social isolation caused by the COVID-19 pandemic. The traditional teaching paradigm lost its relevance in times that proved to be atypical. In the context of social isolation, education had to adapt quickly, taking advantage of the availability of information at our fingertips and the opportunities offered by the internet to explore new methods of learning and teaching.

Some Education Departments directed their efforts to assist students and mitigate the negative consequences of social isolation. For students with internet access, the Google Meet platform became a viable tool for remote learning. However, a portion of students did not have internet access or had limited access, leading the Education Departments to develop specific strategies to cater to these students.

Education is an endeavor that encompasses a partnership between families, educational institutions, teachers, and students, an aspect that was already evident in times considered "normal" when classes were taught in person. However, the importance of this connection has been significantly accentuated during the pandemic. Dealing with this situation requires continuous monitoring of all those involved. It is imperative to make adaptations, which must be implemented swiftly.

The scenario observed in the South Fluminense region does not differ much from this general overview. The anxieties and vulnerabilities that emerged with greater intensity brought the need for immediate action, even if these actions, in many cases, did not reach the ideal but required measures.

In the study conducted by the Violence Observatory of the University Center of Barra Mansa (UBM), it is evident that the Education Departments took measures to face the challenges posed by the pandemic. However, due to preexisting limitations and the need to implement rapid changes to serve various groups of students, each with their unique needs, the need to develop extension projects aimed at supporting Municipal Education Departments becomes evident.

These projects encompass various areas of action: Learning projects aimed at addressing educational content gaps; projects that explore the use of technology, including platforms and tools, to assist teachers in disseminating knowledge; projects focused on improving management in the face of new demands, including optimizing communication between different sectors, stakeholders, and students; projects that concentrate efforts on the mental...
health of those involved and projects related to food security in response to the needs of many families and children. These initiatives primarily aim to contribute to the discussion and implementation of new public policies capable of addressing the unique challenges facing educational institutions.

REFERENCES


Acknowledgements: We would like to express our gratitude to the education department managers who promptly agreed to participate in our study.

Funding: There was no financial support for this research.

Conflicts of interest: There is no conflict of interest.

Ethical approval: The research was submitted to the Ethics and Research Committee of the University Center of Barra Mansa and approved under opinion number 4426858. Throughout the research process, ethical parameters were strictly adhered to.

Data and material availability: The data and materials used in this work are available for access upon request via email to the authors.

Authors' contributions: Prof. Dr. Rosa Maria Maia Gouvêa Esteves - Submission of the project to the Ethics Committee for research development; communication with the education department secretaries in the Southern Fluminense Region for their team's participation; development of the evaluation instrument in collaboration with peers; creation of graphs for result analysis; writing of a portion of the report; and final report revision. Prof. MSc. Ana Maria Dinardi Barbosa Barros - Development of the evaluation instrument in collaboration with peers; writing of a portion of the report; and report formatting in accordance with Doxa Journal standards. Prof. MSc. Maricineia Pereira Meireles da Silva - Development of the evaluation instrument in collaboration with peers; writing of a portion of the report; and Portuguese language revision in accordance with formal standards.

Processing and editing: Editora Ibero-Americana de Educação.
Proofreading, formatting, normalization and translation.