



EDUCATION IN TIMES OF PANDEMIC IN A PORTUGUESE SCHOOL GROUP: CHALLENGES, ADAPTATIONS AND LESSONS FOR THE FUTURE¹

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Abstract

The Covid-19 pandemic brought new challenges to Portuguese schools. Government measures to mitigate the spread of the virus led to the suspension of in-person teaching activities and the implementation of emergency remote learning. Within the context of the Doctoral Program in Educational Sciences at the University of Évora, research was conducted to examine how the Montemor-o-Novo School Group and its partners developed strategies to ensure educational continuity during the pandemic. The study was based on a mixed-method approach, with the following objectives: (1) to identify the measures implemented by the School Group during the pandemic; (2) to analyze the implications of these measures; (3) to assess the support provided by educational partners; (4) to understand the impact of emergency remote learning on teachers' and students' work; and (5) to propose adaptations in pedagogical practices for future implementation. To achieve this, guiding documents from the School Group were analyzed, semi-structured interviews were conducted and questionnaires were distributed to members of the School Group's leadership, teachers, technicians, parents, partners, and students. The results revealed a strong dynamic between the school, family, and community. The support of educational partners played a crucial role in maintaining education and mitigating social inequalities during emergency remote learning.

Keywords: Community; Emergency remote learning; School; Pandemic; Partnership.

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EDUCAÇÃO EM TEMPOS DE PANDEMIA NUM AGRUPAMENTO DE ESCOLAS PORTUGUÊS: DESAFIOS, ADAPTAÇÕES E LIÇÕES PARA O FUTURO

Resumo: A pandemia por Covid-19 trouxe novos desafios às escolas portuguesas. As medidas governamentais para mitigar a propagação do vírus conduziram à suspensão das atividades letivas presenciais e à implementação do ensino remoto de emergência. No contexto do Programa de Doutoramento em Ciências da Educação da Universidade de Évora, investigou-se como o Agrupamento de Escolas de Montemor-o-Novo e os seus parceiros encontraram estratégias para garantir a continuidade da educação durante a pandemia. O estudo assentou numa metodologia mista, tendo como objetivos (1) identificar as medidas adotadas pelo Agrupamento de Escolas em situação de pandemia; (2) analisar as implicações dessas medidas; (3) verificar o apoio dos parceiros educativos; (4) conhecer o impacto que o ensino remoto de emergência teve no trabalho dos docentes e dos alunos; (5) propor adequações nas práticas pedagógicas a implementar no futuro. Para isso, foram analisados documentos orientadores do Agrupamento, realizaram-se entrevistas semiestruturadas e aplicaram-se questionários a elementos da Direção do Agrupamento, docentes, técnicos, pais, parceiros e alunos. Os resultados revelaram a existência de uma boa dinâmica entre a escola, a família e a comunidade. O apoio dos parceiros foi fundamental para a manutenção do ensino e para mitigar as desigualdades sociais durante o ensino remoto de emergência.

Palavras-chave: Comunidade; Ensino remoto de emergência; Escola; Pandemia; Parceria.

EDUCACIÓN EN TIEMPOS DE PANDEMIA EN UN GRUPO ESCOLAR PORTUGUÉS: DESAFÍOS, ADAPTACIONES Y LECCIONES PARA EL FUTURO

Resumen: La pandemia de Covid-19 trajo nuevos desafíos a las escuelas portuguesas. Las medidas gubernamentales para mitigar la propagación del virus llevaron a la suspensión de las actividades educativas presenciales y a la implementación de la enseñanza remota de emergencia. En el contexto del Programa de Doctorado en Ciencias de la Educación de la Universidad de Évora, se investigó cómo el Agrupamiento de Escuelas de Montemor-o-Novo y sus socios encontraron estrategias para garantizar la continuidad de la educación durante la pandemia. El estudio se basó en una metodología mixta, con los siguientes objetivos: (1) identificar las medidas adoptadas por el Agrupamiento de Escuelas durante la pandemia; (2) analizar las implicaciones de dichas medidas; (3) evaluar el apoyo de los socios educativos; (4) conocer el impacto de la enseñanza remota de emergencia en el trabajo de los docentes y los alumnos; y (5) proponer adecuaciones en las prácticas pedagógicas para el futuro. Para ello, se analizaron documentos orientadores del Agrupamiento, se realizaron entrevistas semiestructuradas y se aplicaron cuestionarios a miembros de la Dirección del Agrupamiento, docentes, técnicos, padres, socios y alumnos. Los resultados revelaron una buena dinámica entre la escuela, la familia y la comunidad. El apoyo de los socios fue fundamental para mantener la enseñanza y mitigar las desigualdades sociales durante la enseñanza remota de emergencia.

Palabras clave: Comunidad; Enseñanza remota de emergencia; Escuela; Pandemia; Asociación.

Introduction

The COVID-19 pandemic had a significant impact on various areas of society. Education was one of the most affected areas, as educational establishments were closed and the teaching and learning process had to be ensured, albeit through a new teaching modality: emergency remote teaching. The measures implemented by the Portuguese government in the context of the pandemic created challenges, opportunities, and difficulties for schools, teachers, students, and other members of the educational community.

Through a case study, based on a mixed methodology, we sought to understand how the Montemor-o-Novo School Cluster (AEMN), located in the Alentejo region of Portugal, and its partners organized themselves to ensure an educational response for students during periods of suspension of in-person activities.

The general objective defined for the investigation was to understand how the School Cluster and its partners organized themselves during the pandemic to ensure an educational response. From this objective, we outlined the following specific objectives: (1) to identify the measures adopted by the School Cluster in a pandemic situation; (2) to analyze the implications of the measures implemented as a consequence of the COVID-19 pandemic scenario; (3) to verify the involvement and support from educational partners during the suspension of in-person classes; (4) to understand the impact that distance education had on the work of teachers and students; (5) to propose adjustments that should be made to pedagogical practices in the future, in order to take advantage of the opportunities that arose, for example, in terms of technologies serving education.

Theoretical framework

The Covid-19 pandemic led to the closure of educational institutions, the suspension of in-person teaching activities, and the implementation of a new teaching modality: emergency remote teaching (ERT). The National Education Council (2021) pointed out several weaknesses that became evident during this transition period to distance learning, among which the insufficient number of digital devices and quality internet connections stood out. These difficulties were experienced by both schools and families who lacked the means to acquire computer equipment.

Teachers were affected by the same constraints, as not all had access to adequate equipment, reliable internet connections, or the skills to deal with new digital technologies. As Schleicher (2020, p. 4) stated: "Teachers also had to adapt to new pedagogies and forms of teaching, for which they may not have been prepared." These facts were corroborated by the study conducted by Flores et al. (2020), which sought to understand the process of teachers' adaptation to the context of distance teaching and learning. The main constraints identified were the lack of adequate equipment for students, difficulties in engaging students in learning, lack of time, and the absence of adequate training.

Andreas Schleicher (2020, p. 4) confirmed that the consequences of the suspension of in-person teaching were not the same for everyone: "Students from privileged social backgrounds, supported by their parents, capable and eager to learn, found alternative learning opportunities after schools closed. Those from disadvantaged backgrounds were left behind when their schools closed."

In light of this situation, it became necessary to find solutions. According to the conclusions of the study by the National Education Council (2021), establishing partnerships with the community was one of the strategies adopted to ensure the learning of all students. Mittler (2003), cited by Limeira et al. (2020, p. 9), considers that parents and other members of the local community play a significant role, contributing to a quality teaching and learning process: "No school is an island and no school can succeed without developing partnership networks with its local community, with parents of past, present and future students, with other schools and other agencies."

In this context, it is essential to understand how educational partners and educational institutions coordinated their actions in order to provide a quality response in terms of teaching, learning, assessment, and support, while respecting students' diverse needs.

With this study, we aimed to examine the specific case of the Montemor-o-Novo School Cluster and its respective partners. We drew on a previous investigation (Pereira, 2019), which analyzed the educational dynamics established between this School Cluster and the surrounding territory. In the aforementioned study, Pereira (2019, p. 168) concluded that "the School Cluster demonstrates openness to articulating with a variety of institutions, including the municipality, public services, associations, cooperatives, companies, and foundations, which contributes to a very enriching educational dynamic." The same author also notes that there are many partnerships with different local institutions, located both within and outside the municipality, which are not only considered a motivational factor for learning but also contribute to the

holistic development of students. These partnerships are also a factor in improving academic performance, leading to increased educational success rates and reduced absenteeism and school dropout rates.

The municipality of Montemor-o-Novo, highlighted in red in Figure 1, is located in the Alentejo region, sub-region of Central Alentejo, in the district of Évora. According to the 2021 Census, the total population is 15,799, representing a decrease compared to the 2011 Census, which recorded approximately 17,437 inhabitants, as noted by Pereira (2019).

Figure 1 - Map of Portugal, with the municipality of Montemor-o-Novo highlighted in red



Source: Taken from <http://terrasdeportugal.wikidot.com/montemor-o-novo> (2025)

Montemor-o-Novo is one of the largest municipalities in Portugal, with a total area of 1,232.67 km², and is subdivided into seven parishes: Cabrela; Ciborro; Union of the Parishes of Cortiçadas de Lavre and Lavre; Foros de Vale de Figueira; Santiago do Escoural; São Cristóvão; and the Union of the Parishes of Nossa Senhora da Vila, Nossa Senhora do Bispo, and Silveiras. Montemor-o-Novo is characterized by a dispersion of early childhood education and primary school institutions, which poses a significant challenge, especially during a pandemic period.

The Montemor-o-Novo School Cluster (AEMN) comprises 16 educational institutions. The present study focused on the two academic years directly affected by the pandemic: 2019–2020 and 2020–2021. According to data provided by the school administration, during the 2019–2020 academic year, AEMN had a total of 1,724 students enrolled across different educational levels, while in 2020–2021, there were 1,730 students enrolled.

Methodology

A mixed-methods approach, using both interviews and questionnaires, was selected for the present study. The adopted modality was the case study.

To address the proposed objectives, one of the main data collection techniques was the analysis of guiding documents from the School Cluster within the framework of distance education, such as the Distance Learning Plan, Weekly Work Plans intended for students, among others considered relevant to the investigation.

Semi-structured interviews were conducted with members of the School Cluster's Administration, middle leadership, teachers, technical staff, children from a preschool classroom, students from a second-grade primary school class, representatives of parents/guardians, and partner entities. This constituted another key data collection technique.

For this purpose, a semi-structured interview guide was developed and subjected to validation. The interview responses were recorded, with prior authorization requested from the participants for this purpose.

Questionnaire surveys were administered to selected classes across different levels of schooling: one sixth-grade class from lower secondary education, one eighth-grade class from upper secondary education, and one twelfth-grade class from secondary education. Due to the age group involved, we opted to conduct group interviews with preschool children and individual interviews with first-grade students, as previously mentioned, and to apply questionnaires to students from the remaining levels of education.

Document analysis was employed to interpret the information obtained from the reviewed documents. For the interview transcripts, content analysis was used. Regarding the data obtained from the questionnaires, descriptive statistics were applied to the closed-ended questions, and content analysis was used for the open-ended questions.

The synthesis and final interpretation of all analyzed data enabled the formulation of conclusions and the answering of the research questions and the objectives outlined.

Results

The changes imposed by the pandemic caused several problems for the Montemor-o-Novo School Cluster (AEMN), among which the following stand out: difficulty in accessing the internet; an increase in social and educational inequalities; lack of computer equipment;

poor preparation for the new teaching modality (ERT); difficulties in following ERT, both on the part of students and their parents; social isolation; and challenges in the student assessment process during ERT.

AEMN was able to address some of the identified issues by providing computer equipment, preparing meals, distributing printed tasks for students without internet access, and creating tutorials with usage guidelines for the adopted digital platform, Microsoft Teams. However, AEMN was not able to resolve all problems alone, and it became necessary to activate its partnership network. This enabled the distribution of more internet access points and computer equipment, the delivery of meals to students living in more remote areas, the provision of printed tasks, and the supply of personal protective equipment to AEMN schools.

Regarding the operationalization of ERT, the measures adopted by AEMN were identified and their implications analyzed. As a support instrument for the implementation of the new teaching modality, AEMN developed its Distance Learning Plan (E@D), which defined various strategies to standardize procedures. Thus, for students without access to computer equipment or internet connection, the E@D Plan included the provision of paper-based tasks by the school, which parents or guardians could collect at the Secondary School reception and later return for teacher correction and feedback. For students living outside the city of Montemor-o-Novo, the tasks were sent to the parish councils, which ensured their delivery to the parents. When students were unable to participate in synchronous classes for any reason, tasks were sent by email.

Concerning the frequency of communication between the school—through educators and teachers—and students and their families during ERT, it is important to highlight that this differed between the first lockdown, which began in March 2020, and the second lockdown, which began in January 2021. In the first lockdown, there was a reduced schedule of synchronous sessions, whereas in the second, the online class schedule was similar to the in-person one. In addition to synchronous classes, communication was also established via email or telephone.

The communication tools used during ERT included computers and other devices such as tablets or mobile phones. In cases where families lacked equipment, it was necessary to borrow devices from AEMN or its educational partners.

After analyzing the working conditions students had at home during ERT, it was found that in early childhood education, children were accompanied by a family member and shared

the workspace. In the other education levels, as students' age increased, more students were found to work in individual spaces without the need for supervision.

The support school, which operated in the Montemor-o-Novo Secondary School, served as a social response for the children of essential service workers, students covered by support and inclusion measures, and those at risk due to lack of equipment or family support. This measure helped to prevent some students from dropping out of school.

The activities carried out during ERT varied according to the education level. In some cases, the types of activities were adapted to the new teaching modality. In all levels, activities related to physical education were proposed. In the case of preschool children and first-cycle students, the activities had a more playful nature. For the second and third cycles, activities were similar to those conducted during in-person teaching. In secondary education, students had the opportunity to use digital tools and engage in autonomous work.

Regarding the frequency of the activities proposed to students during ERT, it was found that tasks were assigned daily, although in the second and third cycles they were organized weekly to avoid student overload and to provide better guidance.

Perceptions regarding the quantity of assigned tasks were divergent. Students in the third cycle and secondary education considered the workload excessive, while those in other levels found it adequate.

Parental and guardian support provided to students in completing tasks during ERT was uneven across all education levels. This factor contributed to a worsening of educational inequalities. Regarding teacher support to students, this was considered insufficient in the first and third cycles and in secondary education, despite all efforts made by teachers to support all students. The assessment process during ERT underwent some changes, particularly concerning the criteria and data collection tools, resulting in changes in student grades. Not all students considered the assessment results to be fair, especially secondary education students, who reported a lack of equity.

One of the main concerns of AEMN and the responsible entities was the continuity of different types of support. Therapeutic support was provided both online and in person at the Learning Support Center (CAA) during both lockdown periods. However, in the first lockdown, there were greater difficulties in maintaining some therapies, such as occupational therapy or physiotherapy.

Regarding social support, school social action was maintained and even reinforced, with monitoring of students and families through the provision of meals and school milk, loaning of

computers and internet access, provision of printed materials, opening of the support school, distribution of food baskets to families in need, and follow-up by technical staff either at home or remotely.

As for school dropout prevention, no specific strategy was defined, but some implemented measures contributed to combating dropout. In this sense, there was constant communication between the school and families, close monitoring of students—even at a distance—the possibility for students at risk to attend the support school and the CAA, and the strengthening of partnerships. These measures helped reduce the isolation of some communities, such as the Roma community. Faced with a new teaching modality, teachers felt the need to undergo training in order to respond effectively in terms of methodologies, strategies, and digital tools during ERT. Tutorials were also made available to teachers, parents, and students, and there was a high level of interaction and collaborative work among different educational stakeholders aimed at solving the problems that naturally arose.

The operational staff played an important role during the pandemic period, as they were responsible for cleaning and disinfecting the various school spaces, taking inventory, answering phone calls, preparing school meals, printing paper-based tasks for students, supporting students attending the support school, and assisting with Covid-19 testing.

Regarding the support from educational partners, strong involvement was recorded, with assistance including the provision of computer equipment, transportation of students and meals, provision of printed materials and personal protective equipment, and support for testing and vaccination. Figure 2 illustrates the main partners of AEMN during the pandemic period.

Figure 2 - Partners who stood out for their support during the ERE



Source: Own elaboration (2025)

Each of the partners presented in Figure 2 actively collaborated with the AEMN, families, and students to ensure conditions that allowed for the continuity of student learning, thereby strengthening the relationship between the AEMN and its partners.

Regarding the general perception of the impact of Emergency Remote Education (ERE), the final assessment was positive, although it was not considered the most appropriate teaching modality for all educational levels, particularly for preschool children. Students had the opportunity to develop their autonomy and digital skills, but learning and social competencies were compromised. The increase in social and educational inequalities was a significant factor during the ERE period.

The adaptation of teachers to educational technologies occurred at different paces, involving considerable effort and collaborative work. As for teachers' digital competencies, the majority of students in the 2nd and 3rd cycles of basic education perceived them as adequate, while most secondary education students disagreed.

ERE led to changes in teaching practices, resulting in an increased workload and the need to adapt to new teaching methodologies. This made it difficult for some teachers to balance professional and family life, leading to exhaustion. This work was valued, albeit temporarily by some parents and guardians.

The adaptation of children and students, in general, was considered positive, although there was an increase in inequalities. Younger children and students missed the physical presence of peers and teachers. Students in the 2nd and 3rd cycles of basic education and secondary education reported lack of concentration, time and task management difficulties, lack of socialization with peers and teachers, and the absence of quality internet access as major challenges.

Concerning the feelings expressed by children and students during ERE, negative feelings predominated with increasing age. In preschool and 1st cycle of basic education, happiness and sadness were prominent. In the 6th grade, despite "tiredness" being the most frequently reported feeling, the set of positive feelings—comfortable, motivated, and secure—was dominant. However, in the 8th and 11th grades, negative feelings—stressed, tired, and depressed—prevailed.

In terms of learning, difficulties were observed in consolidating knowledge remotely, with a particular impact on younger age groups. It is also important to note that the situation of students with greater learning difficulties worsened during ERE. Consequently, it was necessary

to implement strategies for learning recovery and consolidation upon the return to in-person teaching.

ERE enabled both teachers and students to develop digital competencies. The majority of 6th and 11th-grade students considered their digital competencies adequate for ERE, while 8th-grade students expressed a contrary opinion.

The AEMN showed concern for the well-being of children, students, and their families. To this end, a weekly online time for informal dialogue between the educator/homeroom teacher or class director and the children or students was allocated; in preschool and the 1st cycle of basic education, this became a daily occurrence.

Lack of socialization compromised socioemotional competencies and altered social behaviors, leading to increased anxiety, violence, and mental health issues. Another consequence was the increased isolation of some communities, such as the Roma community.

The positive aspects of ERE varied according to the students' age. Preschool children enjoyed being at home and spending more time with family. First-cycle basic education students, in addition to appreciating being with their families, also found satisfaction in completing some proposed tasks and talking with friends and their teacher, even if remotely. In the 2nd cycle of basic education, students highlighted the development of digital competencies during online classes and feeling comfortable and safe at home. Opinions among the surveyed 3rd-cycle basic education students were divided: some considered not going to school positive, while others could not identify any positive aspect of ERE. The majority of surveyed 11th-grade students considered ERE positive because it was comfortable to have classes at home, there was more autonomy, more time for family and other activities, it was possible to develop digital competencies, and spend time on their phones.

Regarding the negative aspects of ERE, the following were highlighted: in preschool education, children missed being at school in person with friends and their educator, an aspect also pointed out by students in the 2nd, 6th, 8th, and 11th grades. Second-grade students disliked certain types of assignments during ERE, sitting for long periods, speaking into a microphone, internet failures, or not having anyone to play with. Sixth-grade students emphasized problems related to computer equipment, lack of concentration, unengaging classes, excessive screen time, less teacher support, digital assessments, and limited learning. In the 3rd cycle of basic education, students reported difficulty in learning and participating in online classes, and the possibility of cheating. Eleventh-grade students highlighted the excessive number of tasks,

learning difficulties, some lack of understanding from teachers, fatigue, and lack of concentration.

ERE also affected parents' routines. In addition to the difficulties in balancing work and supporting their children, the exacerbation of social and educational inequalities was evident, as not all students received equal parental support. However, ERE was also an opportunity to spend more time with their children and value their academic journey.

The relationship between school, family, and community was characterized by both losses and gains during the pandemic period. There was an intensification of communication and collaboration among the AEMN, families, and various partners to find solutions for emerging problems.

Some pedagogical practices developed during ERE emerged as new opportunities and may continue in the future. Examples include online meetings among various educational stakeholders, which offer numerous advantages; the use of new digital tools combined with new teaching strategies and methodologies, which continue to be utilized in in-person teaching; and the development of digital competencies and new collaborative work dynamics.

Final considerations

Figueiredo (2021) considers that the pandemic was the perfect opportunity for a reform of the system, as it ultimately served as a diagnosis of its deficiencies, and from these, it will be possible to carry out a true transformation of the school. The pandemic reinforced the need for the school to reinvent itself.

Dias-Trindade et al. (2020, p. 20) argue that:

"Emergency remote education models have the potential to transform educational systems, with effects that go far beyond the pandemic. Although in many aspects the shift to online education was random and chaotic, the results of research (including the present study) point to broader changes with long-term implications—particularly in the innovation of pedagogical practices, in the search for more appropriate (and even customized) technological solutions, and in the quality of the distance education provided."

The main challenges facing post-pandemic education relate to social and human relationships, which were significantly affected by the pandemic context, as well as the urgent need to strengthen students' socioemotional skills and provide psychological support.

With regard to the teaching-learning process, emphasis is placed on the importance of recovering and consolidating learning, providing individualized support, adopting methodologies that make balanced use of digital tools, and ensuring continuous professional development for teachers.

References

CONSELHO NACIONAL DE EDUCAÇÃO. **Educação em tempo de pandemia: problemas, respostas e desafios das escolas.** Lisboa: Conselho Nacional de Educação, 2021. Available at: https://www.cnedu.pt/content/iniciativas/estudos/Educacao_em_tempo_de_Pandemia.pdf. Accessed on: June 30, 2024.

DIAS-TRINDADE, Sara; CORREIA, Joana Duarte; Henriques, Susana. O ensino remoto emergencial na educação básica brasileira e portuguesa: a perspectiva dos docentes. **Revista Tempos e Espaços Em Educação**, v. 13, n. 32, p. 1-23, 2020. Available at: <https://doi.org/10.20952/revtee.v13i32.14426>. Accessed on: 7 Jun 2024.

FIGUEIREDO, António Dias. Que futuro para a educação pós-pandemia? Um balanço projetivo. In Conselho Nacional de Educação. **Estado da Educação 2020**, 2021, p. 252–259. Available at: <https://www.cnedu.pt/pt/noticias/cne/1617-estado-educacao-2020>. Accessed on: 5 Jun 2024.

FLORES, Maria Assunção; MACHADO, Eusébio André; ALVES, Palmira. **Ensino e avaliação a distância em tempos de COVID-19 nos ensinos básico e secundário em Portugal**, 2020. Available at: https://ciecum.files.wordpress.com/2020/07/resultados-do-estudo_versc3a3ofinal_pc393s-sessc383o.pdf. Accessed on: 26 Jun. 2024

LIMEIRA, Andréa Pequeno, Oliveira *et al.* O impacto na educação com a pandemia da Covid-19. **Revista Acadêmica Online**, julho 2020. Available at: <https://www.revistaacademicaonline.com/news/o-impacto-na-educacao-com-a-pandemia-da-covid-19/>. Accessed on: 20 Jun. 2024

PEREIRA, Susana Isabel Peixeiro. **Olhares sobre a dinâmica educativa estabelecida entre o Agrupamento de Escolas de Montemor-o-Novo e o território em que se insere.** Dissertação de Mestrado. Universidade de Évora, 2019.

SCHLEICHER, Andreas. **The impact of Covid-19 on education:** insights from education at a glance 2020. 1–31. Available at: <https://www.oecd.org/education/the-impact-of-covid-19-on-education-insights-education-at-a-glance-2020.pdf>. Accessed on: 15 Jun. 2024

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