

Emergency Remote Education in the COVID Pandemic: Reflection on the forced and sudden materialisation of digital education

Educação Remota Emergencial na Pandemia do COVID: Reflexão sobre a materialização forçada e repentina da educação digital

Educación remota de emergencia en la pandemia de COVID: Reflexión sobre la materialización forzosa y repentina de la educación digital

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Resumo. Em 2019, surgiu uma nova doença infecciosa denominada COVID-19. A educação passou por uma transição forçada, de educação presencial para educação remota emergencial, com tempo e recursos limitados. Os significados e repercussões deste processo na educação e nas pessoas impactadas ainda não estão sistematizados e discutidos. Uma perspectiva crítica das humanidades digitais é urgentemente necessária. Este estudo tem como objetivo preencher esta lacuna através de uma scoping review de 60 artigos indexados na Scopus e/ou Web of Science que abordaram a educação remota emergencial e da análise dos resultados sob a perspectiva das humanidades digitais. Os principais resultados, metodologias e limitações destes estudos foram identificados, organizados e sistematizados. Os resultados indicam que a educação remota emergencial foi conduzida através da replicação de estratégias presenciais, e as potenciais vantagens digitais que poderiam ser utilizadas para melhorar a experiência foram negligenciadas. Apesar das alegadas oportunidades que as tecnologias oferecem para a educação, integrá-las de forma significativa é desafiante: profissionais da educação tentaram reproduzir o mundo educacional material familiar nos media digitais. Ao mesmo tempo, questões de igualdade e literacia digital continuam a afetar o campo da educação. A relevância desta pesquisa reside na sistematização de novas evidências que devem alimentar a discussão sobre a necessidade de trazer uma visão humanista para a esfera digital, um desafio que as humanidades digitais só podem enfrentar se superarem abordagens deterministas tecnológicas e sociais.

Palavras-chave: Educação Remota Emergencial. Educação Multimédia. Revisão de Escopo.

Abstract. In 2019, a new infectious disease named COVID-19 emerged. Education went through a forced transition from face-to-face education to emergency remote education with limited time and resources. The meanings and impacts of this process on education and its stakeholders have not yet been systematised and discussed. A critical digital humanities perspective is urgently needed. This study aims to fill this gap by conducting a scoping review of 60 articles indexed on Scopus and/or Web of Science that addressed emergency remote education and analysing the results from the perspective of the digital humanities. The main findings, methodologies, and limitations of these studies were identified, organised, and systematised. Results indicate that emergency remote education was conducted by replicating face-to-face strategies, and digital affordances that could potentially be utilised to improve the overall experience were neglected. Despite claims of the opportunities that technologies offer for education, integrating them in a meaningful way is challenging: stakeholders attempted to reproduce the familiar, material educational world in digital media. At the same time, issues of digital equality and literacy continue to affect the education arena. The relevance of this research lies in systematising new

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evidence that should feed discussion regarding the need to bring a humanist view to the digital sphere, a challenge that digital humanities can only meet if they overcome technological and social deterministic approaches.

Keywords: Emergency Remote Education. Multimedia Education. Scoping Review.

Resumen. En 2019 surgió una nueva enfermedad infecciosa denominada COVID-19. La educación atravesó una transición forzada de la modalidad presencial a la educación remota de emergencia, con recursos y tiempo limitados. Los significados e impactos de este proceso en la educación y sus actores aún no han sido sistematizados ni discutidos en profundidad. Se hace urgente una perspectiva crítica desde las humanidades digitales. Este estudio pretende llenar ese vacío mediante la realización de una revisión del alcance de 60 artículos indexados en Scopus y/o Web of Science que abordan la educación remota de emergencia, analizando sus resultados desde la perspectiva de las humanidades digitales. Se identificaron, organizaron y sistematizaron las principales conclusiones, metodologías y limitaciones de dichos estudios. Los resultados indican que la educación remota de emergencia se implementó replicando estrategias propias del modelo presencial, descuidando las posibilidades digitales que podrían haberse aprovechado para mejorar la experiencia educativa. A pesar de las oportunidades que ofrecen las tecnologías para la educación, su integración significativa continúa siendo un reto: los actores educativos intentaron reproducir el mundo educativo físico y familiar en entornos digitales. Al mismo tiempo, las cuestiones de equidad y alfabetización digital continúan impactando el ámbito educativo. La relevancia de esta investigación radica en la sistematización de nuevas evidencias que deben alimentar el debate sobre la necesidad de incorporar una visión humanista al entorno digital, un desafío que las humanidades digitales solo podrán enfrentar si superan los enfoques deterministas, tanto tecnológicos como sociales.

Palabras clave: Educación remota de emergencia. Educación Multimedia. Revisión del alcance.

Introduction

In 2019, a new infectious disease named COVID-19 emerged. It was caused by SARS-CoV-2, a recently detected coronavirus. The first cases were identified in the city of Wuhan on December 31st, and due to its high infection rate, it quickly spread throughout the world. On March 11th, 2020, it was classified by the World Health Organisation (WHO) as a pandemic due to the alarming levels of spread and severity of the virus. Though most people would only experience mild to moderate respiratory illness, older people and people with underlying medical problems were more likely to develop severe illness (WHO, 2020). Strict responses were enforced, which included but were not limited to using a mask in public places, physical distancing, and even complete countrywide lockdowns. The latter would occur for predetermined periods, and citizens were only allowed to leave their residences to acquire essential items or in case of being an essential worker. The collective memory is about empty streets and empty schools; a disturbing silence took over the cities and many people's lives.

Education was also impacted by these measures and went through a forced transition from face-to-face education to remote learning with limited resources (Adedoyin & Soykan, 2023). Due to the severity of the situation, countries had little time to prepare for physical distancing and emergency strategies were adopted to offer this modality of education to the

largest group of students. The modality of distance education in an emergency context cannot be regarded in the same way as traditional distance learning since it was not planned from the start to be a non-presential course. Rather, it is a temporary shift of instructional delivery due to crisis circumstances, and it must be classified accordingly, as an emergency remote education (ERE) (Hodges et al., 2020), which presented some challenges during the COVID-19 pandemic, such as, lack of online technology readiness and increased workload for teachers (Oliveira et al., 2021; VanLeeuwen et al., 2021).

Education is a transformative process that should be inclusive and adjusted to everyone, regardless of family income and social class. However, inequity in access to education was an established challenge even before the COVID-19 pandemic (Noltemeyer et al., 2012). Although the strategies to overcome the gap of access to education are well-known, including access to appropriate equipment and teaching the students relevant skills to be integrated in the world, the ERE during the COVID-19 pandemic has evidenced the inequalities in education to a broader extent (Kraft et al., 2021). For instance, it is now well known that, in the context of the ERE, the digital divide and the lack of digital literacy became limiting factors for students to be able to attend classes, obtain resources, interact with teachers and peers, and have access to education in a broader sense (Chirinda et al., 2021). Studies have shown that some students had to attend classes via mobile phones and, in more extreme cases, students remained uncommunicable and did not attend classes at all (Chirinda et al., 2021). The myth of a universally connected world failed, and the concept of equity in education has never been more distant than during the pandemic.

The ERE repercussions are still being investigated, and their meanings and impacts on education and its stakeholders are not yet systematised and discussed. Therefore, it is important to employ efforts to make sense of the literature published during and about the COVID-19 ERE, as they may provide an invaluable perspective that can support the development of pedagogical practices and education policies and guide future implementations of ERE and distance education, including contexts of limited access due to natural disasters, war, or other crises (Crompton et al., 2021). A critical digital humanities perspective is urgently needed to explore the potential impacts of this sudden “dematerialisation” of education, since it could offer valuable insights for both education and digital humanities. Furthermore, this study was guided by the awareness that all data are *capta* (Drucker, 2011), that is, all research is shaped by subjective choices, whether made consciously or unconsciously. As such, we also acknowledge that the collective experiences of the authors as educators and students mediated

this co-dependent relation between observer and experience and offered a relevant perspective that contributed to this analysis.

The pandemic presented a unique opportunity to observe how educational systems reacted to radical change, posing a tremendous test to scholars' capacity to investigate, which necessitates a parsimonious choice of methods. Additionally, the findings of these studies should be thoroughly investigated, as they could already point towards relevant results and indicate valuable trends and patterns. Finally, it is equally important to pay attention to the gaps identified by the authors themselves, as these limitations could guide future research efforts. Therefore, the research questions that guided the study were focused on the period between 2020 and 2021, and are:

Q1: What are the methodological tendencies of studies regarding the COVID-19 emergency remote education aimed at middle and high school?

Q2: What are the main findings of studies that addressed the COVID-19 emergency remote education aimed at middle and high school?

Q3: What are the limitations identified by authors regarding the COVID-19 emergency remote education aimed at middle and high school?

Methods

This scoping review aims to systematise the literature about ERE during COVID-19 through the analysis of published papers addressing the topic. Due to the emergent nature of this field of research, a scoping review was adopted. This choice is in line with the objectives of this study, which were to map the available evidence and identify the main findings, the limitations and methodological tendencies of relevant studies (Arksey & O'Malley, 2005; Daudt et al., 2013; Levac et al., 2010).

Eligibility criteria

Through the research questions previously established, it was possible to determine the eligibility criteria that guided the development of the search process, and consisted of studies that:

1. Addressed the COVID-19 ERE.
2. Focused on or includes middle and/or secondary school. Middle and secondary school encompass school years between 6th and 13th grade, roughly corresponding to ages 11 through 18.

3. Are in English, Portuguese, Spanish, or French, as translation was not feasible for this project.

4. Are articles in journals indexed in Scopus or Web of Knowledge, indicating a preference for published, peer-reviewed articles.

5. Published in 2020 or 2021, reflecting the recent nature of the ERE.

Search plan

Based on these criteria, an iterative search plan was developed. Two different Boolean search queries were created: one adopting an exclusive approach and the other employing an inclusive strategy. The exclusive search query included broader terms associated with ERE in keyword group 1 and then excluded terms that were deemed irrelevant in the context of this study, such as "undergraduate," "college," and "elementary" in keyword group 2. Also, these results were further filtered by publication date and type. The inclusive technique used the same terms in keyword group 1, but included terms considered relevant in the context of this study to narrow down the results. Again, the results were limited by utilising filters that met the eligibility criteria, such as publication date and type. Comparing the two techniques, the second one yielded more relevant articles and was chosen as the search method for the scoping review (Table 1).

Table 1. Boolean search parameters

Search section	Search terms
Keyword group 1	TITLE-ABS-KEY ("emergency remote education" OR "emergency remote learning" OR "emergency remote teaching")
Keyword group 2	AND TITLE-ABS-KEY ("k-6" OR "k-7" OR "k-8" OR "k-9" OR "k-10" OR "k-11" OR "k-12" OR middle OR secondary OR school OR "grade 6" OR "grade 7" OR "grade 8" OR "grade 9" OR "grade 10" OR "grade 11" OR "grade 12" OR "grade 13" OR "6th grade" OR "7th grade" OR "8th grade" OR "9th grade" OR "10th grade" OR "11th grade" OR "12th grade" OR "13th grade")
Filters	AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020))

Source: Authors, 2025.

Databases

The selected databases for the study were Web of Science and Scopus, known for their high-quality global content and advanced search engines. Relevant studies not captured by the second search technique, but present in the first, were manually included in the review. Articles

were reviewed by one researcher, and no automatic means of analysis or collection were utilised.

Procedures

The search was conducted on November 11th, 2021, in both Web of Science and Scopus. Relevant information was extracted from the articles and organised into a Microsoft Excel (Microsoft Corporation, 2018) database. This database encompassed various metadata fields, including author, title, and year (which collectively constitute the general information), along with sections dedicated to results, definition of ERE, methodology employed, sample characteristics, and limitations identified by the authors. Additionally, descriptive statistics and frequencies were computed based on the gathered data with the software SPSS (IBM Corp, 2019).

Corpus

Web of Science yielded 153 results, while the same search in Scopus yielded 109 results. After these results were combined and duplicates were excluded, 178 articles remained. Even after the effort of developing the most effective Boolean search, results still presented some articles that were not relevant to this project. Therefore, an additional selection process where study abstracts were analysed was necessary. Of 178 articles, 63 met the eligibility criteria and were selected for the next stage of the scoping review, as shown in Image 1, below. Finally, four articles were manually included in the review process that weren't present in the initial search. After the completion of the search process, the identified articles were subjected to a thorough full-text analysis, and seven articles were excluded because they did not meet the inclusion criteria. Finally, a summary of the remaining 60 articles can be observed in Table 2. A more detailed database is available on the project's website: <https://covid19ere.wordpress.com/>.

Table 2. Boolean search parameters

ID	Authors	Themes identified in the results	Methods	Sample	Limitations
1	(Back et al., 2021)	Cultural or Socioeconomic circumstances, Institutional support, Parental support, Student engagement, and Teaching and abilities	Qualitative	Teachers	Sample
2	(Peterson et al., 2020)	Cultural or Socioeconomic circumstances, Health and wellbeing, Institutional support	Mixed-methods	N/A	Study design, Time
3	(Mehrotra et al., 2021)	Framework	Mixed-methods	Students, Teachers	Sample
4	(Calderón-Garrido & Gustems-Carnicer, 2021)	Cultural or Socioeconomic circumstances, Grading, Interpersonal relations, and Teaching and abilities	Mixed-methods	Teachers	N/A
5	(Manca & Delfino, 2021)	Cultural or Socioeconomic circumstances, Institutional support, and Teaching and abilities	Mixed-methods	Parents, Students, Teachers	Sample, Study design
6	(Ata Baran & Baran, 2021)	Cultural or Socioeconomic circumstances, Student engagement, Teaching and abilities	Qualitative	Teachers	N/A
7	(Williams & Corwith, 2021)	Cultural or Socioeconomic circumstances, Health and wellbeing, Institutional support, Teaching and abilities	Qualitative	Parents, Students, Teachers, Other	N/A
8	(Lepp & Luik, 2021)	Cultural or Socioeconomic circumstances, Institutional support, Parental support, Teaching and abilities	Qualitative	Parents, Teachers, Other	Sample, Study design, Time
9	(Dindar et al., 2021)	Teaching and abilities	Quantitative	Teachers	Sample, Time
10	(Wong & Moorhouse, 2021)	Teaching and abilities	Mixed-methods	Teachers	External factors, Sample
11	(Nonato et al., 2021)	Cultural or Socioeconomic circumstances, Teaching and abilities	Quantitative	Teachers	N/A
12	(Nilsberth et al., 2021)	Cultural or Socioeconomic circumstances, Grading, Interpersonal relations, Student engagement, Teaching and abilities	Qualitative	Teachers	N/A
13	(Beardsley et al., 2021)	Grading, Teaching and abilities	Mixed-methods	Teachers	Sample
14	((Noor) Coutts et al., 2020)	Cultural or Socioeconomic circumstances, Interpersonal relations, Student engagement, Teaching and abilities	Qualitative	Teachers	Study design
15	(Sosa Díaz, 2021)	Cultural or Socioeconomic circumstances, Institutional support	Qualitative	Teachers	Study design
16	(Khlaif, Salha, & Kouraichi, 2021)	Cultural or Socioeconomic circumstances, Digital Privacy, Parental support, Student engagement, Teaching and abilities	Qualitative	Parents, Students, Teachers	Sample, Study design
17	(Seabra et al., 2021)	Parental support, Student engagement, Teaching and abilities	Qualitative	Teachers	Sample, Time
18	(Misirli & Ergulec, 2021)	Interpersonal relations, Parental support, Student engagement	Mixed-methods	Parents	Sample
19	(Trust & Whalen, 2021)	Institutional support, Interpersonal relations, Teaching and abilities	Qualitative	Teachers	Sample, Study design, Time
20	(Whittle et al., 2020)	Framework	Mixed-methods	Teachers, Other	Sample, Time
21	(Torrás Virgili, 2021)	Framework	Mixed-methods	Teachers, Other	N/A
22	(Thiengo et al., 2021)	Institutional support, Teaching and abilities	Mixed-methods	Teachers	N/A
23	(De Oliveira & Corrêa, 2020)	Teaching and abilities	Qualitative	Students	N/A

ID	Authors	Themes identified in the results	Methods	Sample	Limitations
24	(Paulo et al., 2020)	Cultural or Socioeconomic circumstances, Teaching and abilities	Qualitative	Teachers	N/A
25	(Dias Trindade et al., 2020)	Cultural or Socioeconomic circumstances, Institutional support, Teaching and abilities	Quantitative	Teachers	N/A
26	(Farias & Silva, 2021)	Health and wellbeing, Institutional support, Teaching and abilities	Qualitative	Teachers	N/A
27	(Almeida et al., 2021)	Cultural or Socioeconomic circumstances, Institutional support, Teaching and abilities	Qualitative	Students, Teachers, Other	N/A
28	(Shamir-Inbal & Blau, 2021)	Teaching and abilities	Qualitative	Students, Teachers, Other	Study design, Time
29	(Campos & Pereira, 2020)	Cultural or Socioeconomic circumstances, Student engagement, Teaching and abilities	Qualitative	Teachers, Other	N/A
30	(Potyrała et al., 2021)	Institutional support, Student engagement, Teaching and abilities	Qualitative	Teachers	Sample, Study design
31	(Mansor et al., 2021)	Instrument: Scale	Quantitative	Teachers	Sample
32	(Wu, 2021)	Teaching and abilities	Quantitative	Teachers	Sample, Study design
33	(Ibrahim et al., 2022)	Teaching and abilities	Qualitative	Students, Teachers	Sample, Study design
34	(Cortés Abarca, 2021)	Cultural or Socioeconomic circumstances, Institutional support, Teaching and abilities	Quantitative	Teachers, Other	Sample, Time
35	(Sofianidis et al., 2021)	Cultural or Socioeconomic circumstances	Mixed-methods	Students	Sample
36	(Silva et al., 2020)	Cultural or Socioeconomic circumstances, Teaching and abilities	Qualitative	Teachers	Study design
37	(Code et al., 2020)	Teaching and abilities	Qualitative	Teachers	N/A
38	(Henriques et al., 2021)	Teaching and abilities	Qualitative	Teachers	Sample
39	(Acosta et al., 2021)	Cultural or Socioeconomic circumstances, Health and wellbeing, Parental support	Quantitative	Parents, Students	External factors, Sample
40	(B. Li, 2022)	Cultural or Socioeconomic circumstances, Teaching and abilities	Mixed-methods	Teachers	Sample, Study design
41	(Mumin et al., 2021)	Health and wellbeing, Parental support, Teaching and abilities	Qualitative	Teachers	N/A
42	(Rwodzi & De, 2021)	Cultural or Socioeconomic circumstances, Institutional support, Interpersonal relations, Teaching and abilities	Qualitative	Teachers	Sample
43	(F. Li et al., 2021)	Interpersonal relations, Parental support, Student engagement, Teaching and abilities	Qualitative	Students, Teachers	Sample, Study design
44	(Rodríguez-Muñiz et al., 2021)	Cultural or Socioeconomic circumstances, Teaching and abilities	Quantitative	Teachers	Sample, Study design, Time
45	(Prieto-Ballester et al., 2021)	Cultural or Socioeconomic circumstances, Teaching and abilities	Mixed-methods	Teachers	Sample
46	(Portillo et al., 2020)	Cultural or Socioeconomic circumstances, Teaching and abilities	Mixed-methods	Teachers	N/A
47	(Yang et al., 2022)	Institutional support, Parental support, Student engagement, Teaching and abilities	Quantitative	Parents, Students	Sample, Study design, Time
48	(Kraft et al., 2021)	Cultural or Socioeconomic circumstances, Institutional support, Teaching and abilities	Quantitative	Teachers	External factors, Sample, Study design

ID	Authors	Themes identified in the results	Methods	Sample	Limitations
49	(Gui et al., 2021)	Cultural or Socioeconomic circumstances, Parental support, Teaching and abilities	Qualitative	Parents, Teachers	Sample, Time
50	(Jelińska & Paradowski, 2021)	Interpersonal relations, Student engagement, Teaching and abilities	Quantitative	Teachers	Sample, Study design, Time
51	(Jelinska & Paradowski, 2021)	Cultural or Socioeconomic circumstances, Teaching and abilities	Quantitative	Teachers	Sample
52	(Chirinda et al., 2021)	Cultural or Socioeconomic circumstances, Teaching and abilities	Qualitative	Teachers	Sample
53	(Villa et al., 2020)	Institutional support, Teaching and abilities	Qualitative	Teachers	N/A
54	(Godoi et al., 2020)	Grading, Health and wellbeing, Interpersonal relations, Parental support, Student engagement, Teaching and abilities	Qualitative	Teachers	N/A
55	(Khlaif, Salha, Affouneh, et al., 2021)	Cultural or Socioeconomic circumstances, Digital Privacy, Interpersonal relations, Teaching and abilities	Qualitative	Teachers	N/A
56	(Giovannella et al., 2020)	Cultural or Socioeconomic circumstances, Institutional support, Teaching and abilities	Mixed-methods	Teachers	Study design, Time
57	(Padilla Rodríguez et al., 2021)	Cultural or Socioeconomic circumstances, Institutional support, Teaching and abilities	Mixed-methods	Teachers	Sample
58	(Khlaif, Salha, Fareed, et al., 2021)	Cultural or Socioeconomic circumstances, Digital Privacy, Institutional support, Student engagement	Qualitative	Parents, Students, Teachers	N/A
59	(Parkes et al., 2021)	Health and wellbeing, Institutional support, Teaching and abilities	Quantitative	N/A	Sample, Study design, Time
60	(Boltz et al., 2021)	Cultural or Socioeconomic circumstances, Teaching and abilities	Mixed-methods	Teachers, Other	Sample, Study design

Source: Authors, 2025.

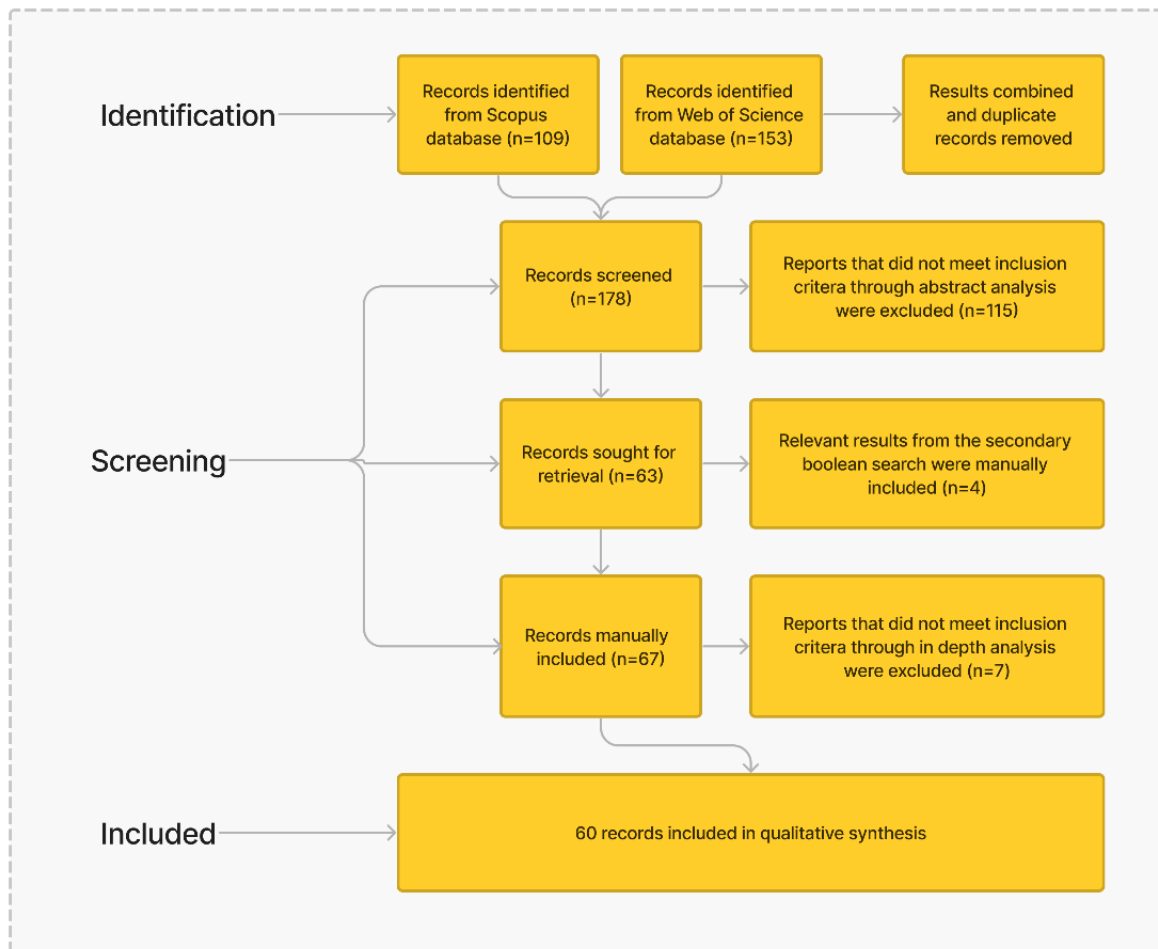


Image 1. Stages of the scoping review
Source: Authors, 2025.

Results

Methodological tendencies

The methodology employed in the studies was analysed, and the qualitative methodology was the most prevalent, employed in 30 studies. The mixed methods approach, combining qualitative and quantitative elements, was utilised in 17 studies. On the other hand, quantitative methodology was applied in 13 studies. This distribution indicates that studies favoured the qualitative approach.

The composition of the sample of studies was also studied and indicated that studies relied mostly on teachers as participants. The findings revealed that "teachers" were the most frequently studied group, as they were included in 53 studies (88.3%). The n of participants ranged from n=2 to n=7841 (Mdn=94). Following "teachers", "students" were identified as participants in 13 studies (21.6%), with sample numbers ranging from n=5 to n=5300 (Mdn=59). Additionally, parents were involved in nine studies (15%), and "other", such as

school administrative personnel, were also represented in nine studies (15%). This distribution highlights the prominence of teachers as the primary group of interest in the research conducted.

Examining the distribution of studies with participants located in one country (Image 2), the top three contributors to the research on this topic were Brazil, Spain, and the United States. Brazil had the highest number of publications, with eight studies, Spain and the United States followed, both with seven studies each. China contributed four studies.

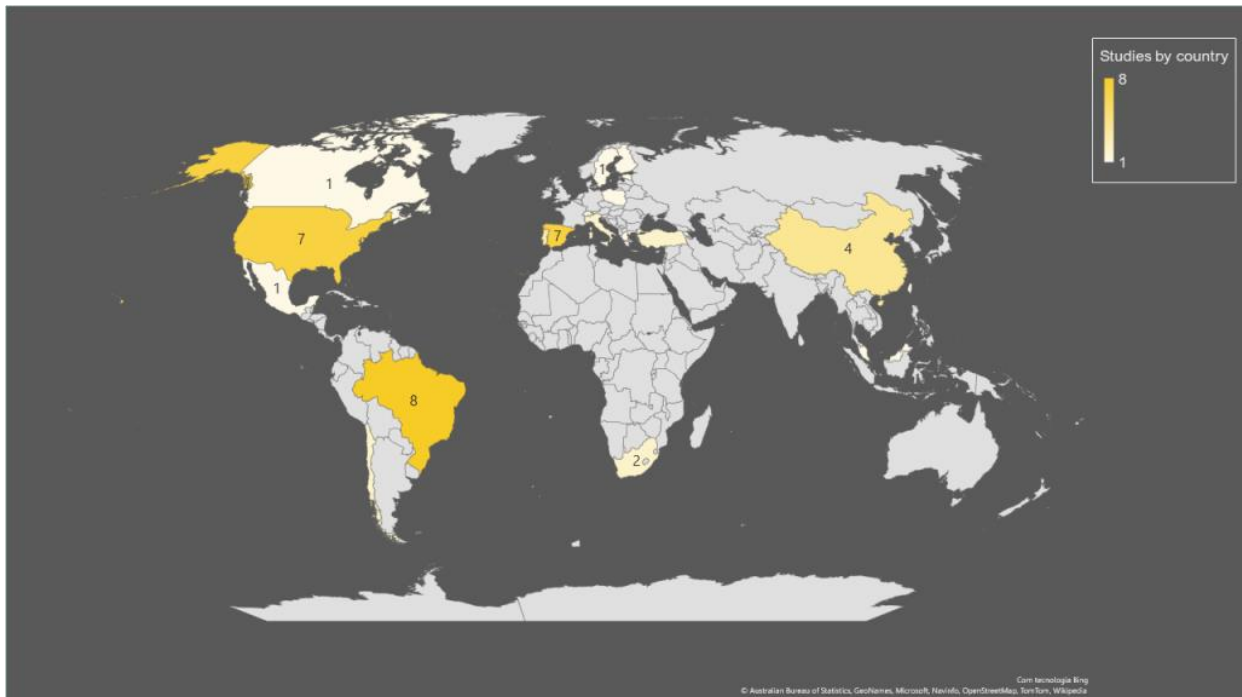


Image 2. Studies with participants located in one country
Source: Authors, 2025.

Main findings

The main findings of each study were analysed and coded into nine recurring themes: (i) teaching and abilities, (ii) cultural or socioeconomic circumstances, (iii) institutional support, (iv) student engagement, (v) parental support, (vi) interpersonal relations, (vii) health and wellbeing, (viii) grading, and (xi) digital privacy, as presented in Table 3.

The most frequent theme in the studies (n=50) was (i) teaching and abilities. Findings in this category presented the importance of ICT skills in ERE and how previous relevant knowledge played a fundamental role in a less troublesome transition into ERE. The lack of ICT skills proved to increase teacher workload, since teachers had to learn how to adapt their content to ERE and how to conduct online classes before being able to implement them.

Table 3. Themes present in the main findings

Themes	Frequency	IDs
(i) Teaching and abilities	50	1, 4-14, 16, 17, 19, 22-30, 32-34, 36- 38, 40-57, 59, 60
(ii) Cultural or socioeconomic circumstances	34	1, 2, 4- 8, 11, 12, 14-16, 24, 25, 27, 29, 34-36, 39, 40, 42, 44-46, 48, 49, 51, 52, 55-58, 60
(iii) Institutional support	21	1, 2, 5, 7, 8, 15, 19, 22, 25-27, 30, 34, 42, 47, 48, 53, 56-59
(iv) Student engagement	14	1, 6, 12, 14, 16-18, 29, 30, 43, 47, 50, 54, 58
(v) Parental support	11	1, 8, 16-18, 39, 41, 43, 47, 49, 54
(vi) Interpersonal relations	10	4, 12, 14, 18, 19, 42, 43, 50, 54, 55
(vii) Health and wellbeing	7	2, 7, 26, 39, 41, 54, 59
(viii) Grading	4	4, 12, 13, 54
(xi) Digital privacy	3	16, 56, 58

Source: Authors, 2025.

The impact of cultural or socioeconomic circumstances on ERE (theme ii) was reported by 34 studies. These studies claim that the quality of ERE was greatly influenced by socioeconomic factors, as students and teachers who did not have access to relevant equipment or a reliable internet connection reported a worse experience than those who did. The studies that presented this theme in their main findings either had participants in public schools or in public and private schools.

The third theme, institutional support, was identified in 21 studies and reported how support from schools, governments, and relevant institutions is essential to guarantee a less distressing transition from face-to-face to ERE. Institutional support may consist of offering equipment, training or simply guidance for education professionals, creating a support network and a less isolated experience, in which educational actions are relatively coordinated, ensuring a somewhat similar experience between different classes in the same institution.

Student engagement (theme iv) was highlighted in 14 studies. Overall, studies identified that teachers had more difficulty engaging students during ERE than during regular education. Lack of student participation in ERE (e.g., no interaction in synchronous classes, webcams turned off, failing to turn in assignments, etc.) was identified as one of the biggest challenges teachers faced in the pandemic.

The theme v, parental support, was also recurrent in the studies. Eleven studies addressed them and stressed that parent involvement is essential during ERE to improve results by helping students with academic content and with maintaining their schedules.

The sixth theme, interpersonal relations, was present in ten studies. These studies stated the importance of creating and maintaining communication between teachers and between teachers and students during ERE. This theme also addressed the difficulties faced when shifting from face-to-face to remote classes from this perspective. Communication between teachers proved to be beneficial since they were able to share experiences, teach and learn relevant skills, share platforms and learning objects, and provide support for each other. Furthermore, studies claim that the relationship between teachers and students can be a major driver of the motivation to learn.

The following theme, (vii) health and wellbeing, was mentioned in seven. Generally, studies reported that a focus on the wellbeing and health of the stakeholders led to a better ERE experience. Mental health is an important topic when discussing ERE and should be taken into consideration when addressing similar situations in the future. Providing learners with an opportunity for socialisation and other initiatives to improve mental health, such as counselling, talking, or adapting the curriculum not to overload learners, can be important to ensure a less traumatic ERE experience.

Theme viii, grading, was present in four studies, and reported the challenges teachers faced in grading students and utilising tests in an online environment. Since courses relied on presential written tests, ERE proved to be a hindrance in the evaluation process, as students could not be monitored in their own homes.

The last theme (ix), digital privacy, was only present in the main findings of three studies. Participants reported concerns about privacy, which turned out to be a major concern in the countries studied (Afghanistan, Libya, and Palestine).

Limitations

Analysing the limitations identified by the authors in the included studies (Table 4), the most frequently mentioned limitation was related to the sample, with 34 studies acknowledging potential biases or limitations in the composition, size, or representativeness of the study participants. According to these limitations, future studies should try to utilise different sampling procedures and more generalisable samples. Study design limitations were reported in 21 studies, indicating that authors identified potential shortcomings in the chosen methodology. Time constraints were noted as a limitation in 14 studies, indicating that

researchers had a short time frame to publish content and still be applicable to the ongoing pandemic. Lastly, external factors, such as political issues and stress due to the pandemic, were considered limitations by three authors.

Table 4. Limitations as stated by the authors

Limitation	Frequency	IDs
(i) Sample	34	1, 3, 5, 8-10, 13, 16-20, 30-35, 38-40, 42-45, 47-52, 57, 59, 60
(ii) Study design	21	2, 5, 8, 14-16, 19, 28, 30, 32, 33, 36, 40, 43, 44, 47, 48, 50, 56, 59, 60
(iii) Time	14	2, 8, 9, 17, 19, 20, 28, 34, 44, 47, 49, 50, 56, 59
(iv) External factors	3	10, 39, 48

Source: Authors, 2025.

Discussion

The objective of this study was to survey and systematise the methodologies, main findings, and limitations of studies regarding ERE, and to analyse them through the lenses of digital humanities. Articles related to the ERE of COVID-19 published between 2020 and 2021 were collected from Scopus and Web of Science, and, after going through an initial abstract screening and later a full analysis of the retrieved articles, sixty studies were selected and analysed.

First, it was possible to identify that the articles analysed favoured teachers as participants. Students, on the other hand, participated in 21.6% of studies and guardians in 15%, which may have led to a participation bias and a focus on the Teaching and abilities theme. Among the factors that may have influenced this choice, and were also reported by the authors, are time constraints. To timely contribute to the understanding of ERE, studies may have found themselves utilising the more readily available participants: their peers. Still, regarding the methodology, it was possible to identify that, overall, the results presented by the studies were less in-depth than expected, despite the majority of studies relying on the qualitative or mixed methodology. Though ready to explore the opportunities of this unique crisis, researchers' methodological toolkit was not well equipped with ethnographic or case-study tools. Results resonate with our findings about the multimedia in science teaching in Portugal (J. Paiva et al., 2016; J. C. Paiva et al., 2015).

Findings made us think. Despite the authors referring to the term "Emergency Remote Education," the measures discussed, the outcomes observed, and particularly the expectations expressed could more accurately be associated with the concept of distance education, which typically relies on a planned and structured development. Interestingly, we have found that Twitter posts in Portugal were anchored to distance education (Cardoso, 2022). The term "Emergency Remote Education" has been employed to describe the transition from traditional face-to-face instruction to a modality of distance learning implemented with limited time and resources, prompted by unforeseen circumstances (Hodges et al., 2020), such as the COVID-19 pandemic.

Besides this association between ERE and distance education, it was not possible to identify significant curricular changes, which are usually associated with "Emergency Education" modalities (Kumar et al., 2017). Furthermore, it was possible to observe that instead of implementing approaches tailored to the online environment, there were attempts to replicate traditional face-to-face education in an online context. This could be justified by a necessity to maintain continuity in educational delivery, aiming to minimise academic losses (Turnbull et al., 2021). However, the curriculum could have been optimised by strategically identifying and prioritising key components that could be effectively delivered through online means (Gul & Khilji, 2021). By concentrating efforts on these essential areas, educators could have maximised the effectiveness of ERE and mitigated the potential learning loss associated with the sudden transition, preventing what some are calling a "lost academic year" (Donnelly & Patrinos, 2022; Hoofman & Secord, 2021; UNICEF, 2022). The overall reflection regarding ERE wasn't focused on substantial changes, but on adapting pre-existing pedagogies, and even if there were challenges associated with the technological aspects of the transition, they seemed to be rooted in pedagogical choices (Ata Baran & Baran, 2021). This inclination towards replication rather than innovation may have limited what ERE could have offered, and more deliberate and transformative approaches, capitalising on the resources of ICT tools, could be utilised to address specific challenges presented (König et al., 2020).

The results of this scoping review provide evidence that the education system was not prepared to effectively respond to a disruptive event on the scale of the COVID-19 pandemic, and challenges related to technological tools and infrastructure were identified, raising concerns about the overall digital literacy levels within countries. Results also suggest that there was a lack of knowledge transfer between different areas due to a lack of communication (Griffiths et al., 2021). This lack of communication hindered the sharing of insights,

experiences, and practices across educational contexts, which could have facilitated more efficient and effective approaches to ERE.

These challenges underscore the limitations and gaps in digital preparedness within the education system, highlighting the need for enhanced training and support in leveraging technology for effective teaching and learning.

Conclusion

These findings refer to the ERE experience, not to the distance education experience. Therefore, we should not rush into conclusions about the digitisation of education. Considering that digital literacy is critical and the digital divide persists, the notion that online learning can fully replace face-to-face education is cast into doubt. While remote learning can provide flexibility and accessibility, results suggest that there are inherent challenges and limitations associated with the exclusive reliance on online modalities. The social and interactive aspects of face-to-face education cannot be easily replicated in virtual environments, and the importance of physical classrooms and personal interactions should not be underestimated (Hernández-Sánchez et al., 2022; Williams & Corwith, 2021).

Finally, the process of digitisation in education should be accompanied by a critical examination of its implications. While embracing technology has the potential to enhance teaching and learning experiences, it is crucial to approach digitalisation with a nuanced understanding and a critical lens. This involves increasing complexity in educational practices while being mindful of potential pitfalls and challenges. A critical look at digitalisation entails examining the efficacy of different technologies, considering the pedagogical implications, and addressing issues such as access, equity, and digital literacy. Moreover, as digitalisation progresses, it is essential to avoid excessive noise or distractions that can dilute the focus on meaningful and impactful educational practices. This requires thoughtful consideration of the digital tools and resources employed, ensuring that they align with the learning objectives and contribute to a rich and engaging educational experience. By avoiding unnecessary noise and distractions, educators and institutions can maintain clarity and purpose in their approach to digitalisation, ultimately maximising its benefits for teaching and learning.

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