

Distance Learning in the Brazilian University Context: an Indicator-based Scoping Review on Barriers and Opportunities

Ensino à Distância no Contexto Universitário Brasileiro: uma Revisão de Escopo Baseada em Indicadores de Barreiras e Oportunidades

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Abstract

In the context of an unprecedented pandemic, reflecting the need for social distancing, discussions on distance learning are an emerging topic in Brazil. One of the sub-themes in this investigative line addresses the qualitative aspects of this teaching modality. As a result of these studies, abrupt changes are evident, especially in pedagogical practices — losses that reveal impairments in the capture of knowledge. Within these reflections, this study maps the main gaps in the use of distance education teaching in Brazilian universities. The methodological processes comprise a scope review consisting of 90 scientific articles and keyword analysis using the IRAMUTEQ software. The results suggest that the difficulties of adapting to this scenario are exacerbated by challenges relevant to the technological situation, whether in discussions on accessibility or on investments in the complementary training of teachers. These gaps suggest that this modality is not sustainable as an educational medium in the country. However, some opportunities are revealed throughout the text.

Keywords: ODL teaching. Education and COVID-19. Distance learning. Social distancing.



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Resumo

No cenário de uma pandemia sem precedentes, como reflexos da necessidade de distanciamento social, as discussões sobre o ensino a distância constituem-se em uma temática emergente no Brasil. Um dos subtemas nesta linha investigativa aborda os aspectos qualitativos desta modalidade de ensino. Como resultado destes estudos, evidenciam-se mudanças abruptas, principalmente nas práticas pedagógicas — perdas que revelam imparidades na captação do conhecimento. Dentro destas reflexões, este estudo mapeia as principais lacunas do uso da modalidade de ensino EaD nas universidades brasileiras. Os processos metodológicos compreendem uma revisão de escopo constituída em 90 artigos científicos e análises de palavras-chave por meio do software IRAMUTEQ. Os resultados sugerem que as dificuldades de adaptação a este cenário são agravadas por desafios pertinentes à conjuntura tecnológica, seja nas discussões sobre acessibilidade ou sobre investimentos na formação complementar dos docentes. Estas lacunas propõem que tal modalidade não se sustenta como meio educativo no país. Todavia, algumas oportunidades são reveladas ao longo do texto.

Palavras-chave: Ensino EAD. Educação e Covid-19. Modalidade à distância. Distanciamento social.

1. Introduction

Distance learning education (DLE) was inserted into Brazilian universities in 1996 when Law No. 9.394 was introduced in the country, becoming a trend for the following years (INEP, 2019). Since then, the growth of this modality is due to the advancement of technologies and new means of computerization, such as the technological expansion in the country (MINISTÉRIO DA EDUCAÇÃO, 2019), — in a context in which universities need to accompany teaching and learning in the face of the dynamics of the globalized world.

The flexibility contained in remote classes in relation to the students' work activities could justify a successful panorama of the increase in interest in distance learning courses in recent years. However, this modality has gone from a democratic teaching tool to an emergency education strategy in the context of the COVID-19 pandemic. In addition, making old gaps in the country's educational scenarios even more evident with discussions about democracies of access to education and the growth of student dropouts, especially in the reflections of its application at the higher education level.

Both educators and students were directly impacted by this context. Among different perspectives, questions about accessibility or about investments in the complementary training of teachers, such as the training or necessary support for teaching outside the physical environment of the classroom, make up ascending discussions and show that this modality is not sustainable as an educational means in the country. Despite these concerns, few studies have focused on identifying the multifaceted aspects of the implementation of this teaching modality in the country's universities.

Among other evidences, this article reflects on the following question: In addition to the explicit gaps in the literature on distance education, what are the possibilities of co-adjuvancy of this modality as a trend in the post-pandemic context? Such reflection was structured from two hypotheses.

Hypothesis I reflects that, in parallel to quality education, it can be considered that the availability of tools to support educational activities is an important aspect in the reflection on the development of education at different levels. For example, at the national level, the development of higher education is considered atypical. Unlike other countries, Brazil postponed the creation of higher education institutions for almost three centuries (OLIVEN, 2002) — which, it can be said, had repercussions on university education scenarios today, also considering the current context.

In turn, **hypothesis II** considers that the current education scenario leads to student dropout, a multifaceted phenomenon. However, it is interconnected with aspects of academic freedom, although distance education has, as one of its characteristics, flexibility. The reflection on this subject is in the work *Educational Reform: Essays and Addresses*, by Eliot (1885, in Chamlian, 1998): In defense of the elective system as one of the faces of freedom, the author proposes three essential elements for the university of science and liberal arts: i) Academic freedom; ii) The opportunity to excel; and iii) Discipline that shapes critical thinkers. In <freedom of choice>, it is argued that, while the university should not be limited in the depth of content, there must be democracy in the selection and choice of studies. Thus, the <opportunity to achieve excellence> is related to the granting of academic honors relevant to the subjects that the students most dominate. Accordingly, the <discipline that forms critical individuals>, deals with allowing students to have subjective governance, with the possibility of a broad teaching staff (who have lived different realities), to attract listeners who feel identified.

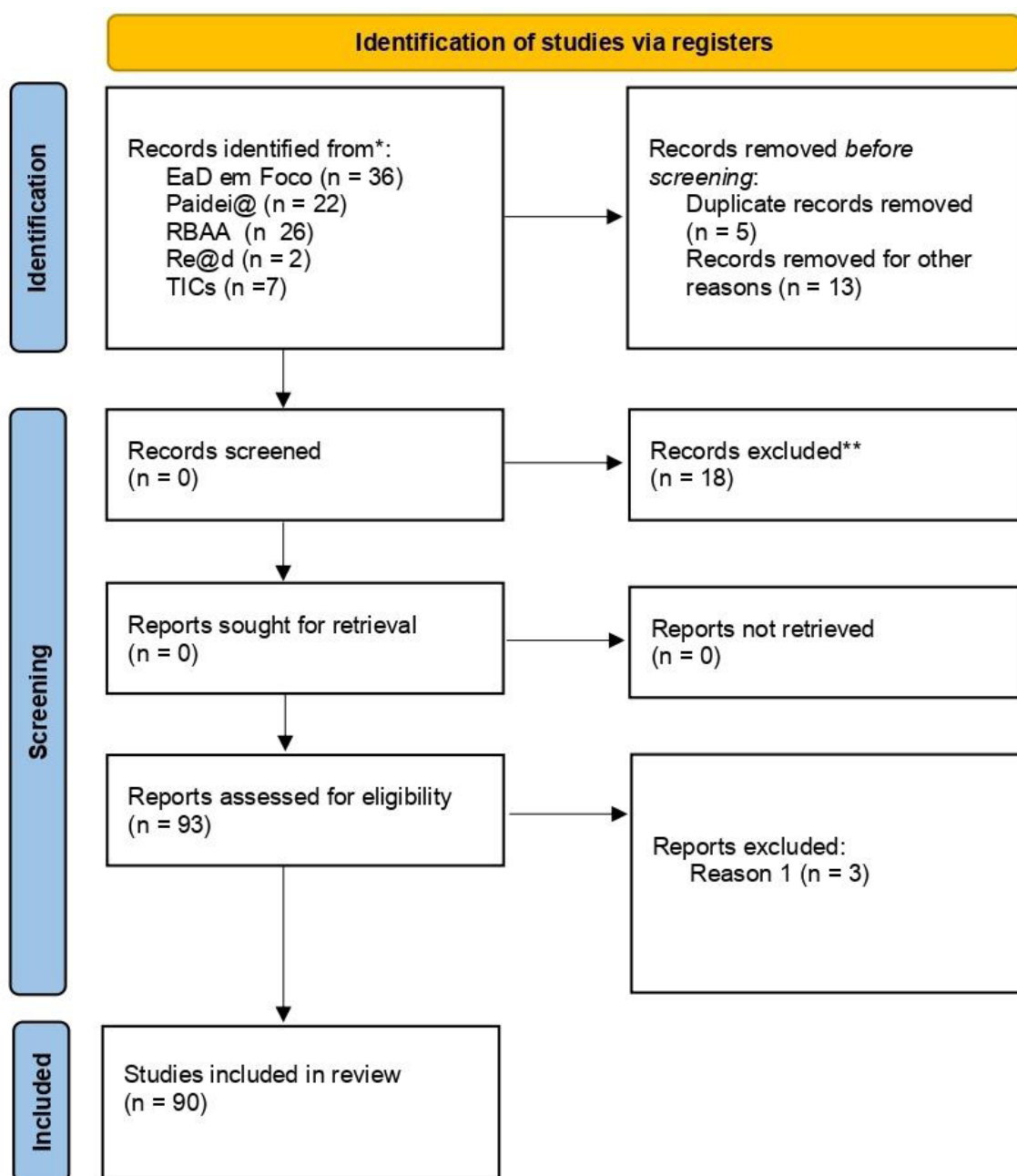
In order to provide an overview of the literature that encompasses distance education at Brazilian universities, this study carried out a scoping review based on the model called PRISMA-ScR (PRISMA Extension for Scoping Reviews) — (TRICCO; LILLIE; ZARIN; O' BRIEN; COLQUHOUN; LEVAC; MOHER; PETERS; HORSLEY; WEEKS; HEMPEL; AKL; CHANG; MCGOWAN; STEWART; HARTLING; ALDCROFT; WILSON; GARRITTY; LEWIN; GODFREY; MACDONALD; LANGLOIS; SOARES-WEISER; MORIARTY; CLIFFORD; TUNÇALP; STRAUS, 2018). The mapping was carried out through the inclusion of 90 articles extracted from the databases of five scientific journals in the scope of distance education, namely: journal *EaD em Foco*; *Paidéi@ Magazine*; *Brazilian Journal of Distance Education (RBAAD)*; *Distance Education Magazine (Re@d)*; and *ICT Magazine*. The objective of this article was to outline the main limitations and opportunities relevant to the inclusion of distance education in Brazilian universities.

The data, which was organized into six categories—i) Student dropout; ii) Teaching experience/training; iii) Student experience/training; iv) Learning/performance; v) Scenario adaptation; vi) Challenges and potentialities—showed that the use of technology for pedagogical purposes, as mediated by a lack of subsidies for the most vulnerable, demonstrates incompatibility between different social realities. Through similarity analysis using the IRAMUTEQ software, characteristic keywords were identified within each theme. Thus, the results suggest that the difficulties of adapting to this scenario are exacerbated by challenges relevant to the technological conjuncture, whether in the discussions on accessibility or on investments in the complementary training of teachers.

2. Methodology

The methodological path of this text goes through stages from the model called PRISMA-ScR—(TRICCO et al., 2018). The data analysis technique is qualitative and is based on the discussions of the texts found in the scope review, categorized into the six aforementioned categories. Thus, the specific procedures comprise the search for articles in the database of five scientific journals on distance education in the period between 2020 and 2021.

Figure 1: PRISMA-SCR Flow Diagram (2020).



Source: Elaborated by the authors (2022), adapted from Page, McKenzie, Bossuyt, Boutron, Hoffmann, Mulrow et al. (2021).

The text search process followed three steps (Figure 1): Identification, screening and inclusion. In the first, texts that have distance education at a higher level as their theme were considered. Among the five aforementioned journals, 111 publications were considered. When categorizing the articles, 13 publications were excluded, 5 of which were duplicate texts, and 8 others that were not fully in line with the theme of this research. The screening stage excluded 3 publications that did not align with the theme of this research. Finally, the inclusion stage considered 90 articles that make up the analysis corpus. In order to extract keywords between the highlighted categories, the IRAMUTEQ software was used to build similarity analyses.

Table 1: Corpus of analysis of this study.

#	Title (Translated into English)	Author	Year
1	The Influence of Institutional Conditions of Public Universities for the Development of Teachers' Electronic Competencies in Higher Education	BARBOSA, PINTO e CASSUNDÉ	2020
2	Distance Pedagogical Mediation as a Teacher Training Process	GALASSO e MATUDA	2020
3	Learning in University Extension Projects from the Perspective of Academics of Distance Learning Courses	IMPERATORE	2020
4	Distance Education is not Remote Learning	RAMOS e GOMES	2020
5	Thinking about the Use of Technologies in Teacher Training in the Distance Learning Context	SCHELESKY, PEREIRA e GROSSI	2020
6	Determinants of Dropout in Distance Learning (EDED) Scale	VIEIRA et. al.	2020
7	Approach to Interdisciplinarity in Health in Graduate Studies in Times of Pandemic	TOSO et. al.	2020
8	Teaching Digital Skills and the Remote Teaching Process During the Covid-19 Pandemic	SANCHOTENE et. al.	2020
9	Graduate in Nursing in the Time of Covid-19	VARELLA et. al.	2020
10	Challenges Faced by Students of a Distance Technical Course Facing the COVID-19 Pandemic	KUHN e LOPES	2020
11	Continuing Teacher Training in DLE in Pandemic Times	REDIG et. al.	2020
12	Quality Perceptions of Graduate Remote Classroom Students	SOUSA	2020
13	Social Pedagogy in Pandemic Times	SIRINO e FERREIRA	2020
14	DLE Regulations in Brazil and the Impact of Ordinance No. 343/2020 on Higher Education	SOARES e SILVA	2020
15	THE STRUCTURE AND PROCESS OF KNOWLEDGE SHARING BETWEEN DLE SYSTEM AGENTS OF A PRIVATE HIGHER EDUCATION INSTITUTION	CALVI, ALMEIDA e FORNO	2020
16	BRAZILIAN OPEN UNIVERSITY SYSTEM	SILVA, SERRA e BRITO	2020
17	PERFORMANCE OF THE ON-SITE TUTOR AND DISTANCE TUTOR OF GRADUATION COURSES OF THE DISTANCE EDUCATION CENTER OF THE STATE UNIVERSITY OF MONTES CLAROS	FREITAS et. al.	2020
18	CHALLENGES IN TRAINING TEACHERS TO WORK IN DLE	ABREU et. al.	2020
19	TEACHING MATERIALS AND RESOURCES IN DISTANCE EDUCATION	OLIVEIRA et. al.	2020
20	ACTIVE METHODOLOGIES IN THE TRAINING OF DISTANCE TEACHING TEACHERS	FIGUEIREDO et. al.	2020
21	THE USE OF WEBCONFERENCE IN THE DISSEMINATION AND ASSESSMENT OF KNOWLEDGE IN DLE	MARTINS et. al.	2020
22	Guidelines for Designing Distance Learning Courses	SILVA et. al.	2020
23	Engagement Rate in Disciplines Taught in Distance Mode	SOUSA	2020
24	Distance Education in National Training Policies	RAMOS	2020
25	Relation between Styles and the Level of Self-Regulation of Learning by Students of Undergraduate Distance Learning Courses	BRAGA	2020

26	Study on the creation of affective bonds by distance learning teachers	IMPERATORE e ECHEVESTE	2020
27	ESCAPE AND PERMANENCE FROM THE STUDENT'S VIEWPOINT	NASCIMENTO e SANTOS	2020
28	Distance Education in Higher Education in Brazil: the look of institutional managers and hub coordinators	VIEIRA	2020
29	An Exploratory Study on Initial Distance Teacher Training	FERREIRA e BASTOS	2020
30	Online research groups in the training of teacher-researchers	SANTOS et. al.	2020
31	The construction of virtual learning communities in the training of supervisors and pedagogical leaders	OLIVEIRA et. al.	2020
32	INCLUSION OF TDICS IN THE PANDEMIC AND CONTINUING TRAINING OF TEACHERS IN MULTIFUNCTIONAL RESOURCE ROOMS	PASSOS et. al.	2020
33	THE IMPORTANCE OF ICTs IN THE DEVELOPMENT PROCESS OF DISTANCE EDUCATION	CRUZ e MORAIS	2020
34	TECHNOLOGY AS A LINK BETWEEN DESIGN AND EDUCATION	VENÂNCIO	2020
35	INFORMATION TECHNOLOGIES AT THE SERVICE OF EMANCIPATION	SGARBI e SANTOS	2020
36	EDUCATION MODALITY IN HIGHER EDUCATION	ASSIS et. al.	2020
37	A REFLECTIVE LOOK AT THE USE AND APPLICABILITY OF ASSISTIVE TECHNOLOGY IN MATHEMATICAL EDUCATION	SILVA e FLORES	2020
38	INCLUSION, PEDAGOGICAL MEDIATION AND ACCESSIBILITY IN THE DLE ENVIRONMENT	GARCIA et. al.	2020
39	INFORMATION AND COMMUNICATION TECHNOLOGIES AS A PEDAGOGICAL RESOURCE IN MUNICIPAL SCHOOLS OF REGULAR EDUCATION IN TAQUARA	COSTA e SEABRA	2020
40	EFFECTIVENESS OF PRIVATE MESSAGE IN ONLINE MEDIATION	BERTOLUCCI	2020
41	EDUCATION FOR THE SEMANTIC WEB	GONÇALVES e MOREIRA	2020
42	APPROACHES BETWEEN ACTIVE METHODOLOGIES, ICTs AND DISTANCE EDUCATION	SANTOS et. al.	2020
43	INCENTIVE FOR INNOVATION IN TEACHING PRACTICES	BORTOLATOS et. al.	2020
44	THE WEBCONFERENCE THROUGH THE VIEW OF ACADEMICS OF DISTANCE BACHELOR COURSES	CARLOS et. al.	2020
45	DILEMMAS OF REMOTE EDUCATION IN HIGHER EDUCATION IN BRAZIL	NASCIMENTO e CABRAL	2020
46	EMERGENCY REMOTE ASSESSMENTS IN A DISTANCE MATHEMATICS DEGREE COURSE	CHAGAS et. al.	2020
47	ONLINE EDUCATION AND PEDAGOGIC AND ADMINISTRATIVE CHANGES	CORADIM et. al.	2020
48	ACTIVE AND IMMERSIVE LEARNING METHODOLOGIES	MENDONÇA et. al.	2020
49	(RE)thinking Teacher Training	WEBER e ALVES	2020
50	Factors that Influence Student Satisfaction with Educational Institutions in Distance Learning in Brazilian Higher Education	SILVA e BASTOS	2020
51	The Assessment of Learning in the Distance Education Modality	SOARES et. al.	2020

52	Trends in Gamification Proposals in Moodle	PORTO e BATTESTIM	2020
53	Online Teaching	FONTOLAN et. al.	2020
54	The Satisfaction Levels of Distance Learning Students in a Classroom Support Center in the Northwest Region of the State of Rio Grande do Sul	FAGUNDES et. al.	2020
55	Virtual Teaching Environment in Chemistry Laboratories (AQi)	FEIJÓ et. al.	2020
56	How to Teach in Emergency Remote Teaching	TURCHIELO et. al.	2020
57	From the Right to Education to the Need for Assistive Technologies for Students with Disabilities	PINHEIRO et. al.	2020
58	Distance Education in Veterinary Medicine	SALAZAR e MIGLINO	2020
59	Critical Success Factors in the Dropout of Distance Higher Education Students	LIMA e CASTRO	2021
60	Association between Student Profile and Academic Performance in a Specialization Course in Primary Health Care Distance Learning	PORTELA et. al.	2021
61	Microlearning Design for Teacher Training in a Non-Formal Context of Distance Education.	SANTOS e COSTA	2021
62	Reformulation of Distance Education in Pandemic Times	BOTELHO JOSÉ et. al.	2021
63	Differences between Face-to-Face and Virtual Teaching	NEUENFELDT et. al.	2021
64	Transposing Blended Learning to Emergency Remote	FERNANDES-SANTOS	2021
65	Development of a Question-and-Answer Game for the Teaching and Learning Processes of COVID-19	VIANNA et. al.	2021
66	Distance Education is not Remote Learning	BUNIOTTI e GOMES	2021
67	Physical Education and Emergency Remote Teaching	FERREIRA JÚNIOR et. al.	2021
68	The Genetics of Dark: An Experience in Investigative Science Teaching in Emergency Remote Teaching	TEBALDI-REIS et. al.	2021
69	Online Defenses of Degree Monograph in Biological Sciences of DLE IBRAG/UERJ in Times of Pandemic of COVID-19	VASCONCELOS et. al.	2021
70	Distance Education in the Perception of Pedagogy Academics in the City of Lábrea/AM	LIMA et. al.	2021
71	Open the camera, please”: Remote Classes in Higher Education, a Phenomenological Approach	RIBEIRO et. al.	2021
72	Impacts of the COVID-19 Pandemic on Distance Learning Courses at the Federal University of Amazonas (UFAM)	NEVES JÚNIOR et. al.	2021
73	Los Efectos de La Reeducación de las Estrategias de Permanencia y Adaptación para el Contexto COVID-19	JODOR et. al.	2021
74	Emergency Remote Teaching from the Perspective of Metacognition	SANTOS et. al.	2021
75	From Immersion in the Field to Remote Work	RODRIGUES et. al.	2021
76	DLE Methodologies and their Implications in Dental Teaching During the COVID-19 Pandemic	TOMAZ et. al.	2021
77	ACTIVE METHODOLOGIES IN DISTANCE EDUCATION	MATTAR	2021

78	ESCAPE AND PERMANENCE FROM THE STUDENT'S VIEWPOINT	NASCIMENTO e SANTOS	2021
79	ASSESSMENT PRACTICES IN TIMES OF EMERGENCY EDUCATIONAL EXPERIENCES	VANINHA e COSTA DIAS	2021
80	FACTORS RELATED TO PERMANENCE IN THE DISTANCE UNDERGRADUATE COURSE "BACHELOR IN RURAL DEVELOPMENT - PLAGEDER" AT UAB/UFRGS	DIAS	2021
81	THE PEDAGOGUE AS A TEACHING AND LEARNING ADVISOR IN DISTANCE EDUCATION	GONTIJO e COSTA	2021
82	STUDENTS' IMPRESSIONS OF A BACHELOR COURSE IN INFORMATION SYSTEMS ABOUT REMOTE EDUCATION DURING THE COVID-19 PANDEMIC	SILVEIRA et. al.	2021
83	DISTANCE HIGHER EDUCATION	GARBIN e FAVARO	2021
84	EVALUATION PROCESS OF DISTANCE EDUCATIONAL ACTIONS FOR HEALTHCARE PROFESSIONALS	DUTRA et. al.	2021
85	DIGITAL PLATFORMS AND STUDENT PROTAGONISM IN THE CONTEXT OF EMERGENCY REMOTE EDUCATION	SENA e SERRA	2021
86	PEDAGOGICAL MEDIATION IN THE CONTEXT OF THE STATISTICAL LITERACY COURSE IN DLE	PRADO et. al.	2021
87	EVALUATION OF TEACHER ADAPTATION TO EMERGENCY REMOTE TEACHING	ALMEIDA e SILVA	2021
88	THE EXPERIENCE OF TEACHERS-TUTORS IN THE METHODOLOGICAL CHANGE OF THE 100% DLE ADMINISTRATION COURSE IN A PRIVATE HEI	KUWABARA et. al.	2021
89	PEDAGOGICAL MEDIATION BASED ON THE PERCEPTION OF DISTANCE EDUCATION TUTORS AT THE FEDERAL UNIVERSITY OF AMAPÁ	ANDRADE	2021
90	SCHOOL SLAUGHTER IN DISTANCE EDUCATION	NEVES e MOURA	2021

Source: Elaborated by the authors (2022)

3. Results and Discussion

The results indicate that new teaching commitments need to be attentive to questions about democratic access, the quality of basic education, and student dropout. The complexity of such issues is related to several factors, but does not prevent the fragmented analysis of the general panorama for a broad view, considering that the resolved issues, if unified, form a link to facilitate access to education. The results highlighted four broader themes of investigation: Student dropout; teaching experience and training; adaptation of scenarios; challenges and potential.

Tabela 1: Main scopes of the analysis corpus of this study

Journal	ISSN	Qualis	Emphasis	Frequency
EaD em Foco	2177-8310	A3	Student dropout	9
Paidéi@	1982-6109	B1	Experience/Teacher Training	9
RBAAD	2359-0343	B1	Scenario adaptation	5
RE@D	2182-4967	B3	***	***
TICs	2447-5726	B1	Challenges and potential	4

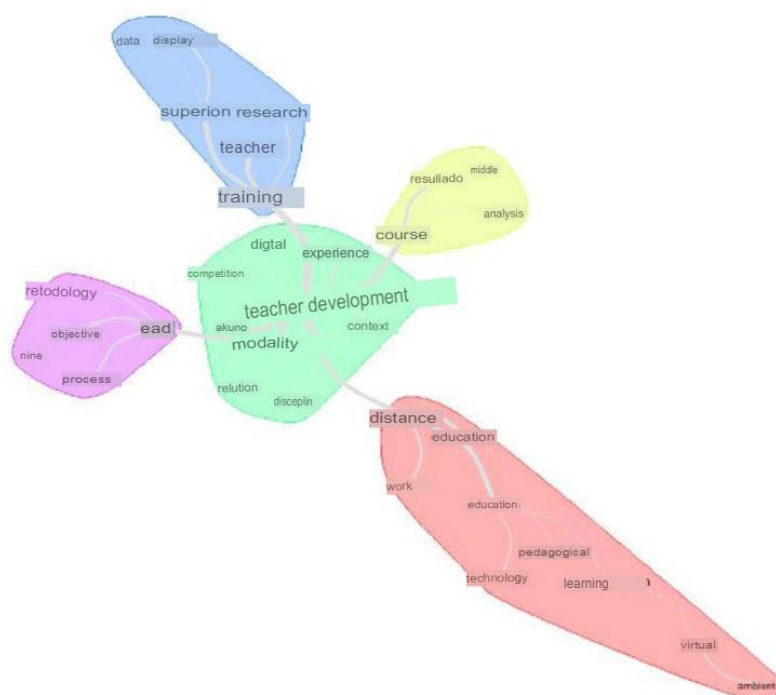
Type of Research	Approach	Frequency Percentage
Qualitative	39	35.1%
Quantitative	11	9.9%
Mixed Method	3	2.7%
Conceptual	1	0.9%
Case Study	9	8.1%
Descriptive Analysis	11	9.9%
Exploratory Analysis	10	9.0%
Statistics Analysis	6	5.4%

Source: Elaborated by the authors (2022), based on research data.

On a larger scale, the analyzed studies have a qualitative scope (39 articles). Most of the data came from structured or semi-structured interviews (22 articles), followed by bibliographic research (15 articles), netnography (1 article) and experience report (1 article). Most of the studies focused on analyzing the discourse of professors and students at public or private universities. The main focus was to investigate dropout (16 articles) and student performance (8 articles), followed by the adequacy of scenarios against COVID-19 (7 articles), students' perceptions about the teaching modality (6 articles), and discussions about materials and teaching resources (2 articles).

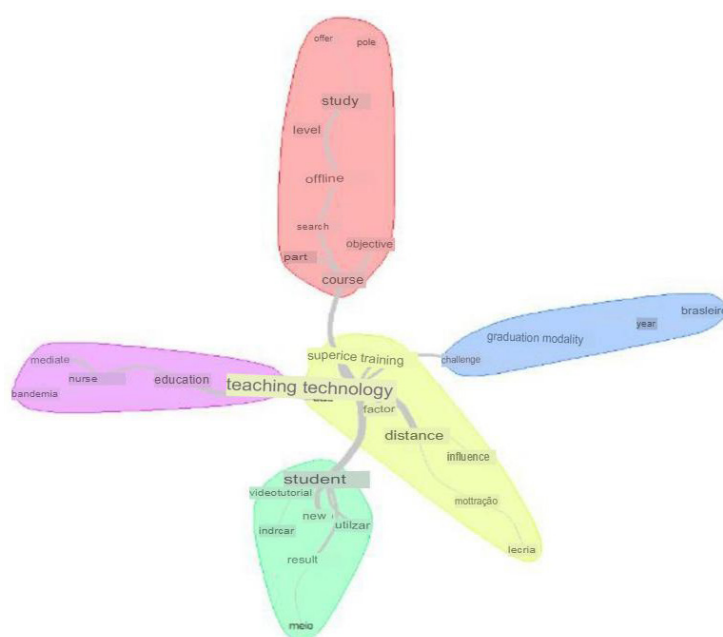
3.1. Experience/Training of Teachers and Students

Due to the precariousness of the infrastructure offered to teachers and students of distance education courses, the experience and training of teachers and students is one of the most discussed subjects in the research literature (for example, BARBOSA, PINTO; CASSUNDÉ, 2020; SCHELESKY; PEREIRA; GROSSI, 2020; GALASSO; MATUDA, 2021; SANCHOTENE; ENGERS; RUPENTHAL; ILHA, 2021). By categorizing the articles in the sub-themes of this research, it was observed that most publications dealt with the quality of the tools, equipment, and diffusers available, which led to a reflection on the task of teachers to make virtual classes dynamic and attractive.

Figure 2: Main keywords found in the category experience and teacher education.

Source: Elaborated by the authors, using the IRAMUTEQ software.

In the <experience and teacher training> category, four similarity groups were created through IRAMUTEQ, the so-called halos. Terms such as research, teacher, training, competence, and development were highlighted in halos 1 and 4 (blue and green, respectively), which are closely related to the lack of opportunities for specialized training in distance education. In halos 2 and 3 (respectively in yellow and purple), words such as result, analysis, course, process, and distance education are in line with the methodological procedures of the research and did not bring any revelations. In turn, halo 5 (in pink) presented words such as pedagogical, learning, and technology, which are related to the quality of teaching, specifically on the aspects highlighted in halos 1 and 4.

Figure 3: Main keywords found in the student experience and education category.

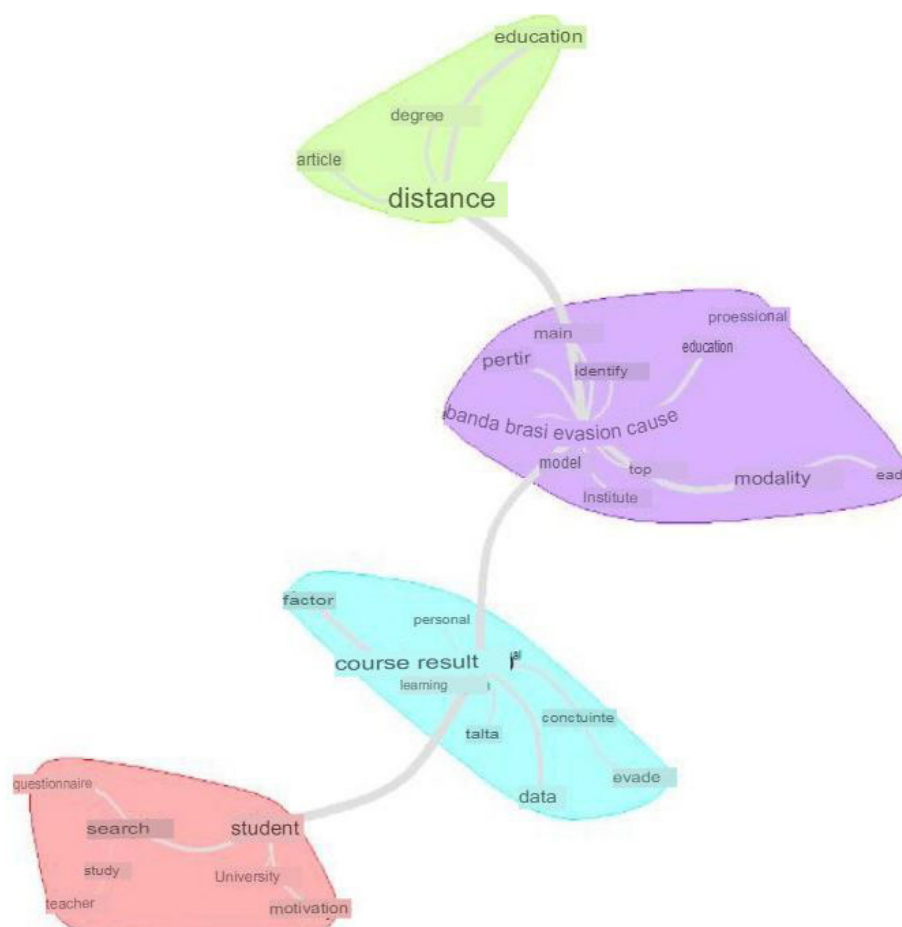
Source: Elaborated by the authors, using the IRAMUTEQ software.

In the <student experience and education> category, the software highlighted five similarity groups. Halos 1 and 5 (in pink and green, respectively), present terms such as offer, study, face-to-face, level and new — which are related to the offer of distance education courses in recent years. One of the main perspectives in this investigative line was the intrinsic motivation of students of distance education courses, with emphasis on the ease of access to knowledge. Halo 2 (in purple) highlighted words such as mediate, education, technology, pandemic and nurse. Along these lines, the terms nurse and pandemic brought important reflections. Most of the articles categorized in this group highlighted the protagonism of students in health areas in the context of the pandemic, in contrast to the achievements of clinical teaching, a factor that implied the motivation of students in terms of continuity of practical studies. The motivational aspects of students about practical activities in other courses were also highlighted in halos 3 and 4 (respectively in yellow and blue), which presented terms such as teaching, training, influence, challenge and motivation.

3.2. Student Dropout

Another topic in evidence, although not identified as a prominent topic among the analyzed journals, is student dropout (for example, RAMOS; GOMES, 2020; SILVA; SANTOS; ALVES, 2020; VIEIRA; MARTINS; BENDER FILHO; MOREIRA JÚNIOR, 2020; LIMA; CASTRO, 2021). With a frequency of 18 articles among the 90 publications categorized, most publications in this category show that the lack of institutional interaction, in line with aspects of accessibility and handling of available support tools, are the main determinants of meeting the expectations of the students. This category is more prominent in the publications of the *EaD em Foco* journal, by Fundação Cecierj/Consórcio Cederj, a journal that has in its scope the attention to the methodological and conceptual processes applied to theory in the critical debate of DLE and related areas.

Figure 4: Top keywords found in the student dropout category.



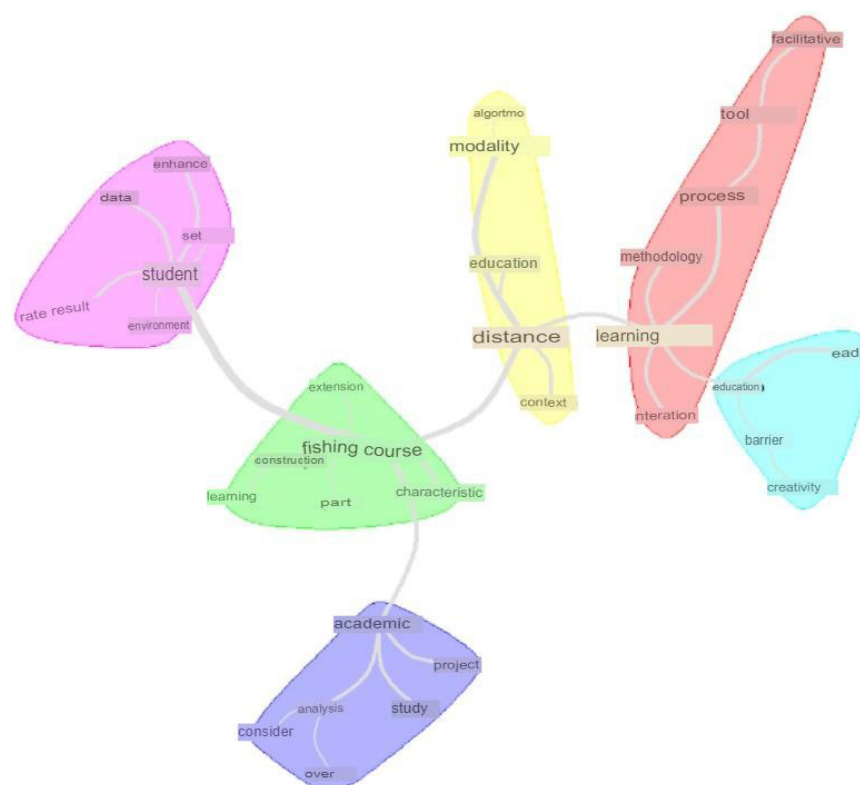
Source: Elaborated by the authors, using the IRAMUTEQ software

The similarity halos in this category structure four analysis groups. However, halo 1 (in green) did not bring great revelations, although it is associated with the growth of higher education courses in the distance education modality in recent years, with emphasis on the academic degree of licensure among the discussions. Subsequent halos 2, 3 and 4 (respectively in purple, blue, and pink) highlight terms such as model, institutions, learning, personnel, and motivation. In these reflective lines, it was evidenced that, among the main aspects of student dropout in higher education distance education, are the lack of interaction with institutions, difficulties related to quality internet access and excess flexibilities—which had a negative impact on the performance of students' academic.

3.3. Learning/Performance

In addition to student dropout, another important issue is discussed in the learning/performance category: the damage to the quality of learning, mediated by student performance in line with precarious internet access, shows the country's unpreparedness for distance education, making social inequalities more evident. Although this category is not highlighted among the aforementioned journals, in the overall research, it was the third most evident (for example, IMPERATORE, 2020; PORTELLA; TUBELO; PINTO; DAHMER; COSTA; CAZELLA, 2021).

Figure 5: Top keywords found in the learning/performance category



Source: Elaborated by the authors, using the IRAMUTEQ software.

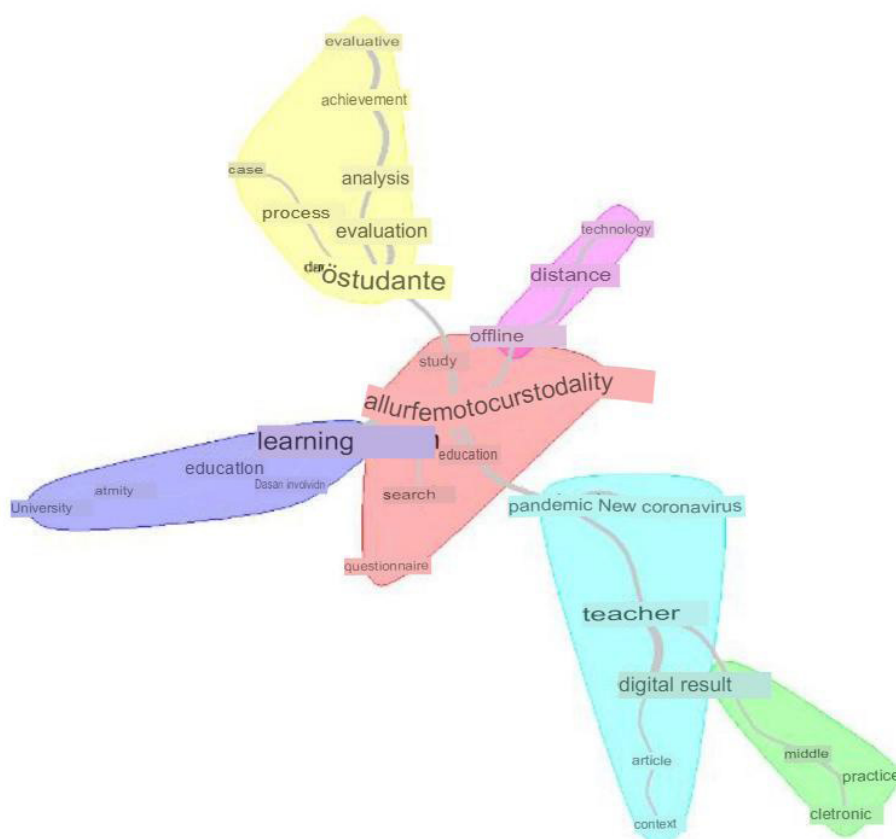
In the <learning/performance> category, the software structured six similar halos. The halos 1, 2, 4 and 6 (respectively in purple, green, yellow and light blue) presented terms such as rate, learning, context and barrier — which are related to students' difficulties in concentrating and organizing study schedules. Halo 5 (in pink) highlighted terms such as facilitator, interaction and methodology. In this reflective line, the articles brought discussions about the positive points of distance education in the students' learning, highlighting, in contrast to one of the aspects evidenced in the previous halos, the autonomy of students

in the face of time flexibility. In turn, Halo 3 (in dark blue) did not bring any revelations.

3.4. Scenario Adaptation

This category was more evident in studies with a qualitative emphasis, but it does not stand out among the key categories found - although some texts bring discussions about the panorama of national education in the face of the Covid-19 pandemic (for example SOUZA, LIMA; MARQUES; LIBERATO; SANTOS; JUNIOR, 2020; MARINHO; SILVA; ROCHA; ANDRADE, 2021). In line with the fourth category, the adaptation of scenarios exposed that current educational models are incapable of adapting to the dynamics that follow emergency crises. It was noticed that this is a reality out of reach in the country, in the sense of the resources available to some and not to others, both talking about the structure of some schools, or higher education institutions, and the lack of accessible resources for students or teachers. Most of the texts analyzed in this research emphasized the conditions of access to the internet, especially with regard to socioeconomic situations and around the reinforcement of the stimulus of support among students. In turn, it was evident that the largest number of publications is in RBAAD, a journal with a scope precisely focused on the challenges of virtual education.

Figure 6: Main keywords found in the scenario adaptation category.



Source: Elaborated by the authors, using the IRAMUTEQ software

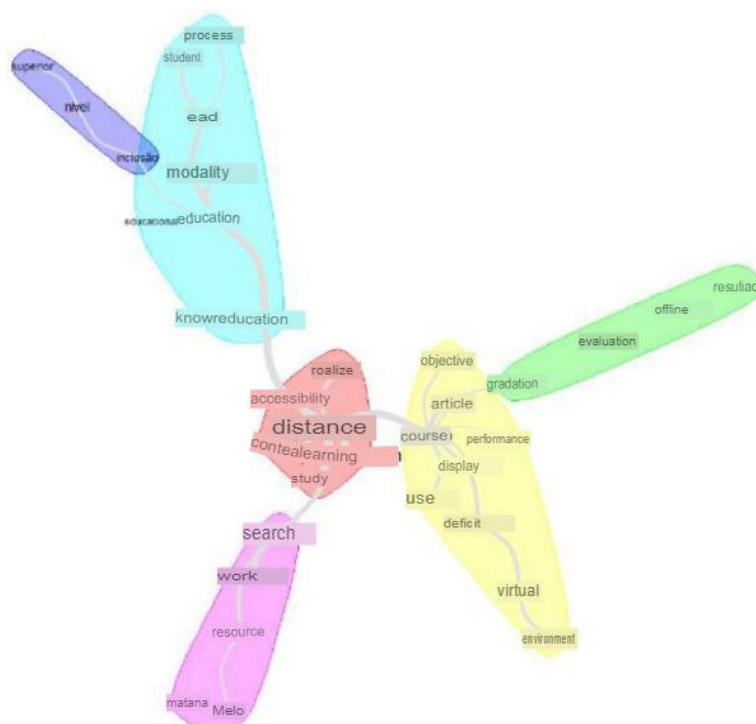
The software highlighted six similarity groups in the <scenario adaptation> category. With the exception of halo 4 (purple), which did not bring revelations, halos 1, 2, 3, 5 and 6 (respectively in yellow, dark blue, pink, light blue, and green) showed reflective parallelism. Terms such as realization, activity, modality, old and practical make up discussions about the COVID-19 pandemic, highlighting negative aspects of adaptations to the emergency educational context. This reflective observation is in line with the abrupt changes faced, revealing impacts on pedagogical practices, such as the presentation of impairments in the capture

of knowledge, and highlighting socioeconomic problems among students, such as issues of access and availability of technological resources.

3.5. Challenges and Potentialities

The category challenges and potential brought discussions related to the field of Accessibility in Virtual Learning Environments (VLE) and tools for accessing knowledge. Regarding the challenges, discussions revolved around social inclusion policies in the virtual environment, with the lack of accessibility resources being pointed out as one of the most negative aspects of distance education in the country (for example, DI GESÚ; GIMENEZ, 2020; GARCIA; SILVA; SCHLUNZEN; JUNIOR, 2020). Although there are discussions around some guidelines for accessibility followed by standardization models, such as the World Wide Web Consortium (W3C) and the Web Content Accessibility Guidelines (WCAG), some authors have highlighted that there are still difficulties regarding the proposal of the courses, which should include a multidisciplinary team in the planning of accessibility in a virtual environment (SANTOS; OLIVEIRA; HERRERA; SILVA, 2021). Regarding the positive points, it is highlighted that distance education is a teaching strategy, due to the alternative and democratic character of access to knowledge (for example, OLIVEIRA; SANTOS, 2020). Most of the articles in this category were found in the databases of EaD em Foco and ICT journals.

Figure 7: Main keywords found in the challenges and potentials category.



Source: Elaborated by the authors, using the IRAMUTEQ software

In this category, the software structured six similarity groups. Halos 2 and 4 (respectively in light blue and purple) are closely related to the positive aspects of DLE. The main reflections on these halos, in line with the halos of some previous categories, conclude that the facilitation of access to knowledge in the scope of material available on the internet is a positive aspect of this teaching modality. On the other hand, halos 1, 3 and 5 (respectively in dark blue, pink, and yellow) highlighted the negative points of distance education, with emphasis on terms such as inclusion, accessibility, and disability. These reflective observations revolved around the absence of virtual materials and accessible tools in the consideration of groups of people with some type of physical disability, revealing the main incipience of this modality in the inclusion and integration of students

4. Conclusion

Upon reaching the objectives of this research, we obtained answers to the two hypotheses that formulated our investigative problem. In the foreground, it was found that among different scenarios of national education, the current moment has resulted in losses in the performance of students and teachers. These gaps highlight the importance of addressing democratic access and student dropout in distance education commitments. In the background, it was observed that national education cannot be considered democratic. The space for the development of distance education in the context of Brazil would be a reality far from being reached when analyzing a scenario that lacks resources and tools that are unavailable or inaccessible for both teachers and students. Given these limits, there is no way to reflect on academic autonomy or freedom.

In turn, teacher training and modes of action in the classroom were very much reflected in the articles analyzed, from aspects related to working conditions, interactions between students and teachers, teaching and learning methods, and methodologies for evaluation processes. On the other hand, in the debates on academic freedom, the democratization of teaching makes explicit the limiting aspects of university learning.

As a possibility, blended learning highlights the possibilities of innovation in the classroom without escaping from traditionalism, but without needing great technology for its application. Much is discussed about the challenges of the classroom in the implementation of methodologies appropriate to the teaching method (ROESCH, 2007; SAUL, 2008; LEITE, KAGER, 2009; SOUZA, 2012; VALENTE, 2014; CARIBÉ, BRITO, 2015). In this case, such a model is inserted into the so-called <active methodologies>, which are presented as models that efficiently develop student learning due to their active and innovative characteristics, encouraging the exploration and development of students' subjective skills while having the student at the center of the process.

Authors such as Moran (2015) and Valente (2014) emphasize the importance of merging technological methods with traditional teaching in the face of a globalized and constantly changing world. Mill (2011), in turn, argues about parities and disparities between education and technology; between challenges and possibilities of methodological applicability in teaching and learning processes; and between the limitations of the applicability of technological methodologies in teaching processes. In this sense, it reflects on the levels of learning resulting from the environment and work and study tools.

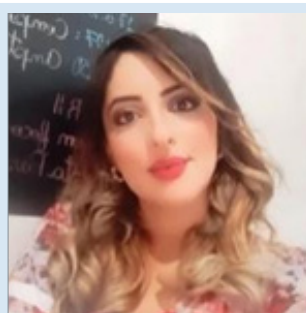
In this context, Moran (2015) emphasizes that education has always had this mixture. However, the connectivity induced by technological advances highlights the importance of its approach and practice within the classroom, considering the imperfect aspects of a society in constant global adaptation. The current scenario of an unprecedented pandemic has forced educational institutions, teachers, and students to adapt in the best way they can to the new reality. This adaptation, which would not necessarily be related to the technological aspects of education but also due to changes in relation to traditional teaching methods to active methodologies, for example, such as hybrid teaching, much discussed in readings and discussions in a virtual classroom environment throughout the analyses, expands the understanding of the applicability of these methods in Brazilian university education, their limits and development possibilities.

Finally, we reflect that learning strategies aligned with the lesson plan can be based on critical-reflective methods in order to develop students' critical thinking and motivate them to explore knowledge. However, the exposure of the discipline's content and dynamics, as well as the evaluation processes, must take educational inclusion into account. In this sense, it is important to know and recognize the subjective difficulties of students, thereby respecting and promoting integration in the classroom.

We recognize as a limitation of this study the lack of focus on a specific thematic context. Although the main purpose of the investigation has been to discuss the main insights found between barriers and opportunities, discussing such circumstances in a fragmented way raises concerns about not acquiring in-depth

conclusions. Our recommendations for future studies, along these lines, suggest the incorporation of more theoretical secondary data and the incorporation of more practical primary data, with discussions that bring a central focus on the most obvious aspect of the investigation. Such perspectives would help to compose a more holistic knowledge of the topics that encompass distance education in Brazil and around the world.

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