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IMPACTS OF DECREE NO. 12,456/2025 ON BRAZILIAN HIGHER EDUCATION: A SYSTEMATIC LITERATURE REVIEW ON DEMOCRATIZATION, QUALITY, AND TEACHER TRAINING IN DISTANCE EDUCATION[1]

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ABSTRACT

The implementation of Decree No. 12,456/2025, which establishes mandatory in-person attendance percentages between 10% and 40% for distance higher education courses, represents a paradigmatic shift in the Brazilian distance education model. The objective of this article is to compile bibliographic production on higher education democratization, educational quality, and teacher training in distance education, providing theoretical and empirical support for academics and educational managers in analyzing regulatory impacts on hybrid higher education. We question: What does the literature say about democratization, quality, and teacher training in distance education in the Brazilian context, considering regulatory frameworks and their implications for educational inclusion? To answer this, we used the Scientific Electronic Library Online (SciELO) and Web of Science Core Collection databases, employing Systematic Literature Review as a methodological procedure. The search strategy resulted in an initial selection of 36 articles, of which 25 were included in the final synthesis after rigorous application of inclusion and exclusion criteria (inclusion rate: 69.4%). The analysis of the 25 selected studies (11 from SciELO and 14 from Web of Science) revealed five structuring thematic axes: (1) Democratization and Access Expansion - evidencing how distance education has functioned as a mechanism of social inclusion for historically excluded populations; (2) Digital Technologies and Pedagogical Innovation - highlighting the integration of artificial intelligence, active methodologies, and emerging tools; (3) Public-Private Tensions and Commodification - revealing conflicts between access expansion and educational quality; (4) Regulatory Frameworks and Normative Transformations - analyzing impacts of regulatory changes since 2004; (5) Educational Quality and Assessment - concentrating debates on quality indicators, dropout rates, and institutional accountability. The results demonstrate a predominance of studies on access democratization and inclusion, followed by research on technological innovation and regulatory frameworks. Significant gaps were identified in the literature regarding teacher training specific to hybrid modalities, longitudinal studies on regulatory impacts, and analyses of institutional costs of transitioning to hybrid models, evidencing the need for future investigations to support the effective implementation of the new regulatory framework.

Keywords: distance education; higher education democratization; educational quality; teacher training; regulatory frameworks; hybrid education.

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IMPACTOS DO DECRETO Nº 12.456/2025 NA EDUCAÇÃO SUPERIOR BRASILEIRA: UMA REVISÃO SISTEMÁTICA DA LITERATURA SOBRE DEMOCRATIZAÇÃO, QUALIDADE E FORMAÇÃO DOCENTE EM EAD

RESUMO

A implementação do Decreto nº 12.456/2025, que estabelece percentuais presenciais obrigatórios entre 10% e 40% para cursos superiores a distância, representa uma mudança paradigmática no modelo de educação a distância brasileiro. O objetivo deste artigo é compilar a produção bibliográfica sobre democratização do ensino superior, qualidade educacional e formação docente em EaD, fornecendo subsídios teóricos e empíricos para acadêmicos e gestores educacionais na análise dos impactos regulatórios sobre a educação superior híbrida. Questionamos: O que a literatura diz sobre democratização, qualidade e formação docente em educação a distância no contexto brasileiro, considerando marcos regulatórios e suas implicações para a inclusão educacional? Para responder, utilizamos as bases Scientific Electronic Library Online (SciELO) e Web of Science Core Collection, empregando Revisão Sistemática da Literatura como procedimento metodológico. A estratégia de busca resultou na seleção inicial de 36 artigos, dos quais 25 foram incluídos na síntese final após rigorosa aplicação dos critérios de inclusão e exclusão (taxa de inclusão: 69,4%). A análise dos 25 estudos selecionados (11 da SciELO e 14 da Web of Science) revelou cinco eixos temáticos estruturantes: (1) Democratização e Expansão do Acesso - evidenciando como a EaD tem funcionado como mecanismo de inclusão social para populações historicamente excluídas; (2) Tecnologias Digitais e Inovação Pedagógica - destacando a integração de inteligência artificial, metodologias ativas e ferramentas emergentes; (3) Tensões Público-Privado e Mercantilização - revelando conflitos entre expansão de acesso e qualidade educacional; (4) Marcos Regulatórios e Transformações Normativas - analisando impactos de mudanças regulamentares desde 2004; (5) Qualidade Educacional e Avaliação - concentrando debates sobre indicadores de qualidade, evasão e responsabilização institucional. Os resultados demonstram predominância de estudos sobre democratização do acesso e inclusão, seguidos por pesquisas sobre inovação tecnológica e marcos regulatórios. Identificaram-se lacunas significativas na literatura sobre formação docente específica para modalidades híbridas, estudos longitudinais sobre impactos regulatórios e análises de custos institucionais da transição para modelos híbridos, evidenciando a necessidade de investigações futuras que subsidiem a implementação efetiva do novo marco regulatório.

Palavras-chave: educação a distância; democratização do ensino superior; qualidade educacional; formação docente; marcos regulatórios; educação híbrida.

IMPACTOS DEL DECRETO N.º 12.456/2025 EN LA EDUCACIÓIMPACTOS DEL DECRETO N.º 12.456/2025 EN LA EDUCACIÓN SUPERIOR BRASILEÑA: UNA REVISIÓN SISTEMÁTICA DE LA LITERATURA SOBRE DEMOCRATIZACIÓN, CALIDAD Y FORMACIÓN DOCENTE EN EDUCACIÓN A DISTANCIA

RESUMEN

La implementación del Decreto n.º 12.456/2025, que establece porcentajes presenciales obligatorios entre 10% y 40% para cursos superiores a distancia, representa un cambio paradigmático en el modelo de educación a distancia brasileño. El objetivo de este artículo es compilar la producción bibliográfica sobre democratización de la enseñanza superior, calidad educacional y formación docente en educación a distancia, proporcionando subsidios teóricos y empíricos para académicos y gestores educacionales en el análisis de los impactos regulatorios sobre la educación superior híbrida. Cuestionamos: ¿Qué dice la literatura sobre democratización, calidad y formación docente en educación a distancia en el contexto brasileño, considerando marcos regulatorios y sus implicaciones para la inclusión educacional? Para responder, utilizamos las bases Scientific Electronic Library Online (SciELO) y Web of Science Core Collection, empleando la Revisión Sistemática de la Literatura como procedimiento metodológico. La estrategia de búsqueda resultó en la selección inicial de 36 artículos, de los cuales 25 fueron incluidos en la síntesis final después de la rigurosa aplicación de los criterios de inclusión y exclusión (tasa de inclusión: 69,4%). El análisis de los 25 estudios seleccionados (11 de SciELO y 14 de Web of Science) reveló cinco ejes temáticos estructurantes: (1) Democratización y Expansión del Acceso - evidenciando cómo la educación a distancia ha funcionado como mecanismo de inclusión social para poblaciones históricamente excluidas; (2) Tecnologías Digitales e Innovación Pedagógica - destacando la integración de inteligencia artificial, metodologías activas y herramientas emergentes; (3) Tensiones Público-Privado y Mercantilización - revelando conflictos entre expansión de acceso y calidad educacional; (4) Marcos Regulatorios y Transformaciones Normativas - analizando impactos de cambios reglamentarios desde 2004; (5) Calidad Educacional y Evaluación - concentrando debates sobre indicadores de calidad, deserción y responsabilización institucional.

Los resultados demuestran predominancia de estudios sobre democratización del acceso e inclusión, seguidos por investigaciones sobre innovación tecnológica y marcos regulatorios. Se identificaron lagunas significativas en la literatura sobre formación docente específica para modalidades híbridas, estudios longitudinales sobre impactos regulatorios y análisis de costos institucionales de la transición hacia modelos híbridos, evidenciando la necesidad de investigaciones futuras que subsidien la implementación efectiva del nuevo marco regulatorio.

Palabras clave: educación a distancia; democratización de la enseñanza superior; calidad educacional; formación docente; marcos regulatorios; educación híbrida.

1. INTRODUCTION

In this article, we examine which scientific publications are essential for supporting studies on the impacts of the new regulatory framework for Brazilian distance education, specifically Decree No. 12.456/2025, on the democratization of higher education and educational quality. The historical context of higher education in Brazil reveals a process of accelerated expansion beginning in the 2000s, with distance education driving the democratization of access to higher education. This process was marked by the creation of the Open University of Brazil (Universidade Aberta do Brasil – UAB) in 2005 and the consolidation of expansion policies that resulted in exponential growth in enrollment in non-face-to-face modalities (Alonso, 2010; Cruz & Lima, 2019; Mendonça, Fernandes, & Helal, 2020).

However, this expansion has been accompanied by ongoing debates regarding educational quality and the adequacy of faculty training for non-face-to-face modalities, especially considering that international literature demonstrates that the effectiveness of distance education depends fundamentally on qualified pedagogical mediation and on instructors' mastery of digital competencies (Garrison & Anderson, 2003; Palloff & Pratt, 2015).

Decree No. 12.456/2025 is situated within a broader context of restructuring Brazilian educational policies, establishing new parameters for the provision of distance higher education programs by requiring mandatory in-person components.

The Ministry of Education (Ministério da Educação – MEC) and the Anísio Teixeira National Institute for Educational Studies and Research (Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira – INEP) released, on October 3, the results of the 2023 Higher Education Census. The survey identified 2,580 higher education institutions and more than 9.9 million enrollments, of which 79.3% were in the private sector and 20.7% in the public sector. Distance education accounted for 77.2% of available vacancies and 66.4% of new admissions.

This regulatory change directly impacts a system that, according to the Census, encompasses nearly 10 million students, reinforcing the need to understand how normative changes may simultaneously affect both access to and the quality of education provided (INEP, 2024).[4]

The article is organized into four (4) sections following this introduction. The second section presents the methodological approach adopted in the study, detailing the Systematic Literature Review protocol and the critical analysis of the search string used.

The third section presents the bibliometric analysis of the identified scientific production. The fourth section presents the results of the qualitative synthesis and discusses gaps identified in the literature; and the fifth section presents the final considerations, along with implications for future research.

[4] Available at: https://www.andifes.org.br/2024/10/04/mec-e-inep-divulgam-resultado-do-censo-superior-2023/?utm_source=chatgpt.com

2. METHOD

In order to answer the question "What does the literature say about democratization, quality, and faculty training in distance education in the Brazilian context, considering regulatory frameworks and their implications for educational inclusion?", a systematic review was conducted to measure authorship patterns and thematic trends and, thus, to "synthesize, summarize, combine, analyze, comment on, and critique studies on a given topic" (Hong & Pluye, 2018). To this end, we developed a rigorous protocol that defined the stages of the research and guided the analysis of the literature based on peer-reviewed articles published in the Scientific Electronic Library Online (SciELO) and Web of Science Core Collection databases, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol.

The data search was carried out on August 4, 2025, applying database-specific search strategies, as detailed in Table 1.

Table 1 – Summary of Filters Applied in the Protocol

Search filters
SciELO: Documents indexed in the Scientific Electronic Library Online database; articles in which the search string terms appear in the title, abstract, and/or keywords; only academic articles (research articles and review articles); all publication years.
Web of Science: Documents indexed in the Web of Science Core Collection; articles in which the search string terms appear in the title, abstract, and/or keywords; only academic articles (research articles and review articles); refined by relevance according to the database's own categorization system; all publication years.

Source: Authors (2025).

The selection of the SciELO database is justified by its comprehensive coverage of Latin American scientific production, particularly Brazilian research in education. The search terms were applied in the database's "topic" field (TS), which retrieves search terms in the title, abstract, and keywords of the documents.

The Web of Science Core Collection database was selected to broaden the scope of the review by including international perspectives on the Brazilian educational context and comparative studies.

Critical Analysis of the Search String Used in the SciELO Database

The search string employed was structured into five conceptual blocks connected by the AND operator, ensuring logical robustness while incorporating contextual specificities:

("higher education" OR "tertiary education")

AND

("democratization" OR "access" OR "distance education")

AND

("quality" OR "teacher training" OR "pedagogical mediation")

AND

("policy" OR "regulatory framework")

AND

("Brazil" OR "Brazilian")

Analyzing the components of the string, the first block ("higher education" OR "tertiary education") maintains international terminological breadth, ensuring the capture of both national and comparative literature on higher education systems. The inclusion of both terms acknowledges terminological variations in Anglophone literature and in international organizations.

The second block ("democratization" OR "access" OR "distance education") constitutes a strategic advancement in the formulation, explicitly incorporating distance education as a specific mechanism of democratization. This articulation recognizes that distance education is not merely an alternative pedagogical modality, but a deliberate policy strategy to expand access to higher education, overcoming geographic, temporal, and socioeconomic barriers (Peters, 2001).

The third block ("quality" OR "teacher training" OR "pedagogical mediation") represents a fundamental conceptual innovation, moving beyond abstract notions of educational quality to incorporate its concrete determinants. The inclusion of "teacher training" acknowledges that educational quality is centrally dependent on faculty preparation, an aspect often overlooked in technocratic analyses. The term "pedagogical mediation" adds a specific dimension, capturing debates on the competencies required for effective mediation in digital learning environments.

The fourth block ("policy" OR "regulatory framework") preserves the essential political-institutional dimension, with added specificity through the inclusion of "regulatory framework." This term captures not only broad policy discussions but also specific normative instruments that regulate higher education, including decrees and regulations that establish operational parameters.

The fifth block ("Brazil" OR "Brazilian") provides a fundamental geographic delimitation, contextualizing the search within the Brazilian educational system and its specific characteristics of regulation, financing, and institutional organization.

Critical Analysis of the Search String Used in the Web of Science Database

The reformulated search string was structured into three conceptual blocks connected by the AND operator, prioritizing thematic specificity while maintaining methodological robustness:

("distance education" OR "online education" OR "e-learning" OR "distance learning" OR "remote education" OR "virtual education")

AND

("Brazil" OR "Brazilian" OR "Brasil")

AND

("higher education" OR "university" OR "tertiary education" OR "undergraduate" OR "graduate")
("distance education" OR "online education" OR "e-learning" OR "distance learning" OR "remote education" OR "virtual education")

AND

("Brazil" OR "Brazilian" OR "Brasil")

AND

("higher education" OR "university" OR "tertiary education" OR "undergraduate" OR "graduate").

Analyzing the components of the string, the first block ("distance education" OR "online education" OR "e-learning" OR "distance learning" OR "remote education" OR "virtual education") represents the most significant conceptual centralization of the reformulation, positioning distance education as the main investigative core.

This terminological diversification incorporates both established academic nomenclature ("distance education") and post-pandemic emerging concepts ("remote education"), recognizing the semantic evolution of the field and regional variations in the international literature. This lexical breadth ensures the capture of different theoretical and methodological approaches that characterize the development of the modality.

The second block ("Brazil" OR "Brazilian" OR "Brasil") demonstrates methodological sophistication through trilingual geographic specificity, acknowledging the complexity of academic production on the Brazilian context. The simultaneous inclusion of linguistic variations captures international literature on Brazilian policies, national publications in international journals, and comparative studies that reference Brazil as a specific case. This strategy overcomes the limitations of monolingual searches, which often exclude relevant literature due to spelling variations or differences in indexing language.

The third block ("higher education" OR "university" OR "tertiary education" OR "undergraduate" OR "graduate") maintains the necessary institutional breadth to cover different levels and modalities of Brazilian higher education.

The inclusion of specific terms such as "undergraduate" and "graduate" acknowledges the segmentation of the academic field, while "university" captures broader institutional perspectives. The term "tertiary education" aligns with the terminology used by international organizations, ensuring compatibility with comparative literature.

However, the critical analysis reveals significant methodological limitations arising from the simplification strategy adopted. The complete elimination of the regulatory and policy dimension represents the most substantial weakness of the reformulation, excluding fundamental terms such as "policy," "regulation," and "framework," which are central to understanding the institutional development of Brazilian distance education. This absence may result in the exclusion of literature on Ministry of Education (MEC) regulatory frameworks, strategic government programs such as the Open University of Brazil (Universidade Aberta do Brasil – UAB), and public policy analyses that have shaped the expansion of this modality in the country.

The suppression of quality-related indicators constitutes another critical limitation, removing terms such as "quality," "evaluation," and "assessment," which are essential for capturing debates on academic standards, evaluation systems such as SINAES and ENADE, and institutional accreditation processes.

Simultaneously, the absence of terms related to democratization and access ("democratization," "access," "equity") may exclude essential literature on distance education as a policy of social inclusion and as a mechanism for overcoming geographic and socioeconomic barriers to higher education access.

The elimination of the specific pedagogical dimension, through the removal of terms such as "teacher training" and "pedagogical mediation," represents a relevant conceptual loss, considering that the quality of distance education fundamentally depends on specific teaching competencies for digital learning environments. This absence may exclude studies on continuous teacher professional development, online active learning methodologies, and pedagogical mediation strategies, all of which are central to the educational effectiveness of this modality.

The reformulated string, therefore, achieves significant conceptual precision by centralizing distance education as the main object of investigation, but it sacrifices the phenomenological complexity required for a comprehensive understanding of the modality's development in the Brazilian context. The methodological recommendation is to use this formulation as the primary search strategy, complemented by specific thematic strategies that recover the excluded dimensions, thereby preserving gains in specificity while maintaining the investigative robustness required for a comprehensive systematic review.

Search Strategy in the SciELO and Web of Science Databases Using Two Distinct Search Strings

The combined use of both databases ensures methodological robustness in the study, as SciELO provides depth in knowledge produced locally on the specificities of the Brazilian educational system, while Web of Science offers analytical breadth and international comparative perspectives.

This complementarity ensures greater representativeness of the available scientific literature, avoids biases associated with a single source, and strengthens the external validity of the systematic review findings. The criteria adopted in both databases are presented below:

Table 2 – Inclusion and Exclusion Criteria

Inclusion criteria:	Exclusion Criteria:
Empirical or theoretical articles published in peer-reviewed journals	Dissertations, theses, books, and book chapters
Studies addressing at least two of the following themes: democratization of higher education, educational quality, teacher training, distance education, regulatory frameworks	Opinion articles without empirical grounding
Research contextualized in Brazil or with discussions applicable to the Brazilian context	Studies exclusively focused on basic education
Publications in Portuguese, English, or Spanish	Duplicate publications
Selection and Analysis Process	
The process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, comprising: **1. Identification:** Initial database search **2. Screening:** Application of inclusion and exclusion criteria based on titles and abstracts **3. Eligibility:** Full-text reading of selected articles **4. Inclusion:** Final corpus for qualitative analysis	

Source: Authors (2025).

EThis broad approach focuses on the democratization of higher education in the Brazilian context, yielding 16 initial results identified in the SciELO database. After applying the inclusion and exclusion criteria, 11 articles were considered for analysis, while 5 articles were excluded due to: (i) a specific focus on unrelated areas; (ii) topics distant from the object of study; and (iii) absence of any relation to distance education or democratization.

The first search string used in the SciELO database, when replicated in Web of Science, returned 78 initial results. However, after applying the refinement "Document Types: Review Article," only 8 results remained, and these did not focus on distance education. Therefore, it was deemed necessary to develop a second search string in order to address a methodological inconsistency that would otherwise compromise the specificity and precision of the results.

The initial search string (used in the SciELO database), although theoretically robust with five interconnected conceptual blocks, presented excessive breadth. In the Web of Science database, this resulted in the retrieval of book chapters, conference proceedings, and reports.

For the construction of the second search string, it was considered that distance education should not appear merely as a secondary element within the democratization block, as this would dilute the specific focus of the investigation.

A second search string was strategically developed, with the aim of complementarity, based on two fundamental principles that completely redefined the methodological approach. First, conceptual centralization was established, positioning distance education as the main concept of the search, recognizing that distance education is not merely an alternative pedagogical modality, but a deliberate policy strategy to expand access to higher education. Second, typological specificity was implemented through rigorous filters to ensure the prioritized retrieval of peer-reviewed academic articles, eliminating the initial inconsistency that allowed the inclusion of documents of diverse nature.

The second search string, therefore, adopted a more focused formulation for the Web of Science database in order to intensify the theoretical debate on distance education in Brazil. This reformulation incorporated significant terminological diversification, recognizing the post-pandemic conceptual evolution and international variations in the literature on digital modes of education. The inclusion of the term "Brasil" in its Portuguese spelling aimed to capture national literature published in international journals, thereby expanding specific geographic coverage.

The systematic refinement process of the second search string demonstrated the need for multiple filtering stages to achieve adequate precision. The initial search in the Web of Science Core Collection returned 1,257 articles, an excessive volume that indicated the need for careful refinement. The application of the document type filter, selecting only "Article" and "Review Article," drastically reduced the results to 37 articles, representing a 97% reduction that highlighted the high proportion of non-academic documents in the initial search.

Subsequently, the application of the subject area filter, focusing on "Education Educational Research," "Education Scientific Disciplines," and "Computer Science Interdisciplinary Applications," resulted in 20 final articles, establishing the essential intersection between education and technology that is fundamental to studies on distance education.

The comparative analysis of both strategies reveals significant methodological complementarity that strengthens the scientific robustness of the investigation. The first search string provides the exploratory breadth necessary for initial mapping of the field, while the second offers conceptual specificity focused on the central object of the research. This dual approach enables cross-validation of findings, identification of gaps in the literature, and verification of overlaps, thereby increasing the reliability of the results. The evolution from a broad strategy to a more focused one does not represent a departure from the initial approach, but rather a methodological refinement that acknowledges different investigative needs at distinct stages of the systematic review.

Table 4 – Protocol | Dual Search Strategy in the Databases

Stage	String 1 (Broad)	String 2 (Focused)
Formulation	("higher education" OR "tertiary education") AND ("democratization" OR "access" OR "distance education") AND ("quality" OR "teacher training" OR "pedagogical mediation") AND ("policy" OR "regulatory framework") AND ("Brazil" OR "Brazilian")	("distance education" OR "online education" OR "e-learning" OR "distance learning" OR "remote education" OR "virtual education") AND ("Brazil" OR "Brazilian" OR "Brasil") AND ("higher education" OR "university" OR "tertiary education" OR "undergraduate" OR "graduate")
Objective	Initial mapping of the literature on the democratization of higher education	Specific conceptual precision in distance education within the Brazilian context
Databases consulted	*SciELO*	*Web of Science Core Collection*
Initial results	16 articles	1,257 articles
Refinement criteria	Document type ⟶ Subject area	Document type ⟶ Subject area
After 1st refinement	16 articles (filter: Article + Review Article)	37 articles (filter: Article + Review Article)
After 2nd refinement	5 articles excluded	21 articles (filter: Education + Computer Science areas)
Exclusion reasons	Focus on unrelated fields, topic distant from the research scope, lack of relation to distance education/democratization, duplicates	High specificity of applied filters
Analysis sample	11 articles included (SciELO)	14 articles included (Web of Science Core Collection)
Total SLR	25 articles included in the systematic review	

Source: Authors (2025).

The distribution of articles included in the systematic review demonstrates a balance between the consulted databases, with Web of Science contributing 14 articles (56% of the total included) and SciELO contributing 11 articles (44% of the total included). This distribution reflects both the initial volume of results and the relevance criteria applied in each platform.

In the SciELO database, of the 16 articles initially identified, 11 were included (68.8% yield) and 5 were excluded (31.2%). The exclusions were concentrated in studies that did not specifically address distance higher education or that focused on very specific areas without a direct connection to the central theme of the research.

In the Web of Science database, of the 20 articles identified, 14 were included (70% yield) and 6 were excluded (30%). The yield rate in this database indicates good alignment of the results with the established inclusion criteria, possibly due to the more refined search strategies applied in this platform.

From the total of 36 screened articles, 25 were included in the final synthesis. Additionally, 2 initially selected articles were not available in full-text form and were therefore excluded, resulting in 11 total exclusions. The main reasons for exclusion were: studies exclusively focused on basic education, research in specific fields without a direct connection to higher education distance learning, works lacking adequate empirical grounding on the central topic of the review, and lack of access to full texts.

3. RESULTS AND DISCUSSION

Based on the analysis of the 25 articles included in the systematic review (11 from SciELO and 14 from Web of Science), covering the period from 2004 to 2024, five main thematic axes emerge that structure the field of knowledge on Distance Higher Education (EaD) in Brazil. A qualitative synthesis organized into thematic categories is presented below, highlighting converging and diverging arguments across the analyzed sources.

Table 5 – Categorized Results in Five Thematic Axes Identified in the Literature on Distance Higher Education in Brazil

Thematic Block and Predominant Approach	Articles	Main Authors	Key Concepts
Axis 1 – Expansion and Massification of Distance Higher Education (EaD) in Brazil: Conceptual analysis; case studies on expansion; democratization versus commodification; public policies for access.	Mello et al. (2023); Dourado et al. (2024); Sguissardi (2015); Masalimova et al. (2024)	Mello, Sidney L. M.; Dourado, Luiz Fernandes; Sguissardi, Valdemar; Masalimova, AR	Inclusion and equity; regulatory expansion; democratization versus massification; bibliometric analysis; BRICS trends; regulatory flexibilization
Axis 2 – Quality and Regulation of Distance Education in Brazilian Higher Education: Systematic reviews; conceptual analyses; applied studies; public–private tensions.	Segenreich (2009); Giolo (2010); Oliveira, Bezerra and Torres (2021); de Menezes and da Silva (2022)	Segenreich, Stella Cecília; Giolo, Jaime; Lima, ES; de Menezes, E	ProUni and UAB strategies; public–private tensions; dropout in higher education programs; emergency remote teaching; adopted technologies; educational quality
Axis 3 – Inclusion and Equity in Access to Higher Education through EaD: Bibliometric reviews; case studies; access indicators; affirmative policies; student trajectories.	Alves and Noleto (2022); Neves et al. (2007); Haas and Linhares (2012); Pinto (2004); Manzan et al. (2023); Miralrio et al. (2024); Suyo-Vega et al. (2022)	Alves, Higo Gabriel; Neves, Clarissa Eckert; Pinto, José Marcelino; Manzan, Júlia Scalon; Miralrio, A	Democratization of access; educational policies; affirmative actions; student trajectories; adaptive flexibility; pandemic policies; Latin American context
Axis 4 – Digital Technologies and Innovation in EaD and Higher Education: Technological experiments; methodological applications; case studies; conceptual analyses; systematic reviews.	Durso and Arruda (2022); Polonia et al. (2023); Fonseca and Neto (2017); Carvalho et al. (2024); Takaki and Dutra (2024); de Oliveira and Silva (2023); Martins et al. (2022)	Durso, SD; Polonia, ADC; Fonseca, SM; Carvalho, DS; Takaki, P; de Oliveira, AA	Artificial intelligence; digital tools; active methodologies; cloud computing; text mining; flipped learning; educational use of WhatsApp
Axis 5 – Structural Challenges and Critiques of EaD and the Higher Education System: Critical analyses; historical-comparative studies; training policies; internationalization.	Rotta et al. (2014); Veloso et al. (2023); Bizarria et al. (2024)	Rotta, Mariza; Veloso, BG; Bizarria, FPD	Teacher training; educational policies; hybrid education; historical trends; intercultural management; internationalization of higher education

Source: Authors (2025).

The analysis of the thematic blocks reveals that studies on inclusion and equity in access (Block 3) and digital technologies and innovation (Block 4) concentrate the largest volume of research, each representing 28% of the scientific production analyzed. This distribution indicates growing academic interest in both the democratizing potential of distance education and its technological and methodological dimensions.

In contrast, the smaller number of studies addressing structural challenges and critiques (Block 5, 12%) suggests a gap in the production of more in-depth critical analyses of the limitations and contradictions inherent in the Brazilian higher education distance learning system.

Axis 1 – Expansion and Massification of Distance Higher Education in Brazil

The expansion of distance higher education (EaD) in Brazil is a widely documented phenomenon in the literature, characterized by exponential growth that reveals both democratizing potential and significant structural tensions. Mello et al. (2023) identify a convergence among studies regarding the notable growth in higher education, especially in the EaD modality, with data showing an increase from 1,682 enrollments in 2000 to 369,766 in 2007, when approximately 37.1% of Pedagogy enrollments were already offered in this modality (Giolo, 2010).

This expansive movement, predominantly driven by the private sector since 2002, has concentrated in specific fields such as Pedagogy, Teacher Education (Normal Superior), Administration/Management, Social Work, and Accounting Sciences, which accounted for 97.3% of undergraduate distance education enrollments in 2007 (Giolo, 2010). Oliveira, Bezerra, and Torres (2021) and Masalimova et al. (2024) highlight the democratizing potential of distance education to expand access to higher education, particularly in remote regions and for populations facing mobility constraints or adverse socioeconomic conditions, a perspective reinforced by Durso and Arruda (2022).

However, there is significant divergence regarding the nature of this expansion. Sguissardi (2015) questions whether the increase in enrollment results in genuine democratization or constitutes a commodified massification that does not ensure students' academic success. Dourado, Moraes, and Siqueira (2024) warn that issues of democratization and social quality in education have been undermined by the expansion process, which, under the justification of inclusion, has often resulted in increased access without effective measures to ensure quality and adequate teacher training. Giolo (2010) identifies structural tensions by showing that, although official discourse emphasizes democratization, existing regulatory frameworks create barriers that limit this democratization, demonstrating that quantitative expansion does not guarantee effective democratization without appropriate regulatory frameworks.

Regulatory frameworks, identified by Mello et al. (2023) as essential instruments of democratization in alignment with the constitutional principles of universalization of higher education, were intensified during the pandemic through Law No. 14,040/2020 and Provisional Measure No. 934/2020, which directly influenced the development of distance education in Brazil (Menezes & Silva, 2022). The expansion of digital technologies and the implementation of virtual learning environments enabled broader access to higher education, configuring a context of significant growth that reveals both opportunities and challenges for Brazilian higher education (Carvalho et al., 2024).

Table 6 – Summary: Expansion and Massification of Distance Education in Brazil

Dimension	Positive Aspects	Critical Aspects	Key Authors
Quantitative Growth	• Increase from 1,682 (2000) to 369,766 enrollments (2007) • 37.1% of Pedagogy enrollments delivered via distance education (2007)	• Concentration in a limited number of academic fields • Predominance of the private sector	Giolo (2010); Mello et al. (2023)
Democratization	• Expansion of access for marginalized populations • Inclusion of remote regions • Flexibility for different socioeconomic profiles	• "Compensatory policy" for disadvantaged segments • Questionable quality of the education provided	Oliveira, Bezerra and Torres (2021); Masalimova et al. (2024); Sguissardi (2015)
Regulatory Frameworks	• Alignment with constitutional principles • Adaptation during the pandemic (Law No. 14,040/2020)	• Regulatory frameworks creating barriers • Lack of effective quality assurance mechanisms	Mello et al. (2023); Menezes and Silva (2022)
Educational Quality	• Expansion of digital technologies • Virtual learning environments	• "Commodified massification" • Expansion without effective quality assurance measures • Inadequate teacher training	Dourado et al. (2024); Carvalho et al. (2024)

Source: Authors (2025).

The summary table highlights the paradoxical nature of the expansion of distance education in Brazil, revealing that each analyzed dimension simultaneously presents democratizing potential and significant structural limitations. While quantitative data demonstrate exponential growth that has enabled access for populations historically excluded from higher education, critical analyses warn of the risks of a predominantly commodified expansion that may compromise educational quality.

The tension between democratization and massification runs through all dimensions, from growth concentrated in a limited number of academic fields and in the private sector, to regulatory frameworks that, although intended to guarantee constitutional rights, still present gaps in the implementation of quality assurance policies.

This ambivalence suggests that the expansion of distance education, while representing a significant advancement in broadening access to higher education, requires greater attention to qualitative dimensions in order to effectively fulfill its democratizing potential without reproducing educational inequalities in a new form.

Axis 2 – Quality and Regulation of Distance Education in Brazilian Higher Education

The issue of quality in Brazilian distance higher education reveals structural tensions between the expansion of access and the maintenance of adequate educational standards. Mello et al. (2023) offer a balanced reflection on this tension, warning of the risks associated with accrediting low-quality institutions, considering the evaluation instruments of the National System for the Evaluation of Higher Education (SINAES). Segenreich (2009) problematizes the shortcomings of the evaluation system, noting that regulations such as Decree No. 5,622/2005 established important guidelines but face significant challenges in implementation and oversight, particularly regarding support centers and inadequate infrastructure.

Faculty training emerges as a central element in ensuring educational quality. Pinto (2004) highlights concerns regarding the quality of instruction, given that most faculty members involved in distance education hold at most a specialization degree, with a significant proportion of hourly-paid instructors, mainly in the private sector, which compromises teaching quality and academic formation. Durso and Arruda (2022) emphasize challenges related to quality assurance, particularly concerning adequate teacher preparation for working in distance education contexts, highlighting gaps in specific training and pedagogical preparation. Mattar (2020) points to a disconnect between pedagogical principles as documented by institutions and their effective implementation in teaching materials and daily instructional practice, limiting both the democratization of access and the use of active learning methodologies.

Since 2016, there has been a process of normalization of regulatory flexibilization promoted by the Ministry of Education and the National Education Council, driving the expansion of private distance education provision without effective quality parameters (Dourado; Moraes; Siqueira, 2024). This scenario combines regulatory flexibilization, advancing privatization, and weak evaluation mechanisms, fostering the perception that distance education has been used as a strategy for expanding higher education that is more aligned with market demands than with a commitment to educational quality.

Giolo (2010) identifies tensions between the need for expansion and the maintenance of quality criteria, noting that proponents of distance education argue that there is no comprehensive scientific evidence demonstrating its lower quality compared to face-to-face education, while critics point out that the same applies in reverse. The Brazilian Association of Distance Education (ABED) challenges the Ministry of Education's position that only public institutions ensure quality in distance education, advocating for a pluralistic evaluation approach that recognizes examples of excellence and shortcomings in both public and private sectors.

The expansion of institutions with multiple territorial units, often implemented without strategic planning or assessment of regional needs, highlights a central problem in current Brazilian higher education expansion policies (Segenreich, 2009). This is compounded by insufficient transparency in the disclosure of data related to ProUni and distance education, undermining the production of reliable analyses on institutional quality. Mello et al. (2023) emphasize the need for continuous monitoring of regulatory policies, recognizing that the sustainability of progress depends on systematic oversight to prevent inclusion and quality from becoming antagonistic goals.

Dimension	Frameworks/ Policy Instruments	Identified Challenges	Key Authors
Regulatory Frameworks	• LDB/1996 (Law of Guidelines and Bases of National Education) • Decree No. 5,622/2005 • SINAES (National System for the Evaluation of Higher Education) • Distance Education Quality Guidelines (2007) • Post-2016 regulatory flexibilization	• Challenges in implementation and oversight • Normalization of regulatory flexibilization • Insufficient transparency in data reporting	Mello et al. (2023); Segenreich (2009); Dourado et al. (2024)
Faculty Training	• Minimum qualification requirements • Specific training for distance education • Active learning methodologies	• Predominance of faculty with only specialization-level qualifications • Gaps in specific training for distance education • Disconnect between pedagogical theory and practice	Pinto (2004); Durso and Arruda (2022); Mattar (2020)
Evaluation and Quality	• Pluralistic evaluation system • Minimum quality standards • Continuous monitoring	• Contestation of the Ministry of Education's single-model approach • Weaknesses in evaluation mechanisms • Risk of antagonism between inclusion and quality	Giolo (2010); ABED; Mello et al. (2023)
Private Sector Expansion	• Growth of the private sector • Multiple territorial units • Market demands	• Expansion without strategic planning • Educational precarization • Market logic prevailing over educational quality	Segenreich (2009); Dourado et al. (2024)

Source: Authors (2025).

Table 7 reveals the multidimensional complexity of the challenges related to quality and regulation in Brazilian distance education, showing that each analyzed dimension is supported by established regulatory instruments but faces significant obstacles in effective implementation.

The central tension lies in the difficulty of reconciling the democratization of access, driven by regulatory flexibilization and private sector expansion, with the maintenance of adequate educational standards. Particularly concerning is the identified gap in specific teacher training for distance education, which compromises pedagogical quality regardless of existing regulatory frameworks. The need for continuous monitoring and data transparency emerges as a fundamental condition to ensure that quantitative expansion does not undermine qualitative objectives, suggesting that the future of Brazilian distance education depends on the ability to develop regulatory policies that sustainably balance democratization and educational quality.

Axis 3 – Inclusion and Equity in Access to Higher Education through Distance Education

Distance education is widely recognized as an instrument for expanding access to higher education; however, there is a marked divergence regarding whether this expansion effectively promotes equity and whether the resulting inclusion is of high quality. Mello et al. (2023) indicate that the growth in enrollments in distance education has been accompanied by greater inclusion and equity in access to higher education.

Segenreich (2009) highlights that distance education has the potential to expand access to higher education, favoring the inclusion of individuals with financial and geographic constraints, thereby contributing to the achievement of the National Education Plan goals related to expanding provision and reducing regional inequalities.

However, Haas and Linhares (2012) emphasize that the university should serve as a space for dialogue on educational reforms that promote equal access to knowledge, underscoring the need for specific policies to ensure access for minority and socially excluded groups. Segenreich (2009) further demonstrates the complexity inherent in democratization processes via distance education, identifying structural barriers that perpetuate educational inequalities and showing that the mere availability of vacancies does not automatically eliminate inequality.

Socioeconomic inequalities emerge as a central obstacle. Menezes and Silva (2022) note that regulatory frameworks still face challenges related to social equity, particularly in the inclusion of students with lower socioeconomic conditions and lower levels of digital literacy, thereby compromising both the democratization of access and the quality of education provided. Suyo-Vega et al. (2022) emphasize that, although there are efforts to expand access, challenges persist regarding the inclusion of marginalized groups, such as people with disabilities and rural communities, due to unequal access to technologies and digital infrastructure. Sguissardi (2015) identifies that students from public schools are underrepresented in high-demand programs, with greater presence in low-demand fields, indicating that expansion has not resulted in equal conditions of access.

The critical perspective on inclusion is further emphasized in the literature. Rotta, Bezerra dos Santos, and Brasil (2014) warn that the justification of distance education as a means of social inclusion and democratization of knowledge is undermined by the lack of guaranteed quality in teacher training, potentially affecting teaching quality at basic education levels and perpetuating social inequalities. Alves and Noleto (2022) criticize ProUni as a policy of access but not of permanence, treating students as consumers rather than citizens, which may lead to "exclusionary inclusion" with "empty certification" that does not ensure access to the labor market.

Sguissardi (2015) points out that market logic and the commodification of education negatively influence the assurance of quality and adequate teacher training. Ristoff (2014) argues that the campus is a distorted reflection of society and that both public and private institutions, under market influence, tend to reproduce social inequalities in their educational offerings, including teacher education in distance education. Dourado, Moraes, and Siqueira (2024) emphasize that the current regulatory framework and expansion practices in distance education hinder the realization of effective democratization of education, negatively affecting teacher training and compromising the social quality of higher education.

Miralrio, Muñoz-Villota, and Camacho-Zuñiga (2024) highlight that regulatory development favors the expansion of access but imposes limits that may affect the quality of education provided, with resistance from sectors of society and political actors contributing to difficulties in implementing more inclusive policies. Giolo (2010) recognizes that genuine educational inclusion cannot be dissociated from quality, avoiding a false dichotomy between democratization and academic excellence—a perspective that aligns with contemporary conceptions of educational equity that emphasize the need to provide high-quality education to historically excluded populations.

Table 8 – Inclusion and Equity in Distance Education (EaD)

Dimension	Potentialities	Limitations and Challenges	Key Authors
Access Democratization	• Expansion of access for populations with geographic and financial constraints • Contribution to the goals of the National Education Plan (PNE) • Greater inclusion and equity in higher education	• Mere availability of vacancies does not eliminate inequalities • Structural barriers persist • "Exclusionary inclusion" and "empty certification"	Segenreich (2009); Mello et al. (2023); Alves and Noleto (2022)
Socioeconomic Inequalities	• Specific policies for minority groups • Programs such as ProUni, UAB, and affirmative action quotas • Student assistance policies for retention	• Low levels of digital literacy • Underrepresentation in high-demand programs • Dropout due to socioeconomic factors	Menezes and Silva (2022); Sguissardi (2015); Haas and Linhares (2012)
Digital Inclusion	• Potential reach enabled by digital technologies • Active learning methodologies in distance education • Temporal flexibility in access to education	• Inequality in access to technologies • Exclusion of rural communities and people with disabilities • Inadequate digital infrastructure	Suyo-Vega et al. (2022); Miralrio et al. (2024)
Quality and Commodification	• Possibility of providing quality education for excluded populations • Necessary systemic transformations	• Market logic undermines educational quality • Reproduction of social inequalities • Treatment of students as consumers	Ristoff (2014); Dourado et al. (2024); Rotta et al. (2014)

Source: Authors (2025).

Table 8 highlights the fundamental paradox of distance education as an instrument of inclusion and equity in Brazilian higher education. Although it holds significant democratizing potential to expand access for historically excluded populations, the modality faces structural challenges that may perpetuate or even deepen educational inequalities.

The tension between quantitative democratization and educational quality permeates all analyzed dimensions, revealing that the mere expansion of enrollment, without integrated policies for student retention and quality assurance, may result in disguised forms of exclusion. Particularly concerning is the influence of market logic, which, by prioritizing economic criteria over pedagogical ones, compromises adequate training and reproduces social inequalities within the educational environment. The realization of inclusion and equity in distance education therefore requires public policies that go beyond access and incorporate student retention, quality, and systemic transformations that address the structural roots of educational inequalities in Brazil.

Axis 4 – Digital Technologies and Innovation in Distance Education and Higher Education

The role of digital technologies emerges as a central element in the transformation of higher education, intensified by the COVID-19 pandemic, which accelerated and expanded the use of cloud-based platforms in universities, making tools such as file sharing, videoconferencing, and virtual learning environments essential (Carvalho; Fernandes-Sobrinho; Castro, 2024).

Carvalho et al. (2024) highlight the challenges associated with the adoption of Information and Communication Technologies (ICTs) in higher education, including the need for greater faculty recognition and adequate training for teaching in distance education modalities, requiring a redefinition of the teacher's role.

Artificial intelligence (AI) has been considered a key component in the development of learning strategies in distance education (Durso & Arruda, 2022). AI-based solutions demonstrate the potential to transform the distance education system, with topics such as Intelligent Tutoring Systems, Adaptive Systems, and Personalization being the most frequently researched. However, there is limited attention to critical issues related to the introduction of AI in distance education, such as faculty employability, technological training, and ethical implications. Most research on AI in Brazilian distance education comes from Computer Science (56%) and Engineering (27%), while only 6% originates from Education, indicating a significant gap.

Martins et al. (2022) emphasize that technologies have the potential to expand access to education by promoting greater student autonomy, collaboration, participation, and interaction within learning environments. The incorporation of digital and social tools is essential to strengthening pedagogical quality in distance education. Polonia, Miotto, and Suyo-Vega (2023) discuss the use of digital tools such as e-portfolios, PowerPoint, and Open Educational Resources (OER) to enhance curricular activities in blended or hybrid learning contexts.

Blended education is presented as a historical trend in Brazil and Portugal, characterized by the overcoming of the dichotomy between distance and face-to-face education, with an increasing integration between online and offline environments (Veloso; Mill; Moreira, 2023). The COVID-19 pandemic highlighted the need for this integration, promoting the widespread use of synchronous and asynchronous classes, applications, online courses, virtual reality simulators, podcasts, portfolios, and video lectures as digital resources in emergency remote teaching (Menezes & Silva, 2022).

Takaki and Dutra (2024) address the importance of text mining applied to distance higher education, indicating that EaD regulation has led both to expanded access and to the need to ensure quality standards and teacher training. Oliveira and Silva (2023) highlight the implementation of flipped learning and distance education strategies in undergraduate and graduate programs, although challenges remain related to unequal opportunities and students' adequate preparation.

Mello et al. (2023) identify that the transition to digital environments requires specific competencies from educators, including technological proficiency and mastery of active learning methodologies. The challenges associated with introducing digital tools in face-to-face education include connectivity issues, students' and teachers' technological competence, and difficulties in curricular integration (Polonia; Miotto; Suyo-Vega, 2023). Technological integration also presents specific challenges related to privacy and data control, aspects that continue to affect the adoption and implementation of these technologies in educational institutions.

Alves and Noleto (2022) recognize that Brazil's Law of Guidelines and Bases of National Education (LDB), enacted in 1996, preceded the massive technological development that characterizes contemporary distance education, highlighting that regulatory frameworks must be continuously revisited to keep pace with technological and pedagogical transformations.

Segenreich (2009) acknowledges that the transfer of face-to-face models to virtual environments requires a reconfiguration of teachers' roles and competencies, demonstrating an understanding of the pedagogical specificities of distance education in relation to traditional face-to-face teaching.

Table 9 – Digital Technologies and Innovation in Distance Education

Dimension	Potentialities	Limitations and Challenges	Key Authors
Technological Infrastructure	• Cloud computing as an essential tool • Virtual Learning Environments (VLEs) • Synchronous and asynchronous platforms • Open Educational Resources (OER)	• Connectivity problems • Privacy and data control challenges • Inequalities in access to devices and internet	Carvalho et al. (2024); Polonia et al. (2023); Menezes and Silva (2022)
Artificial Intelligence	• Intelligent Tutoring Systems • Personalization of learning • Text and educational data mining • Automated assessment	• Low engagement from the field of Education (6%) • Gaps in ethical considerations and employability • Predominance of Computer Science (56%)	Durso and Arruda (2022); Takaki and Dutra (2024)
Active Learning Methodologies	• Flipped Learning • Hybrid education as convergence • E-portfolios and collaborative tools • Online–offline integration	• Student opportunity inequalities • Difficulties in curricular integration • Need for specific teacher training	Oliveira and Silva (2023); Veloso et al. (2023); Fonseca and Neto (2017)
Teacher Education and Training	• Reinvention of the teacher's role • Specific digital competencies • Integrated active learning methodologies • Valuation of technological mediation	• Need for continuous professional development • Reconfiguration of roles and competencies • Outdated regulatory frameworks • Insufficient technological competence	Martins et al. (2022); Carvalho et al. (2024); Alves and Noleto (2022)

Source: Authors (2025).

Table 9 highlights the multifaceted complexity of technological integration in distance higher education, revealing that each analyzed dimension simultaneously presents transformative potential and significant structural challenges.

Technological infrastructure, while offering essential tools such as cloud computing and virtual learning environments, faces limitations related to connectivity and access inequalities that may deepen digital exclusion.

Artificial intelligence emerges as a promising field for learning personalization, but presents a concerning gap in the involvement of the field of Education, being predominantly developed by computer science professionals without pedagogical training.

Active learning methodologies, especially hybrid education, represent an advance in overcoming the face-to-face versus distance education dichotomy; however, they require curricular transformations and specific teacher training that have not yet been adequately implemented.

Teacher education constitutes a central element for the success of technological integration, but it faces challenges related to the need to reconfigure professional roles and to adapt regulatory frameworks to contemporary transformations. This suggests that technological innovation in distance education requires a systemic approach that encompasses not only technical resources, but also pedagogical, training, and regulatory transformations.

Axis 5 – Structural Challenges and Critiques of Distance Education and the Higher Education System

The literature reveals significant structural challenges that undermine the effectiveness of distance higher education, converging on systemic critiques of the Brazilian EaD expansion model that raise concerns about precarization, commodification, and insufficient attention to key aspects of human formation. Dourado, Moraes, and Siqueira (2024) show that the expansion of private higher education, especially distance education, results from public financing mechanisms for the private sector (such as FIES and ProUni) and regulatory flexibilization, strengthening educational oligopolies.

Student dropout is a critical challenge in distance education. Oliveira, Bezerra, and Torres (2021) identify dropout causes as exogenous and endogenous, highlighting that lack of time and personal conditions are the main exogenous causes, while course-related difficulties and management issues are the main endogenous causes. Exogenous factors include lack of time, family context, internet access, issues with teachers/tutors, and personal conditions, whereas endogenous factors encompass academic difficulties, platform usability, course management, and student support systems.

Sguissardi (2015) shows that the expansion of distance education, driven by regulatory reforms and the growth of private provision, tends to transform education into a commodity, undermining democratic access, educational quality, and the adequate training of faculty. The current model tends to subordinate education as a right in favor of a logic of capital accumulation. The "financialization" of education involves the transformation of all spheres of life into financial assets, with private financial institutions dictating the content, forms, and objectives of education (Dourado; Moraes; Siqueira, 2024).

Rotta, Bezerra dos Santos, and Brasil (2014) criticize the rapid implementation of distance education without clear quality parameters, highlighting that the model may contribute to technically oriented and employability-focused training, but one that is insufficient in ethical, political, and humanistic dimensions. The modality, when linked to inclusion policies, may end up perpetuating social inequalities by reinforcing a technicist and decontextualized form of education that is disconnected from broader social and cultural demands. The university campus, understood as a social space for dialogue and exchange of experiences, is essential for the holistic formation of students, going beyond technical purposes—an aspect that the philosophy of distance education sometimes neglects (Giolo, 2010).

The role of the tutor in distance education is also questioned, especially within the Open University of Brazil (UAB) model, where the idea that "tutors are not supposed to teach" is criticized, and tutoring is described as "informal service provision" (Segenreich, 2009). Some distance education institutions have more than 500 students per instructor, an indicator of low quality (Dourado; Moraes; Siqueira, 2024). Pinto (2004) emphasizes that regulatory frameworks were intended to promote social inclusion, but this expansion occurred without strengthening adequate teacher education, resulting in the precarization of professional qualification.

Veloso and Moreira (2023) warn that regulatory changes may deepen inequalities if they are not accompanied by support policies and adequate teacher training. Menezes and Silva (2022) point out that the rapid transition to emergency remote teaching revealed the insufficiency of specific training programs for the use of Information and Communication Technologies (ICTs). Giolo (2010) shows that the public–private dichotomy is not limited to institutional ownership, but also permeates conceptions of access, quality, and the social responsibility of higher education.

Bizarria et al. (2024) highlight challenges related to intercultural management and the internationalization of higher education, emphasizing that the expansion of distance education must consider cultural aspects and international contexts in order to ensure educational quality. The synthesis of findings indicates that, despite the democratizing potential of distance higher education in Brazil, structural challenges persist related to quality, teacher education, social inclusion, and the sustainability of the system.

Quadro 10 - Desafios e Críticas Estruturais à EaD

Dimension	Identified Problems	Structural Consequences	Key Authors
Commodification and Financialization	• Transformation of education into a commodity • Public funding of the private sector • Formation of educational oligopolies • Logic of capital accumulation	• Subordination of education as a right • Precarization of educational quality • Subordination to financial interests • Reproduction of social inequalities	Sguissardi (2015); Dourado et al. (2024)
Dropout and Systemic Causes	• Exogenous causes: lack of time, personal conditions, family context • Endogenous causes: academic difficulties, inadequate course management • Problems with platforms and student support systems	• Low efficiency of the educational system • Waste of public resources • Perpetuation of educational exclusion • Questioning of inclusive effectiveness	Oliveira, Bezerra and Torres (2021)
Precarization of Teaching Work	• Tutoring as "informal service provision" • More than 500 students per instructor • Lack of specific training for distance education • "Teaching underclass" in tutoring systems	• Compromised pedagogical quality • Deterioration of working conditions • Inadequate student training • Devaluation of the teaching profession	Segenreich (2009); Pinto (2004); Dourado et al. (2024)
Technical vs. Humanistic Education	• Prioritization of technical and employability-oriented training • Insufficiency in ethical and political dimensions • Decontextualization of social demands • Loss of the "university campus" as a formative space	• Fragmented human formation • Reproduction of educational technicism • Impoverishment of the university experience • Limitation of critical development	Rotta et al. (2014); Giolo (2010)
Regulatory and International Challenges	• Regulatory changes without adequate support structures • Insufficient teacher training and capacity-building • Challenges of intercultural management • Complexity of internationalization	• Deepening of inequalities • Inadequacy to local contexts • Difficulties in international integration • Weaknesses in policy implementation	Veloso and Moreira (2023); Bizarria et al. (2024)

Source: Authors (2025).

Table 10 reveals the systemic nature of the challenges permeating distance education in Brazilian higher education, showing that the identified problems go beyond technical or operational issues to constitute structural limitations that compromise the educational project as a whole.

Commodification and financialization of education emerge as central processes that subordinate educational objectives to the logic of capital, resulting in the transformation of education from a social right into a commodity, with consequent deterioration of quality and reproduction of inequalities.

Dropout rates, far from being an isolated problem, reflect systemic inadequacies that expose the fragility of the current expansionist model, while the precarization of teaching work fundamentally undermines pedagogical quality by creating a "professional underclass" without adequate working conditions. Particularly concerning is the tension between technical and humanistic education, which suggests a weakening of the university experience and a limitation of students' critical development.

Regulatory and international challenges point to the need for more sophisticated policies that take into account both local and global contexts, highlighting that the expansion of distance education, without deep structural reforms, may deepen the very educational inequalities it seeks to address. This demands systemic transformations that go beyond isolated adjustments and encompass a fundamental reconceptualization of the role of higher education in Brazilian society.

4. CONCLUSIONS

This systematic review sought to answer the theoretical question: *"What does the literature say about democratization, quality, and teacher education in distance education in the Brazilian context, considering regulatory frameworks and their implications for educational inclusion?"* To this end, a rigorous protocol of research stages and literature analysis was developed based on scientific articles published in the Scientific Electronic Library Online (SciELO) and Web of Science Core Collection databases, using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol, as proposed by Hong and Pluye (2018).

The analysis identified five thematic axes that converge toward a complex and paradoxical overview of distance education in Brazilian higher education. The first axis, Expansion and Massification, evidenced exponential growth in enrollments from 1,682 in 2000 to 369,766 in 2007, characterized by the predominance of the private sector and concentration in a limited number of fields of knowledge, revealing a tension between genuine democratization and "commodified massification" that may compromise the quality of the education provided.

The second axis, Quality and Regulation, demonstrated systemic weaknesses in evaluation and control mechanisms, especially following post-2016 regulatory flexibilization, identifying inadequacies in specific teacher training for distance education and a disconnect between documented pedagogical principles and their effective practical implementation.

The third axis, Inclusion and Equity, revealed the central paradox of distance education as an instrument of democratization, since, despite its potential to include populations with geographic and socioeconomic constraints, it may simultaneously perpetuate inequalities through processes of "exclusionary inclusion," characterized by "empty certification" that does not ensure effective insertion into the labor market.

The fourth axis, Digital Technologies and Innovation, demonstrated significant advances in the integration of tools such as cloud computing, virtual learning environments, and artificial intelligence, intensified by the COVID-19 pandemic. However, it identified a concerning gap in the involvement of the field of Education in the development of these solutions, with only 6% of research on AI in distance education originating from the education field, compared to 56% from Computer Science.

The fifth axis, Structural Challenges and Critiques, revealed the systemic nature of the problems permeating Brazilian distance education, extending beyond technical issues to constitute structural limitations related to the commodification and financialization of education, the precarization of teaching work, and the impoverishment of the university experience through the prioritization of technical training over ethical, political, and humanistic dimensions.

The integrative analysis of the five axes demonstrates that distance education in Brazil stands at a critical crossroads between its democratizing potential for expanding access to higher education and the predominance of market-driven logics that compromise educational quality. The literature converges on three fundamental structural tensions: democratization versus commodification, in which the inclusive potential is constantly threatened by the subordination of educational objectives to economic interests; expansion versus quality, characterized by accelerated enrollment growth without proportional investment in infrastructure, teacher training, and evaluation mechanisms; and technological innovation versus pedagogical grounding, evidenced by the development of advanced digital tools disconnected from critical educational reflection on their formative impacts.

The findings suggest the need for a reformulation of public policies for distance education, including the strengthening of regulatory frameworks focused on educational quality beyond mere quantitative expansion; substantial investment in specific teacher training, including technological and methodological competencies; development of effective evaluation mechanisms that consider the specificities of the modality; implementation of student retention policies that go beyond access and include pedagogical, technological, and socioeconomic support; and promotion of greater integration between Education and Technology fields in the development of pedagogically grounded innovative solutions.

Study Limitations

This systematic review presents limitations related to the temporal concentration of the analyzed sources and the scarcity of empirical studies addressing more recent regulatory frameworks, particularly Decree No. 12.456/2025.

A critical convergence was identified between research gaps in the specialized literature and systemic limitations within the Brazilian state apparatus for educational data. The statistical panel of the National Higher Education Census (INEP) presents an informational structure incompatible with the analytical demands generated by the new regulatory framework, exhibiting obsolescence particularly in the absence of disaggregation by educational modality in key datasets.

This informational limitation prevents the development of longitudinal studies on the long-term impacts of distance education public policies, especially regarding graduate employability and professional performance.

The absence of a mandatory tripartite categorization (face-to-face / distance education / blended learning) in the Higher Education Census renders specific modalities invisible and undermines social accountability regarding the quality of Brazilian higher education.

Additionally, the asymmetrical distribution of research on artificial intelligence applied to distance education across technical fields results in technologically sophisticated but pedagogically fragile solutions, while the absence of studies on differentiated regional impacts represents a critical structural gap, given the regional inequalities in the distribution of distance education centers across the country.

Future Perspectives and International Comparisons

International literature offers relevant experiences for the Brazilian context. The United Kingdom's Quality Assurance Agency for Higher Education establishes specific standards for distance education that emphasize quality equivalence between face-to-face and virtual modalities, providing detailed guidelines for evaluation and monitoring (Quality Assurance Agency for Higher Education, 2015).

Moore and Kearsley (2013) highlight North American regulatory models that prioritize institutional flexibility combined with rigorous accountability systems, while Peters (2003) documents European experiences of technological integration that maintain pedagogical centrality in specific teacher training for distance education.

Drawing on Brazilian methodologies for diagnosis, monitoring, and evaluation of social programs (Jannuzzi, 2005), it is recommended that longitudinal indicator systems for distance education be developed. Such systems should include not only quantitative access data but also qualitative metrics on student retention, learning outcomes, and professional insertion.

Mill's (2012) critical perspective on virtual teaching suggests the need for ethnographic research that investigates the real working conditions of distance education faculty, moving beyond normative analyses to understand actual practices. Following the tradition of Brazil's National System for the Evaluation of Higher Education (SINAES) (Polidori; Marinho-Araujo; Barreyro, 2006), the development of specific evaluation instruments for distance education is proposed, taking into account its pedagogical and organizational particularities.

Future research should prioritize longitudinal studies on the impacts of regulatory policies on the quality and equity of distance education, international comparative analyses to identify best practices adaptable to the Brazilian context, investigations into the effectiveness of blended learning models across different fields of knowledge, and critical evaluations of the ethical implications of integrating artificial intelligence into education.

The implementation of mandatory tripartite categorization in the Higher Education Census, more detailed reporting on teaching staff in distance education, the creation of a formal professional category for pedagogical mediators, and the development of monitoring systems for in-person assessments represent an essential agenda of transparency and democratic oversight for the improvement of the Brazilian higher education system.

Distance education (EaD) in Brazil constitutes an arena of dispute between distinct educational projects: one oriented toward the effective democratization of knowledge as a social right, and another driven by the commodification of education as a consumer good.

The future of the modality will depend on the capacity to strengthen the former project through consistent public policies that prioritize educational quality and the comprehensive formation of students, overcoming the structural limitations identified in the literature without losing sight of the democratizing potential that justifies its existence and expansion.

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APPENDIX A – SYSTEMATIC LITERATURE REVIEW READING GRID

Nº	Database	Year	Article Title	Authors	Inclusion/Exclusion Justification	Include/Exclude
1	SCIELO	2023	Promoción de la inclusión y la equidad en la Educación Superior: ¿Es este el papel de la Educación a Distancia en Brasil?	Mello, Sidney L. M.; Meiriño, Marcelo J.; (...); Sampaio, Thaís N. da R.	Specifically addresses distance higher education in Brazil	**Include**
2	SCIELO	2009	ProUni e UAB como estratégias de EAD na expansão do ensino superior	Segenreich, Stella Cecília Duarte	Discusses EAD strategies in higher education	**Include**
3	SCIELO	2022	Plan Nacional de Educación Brasileño: Mecanismo de democratización del acceso a la educación superior	Alves, Higo Gabriel Santos and Noleto, Sylvana de Oliveira Bernardi	Addresses democratization of access to Brazilian higher education	**Include**
4	SCIELO	2010	Educação a distância: tensões entre o público e o privado	Giolo, Jaime	Directly addresses distance education in higher education	**Include**
5	SCIELO	2007	Acesso, expansão e eqüidade na educação superior: novos desafios para a política educacional brasileira	Neves, Clarissa Eckert Baeta; Raizer, Leandro and Fachinetto, Rochele Fellini	Addresses policies for access to Brazilian higher education	**Include**
6	SCIELO	2024	EDUCACIÓN SUPERIOR A DISTANCIA EN BRASIL: FLEXIBILIZACIÓN NORMATIVA, EXPANSIÓN Y PRIVATIZACIÓN	Dourado, Luiz Fernandes; Moraes, Karine Nunes de and Siqueira, Romilson Martins	Specifically focuses on distance higher education in Brazil	**Include**
7	SCIELO	2015	Educação Superior no Brasil. Democratização ou massificação mercantil?	Sguissardi, Valdemar	Analyzes the democratization of Brazilian higher education	**Include**
8	SCIELO	2014	Un análisis acerca de la educación a distancia como instrumento de políticas educacionales dirigidas a la formación de professores	Rotta, Mariza; Bezerra dos Santos, Cristiana and Baranoski Brasil, Giseli	Addresses EAD as an educational policy for teacher training	**Include**

Nº	Database	Year	Article Title	Authors	Inclusion/Exclusion Justification	Include/Exclude
9	SCIELO	2020	Formación Profesional y la Práctica Supervisada en el Servicio Social brasileño	Ghiraldelli, Reginaldo	Does not address distance higher education	**Exclude**
10	SCIELO	2019	Sistemas de Educação Superior e a Cobrança de Taxas Acadêmicas: Perspectivas e Percepções no Brasil, Canadá e China	Costa, Danilo de Melo; Barbosa, Francisco Vidal; (...); Trilokekar, Roopa Desai	Does not specifically focus on distance education	**Exclude**
11	SCIELO	2012	Políticas públicas de ações afirmativas para ingresso na educação superior se justificam no Brasil?	Haas, Celia Maria and Linhares, Milton	Discusses policies for access to higher education in Brazil	**Include**
12	SCIELO	2004	O acesso à educação superior no Brasil	Pinto, José Marcelino de Rezende	Addresses access to higher education in the Brazilian context	**Include**
13	SCIELO	2024	Formación para el Sistema Brasileño de Salud (SUS) en la residencia en área profesional de salud: análisis de los efectos de la política en un contexto estadual	Santos, Juliana Siqueira and Santos Neto, Pedro Miguel dos	Focuses on a specific health field without relation to distance education	**Exclude**
14	SCIELO	2014	Modelos de acceso abierto en educación y ciencia	Cabrera-Peña, Karen Isabel	Lacks empirical foundation on distance higher education	**Exclude**
15	SCIELO	2023	LAS TRAYECTORIAS DE LOS ESTUDIANTES DE CUOTA PARA EL INGRESO A UNA UNIVERSIDAD PÚBLICA BRASILEÑA	Manzan, Júlia Scalon; Oliveira, Marina Cardoso de and Melo-Silva, Lucy Leal	Addresses student trajectories in Brazilian higher education	**Include**
16	SCIELO	2023	SALUD MENTAL EN LA UNIVERSIDAD: ACCIONES E INTERVENCIONES DIRECCIONADA A LOS ESTUDIANTES	GOMES, LUCÉLIA MARIA LIMA DA SILVA; LEITÃO, HELIANE DE ALMEIDA LINS; (...); ZANOTTI, SUSANE VASCONCELOS	Does not address distance education	**Exclude**
17	WEB OF SCIENCE	2022	ARTIFICIAL INTELLIGENCE IN DISTANCE EDUCATION: A SYSTEMATIC LITERATURE REVIEW OF BRAZILIAN STUDIES	Durso, SD and Arruda, EP	Systematic review on AI in distance education in Brazil	**Include**

Nº	Database	Year	Article Title	Authors	Inclusion/Exclusion Justification	Include/Exclude
18	WEB OF SCIENCE	2024	From flexibility to adaptive learning: a pre-COVID-19 perspective on distance education in Latin America	Miralrio, A; Muñoz-Villota, J and Camacho-Zuñiga, C	Addresses distance education in Latin America	Include
19	WEB OF SCIENCE	2024	Analyzing trends in online learning in higher education in the BRICS countries through bibliometric data	Masalimova, AR; Orekhovskaya, NA; (...); Chauzova, VA	Analyzes online learning in higher education in BRICS countries	Include
20	WEB OF SCIENCE	2023	Hybrid Education as a historical trend: analysis of the Brazilian and Portuguese realities	Veloso, BG; Mill, D and Moreira, JÁ	Addresses blended education in Brazil and Portugal	Include
21	WEB OF SCIENCE	2021	Systematic Literature Review: the evasion causes in undergraduate distance courses	Oliveira, Caroline Victória Silva Barbosa de; Bezerra, Diogo Henrique Duarte and Torres, Glauce Viana de Souza	Review on dropout in distance higher education courses	Include
22	WEB OF SCIENCE	2022	CHANGES IN HIGHER EDUCATION FROM THE PANDEMIC SCENARIO: A BIBLIOGRAPHICAL REVIEW	Passos, LDD; de Magalhaes, MR and Coelho, PMF	Changes in higher education during the pandemic	Exclude Not located
23	WEB OF SCIENCE	2023	Digital Tools Used in Face-to-face Higher Education: A Systematic Review	Polonia, ADC; Miotto, AI and Suyo-Vega, JA	Digital tools in face-to-face higher education	Include
24	WEB OF SCIENCE	2024	Interdisciplinary practices in the health education in the distance learning scenario: integrative review	Cavalcante, ED and Gonzalez, RH	Interdisciplinary practices in distance health education	Exclude Not located
25	WEB OF SCIENCE	2017	Active methodologies applied to distance education: literature review	Fonseca, SM and Neto, JAM	Active learning methodologies applied to distance education	Include
26	WEB OF SCIENCE	2024	CLOUD TOOLS IN HIGHER EDUCATION: LITERATURE REVIEW	Carvalho, DS; Fernandes-Sobrinho, M and de Castro, PA	Cloud-based tools in higher education	Include
27	WEB OF SCIENCE	2022	Emergency remote education in higher education institutions and adopted technologies: an integrative review	de Menezes, E and da Silva, ASR	Emergency remote teaching in higher e ducation institutions	Include
28	WEB OF SCIENCE	2024	Text mining applied to distance higher education: A systematic literature review	Takaki, P and Dutra, ML	Text mining applied to distance higher education	Include

Nº	Database	Year	Article Title	Authors	Inclusion/Exclusion Justification	Include/Exclude
29	WEB OF SCIENCE	2024	Narratives on the curricularization of cross cultural management and contributions to the internationalization of higher education	Bizarria, FPD; Moreira, MZ; (...); Santos, GC	Contributions to internationalization of higher education	**Include**
30	WEB OF SCIENCE	2023	PEDAGOGICAL MEDIATION IN FLIPPED LEARNING: A SYSTEMATIC REVIEW OF A PRE-COVID-19 PANDEMIC CONTEXT	de Oliveira, AA and Silva, YFD	Pedagogical mediation in flipped learning	**Include**
31	WEB OF SCIENCE	2023	Emerging Themes and Hybrid Education Program for basic Education: educational actions in the context of emergency remote education	Schneider, DD; da Encarnacao, RO; (...); Mueller, L	Focuses exclusively on basic education	**Exclude**
32	WEB OF SCIENCE	2022	Use of WhatsApp in Dental Education: a Scoping Review	Martins, JCS; de Lima, JB; (...); Sette-de-Souza, PH	Use of digital technology in dental higher education	**Include**
33	WEB OF SCIENCE	2025	A New Proposal for Inquiry Activity Using a Low-Cost Remote Acid-Base Titration	Cachichi, RC; Aviles, IEC; (...); Galembeck, E	Specific chemistry methodology with no direct relation to distance education	**Exclude**
34	WEB OF SCIENCE	2022	Educational policies in response to the pandemic caused by the COVID-19 virus in Latin America: An integrative documentary	Suyo-Vega, JA; Meneses-La-Riva, ME; (...); Miotto, AI	Educational policies during the pandemic in Latin America	**Include**
35	WEB OF SCIENCE	2022	Instruction strategies for drug calculation skills: A systematic review of the literature	Dutra, SVO; Kumar, K y Clochesy, JM	Specific nursing field without addressing distance higher education	**Exclude**
36	WEB OF SCIENCE	2018	A Guide for Planning and Implementing Successful Mental Health Educational Programs	Blanco-Vieira, T; Ramos, FAD; (...); do Rosário, MC	Lacks empirical foundation on distance higher education	**Exclude**

Source: Authors (2025).