

THE TEACHER AS A MEDIATOR OF DIGITAL INFORMATION: ESSENTIAL COMPETENCIES FOR THE 21ST CENTURY

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Abstract

This study analyzes the role of teachers as mediators of digital information and identifies the competencies required for teaching in the twenty-first century. It is a bibliographic study with a qualitative, exploratory, and descriptive approach, structured as a narrative review using thematic analysis. The final corpus comprised 12 academic publications, regulatory documents, and institutional frameworks published between 2017 and 2026, as well as a work published in 2011, which was retained because of its foundational relevance to the integration of technology and curriculum. The analysis was organized into four categories: digital competence and pedagogical integration; curation, media literacy, and the fight against misinformation; ethics, digital citizenship, and artificial intelligence; and teacher education, infrastructure, and inequalities in access. The results demonstrate that digital mediation is not limited to the technical mastery of tools, as it also involves selecting and contextualizing content,

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assessing the credibility of sources, guiding the ethical use of technologies, protecting data, and organizing learning experiences that promote authorship, critical thinking, and autonomy. Limitations related to initial and continuing teacher education, school infrastructure, and differences in access to and appropriation of technologies were also identified. It is concluded that strengthening teachers' digital competencies depends on the articulation between professional development, institutional conditions, and educational policies capable of supporting critical, inclusive, and socially responsible practices.

Keywords: Digital culture, Information mediation, Media literacy, Teacher education, Teachers' digital competence.

INTRODUCTION

Contemporary society is characterized by profound technological transformations that have redefined forms of communication, knowledge production, social interaction, and access to information. The expansion of the Internet, social media, digital platforms, and, more recently, artificial intelligence has significantly broadened opportunities for learning and social participation. Conversely, this context has intensified challenges related to information overload, misinformation, privacy, and the need to develop competencies for critically evaluating content circulating in digital environments.

In this context, the role of the teacher has also been redefined. Although teaching has historically been associated with the transmission of knowledge, the widespread availability of information has shifted the teacher's function toward mediating learning processes. Students access content on different platforms even before entering the classroom, requiring teachers to possess the competencies needed to guide the selection, interpretation, contextualization, and critical use of information. Digital information mediation has therefore become an essential dimension of contemporary pedagogical practice.

The relevance of this debate is heightened by the increasing circulation of fake news, manipulated content, and information produced without verification criteria. These phenomena reinforce the need to develop media and information literacy practices aimed at promoting critical thinking and civic

participation. At the same time, the incorporation of digital technologies into Brazilian educational policies, particularly through the Brazilian National Common Core Curriculum (Base Nacional Comum Curricular, or BNCC) (Brasil, 2018) and the National Digital Education Policy (Política Nacional de Educação Digital) (Brasil, 2023), demonstrates that teacher education must encompass competencies related to the pedagogical, critical, ethical, and responsible use of technologies.

Moreover, the rapid expansion of artificial intelligence introduces new challenges to teaching, requiring teachers to understand not only the pedagogical potential of these tools, but also issues concerning authorship, information reliability, data protection, transparency, and the ethical implications arising from their use in educational processes. In view of this context, the following guiding question is proposed: what competencies are required for teachers to effectively perform the role of mediators of digital information in the 21st century?

The general objective of this study is to analyze the role of teachers as mediators of digital information and identify the competencies required for teaching in contemporary society. Specifically, it seeks to understand the concept of digital information mediation; examine frameworks addressing teachers' digital competence; discuss issues related to information curation, media literacy, citizenship, and digital ethics; and analyze challenges associated with professional education, infrastructure, and inequalities in access to technologies.

The relevance of this research lies in the need to understand how digital transformation redefines teaching practices and expands the responsibilities assigned to teachers. By systematizing national and international frameworks on teachers' digital competencies, the study aims to contribute to strengthening pedagogical practices capable of promoting critical thinking, intellectual autonomy, and civic participation in a society increasingly shaped by digital information.

THEORETICAL FRAMEWORK

The integration of digital technologies into education should not be understood as the mere incorporation of tools into everyday school life, but as a process of reorganizing pedagogical practices and forms of knowledge production. From this perspective, Almeida and Valente (2011) argue that technology and curriculum must constitute inseparable dimensions of educational planning, linking inquiry, authorship, problem-solving, and the collaborative construction of knowledge. This approach shifts the focus away from the technological resource itself and toward the pedagogical intentionality guiding its use, assigning teachers a decisive role in mediating learning.

Moreira and Schlemmer (2020) broaden this understanding by proposing the concept of onlife digital education, grounded in overcoming the dichotomy between physical and digital environments. According to the authors, contemporary educational experiences take place in hybrid ecosystems in which different spaces, languages, and technologies are continuously interconnected. From this perspective, the use of technologies ceases to be merely instrumental and instead requires methodologies capable of fostering interaction, collaboration, authorship, problem-solving, and students' active participation. These frameworks therefore converge in recognizing that the quality of digital education depends less on the availability of technological resources than on the pedagogical ability to integrate them into educational objectives.

This paradigm shift is supported by the concept of teachers' digital competence. According to Redecker (2017), the European Framework for the Digital Competence of Educators (DigCompEdu) organizes this competence into six areas and 22 interrelated competencies, ranging from professional engagement to the development of students' digital competencies. The model demonstrates that operational mastery of technology is only one dimension of teachers' competence, which also encompasses lesson planning, assessment, accessibility, professional collaboration, and critical reflection on the educational use of technology. Digital competence is therefore understood as an integrated set of knowledge, skills, and attitudes essential to addressing the demands of contemporary education.

In the Brazilian context, Araripe and Lins (2020) reinforce this conception by arguing that initial teacher education should provide practical experiences in integrating technologies into teaching and learning processes, thereby moving beyond models focused exclusively on technical training. The authors emphasize that competencies related to digital security, ethics, critical information analysis, collaboration, inclusion, and professional development must constitute structural elements of teacher education.

Consistent with this perspective, the Framework of Teachers' Digital Knowledge (Referencial de Saberes Digitais Docentes) (Brasil, 2024) systematizes the knowledge and practices required for pedagogical planning, assessment, instructional mediation, and the responsible use of digital technologies. Although developed in different contexts, both frameworks converge in recognizing that the development of digital competence depends on the integration of pedagogical knowledge, technological proficiency, and critical reflection on the social, cultural, and ethical implications of digital culture.

Digital information mediation is intrinsically related to the development of media and information literacy, understood as an indispensable condition for educating citizens who are capable of critically interpreting the information flows characteristic of digital society. According to UNESCO (2021a), this perspective extends beyond access to information and encompasses competencies for locating, selecting, evaluating, producing, and sharing content ethically, critically, and in a socially responsible manner. Under this conception, teachers and students no longer occupy merely passive positions as consumers of information, but instead assume active roles in constructing knowledge, developing the ability to recognize interests, identify evidence, analyze representations, and understand the contexts in which messages are produced.

In the school environment, these competencies can be developed through practices that encourage comparisons among different sources, verification of evidence, analysis of authorship, identification of persuasive strategies, and critical examination of the processes through which information circulates. Rather than merely teaching students to identify fake news, media literacy seeks to foster a critical understanding of how information ecosystems operate, recognizing that digital platforms, search engines,

and social media use algorithms that influence content visibility and may contribute to the formation of information bubbles. In this regard, teacher mediation plays a strategic role by promoting inquiry and reflection processes that enable students to develop their own criteria for interpreting information and making evidence-based decisions.

In the Brazilian context, this perspective is supported by the Brazilian National Common Core Curriculum, which includes digital culture among the general competencies of Basic Education and calls for the critical, meaningful, reflective, and ethical use of digital technologies (Brasil, 2018). In addition, the National Digital Education Policy broadens this understanding by establishing guidelines addressing digital literacy, content production, communication, security, problem-solving, and digital inclusion (Brasil, 2023). National and international frameworks therefore converge in recognizing that education for digital citizenship is not limited to technical mastery of technology, but instead requires the development of cognitive, ethical, and social competencies that enable responsible participation in digital environments.

This understanding becomes even more relevant in light of the expansion of artificial intelligence and the increasing automation of content production and dissemination. In addition to traditional concerns involving privacy, copyright, security, and interaction in digital environments, new challenges have emerged in relation to algorithmic bias, system transparency, the explainability of automated decisions, and the reliability of information generated by generative artificial intelligence tools. In response to this context, UNESCO (2024) proposes an international competency framework for teachers based on five complementary dimensions: a human-centered mindset, ethics of artificial intelligence, artificial intelligence foundations and applications, artificial intelligence pedagogy, and artificial intelligence for professional learning. This framework demonstrates that incorporating artificial intelligence into education should strengthen, rather than replace, teachers' professional judgment while preserving intellectual autonomy and the central role of pedagogical practice.

However, the development of these competencies does not occur independently of actual working conditions. The experience of emergency remote teaching demonstrated that merely providing equipment and connectivity does not guarantee innovative or high-quality pedagogical practices. Arruda (2020) shows that the difficulties faced during the pandemic resulted from a combination of structural inequalities, inadequate technological infrastructure, and limitations in teacher education. Similar findings are reported in the 2024 ICT in Education Survey (Pesquisa TIC Educação 2024), which identifies significant differences among Brazilian schools in terms of Internet access, equipment availability, teacher education, and the pedagogical appropriation of technologies (Brazilian Internet Steering Committee, 2025). These findings demonstrate that strengthening digital competence depends both on professional development and on public policies capable of ensuring appropriate institutional conditions for integrating technologies into educational processes.

From this perspective, teacher education must be understood as an ongoing, collaborative, and context-sensitive process capable of keeping pace with rapid technological and social transformations. The report *Reimagining Our Futures Together* reinforces that strengthening the teaching profession is essential to addressing the challenges of contemporary education, advocating the appreciation of collective work, professional autonomy, and education as a public good (UNESCO, 2021b). In conjunction with the frameworks discussed above, this understanding supports the conclusion that teachers' digital competence results from the integration of pedagogical knowledge, curricular expertise, digital culture, ethical reflection, and the ability to adapt to technological change. Digital information mediation is thus consolidated as a complex competence whose effectiveness depends simultaneously on teacher education, institutional conditions, and educational policies committed to critical, inclusive, and socially responsible education.

METHODOLOGY

This study is characterized as basic research adopting a qualitative approach and pursuing exploratory-descriptive objectives. Regarding its technical procedures, bibliographic and documentary research was conducted in the form of a narrative review using thematic analysis. This methodological strategy proved appropriate because it enabled the integration of scientific studies, regulatory documents, and institutional frameworks, allowing the different dimensions of digital information mediation in educational contexts to be understood interpretively.

The bibliographic search was completed in July 2026 and encompassed databases and repositories recognized for their academic and institutional relevance, including the Ministry of Education (MEC), the Federal Government Legislation Portal, UNESCO, the European Commission's Joint Research Centre, the Center for Innovation in Brazilian Education (Centro de Inovação para a Educação Brasileira, or CIEB), Cetic.br, Revista UFG, and EmRede. The search strategy used descriptors in Portuguese and English, both separately and in combination, including: *mediação da informação digital*, *competência digital docente*, *educação midiática*, *desinformação*, *cidadania digital*, *formação de professores*, *digital competence of educators*, *media and information literacy* and *AI competency framework for teachers*.

Inclusion and exclusion criteria were established to ensure the consistency of the documentary corpus. Publications were included when they were directly related to the research problem, had identifiable authorship or institutional responsibility, provided access to the full text, were relevant to the defined analytical categories, and had preferably been published between 2017 and 2026. As an exception, the work by Almeida and Valente (2011) was retained because of its recognized theoretical contribution to understanding the integration of digital technologies and curriculum. Duplicate documents, news reports, opinion pieces lacking scientific grounding, materials without identifiable authorship or responsible institutions, and publications focusing exclusively on the technical operation of technologies without addressing their pedagogical dimension were excluded.

The sources were selected in three successive stages. First, titles and bibliographic information were reviewed to determine their relevance to the topic under investigation. In the second stage, abstracts, institutional presentations, and publication objectives were analyzed. Finally, the documents considered relevant to the study's objectives were read in full. At the end of this process, the analytical corpus consisted of 12 publications considered central to the investigation, as presented in Table 1. As this was a narrative review, the objective was not to exhaust all available scientific literature, but to select references capable of supporting a critical and integrated analysis of the topic.

To systematize the analysis, an analytical form was created for each selected document, covering the following elements: bibliographic reference, type of publication, research problem, conception of teachers' digital competence, responsibilities assigned to teachers, identified challenges, and contributions to media literacy and digital citizenship. Comparing these forms made it possible to identify convergences, complementarities, and specific features among empirical studies, international frameworks, regulatory documents, and national studies, thereby supporting an integrated interpretation of the literature.

The thematic analysis was organized into four previously defined analytical categories: **(a)** teachers' digital competence and pedagogical integration; **(b)** curation, media literacy, and the fight against misinformation; **(c)** ethics, digital citizenship, and artificial intelligence; and **(d)** teacher education, infrastructure, and inequalities in access. These categories guided the interpretation of the data and the discussion of the results, making it possible to relate the theoretical frameworks to the actual conditions of Brazilian education and identify convergences and gaps in the literature.

Table 1*Documentary corpus used in the analysis*

Source	Type	Central focus	Contribution to the analysis
Almeida and Valente (2011)	Book	Integration of technology and curriculum	Provides a foundation for pedagogical mediation and the alignment of digital information and communication technologies with curricular objectives.
Redecker (2017)	European framework	Educators' digital competence	Organizes areas and competencies related to professional practice, resources, teaching, assessment, and students.
Brasil (2018)	Regulatory document	Digital culture in Basic Education	Establishes the critical, meaningful, reflective, and ethical use of technology as a general competence.
Arruda (2020)	Scholarly article	Emergency remote teaching	Reveals weaknesses in infrastructure, access, and teacher preparation in digital contexts.
Araripe and Lins (2020)	Technical study	Digital competencies in initial teacher education	Advocates practical, ethical, critical, inclusive education integrated into the curricula of teacher education programs.
Moreira and Schlemmer (2020)	Scholarly article	Onlife digital education	Challenges the instrumental use of platforms and emphasizes the integration of physical and digital environments.
UNESCO (2021a)	Curriculum and competency framework	Media and information literacy	Provides guidance on source analysis, combating misinformation, responsible production, and civic participation.
UNESCO (2021b)	International report	Futures of education	Values the teaching profession, cooperation, and education as a public good and collective commitment.
Brasil (2023)	Federal legislation	National Digital Education Policy	Establishes guidelines for inclusion, literacy, capacity-building, and digital education in schools.
Brasil (2024)	National framework	Teachers' digital knowledge	Systematizes pedagogical, professional, ethical, and inclusive knowledge for the use of technology.
UNESCO (2024)	International framework	Teachers' competencies in artificial intelligence	Integrates a human-centered perspective, ethics, artificial intelligence foundations, pedagogy, and professional learning.
CGI.br (2025)	National survey	Use of technology in Brazilian schools	Presents evidence concerning access, infrastructure, professional education, and the pedagogical appropriation of technology.

Source: Prepared by the authors (2026).

Because this was bibliographic and documentary research conducted exclusively using publicly available documents and without the direct participation of human subjects, submission to a Research Ethics Committee was not required, in accordance with applicable Brazilian regulations. The principles of research integrity were observed throughout all stages of the investigation through the proper identification of the sources consulted, verification of bibliographic information, and use of documents from recognized institutions and journals.

RESULTS AND DISCUSSION

DIGITAL COMPETENCE AND PEDAGOGICAL INTEGRATION

The analysis of the corpus reveals a consensus among the examined frameworks that teachers' digital competence cannot be reduced to operational mastery of technology. The studies converge in indicating that pedagogical mediation is the element that gives digital resources educational meaning, shifting the focus away from the use of tools and toward the instructional intentionality guiding their incorporation into the curriculum.

In this regard, Almeida and Valente (2011) argue that the integration of technology and curriculum should foster processes of inquiry, authorship, and knowledge construction, while Moreira and Schlemmer (2020) broaden this understanding by asserting that digital education takes place in hybrid ecosystems in which face-to-face and digital practices are continuously interconnected. Although grounded in different frameworks, both works converge in rejecting models centered on the mere digitization of traditional teaching practices, emphasizing that pedagogical innovation depends on reorganizing learning strategies and promoting student agency.

This understanding is also reflected in the digital competency frameworks analyzed. DigCompEdu (Redecker, 2017) and the Framework of Teachers' Digital Knowledge (Brasil, 2024) present structures organized into different dimensions encompassing pedagogical planning, assessment, resource selection, inclusion, collaboration, professional development, and the ethical use of technology. Despite the specific

features of each document, there is a high degree of convergence regarding the multidimensional nature of teachers' digital competence, demonstrating that its development requires the integration of technological, pedagogical, and curricular knowledge.

Another recurring aspect of the literature concerns the need to move beyond exclusively instrumental models of teacher education. Araripe and Lins (2020) argue that initial teacher education should provide practical experiences in integrating technology into teaching and learning processes, allowing future teachers to develop competencies related to problem-solving, critical reflection, inclusion, and digital ethics. This perspective is corroborated by both national and international frameworks, indicating that professional development must be continuous, context-sensitive, and aligned with the actual demands of teaching practice.

The findings support the conclusion that technical mastery remains necessary but is insufficient for effective digital mediation. Teachers' competence is demonstrated through their ability to critically select resources, align them with curricular objectives, consider student characteristics, ensure accessibility, promote active participation, and use technology ethically and responsibly. The literature analyzed thus rejects technicist conceptions of educational innovation and reinforces the understanding that the quality of pedagogical practices depends primarily on teachers' ability to transform digital resources into meaningful learning experiences.

This convergence among national studies, international frameworks, and regulatory documents demonstrates that teachers' digital competence should be understood as an ongoing process of professional development sustained by the integration of education, critical reflection, and pedagogical intentionality. This finding reinforces the conclusion that the digital transformation of education does not result from the mere incorporation of new technologies, but from the institutional and professional capacity to integrate them critically, inclusively, and in pedagogically meaningful ways.

CURATION, MEDIA LITERACY, AND THE FIGHT AGAINST MISINFORMATION

The analysis of the literature reveals that information curation constitutes one of the most relevant competencies for teacher mediation in digital culture. The examined frameworks converge in indicating that the contemporary educational challenge lies not in a scarcity of information, but in the ability to select, interpret, validate, and contextualize content produced in digital environments characterized by speed, information overload, and the increasing circulation of misinformation. In this context, teachers' role shifts from transmitting content to developing criteria that enable students to critically assess the quality and reliability of the information they access.

This understanding is strongly supported by UNESCO's Media and Information Literacy Curriculum (2021a), which defines media literacy as a set of competencies related to locating, evaluating, interpreting, producing, and responsibly sharing information. However, the analysis of the sources demonstrates that these competencies extend beyond technical verification procedures and also involve understanding the interests, representations, and discursive strategies present in digital communication. Practices such as analyzing authorship, identifying evidence, comparing sources, recognizing the context of production, and evaluating communicative purposes thus become structural components of critical learning.

Another recurring aspect concerns the functioning of digital information ecosystems. The studies analyzed indicate that digital platforms, social media, and search engines organize the circulation of information through algorithms and commercial criteria that users often do not understand. This dynamic influences content visibility, contributes to the formation of information bubbles, and increases exposure to partial or decontextualized information. The literature therefore indicates that teacher mediation should foster an understanding of these processes, encouraging students to question not only whether information is truthful, but also the mechanisms responsible for its circulation and dissemination.

Brazilian regulatory documents reinforce this perspective by incorporating media literacy as an ongoing dimension of school education. The Brazilian National Common Core Curriculum establishes

that technology should be used critically, meaningfully, reflectively, and ethically (Brasil, 2018), while the National Digital Education Policy broadens this understanding by including digital literacy, communication, content production, security, and problem-solving among the structural pillars of school-based digital education (Brasil, 2023). In addition, the Framework of Teachers' Digital Knowledge (Brasil, 2024) assigns teachers the responsibility of selecting reliable resources, providing guidance on safe practices, and promoting the ethical use of digital information.

A comparison of these documents reveals a high degree of convergence regarding the understanding that combating misinformation should not be an isolated action or one restricted to specific situations within the curriculum. Instead, the frameworks analyzed advocate its incorporation as a cross-cutting competence integrated into different fields of knowledge and everyday pedagogical practices. This perspective broadens the concept of media literacy, shifting it away from the mere identification of fake news and toward educating individuals who are capable of researching, interpreting, arguing, and participating critically in digital environments.

The findings therefore support the conclusion that information curation represents a strategic competence for teaching in the 21st century. Rather than merely teaching students how to locate content, teachers assume responsibility for guiding continuous processes of critical analysis, evidence selection, argument construction, and ethical information use. Digital information mediation thus strengthens not only school learning, but also the education of citizens capable of acting autonomously, responsibly, and critically in a society increasingly structured by digital information flows.

ETHICS, DIGITAL CITIZENSHIP, AND ARTIFICIAL INTELLIGENCE

The analysis of the corpus demonstrates that ethics and digital citizenship are inseparable dimensions of teachers' digital competence. The frameworks analyzed converge in recognizing that the educational use of technology extends beyond operational matters and involves responsibilities related to data protection, copyright, privacy, interaction in digital environments, and the critical exercise of

citizenship. In this context, teacher mediation plays a strategic role in promoting reflection on the social, cultural, and legal impacts arising from the use of digital technologies in educational processes.

In the Brazilian context, the Brazilian National Common Core Curriculum calls for students to use digital technologies critically, meaningfully, reflectively, and ethically (Brasil, 2018), while the National Digital Education Policy incorporates security, digital literacy, and the conscious use of technology as structural pillars of public educational policies (Brasil, 2023). In line with these guidelines, the Framework of Teachers' Digital Knowledge (Brasil, 2024) broadens the understanding of digital competence by including issues related to ethical responsibility, data protection, inclusion, and evidence-based decision-making in pedagogical planning. Brazilian documents therefore converge in assigning teachers responsibility for educating students who are capable of participating critically and responsibly in digital culture.

The rapid expansion of artificial intelligence significantly increases these demands. The AI Competency Framework for Teachers (UNESCO, 2024) proposes a set of competencies organized into five dimensions: a human-centered mindset, ethics of artificial intelligence, artificial intelligence foundations and applications, artificial intelligence pedagogy, and artificial intelligence for professional learning. This organization demonstrates that incorporating artificial intelligence into education must preserve teacher autonomy, transparency, accountability, and human agency. The document emphasizes that the pedagogical potential of these technologies depends on teachers' ability to understand their limitations, recognize potential algorithmic biases, and use their outputs critically and contextually.

This perspective is reinforced by recent studies from the Organisation for Economic Co-operation and Development (OECD), which argue that artificial intelligence literacy should develop the knowledge, skills, and attitudes required to understand how intelligent systems operate, critically evaluate their outputs, and use them ethically and responsibly (OECD, 2023). According to this framework, the development of artificial intelligence competence is not intended to replace human cognitive processes,

but to strengthen capabilities such as critical thinking, problem-solving, creativity, and evidence-based decision-making.

In addition, the OECD Digital Education Outlook emphasizes that integrating artificial intelligence into education systems requires policies ensuring algorithmic transparency, data protection, equity, human oversight, and the continuous professional development of teachers (OECD, 2023). The report stresses that automated decisions cannot replace pedagogical judgment because educational processes involve ethical, affective, and contextual dimensions that extend beyond the capabilities of computational systems.

A comparison of these frameworks reveals broad convergence around the understanding that artificial intelligence should be regarded as a resource supporting teachers' work rather than as a substitute for pedagogical mediation. The literature analyzed demonstrates that outputs generated by artificial intelligence systems must be continually verified, compared with reliable sources, and contextualized within students' realities. Moreover, it is essential to discuss authorship, information reliability, the use of personal data, model biases, and the social implications arising from the use of these technologies.

The findings therefore support the conclusion that teachers remain the primary reference for developing ethical criteria governing the use of artificial intelligence. Their role extends beyond teaching students how to use digital tools and consists of developing students' competencies to critically analyze automated content, evaluate evidence, recognize technological limitations, and understand that knowledge production remains a human, collaborative, and socially situated process. Ethics, digital citizenship, and artificial intelligence thus constitute complementary dimensions of the same teaching competence, whose effectiveness depends on the integration of professional education, critical reflection, and a commitment to democratic, inclusive, and socially responsible education.

TEACHER EDUCATION, INFRASTRUCTURE, AND INEQUALITIES

The analysis of the literature demonstrates that the development of teachers' digital competence does not depend exclusively on teachers' individual efforts, but on the coordination of education, institutional conditions, and public policies aimed at the digital transformation of education. The studies examined converge in showing that the pedagogical integration of technology requires ongoing investment in infrastructure, connectivity, professional development, and educational management, rejecting the assumption that innovation results solely from acquiring equipment or making digital platforms available.

The experience of emergency remote teaching during the COVID-19 pandemic made these limitations particularly evident. Arruda (2020) demonstrates that the rapid reorganization of pedagogical practices exposed inequalities in access to technology, teacher education, and working conditions, revealing structural weaknesses within education systems. The findings analyzed indicate that the incorporation of digital technologies depended significantly more on institutions' capacity to provide pedagogical and technical support than on teachers' individual initiative.

This evidence is corroborated by data from the 2024 ICT in Education Survey, which reveal substantial differences among Brazilian schools in terms of Internet connection quality, equipment availability, access to digital resources, and opportunities for continuing education (Brazilian Internet Steering Committee, 2025). The survey demonstrates that digital inequality remains a limiting factor in implementing innovative pedagogical practices, producing different effects across education systems, regions, and socioeconomic contexts. The literature analyzed therefore reinforces the conclusion that teachers' digital competence must be understood in close relation to the objective working conditions provided by educational institutions.

In the field of professional education, there is broad convergence among national and international frameworks. Araripe and Lins (2020) argue that initial teacher education should incorporate technology across the curriculum, providing preservice teachers with practical experience in planning, content

production, active methodologies, collaboration, and the critical analysis of digital resources. Similarly, the Framework of Teachers' Digital Knowledge (Brasil, 2024) proposes continuous professional development pathways aligned with the actual needs of pedagogical practice, moving beyond isolated training models or those focused exclusively on learning the operational use of tools.

This perspective is also reinforced by UNESCO (2021b), which argues that strengthening the teaching profession is indispensable to addressing the challenges posed by technological and social transformations. The report *Reimagining Our Futures Together* emphasizes that valuing teachers' work depends on building collaborative environments, ensuring professional autonomy, sharing experiences, and consolidating education as a public good. Similarly, the OECD Digital Education Outlook emphasizes that sustainable digital transformation policies require simultaneous investment in infrastructure, governance, professional development, and the continuous monitoring of pedagogical practices, thereby preventing responsibility for innovation from being placed exclusively on teachers (OECD, 2023).

The findings also demonstrate that consolidating digital mediation depends on building an institutional culture that supports pedagogical innovation. The literature shows that schools that promote collective planning, in-service education, exchanges of experience among teachers, and the establishment of protocols for the ethical use of technology tend to demonstrate a greater capacity to incorporate digital resources critically and consistently. The development of digital competencies thus ceases to be understood as an individual responsibility and becomes part of the institution's pedagogical plan.

In view of this context, the analysis supports the conclusion that teacher education policies disconnected from actual conditions of infrastructure, connectivity, technical support, and educational management have limited reach. Teachers' digital competence results from the interaction of professional development, institutional conditions, and public policies committed to reducing educational inequalities. The digital transformation of education therefore requires a systemic approach in which education,

infrastructure, pedagogical leadership, and the professional recognition of teachers constitute inseparable dimensions for promoting inclusive, critical, and socially responsible educational practices.

SYNTHESIS OF THE REQUIRED COMPETENCIES

A comparison of the sources makes it possible to identify five groups of competencies required of teachers who mediate digital information. The first encompasses pedagogical competencies, such as planning, selecting resources, assessing learning, and promoting authorship. The second comprises information and media competencies related to searching for, verifying, and contextualizing sources. The third corresponds to ethical and civic competencies, including privacy, security, copyright, and respectful interaction. The fourth encompasses critical competencies for understanding platforms, algorithms, and artificial intelligence. The fifth involves continuous professional development and collaboration. This synthesis results from the convergence among Redecker (2017), UNESCO (2021a; 2024), and Brasil (2024).

The findings also demonstrate that these competencies are interdependent. Content curation, for example, requires information competence, curricular knowledge, and ethical responsibility. The use of artificial intelligence requires a basic technical understanding, critical evaluation, and pedagogical clarity. Digital inclusion depends on accessible resources, knowledge of students' needs, and appropriate institutional conditions. The literature analyzed thus rejects any conception of digital competence based solely on operational ability (Almeida; Valente, 2011; Araripe; Lins, 2020; Moreira; Schlemmer, 2020).

In summary, teachers occupy a strategic position in the information society because they help students transform disparate content into knowledge that has been analyzed, contextualized, and used in a socially responsible manner. The mediating role does not seek to control the entire flow of information, an impossible task given the speed of digital networks, but to develop criteria that enable students to learn how to research, compare, argue, produce, and participate consciously. This role is aligned with the

guidelines of the BNCC, the National Digital Education Policy, and international frameworks on teachers' competence (Brasil, 2018; Brasil, 2023; UNESCO, 2024).

CONCLUSION

This research has shown that the teacher's role as a mediator of digital information constitutes a strategic dimension of contemporary teaching in view of the transformations brought about by digital culture and the increasing incorporation of artificial intelligence into educational processes. Broader access to information does not diminish the importance of teacher mediation. On the contrary, it reinforces the need for professionals who are capable of guiding the selection, interpretation, validation, contextualization, and ethical production of knowledge in increasingly complex digital environments.

The analysis of the literature demonstrated that teachers' digital competence extends beyond the instrumental mastery of technology and constitutes an integrated set of pedagogical, information, media, communication, ethical, and critical competencies. The national and international frameworks analyzed converge in recognizing that the educational use of technology must be subordinate to pedagogical objectives, inclusion, digital citizenship, the critical evaluation of information, and the development of students' intellectual autonomy.

The findings also demonstrated that strengthening these competencies depends on ongoing initial and continuing teacher education aligned with teachers' actual working conditions. Factors such as technological infrastructure, connectivity, technical support, planning time, school management, and public policies for professional development proved decisive in ensuring that the digital transformation of education occurs equitably and with pedagogical consistency, thereby preventing structural inequalities from compromising learning opportunities.

Regarding artificial intelligence, the literature analyzed indicates that its incorporation into educational contexts expands the possibilities for pedagogical innovation, but also requires greater attention to issues concerning authorship, transparency, privacy, data protection, algorithmic bias, and the

reliability of generated information. In this context, teacher mediation remains indispensable for contextualizing the use of these technologies, developing critical thinking, and ensuring that pedagogical decisions continue to be grounded in ethical principles and the centrality of human agency.

As a scientific contribution, this study systematizes and integrates national and international frameworks on teachers' digital competence, media literacy, digital citizenship, and artificial intelligence, demonstrating the complementarity among these fields and proposing a broader understanding of digital information mediation as a complex pedagogical competence. This synthesis provides a theoretical foundation for future research and may guide teacher education processes, the development of educational policies, and pedagogical practices aimed at critical and inclusive digital education.

A limitation of this study is its adoption of a narrative review based on a previously delimited documentary corpus, which does not encompass all available scientific literature on the topic. Future studies should conduct systematic reviews and empirical research involving different educational contexts, focusing particularly on the development of teachers' digital competencies, information curation practices, media literacy, and the effects of artificial intelligence on teaching and learning processes.

The study therefore concludes that strengthening teachers' digital competencies is indispensable to consolidating an education capable of promoting critical thinking, intellectual autonomy, civic participation, and the ethical use of technology. In a society characterized by an abundance of information and the increasing automation of knowledge production, teachers remain essential agents in transforming information into knowledge, technology into learning, and innovation into human and social development.

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