

DIGITAL RESOURCES IN THE EDUCATIONAL POLICIES OF THE STATE OF MATO GROSSO (2021–2025)



Pedro Henrique dos S. G. Carneiro

Universidade Federal de Mato Grosso (UFMT), Cuiabá, Mato Grosso, Brasil
phphfilho@gmail.com



Marijane Silveira da Silva

Universidade Federal de Mato Grosso (UFMT), Cuiabá, Mato Grosso, Brasil
mjanesilva@gmail.com



Silvio Vieira de Souza Filho

Universidade Federal de Mato Grosso (UFMT), Cuiabá, Mato Grosso, Brasil
silviovieirah@gmail.com



Fátima Maria Pontes Pires

Universidade Federal de Mato Grosso (UFMT), Cuiabá, Mato Grosso, Brasil
fmpp93@gmail.com



Rodrigo Severo Ribeiro

Universidade Federal de Mato Grosso (UFMT), Cuiabá, Mato Grosso, Brasil
rodrigoseverodev@gmail.com

Abstract: This article analyzes how digital resources are conceived and incorporated into the educational policies of the State of Mato Grosso in the period from 2021 to 2025. This is a qualitative study of an exploratory-descriptive nature, based on bibliographic and documentary references. The results show that the investments made do not guarantee the pedagogical use of the technologies, requiring articulation between technological infrastructure and teacher education.

Keywords: Digital resources; Teacher education; Mato Grosso.

RECURSOS DIGITAIS NAS POLÍTICAS EDUCACIONAIS DO ESTADO DE MATO GROSSO (2021–2025)

Resumo: O artigo analisa como os recursos digitais são concebidos e incorporados nas políticas educacionais do estado de Mato Grosso, no período de 2021 a 2025. É uma pesquisa qualitativa, de caráter exploratório-descritivo, com base em referencial bibliográfico e documental. Os resultados mostram que os investimentos realizados não garantem o uso pedagógico das tecnologias, exigindo uma articulação entre infraestrutura tecnológica e formação docente.

Palavras-chave: Recursos digitais; Formação docente; Mato Grosso.

RECURSOS DIGITALES EN LAS POLÍTICAS EDUCATIVAS DEL ESTADO DE MATO GROSSO (2021–2025)

Resumen: El artículo analiza cómo se conciben e incorporan los recursos digitales en las políticas educativas del estado de Mato Grosso, Brasil, durante el período de 2021 a 2025. Se trata de una investigación cualitativa, de carácter exploratorio-descriptivo, basada en fuentes bibliográficas y documentales. Los resultados muestran que las inversiones realizadas no garantizan el uso pedagógico de las tecnologías, lo que exige una articulación entre la infraestructura tecnológica y la formación docente.

Palabras clave: Recursos digitales; Formación docente; Mato Grosso.

Received on: 2026/05/07

Accepted on: 2026/09/10



1 INTRODUCTION

The transformations arising from the expansion of digital information and communication technologies have deeply reconfigured the forms of knowledge production, social interaction, and organization of contemporary institutions. According to Castells (2020), the emergence of the network society inaugurates a new logic of social, economic, and cultural organization, characterized by the centrality of information, connectivity, and digital flows, modifying the relations between individuals, organizations, and the State.

In the same direction, Lévy (2010) understands cyberculture as the expression of a new sociotechnical paradigm, in which knowledge comes to be constructed in a distributed, collaborative, and dynamic manner. According to the author, the collective intelligence enhanced by digital environments redefines the modes of access to information and of knowledge construction, imposing challenges on educational institutions traditionally organized under models centered on the transmission of knowledge. In this scenario, the school ceases to be the only legitimized space for the production and circulation of knowledge, requiring new forms of pedagogical mediation and curricular organization.

As a result, Moran (2014), among other researchers, argues that educational innovation does not stem exclusively from the incorporation of equipment or digital platforms, but from the capacity to reorganize pedagogical practices, methodologies, and learning processes centered on students agency. Similarly, Almeida (2011) emphasizes that the integration of digital technologies into the curriculum demands changes in the conceptions of teaching, learning, and teacher training, overcoming instrumentalist perspectives that reduce technology to a mere resource of didactic support.

In Brazil, educational systems were challenged to reorganize their pedagogical practices through digital technologies following the COVID-19 pandemic. In this process, the experience of remote teaching highlighted both the potentialities and the inequalities related to access to technologies, connectivity, and teacher preparation for the development of digitally mediated pedagogical practices. Thus, different public policies began to incorporate guidelines aimed at digital education, pedagogical innovation, and the strengthening of teacher education, reaffirming the role of the State in promoting structural and formative conditions for the integration of technologies into basic education.



Within the scope of the state of Mato Grosso, between 2021 and 2025, there is the implementation of programs, regulations, and actions aimed at expanding the use of digital resources and strengthening the continuing education of education professionals. These initiatives are part of a broader movement of modernization of educational management and alignment with national digital transformation policies.

Although Brazilian literature has produced important studies on digital technologies, educational innovation, and teacher education, there is a relative scarcity of research that analyzes, from a documentary perspective, how these elements are articulated in state educational policies, especially in the context of Mato Grosso. This gap justifies the undertaking of this study, since the analysis of public policies allows us to understand how certain discourses, conceptions, and strategies guide the implementation of actions aimed at the digital transformation of public education.

Given this scenario, the present study seeks to answer the following question: how are digital resources conceived and incorporated into the educational policies of the state of Mato Grosso between 2021 and 2025? To this end, we seek to achieve the following general objective: to analyze the conceptions, guidelines, and strategies related to the insertion of digital resources into the educational policies of the state of Mato Grosso, within the defined period.

Methodologically, this is a qualitative study of an exploratory and descriptive nature, developed through bibliographic and documentary research. The bibliographic research aimed to provide a foundation for the analyses, drawing on national and international scientific production on public educational policies, digital culture, digital technologies in education, and teacher education, consulted in Google Scholar, the Catalog of Theses and Dissertations of Capes, and the Brazilian Digital Library of Theses and Dissertations (BDTD). Academic works published predominantly between 2021 and 2025 were selected, related to the use of educational technologies in the context of Mato Grosso, while the documentary research encompassed normative and guiding documents, both state and federal, published or in force during the period, related to digital resources, pedagogical innovation, and teacher education.

As shown in Box 1 below, the data was organized into the following fields: Database (Research Site), Descriptor, Type of work, Title, Authors, Year, Objective, Main Results, and Access Link.

Box 1 - Search and selection of academic works by database and descriptor

Base de Dados	Descritor	Resultado total de trabalhos acadêmicos encontrados	Trabalhos acadêmicos incorporados à pesquisa
Google Acadêmico	Chromebook; educação; Seduc; Mato Grosso	Aproximadamente 65	21
Catálogo de Teses e Dissertações CAPES	recursos digitais na educação; Mato Grosso	28	8
Catálogo de Teses e Dissertações CAPES	Chromebook	3	1
Catálogo de Teses e Dissertações CAPES	educação digital; Mato Grosso	81	5
https://bdtd.ibict.br/	Educação Digital; Mato Grosso	1.021	5
Google Acadêmico	Educação Digital; Mato Grosso	Aproximadamente 55.000	6
Google Acadêmico	Tecnologia na sala de aula; Mato Grosso	Aproximadamente 51.800	3

Source: produced by the authors based on the researched database (2025).

The constitution of the documentary corpus considered normative and guiding documents produced by the state of Mato Grosso and the Federal Government, published or in force in the period from 2021 to 2025, which present guidelines related to digital resources, pedagogical innovation, and teacher education. The selection of documents is based on their relevance for understanding how state educational policies incorporate digital transformation in the context of public education. Although some documents were elaborated in years prior to the temporal scope of the research, they remain in force and constitute structuring references of the policies implemented between 2021 and 2025, justifying their inclusion in the corpus of analysis.

Box 2, below, presents a synthesis with the description of the corpus to facilitate the visualization of the analyzed documents.

Box 2 - Synthesis with the description of the corpus (2021-2025)

Documento	Ano	Natureza	Aspectos analisados
Plano Estadual de Educação de MT	2021-2026	Lei nº 11.422, de 14 de junho de 2021.	Metas de formação docente, tecnologias educacionais e inovação
Documento de Referência Curricular de MT – Etapa Ensino Médio ¹	2021	Documento curricular	Cultura digital, competências digitais e práticas pedagógicas. Normativas sobre ensino híbrido. Uso pedagógico das tecnologias e organização do ensino.

Source: elaborated by the authors (2026).

Subsequently, we dedicated ourselves to reading in full and analyzing the documents selected in Box 2, for which we wove the reflections found in the analysis section, whose focus turns to thinking about the digital resources provided for in the State policies.

Complementarily, the documentary research constitutes the main procedure for collecting empirical data, having as its corpus official documents produced by the federal and state governments. According to Cellard (2008), documentary analysis makes it possible to understand the contexts of production, the institutional objectives, and the meanings present in the documents, constituting an important methodological strategy for studies in public policies and education. The documents are analyzed based on thematic categories constructed from the theoretical framework, seeking to identify conceptions, strategies, and priorities present in state educational policies.

The temporal scope comprises the period from 2021 to 2025, as it corresponds to the consolidation of educational policies and programs intensified in the post-COVID-19 pandemic context, marked by the expansion of the use of digital technologies, the implementation of teaching strategies mediated by technologies, and the redefinition of continuing teacher education actions.

The research corpus is composed of official documents published within this scope, including: the State Education Plan of Mato Grosso; the Curricular Reference Document for Mato Grosso (DRC/MT); normative documents of the State Department of Education of Mato Grosso (Seduc-MT); Programs and projects for continuing education focused on digital technologies; ordinances, resolutions, normative instructions, and guidelines concerning digital education; national documents

¹ Only the Curricular Reference Document of MT for the High School Stage was included in the corpus, since, according to the national policy (Brazil, 2018), it is at this stage that digital culture gains greater prominence. Regarding this document, it is worth consulting the article by researchers Terezio, Fonseca, and Casagrande (2025), which addresses hybrid education in the state public school system of Mato Grosso through the aforementioned document.

that guide the policy of digital education and teacher education when they directly dialogue with state actions.

The documents were organized, cataloged, and submitted to documentary analysis, with a view to identifying the elements related to teacher education policies for the use of digital resources. The interpretation was guided by the theoretical framework and by analytical categories defined beforehand, allowing the establishment of approximations between the documents and the specialized literature. The categories of analysis focus on: digital resources (platforms, virtual environments, educational technologies, digital objects).

Regarding its structure, this article is organized into four sections. In addition to this introductory section, the second section discusses the theoretical foundations that articulate digital culture, digital resources, and public policies for digital education, establishing the analytical categories that guide the investigation. The third presents and analyzes the documents that compose the corpus of this research, examining the conceptions of digital resources in the educational policies of Mato Grosso in the period from 2021 to 2025 and weaving some considerations about the results of the investigation, with emphasis on some possibilities and the challenges to teacher education required in the face of the issues presented, the contributions to the field of educational policies, and the perspectives for future studies. The fourth section presents the final considerations.

2 DIGITAL CULTURE, DIGITAL RESOURCES, AND PUBLIC POLICIES FOR DIGITAL EDUCATION

The profound social transformations resulting from the development of Digital Information and Communication Technologies (DICTs) have reconfigured the ways of producing, accessing, and sharing knowledge, significantly influencing educational processes. We will discuss these aspects in this section.

2.1 Digital culture, resources, and policies at the national level

The expansion of connectivity, mobility, and digital networks characterizes a new social paradigm in which information circulates in a decentralized manner and in real time, modifying the relations between individuals, institutions, and knowledge. In this context, understanding contemporary education requires recognizing that the processes of teaching and learning are

embedded in a society marked by digital culture, whose dynamics challenge traditional models of school organization and knowledge construction.

The understanding of this scenario is supported by the contributions of Manuel Castells (2020) when he affirms that contemporary society is structured around networks of information and communication, configuring what the author calls the network society. According to Castells (2020), digital technologies are not merely technical instruments but also constitute the infrastructure on which economic, political, cultural, and educational relations are reorganized. From this perspective, knowledge becomes one of the main social assets, being continuously produced, shared, and re-signified through digital networks. Thus, the school ceases to occupy the exclusive position of producer and transmitter of knowledge, coming to integrate a broader informational ecosystem, in which multiple subjects and different spaces participate in the construction of learning.

In dialogue with this perspective, Pierre Lévy (2010) argues that digital culture expresses a new sociocultural configuration sustained by interactivity, collaboration, and collective intelligence. According to the author, cyberculture is characterized by the expansion of the possibilities of communication and by the democratization of access to knowledge production, allowing individuals to cease occupying only the condition of consumers of information and to assume also the role of producers and sharers of content. The concept of collective intelligence proposed by Lévy (2010) shows that knowledge comes to be constructed in a distributed manner among different actors connected in a network, strengthening collaborative learning practices and expanding the possibilities of participation in educational processes.

This perspective represents a rupture with pedagogical models centered on the unilateral transmission of knowledge, shifting the focus to learning processes based on interaction, collaboration, and problem-solving. In this sense, digital culture is not limited to the technical mastery of digital tools; it also implies changes in the ways of thinking, communicating, teaching, and learning, producing new demands for educational institutions and for teacher education.

When discussing the implications of these transformations for education, Moran (2014) highlights that digital technologies expand the possibilities of pedagogical innovation by favoring more flexible, collaborative methodologies centered on students' active learning. According to the author, the presence of technologies in schools only produces significant changes when articulated with new pedagogical conceptions that value autonomy, inquiry, authorship, and student agency. Thus, educational innovation does not stem only from the simple incorporation of technological

equipment but also from the reorganization of teaching and learning processes in line with the potentialities offered by digital environments.

This understanding is also shared by Almeida (2011) when she affirms that the integration of digital technologies into the curriculum requires overcoming instrumentalist approaches that restrict technological resources to the role of teaching support. According to the author, the effective incorporation of technologies depends on their articulation with educational objectives, pedagogical practices, and teacher professional development, allowing teachers and students to act as active subjects in the construction of knowledge. From this perspective, digital technologies cease to be peripheral elements and come to constitute structuring components of curricular organization and educational practices.

In the field of educational policies, this discussion takes on new contours as digital resources come to integrate government programs aimed at innovation and the digital transformation of education. Virtual learning platforms, collaborative environments, digital libraries, open educational resources, digital learning objects, applications based on artificial intelligence, and educational management systems represent examples of digital resources that expand the possibilities of pedagogical mediation.

In this regard, contemporary authors such as Kenski (2012) reinforce this understanding by arguing that digital technologies do not only modify the resources used in education but also transform the very ways of teaching, learning, and producing knowledge. According to the author, pedagogical practices developed in digital culture require new modes of curricular organization, greater methodological flexibility, and permanent development of teaching competencies to act in increasingly hybrid and connected educational environments.

More recently, Selwyn (2022) warns that the incorporation of digital technologies into education must be analyzed critically, avoiding deterministic perspectives that attribute to technologies, by themselves, the capacity to promote educational improvements. According to the author, digital technologies constitute social and political artifacts, whose effects depend on institutional conditions, public policies, pedagogical practices, and the inequalities of access existing in each context.

In the face of a society marked by digital culture, characterized by the growing incorporation of digital technologies into the processes of communication, production, access, and sharing of information, Brazilian public educational policies have sought to promote the integration of these

technologies into the school environment, with a view to improving the quality of education and developing the digital competencies of students and teachers.

When analyzing the trajectory of public policies for digital inclusion in Brazil, it can be observed that, since the late 1990s, the federal government began to structure initiatives aimed at expanding access to Information and Communication Technologies (ICTs), recognizing their potential for social, economic, and educational development. As highlighted by Souza and Tamanini (2019), the concept of digital inclusion gained strength internationally during the 1990s, as a result of the implementation of programs linked to the Information Society (SocInfo), driven by the growing dissemination of ICTs and the popularization of the internet.

In the Brazilian context, initiatives aimed at the insertion of technologies into education were implemented gradually, following the technological advances and educational demands of each period, as shown in Box 3 below.

Box 3 – Institutional actions aimed at the insertion of technologies into education (1997-2025)

Programa/Projeto/Política	Documento de criação	Finalidade
Programa Nacional de Informática na Educação (ProInfo)	Portaria nº 522, de 1997	Promover a incorporação das tecnologias digitais na rede pública de educação, por meio da implantação de laboratórios de informática, criação dos Núcleos de Tecnologia Educacional (NTE) nos estados e formação de professores para o uso pedagógico das tecnologias.
Programa Sociedade da Informação (SocInfo)	Decreto nº 3.294, de 15 de dezembro de 1999	Fomentar a inclusão digital e a modernização tecnológica do país, estabelecendo uma estratégia nacional para o desenvolvimento da sociedade da informação.
Livro Verde da Sociedade da Informação	Publicado em 2000 pelo Ministério da Ciência e Tecnologia	Sistematizar diretrizes para o desenvolvimento da infraestrutura tecnológica, a produção de conhecimento e a democratização do acesso às tecnologias digitais.
Programa de Inclusão Digital	Lei nº 11.196/2005 e Decreto nº 5.602/2005	Integrar e coordenar ações relacionadas à Política Nacional de Inclusão Digital (PNID), ampliando o acesso às tecnologias, reduzindo custos de equipamentos e fortalecendo a capacitação da população.
Projeto Cidadão Conectado – Computador para Todos	Decreto nº 5.542/2005	Facilitar a aquisição de computadores por famílias de baixa renda, mediante incentivos fiscais e linhas de crédito subsidiadas.
Projeto Um Computador por Aluno (UCA)	Decreto nº 6.300/2007	Promover o acesso individual de estudantes às tecnologias digitais, utilizando-as como estratégia de inovação pedagógica.

Projeto Computador Portátil para Professores	Decreto nº 6.504/2008	Ampliar o acesso dos professores da educação básica às tecnologias digitais, contribuindo para sua utilização nos processos de ensino e aprendizagem.
Comitê Gestor do Programa de Inclusão Digital	Decreto nº 6.948/2009	Fortalecer a articulação entre diferentes órgãos governamentais e ampliar a efetividade das políticas públicas de inclusão digital.
Plano Nacional de Banda Larga (PNBL)	Decreto nº 7.175/2010	Expandir a oferta de internet em banda larga, ampliar a infraestrutura de telecomunicações e reduzir os custos de acesso à internet.
Marco Civil da Internet	Lei nº 12.965/2014	Estabelecer princípios, direitos e garantias para o uso da internet no Brasil, incluindo liberdade de expressão, privacidade, proteção de dados e neutralidade da rede.
Programa de Inovação Educação Conectada (PIEC)	Lei nº 14.180, de 1º de julho de 2021	Promover a universalização do acesso à internet em alta velocidade e fomentar o uso pedagógico de tecnologias digitais na educação básica.
Política Nacional de Educação Digital (PNED)	Lei nº 14.533, de 11 de janeiro de 2023	Estabelecer diretrizes para a articulação de programas, projetos e ações de educação digital, ampliando o acesso às tecnologias digitais, desenvolvendo competências digitais e fortalecendo a inovação nos sistemas educacionais.
Estratégia Nacional de Escolas Conectadas (ENEC)	Decreto nº 11.713, de 26 de setembro de 2023	Universalizar a conectividade de qualidade nas escolas públicas de educação básica, garantindo infraestrutura adequada para o uso pedagógico da internet e das tecnologias digitais.
Diretrizes para a Educação Digital na Educação Básica	Resolução CNE/CEB nº 2, de 21 de março de 2025	Estabelecer diretrizes para a implementação da educação digital na Educação Básica, orientando a integração das tecnologias digitais aos processos educacionais e ao desenvolvimento de competências digitais dos estudantes.

Source: organized by the authors (2026).

The PNED was complemented between 2023 and 2025, with strategies, guidelines, and other norms that are quite relevant and that have contributed to the consolidation of the policy that evidences the evolution of the theme, such as: the National Connected Schools Strategy (Enec), established by Decree No. 11,713, of September 26, 2023, created to operationalize one of the main dimensions of digital transformation in basic education: guaranteeing adequate connectivity to public schools for pedagogical purposes.

The Enec organizes federal actions into four main axes: connectivity for pedagogical use; technological infrastructure; provision of devices; and education of teachers and administrators for the use of digital technologies. In addition, it articulates already existing programs, such as the Connected Education Innovation Program, seeking to integrate actions among the Union, states, and municipalities. Although created earlier (Law No. 14,180/2021), the Connected Education Innovation



Program became one of the main instruments for implementing the PNED. As of 2023, its actions began to emphasize four dimensions: 1) pedagogical vision; 2) education; 3) digital educational resources; 4) infrastructure. This reorganization demonstrates an important change: the policy ceases to concentrate efforts only on connectivity and begins to value the pedagogical integration of digital technologies.

In 2025, the National Council of Education approved Resolution CNE/CEB No. 2/2025, which establishes guidelines for the implementation of digital education in Basic Education. In that year, it also published the Digital and Media Education Guide, a document that guides education systems in the implementation of the PNED.

Together, these initiatives demonstrate that Brazilian digital inclusion policies have evolved from actions initially aimed at technological infrastructure and the democratization of access to ICTs toward more comprehensive strategies, which came to incorporate dimensions related to connectivity, teacher education, the pedagogical use of technologies, and the guarantee of digital rights. This trajectory contributed to consolidating the foundations of current digital education policies, in which technological inclusion is understood not only as access to equipment and the internet but also as a condition for social participation, educational innovation, and the construction of digital competencies in contemporary society.

2.2 Digital culture, resources, and policies at the state level

In the state of Mato Grosso, this movement gained prominence with the establishment of the Educação 10 Years Program, through Decree No. 1,497, of October 10, 2022 (Mato Grosso, 2022). The program was conceived with the objective of improving state educational policies, establishing goals and strategic actions aimed at improving educational indicators, such as the Basic Education Development Index (Ideb), literacy rates, and the reduction of school dropouts. To achieve these objectives, the program was structured around six strategic pillars, namely: educational impact; equity and diversity; technology and education; professional appreciation; management for results; and infrastructure.

Within the scope of the technology and education pillar, the Technology in the School Environment Policy was implemented, whose purpose is to enhance access to digital technologies and promote their integration into the teaching and learning process. The following projects stand out from



the aforementioned Policy: 1) smart classroom; 2) educational robotics; 3) maker education; 4) STEAM (interdisciplinary approach that integrates science, technology, engineering, arts, and mathematics); 5) prototyping laboratories; 6) pedagogical use of the metaverse; 7) provision of Chromebooks and smart TVs in classrooms; 8) expansion of school connectivity (Mato Grosso, 2022). These initiatives seek to favor student-centered teaching methodologies and provide support for the improvement of pedagogical practices.

In the context of the state public school system of Mato Grosso, another relevant initiative was the publication of Ordinance No. 244/2023/UETI/SEDUC/MT, which established the Connectivity Policy in Educational Units. Based on the technology and education pillar of the EducAção 10 Years Program, the ordinance establishes guidelines for the expansion and management of connectivity infrastructure in state schools, aiming to ensure adequate conditions for the pedagogical use of digital technologies and to support the implementation of the actions set forth by the Technology in the School Environment Policy.

As of 2024, the State Department of Education of Mato Grosso continued the implementation of the actions set forth in the Technology and Education pillar of the EducAção 10 Years Program, with emphasis on the strengthening of Educational Robotics (Mato Grosso, 2025), the broadening of the technological infrastructure of schools (Mato Grosso, 2022), and the expansion of the connectivity policy in educational units (Mato Grosso, 2023). These actions reinforce the integration of digital technologies into teaching and learning processes and demonstrate the convergence of state policy with the guidelines of the National Policy for Digital Education (Brazil, 2023).

In this scenario, understanding the role of these technologies in the curriculum is fundamental, when we defend the concept of Curriculum according to Sacristán (2000, p. 17), who conceives it as a “cultural project that is realized in educational practice.” Considering the concept proposed by the author, the integration of digital tools and innovation into everyday school life must be investigated, since it is not merely an integration, as it directly implies transformations in pedagogical practices, in the modes of organizing teaching, and in the learning experiences of students. Thus, the use of this pedagogical device must be analyzed in light of the cultural, institutional, and didactic mediations that configure everyday school life.

Within the scope of the implementation of the Technology in the School Environment Policy, the State Department of Education of Mato Grosso (Seduc-MT) develops actions aimed at the modernization of the technological infrastructure of school units, encompassing initiatives such as the

provision of Chromebooks, smart TVs, intended to support the development of pedagogical practices mediated by digital technologies (Mato Grosso, 2022). Such policies seek to broaden access to technology, promote interactivity in the teaching and learning process, and improve educational quality.

In this scenario, the society characterized by digital culture is permeated by digital technologies, and the educational field is not detached from this, since, given this conjuncture, the teaching and learning process requires new perspectives and reflections. Consequently, digital resources, such as Chromebooks, tablets, and computers, are increasingly present in educational policies as a mode of investment, and thus come to populate classrooms.

Therefore, the provision of equipment represents a necessary but not sufficient condition for effective digital inclusion, and it is also indispensable to consider teacher education, pedagogical practices, and the critical appropriation of technologies. In this sense, Valente (1999, p. 21) states that "the promotion of these pedagogical changes does not depend simply on the installation of computers in schools," evidencing that educational innovation requires transformations in pedagogical practices, in the organization of the school, and in the role played by the teacher.

Among the focuses of the policy, there are guidelines for the implementation of innovation and technology actions in order to expand learning opportunities for students and school management. The distribution of Chromebooks to students and teachers, for example, sought to bring the school community into this reality, with a focus on the integration of digital tools and innovation into everyday school life, being one of the pillars for the improvement of the Ideb in the State.

In the implementation of the aforementioned Policy, the State of Mato Grosso (Seduc-MT) made kits available to school units, considering that there was not a sufficient quantity for each classroom in all schools. These initiatives can and should be understood as a means of reflecting on contemporary education, specifically in the State of Mato Grosso. Among the infrastructure initiatives, the inclusion of mobile devices, such as Chromebooks, in the school context stands out. Nevertheless, the mere purchase of these and other technological equipment does not guarantee that they will be used in the best possible way.

These reflections assume special relevance for the analysis of Brazilian educational policies and, in particular, of the policies implemented by the State of Mato Grosso between 2021 and 2025. By examining normative documents and teacher education programs, it becomes possible to identify the extent to which the conceptions present in these policies dialogue with contemporary references



on teachers' digital competencies, professional development, and pedagogical innovation, evidencing approximations, advances, and challenges for the consolidation of digital education in the public school system.

3 DIGITAL RESOURCES IN THE EDUCATIONAL POLICIES OF MATO GROSSO: POSSIBILITIES AND CHALLENGES OF TEACHER EDUCATION

The analysis of the educational policies of Mato Grosso demonstrates the growing presence of digital technologies as resources to support teaching, learning, teacher education, and the organization of educational practices. In Law No. 11,422/2021, which approves the State Education Plan (PEE-MT), different technological resources and structures are set forth – although the legislation largely uses generic terms and does not refer to commercial brands or more recent technological concepts.

Among the resources set forth in the PEE-MT, the Virtual Learning Environments (VLEs) stand out, contemplated especially in the actions related to higher education and postgraduate studies, as well as the maintenance and expansion of digital collections of bibliographic references. The legislation also provides for the expansion of an online portal intended to support the work of teachers in Basic Education, with the free provision of supplementary didactic and pedagogical materials, in addition to the creation of an online database to support the planning of the provision of places in early childhood education. Within the scope of school infrastructure, computers connected to the internet, printers, and multimedia projectors for High School classrooms are mentioned, as well as laptops and digital whiteboards intended for the multifunctional resource rooms of special education.

Despite this provision of technological resources, the PEE-MT does not mention specific platforms or commercial brands, such as Google Workspace or Microsoft, nor does it explicitly present terms such as Digital Learning Objects (DLOs), Artificial Intelligence (AI), and Open Educational Resources (OER). The legislation focuses primarily on the expansion of technological infrastructure, internet access, the provision of equipment, and the use of technologies as support for pedagogical practices, distance education, and the professional development of educators.

The Curricular Reference Document for Mato Grosso (DRC-MT), in turn, presents a more specific and diversified approach regarding digital resources, integrating them into the development of competencies and skills across different areas of knowledge. Dynamic geometry software is mentioned, such as GeoGebra, Graphmatica, iMatemática, Cabri Geometry, Winplot, and WinMate,

as well as languages and tools aimed at the development of computational thinking, such as Scratch, SuperLogo, and Logo for Windows. Virtual simulators also appear, including PhET Colorado, virtual reality resources, tools for building concept maps, such as CmapTools and Coggle, and devices such as smartphones, tablets, calculators, and GPS.

Thus, an important difference is observed between the two documents analyzed. While the PEE-MT presents a broader perspective, focused on ensuring infrastructure, equipment, connectivity, and digital environments, the DRC-MT goes further in specifying the resources, tools, and platforms that can integrate pedagogical practices. In this way, the body of policies demonstrates a conception of educational technology that progressively moves from ensuring access to equipment and connectivity toward a perspective of pedagogical integration, with the development of digital competencies, authorship, collaboration, computational thinking, and student agency.

Given the research findings, it is possible to infer that the integration of Digital Technologies (DTs) into Basic Education in the state of Mato Grosso, although it is an imperative of contemporary society and a priority in public policies, reveals a structural gap. The analysis of recent literature on the topic indicates that the central challenge lies not only in the acquisition of equipment but, crucially, in investment equivalent to the training and continuing education of teachers.

Studies in Mato Grosso have consistently demonstrated that government efforts toward technological modernization – such as the acquisition and distribution of hardware (for example, Chromebooks) and the implementation of digital platforms – have not been accompanied by a teacher education policy of the same scale. In this sense, the dissertation by Vilas Novas (2024) emphatically concludes that the mere acquisition of equipment is not sufficient, and that investment in training is vital to ensure effective use. This position is corroborated by Almeida (2023), who points out that investments in technological infrastructure must necessarily be accompanied by continuing education.

The critique goes further when considering that technological modernization without pedagogical support becomes a burden on teachers or an underutilized resource. In this regard, the article by Ruis, Morandi, and Bisol (2023) and the dissertation by Oliveira (2022) reinforce the consensus of the scientific community: the State must invest in equipment, with equal emphasis on ongoing teacher education.

Furthermore, Vilas Novas (2024) reveals, in her article Information and Communication Technology, that the use of technological resources in the educational context was, in many cases, improvised and limited, and that the effectiveness of these resources only manifests itself when there

is technical mastery and pedagogical intentionality. Reinforcing this perspective, Dias, Souza, and Souza (2024, p. 8) highlight that the effectiveness of digital resources depends directly on the teacher's pedagogical mediation; without it, the resource may be reduced to a mere “repository of information.”

In the context of the pandemic, Almeida (2023) observed that many teachers used technologies reactively, adapting to emergency needs without structured planning. Indeed, the period came to be characterized as Emergency Remote Teaching, to mark that it was a period of emergency for containing the contamination of the virus. In this case, the recommendation was the suspension of in-person activities.

Consequently, the lack of specific mastery to deal with technological resources, conferring pedagogical use, means that technologies are “little mastered” in pedagogical practices, as reported by Ruis, Morandi, and Bisol (2023). On this matter, Jéssica Lorryne Ananias da Silva (2021), in the research entitled “Beginning and Experienced Coordinators and the Practices of Reception, Accompaniment, and Induction: Me, Them, and the Mirror,” makes it possible to understand how teacher education coordinators perform their functions in relation to the recruitment/supervision and induction of early-career teachers. Through an interview conducted with a coordinator who works in the municipal school system of Mato Grosso, Silva (2021) highlights how fundamental continuing education is for the work of educators.

Still on the need for teacher education, the neuropsychopedagogue, Master in Teaching and specialist in special and inclusive education Jefferson Batistella (2022) discusses the topic in his dissertation:

Initially, some aspects of teacher education, with the pandemic context, became more evident, just as the fragilities in the education and instrumentation of teachers to use DT and DLO were exposed, which may be associated with the education in undergraduate teaching courses offered by higher education institutions (Batistella, 2022, p. 58).

This situation, in addition to demonstrating certain difficulties in the use of digital technologies by teachers, also revealed a possible contributing factor: the need to update the curricula of initial teacher education programs, which, in some cases, may still not fully keep pace with current demands. Batistella (2022) explains (in accordance with Demo, 2011) that universities should restructure their teacher education programs, since they advocate ongoing education while their dynamics are static, and, in many cases, even develop the same teaching methods, the same lectures, and adopt the same assessment models.



This large gap in education results in an application of Digital Technologies (DTs) that falls short of their transformative potential. There is no doubt that digital technologies, as Vani Moreira Kenski (2012) argues, expand the spaces and times of learning, promoting new forms of interaction and access to information. Despite this, and in light of the documents analyzed, the absence of continuing education was demonstrated. The lack of education leads to no other end than a limited, improvised, and reactive use on the part of teachers, who, in the vast majority of cases, resort to technologies without the structured pedagogical planning necessary to extract the maximum benefit from them and, thus, contribute to an improvement in the teaching and learning process.

4 SOME CONSIDERATIONS

The investigation of the articles demonstrated that the lack of investment in structured and continuous actions for teacher education has compromised the pedagogical effectiveness of digital technologies – such as tablets, Chromebooks, laptops, and smart TVs – in the school environment. The data analyzed reveal that a large part of teachers are not prepared to fully integrate technologies into the teaching and learning process, resulting in a limited and often superficial use of the equipment. Furthermore, it was found that the physical and technical infrastructure of schools, in many cases, is not adequate to receive, store, and maintain the volume of devices acquired, leading to the underuse or even the non-use of part of these resources.

This need for articulation takes on practical contours in recent studies in the Mato Grosso scenario. Evaluating the impacts of digitalization policies in the state school system, Santos et al. (2026) confirm that the real consolidation and integration of Digital Information and Communication Technologies (DICTs) in Mato Grosso classrooms still depend directly on integrated planning capable of aligning the delivery of new devices with infrastructure support and ongoing education.

After the ongoing investigation, we assessed that the integration of DTs into Basic Education in Mato Grosso faces a challenge: the absence of adequate and ongoing teacher education. Recent literature, including studies by Vilas Novas (2024), Almeida (2023), and, mainly, Santos et al. (2026), demonstrates that investments in technological equipment, such as Chromebooks, are not sufficient on their own without the counterpart of teacher expertise, not only to operate them but also to incorporate them into their planning, so that classes can be improved.

It is necessary that investments and the integration of technologies ensure pedagogical innovation, in a real curriculum — one that is realized in practice. This depends on institutional conditions, teacher education, and pedagogical choices.

The lack of education can result in the limited and improvised use of technologies, compromising their power in the teaching and learning process. In this direction, it is demonstrated that the pandemic exacerbated this gap, forcing teachers into a reactive, emergency adaptation. Therefore, it is seen as important that public policies balance investments in infrastructure with pedagogical education, ensuring that technologies are used to their full potential and do not become mere “static repositories” or a pile of “useless equipment.”

Thus, the potential of the Chromebook is directly related to the capacity of teachers to integrate it critically and intentionally into the teaching and learning process. In this sense, the next stages of the research will support metrics to evaluate the use of Chromebooks as well as the level of digital literacy of students in schools that received the technological kits, as a way of obtaining a more complete view of the effectiveness of the policies.

In this process, the incorporation of digital technologies into everyday school life does not depend only on the provision of technological infrastructure, but also on the construction of education policies capable of favoring teacher autonomy, pedagogical innovation, and the development of competencies necessary to act in a society marked by digital culture. From this perspective, digital resources and teacher education constitute inseparable dimensions of educational policies aimed at the quality of education.

The results of this stage of the research contribute to demonstrating the urgency of integrated policies that articulate technological investment, ongoing teacher education, and improvement of school infrastructure, providing input for managers, researchers, and public policy makers to rethink strategies aimed at the effective integration of digital technologies into the educational context of Mato Grosso and into the school curriculum, resulting in didactic-pedagogical gains, which Seduc-MT itself proposes in its policy when it speaks of the need for structuring smart classrooms, of the issue of student autonomy in the smart classroom, of working with STEAM, and of makerspace education.

REFERENCES

ALMEIDA, Benivaldo Aparecido de. **Ressignificação das práticas pedagógicas dos professores dos anos iniciais, em tempos de e pós-pandemia, com utilização do letramento digital**. 2023. 126 f. Dissertação (Mestrado em Ensino) - Programa de Pós-Graduação em Ensino, Instituto Federal de Educação, Ciência e Tecnologia de Mato Grosso, Cuiabá, 2023. Available at: <http://repositorio.pgsscogna.com.br/bitstream>. Accessed on: Oct. 6, 2025.

ALMEIDA, Maria Elizabeth Bianconcini de. **Tecnologias e currículo: trajetórias convergentes ou divergentes?** São Paulo: Paulus, 2011.

BATISTELLA, Jefferson. **Objetos Digitais de Aprendizagem no Ensino de Ciências em meio a pandemia do Coronavírus: um estudo de campo com professores da Rede Estadual de Lucas do Rio Verde-MT**. 2022. 156 f. Dissertação (Mestrado em Ensino) – Instituto Federal de Educação, Ciência e Tecnologia de Mato Grosso, Cuiabá, 2022. Available at: https://sucupira-legado.capes.gov.br/sucupira/public/consultas/coleta/trabalhoConclusao/viewTrabalhoConclusao.jsf?popup=true&id_trabalho=12804070. Accessed on: Oct. 10, 2025.

BRASIL. Ministério da Educação e do Desporto. **Portaria nº 522, de 9 de abril de 1997**. Cria o Programa Nacional de Informática na Educação – ProInfo. Brasília, DF: MEC, 1997. Available at: <http://www.dominiopublico.gov.br/download/texto/me001167.pdf>. Accessed on: Jul. 24, 2025.

BRASIL. Presidência da República. **Decreto nº 3.294, de 15 de dezembro de 1999**. Institui o Programa Sociedade da Informação e dá outras providências. Brasília, DF: Presidência da República, 1999. Available at: https://www.planalto.gov.br/ccivil_03/decreto/d3294.htm. Accessed on: Jul. 24, 2026.

BRASIL. **Lei nº 11.196, de 21 de novembro de 2005**. Institui o Regime Especial de Tributação para a Plataforma de Exportação de Serviços de Tecnologia da Informação - REPES [...]; altera as Leis nos 11.196, de 21 de novembro de 2005; e dá outras providências. Brasília, DF: Presidência da República, [2005]. Available at: https://www.planalto.gov.br/ccivil_03/_ato2004-2006/2005/lei/111196.htm. Accessed on: Jul. 24, 2026.

BRASIL. Presidência da República. **Decreto nº 5.542, de 20 de setembro de 2005**. Regulamenta o Projeto Cidadão Conectado - Computador para Todos, instituído pela Medida Provisória nº 252, de 15 de junho de 2005. Brasília, DF: Presidência da República, 2005. Available at: https://www.planalto.gov.br/ccivil_03/_ato2004-2006/2005/decreto/d5542.htm. Accessed on: Jul. 24, 2026.

BRASIL. Presidência da República. **Decreto nº 6.300, de 12 de dezembro de 2007**. Dispõe sobre o Programa Nacional de Tecnologia Educacional - ProInfo. Brasília, DF: Presidência da República, 2007. Available at: https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2007/decreto/d6300.htm. Accessed on: Jul. 24, 2026.

BRASIL. Presidência da República. **Decreto nº 6.504, de 4 de julho de 2008**. Regulamenta o Projeto Computador Portátil para Professores, instituído pela Medida Provisória nº 422, de 25 de

março de 2008. Brasília, DF: Presidência da República, 2008. Available at: https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2008/decreto/d6504.htm. Accessed on: Jul. 24, 2026.

BRASIL. Presidência da República. **Decreto nº 6.948, de 25 de agosto de 2009**. Institui o Comitê Gestor do Programa de Inclusão Digital e dá outras providências. Brasília, DF: Presidência da República, 2009. Available at: https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/decreto/d6948.htm. Accessed on: Jul. 24, 2026.

BRASIL. Presidência da República. **Decreto nº 7.175, de 12 de maio de 2010**. Institui o Plano Nacional de Banda Larga - PNBL; altera o Decreto nº 4.901, de 26 de novembro de 2003, que dispõe sobre o Programa Governo Eletrônico - Serviço de Atendimento ao Cidadão - GESAC; e dá outras providências. Brasília, DF: Presidência da República, 2010. Available at: https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2010/decreto/d7175.htm. Accessed on: Jul. 24, 2026.

BRASIL. **Lei nº 12.965, de 23 de abril de 2014**. Estabelece princípios, garantias, direitos e deveres para o uso da Internet no Brasil. Brasília, DF: Presidência da República, [2014]. Available at: https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2014/lei/l12965.htm. Accessed on: Jul. 24, 2026.

BRASIL. **Lei nº 14.180, de 1º de julho de 2021**. Institui o Programa de Inovação Educação Conectada (Piec) [...]. Brasília, DF: Presidência da República, 2021. Available at: http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2021/lei/l14180.htm. Accessed on: Jul. 24, 2026.

BRASIL. **Lei nº 14.533, de 11 de janeiro de 2023**. Institui a Política Nacional de Educação Digital (PNED). Brasília, DF: Presidência da República, 2023. Available at: http://www.planalto.gov.br/ccivil_03/_ato2023-2026/2023/lei/l14533.htm. Accessed on: Jul. 24, 2026.

BRASIL. **Decreto nº 11.713, de 26 de setembro de 2023**. Institui a Estratégia Nacional de Escolas Conectadas. Brasília, DF: Presidência da República, 2023. Available at: https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2023/lei/l14533.htm. Accessed on: Jul. 24, 2026.

BRASIL. **Lei nº 14.533, de 11 de janeiro de 2023**. Institui a Política Nacional de Educação Digital. Available at: https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2023/lei/l14533.htm. Accessed on Oct. 6, 2025.

BRASIL. Conselho Nacional de Educação. Câmara de Educação Básica. **Resolução CNE/CEB nº 2, de 21 de março de 2025**. Institui as Diretrizes Operacionais Nacionais sobre o uso de dispositivos digitais em espaços escolares e integração curricular de educação digital e midiática. Brasília, DF: MEC, 2025. Available at: https://www.gov.br/mec/pt-br/cne/2025/marco/rceb002_25.pdf. Accessed on: Jul. 24, 2026.

BRASIL. Conselho Nacional de Educação. Câmara de Educação Básica. **Resolução CNE/CEB nº**

2, de 21 de março de 2025. Institui as Diretrizes Operacionais Nacionais sobre o uso de dispositivos digitais em espaços escolares e integração curricular de educação digital e midiática. Brasília, DF: MEC, 2025. Available at: https://www.gov.br/mec/pt-br/cne/2025/marco/rceb002_25.pdf. Accessed on: Jul. 24, 2026.

CASTELLS, Manuel. **A sociedade em rede**. 24. ed. São Paulo: Paz e Terra, 2020.

CELLARD, André. A análise documental. In: POUPART, Jean et al. **A pesquisa qualitativa: enfoques epistemológicos e metodológicos**. Petrópolis: Vozes, 2008. p. 295-316.

DEMO, Pedro. **Formação permanente e tecnologias educacionais**. Petrópolis: Vozes, 2011.

DIAS, Daniela; SOUZA, Elivan Oliveira Gomes de; SOUZA, Joana Batista de. Letramento Digital no Ensino de Língua Inglesa: uma análise da plataforma Mais Inglês MT. In: SEMINÁRIO DE EDUCAÇÃO (SEMIEDU), 32., 2024, Cuiabá. **Anais [...]**. Cuiabá: UFMT, 2024. Available at: <https://sol.sbc.org.br/index.php/semiedu/article/view/32692/32489>. Accessed on: Oct. 6, 2025.

KENSKI, Vani Moreira. **Educação e tecnologias: o novo ritmo da informação**. 8. ed. Campinas: Papirus, 2012.

LÉVY, Pierre. **Cibercultura**. 3. ed. São Paulo: Editora 34, 2010.

MATO GROSSO. **Documento de Referência Curricular para Mato Grosso - Etapa Ensino Médio**. Secretaria de Estado da Educação - SEDUC: Cuiabá, 2021. Available at: <https://www.gov.br/mec/pt-br/novo-ensino-medio-descontinuado/pdfs/RCSEEMT.pdf>. Accessed on: Jun. 28, 2026.

MATO GROSSO. **Lei nº 11.422, de 14 de junho de 2021**. Aprova o Plano Estadual de Educação - PEE e dá outras providências. Available at: <https://www3.seduc.mt.gov.br/documents/8125245/0/Lei+n%C2%BA+11.422+de+14+de+junho+de+2021/21a908d5-0d14-7432-7933-77a51bb98de2>. Accessed on: Jun. 28, 2026.

MATO GROSSO. **Portaria nº 244/2023/UETI/SEDUC/MT**. Institui a Política de Conectividade nas Unidades Educacionais. Available at: <https://iomat.mt.gov.br/buscanova/#/p=1&q=Portaria%20244/2023/UETI/SEDUC/MT>. Página 24. Accessed on: Jul. 21, 2026.

MATO GROSSO. **Decreto nº 1.497, de 10 de outubro de 2022**. Institui o Programa Educação 10 Anos. Available at: <https://leisestaduais.com.br/mt/decreto-n-1497-2022-mato-grosso-dispoe-sobre-a-programa-educacao-10-anos-no-ambito-do-estado-de-mato-grosso>. Accessed on: Oct. 6, 2025.

MORAN, José Manuel. **A educação que desejamos: novos desafios e como chegar lá**. 5. ed. Campinas: Papirus, 2014.

OLIVEIRA, Eloisa Elena de Moura Santos. **Educação e Tecnologias digitais: um estudo sobre a percepção de professores sobre o uso das mídias digitais nas escolas do município de Inocência - MS**. 2022. 156 f. Dissertação (Mestrado em Educação) – Universidade Estadual de Mato Grosso do Sul, Paranaíba, 2022. Available at: <https://posgraduacao.uems.br/uems-sigpos/portal/trabalho->

[arquivos/download/3473](#). Accessed on: Oct. 6, 2025.

RUIS, Luciana Ledo Peres; MORANDI, Marcos; BISOL, Laísa Veroneze. Tecnologia na educação de Mato Grosso e as formações continuadas ofertadas para seu uso nas práticas pedagógicas de sala de aula. **Revista de Ciências Humanas**, Frederico Westphalen, v. 24, n. 2, p. 187-203, May/Aug. 2023. Available at: <https://revistas.fw.uri.br/revistadech/article/view/4593/pdf>. Accessed on: Oct. 6, 2025.

SACRISTÁN, José Gimeno. **O currículo: uma reflexão sobre a prática**. Porto Alegre: Artmed, 2000.

SANTOS, Kevelinn Mayara dos et al. Tecnologias digitais e ensino de geografia: impactos das políticas de digitalização escolar em uma escola pública de Mato Grosso. **Revista de Geopolítica**, [s. l.], v. 17, n. 3, e1990, 2026. Available at: <https://revistageo.com.br/revgeo/article/view/1990>. Accessed on: Jul. 13, 2026.

SELWYN, Neil. Educação e tecnologia: questões críticas. Porto Alegre: Penso, 2022.

SILVA, Jéssica Lorryne Ananias da. **Coordenadores iniciantes e experientes e as práticas de acolhimento, acompanhamento e indução: eu, eles e o espelho**. 2021. 140 f. Dissertação (Mestrado em Educação) - Universidade Federal de Mato Grosso, Instituto de Ciências Humanas e Sociais, Rondonópolis, 2021. Available at: <https://ri.ufmt.br/handle/1/3644>. Accessed on: Oct. 9, 2025.

SOUZA, Maria do Socorro; TAMANINI, Paulo Augusto. Tecnologias digitais e ensino: inclusão para além da inserção. **Nuances: estudos sobre Educação**, Presidente Prudente, v. 30, n. 1, p. 95-114, Jan./Dec. 2019. Available at: [file:///Users/marijanesilveira/Downloads/ednuances,+11.+\[PUBLICAR\]+-+6721%20\(1\).pdf](file:///Users/marijanesilveira/Downloads/ednuances,+11.+[PUBLICAR]+-+6721%20(1).pdf). Accessed on: Jul. 24, 2026.

TAKAHASHI, Tadao (org.). **Sociedade da informação no Brasil: livro verde**. Brasília, DF: Ministério da Ciência e Tecnologia, 2000. 195 p. Available at: [https://cmappublic.ihmc.us/rid=1KR7V8KR2-1ZJ657F-5T2V/BRASIL\(2000\)-livroverde.pdf](https://cmappublic.ihmc.us/rid=1KR7V8KR2-1ZJ657F-5T2V/BRASIL(2000)-livroverde.pdf). Accessed on: Jul. 24, 2026.

TEREZIO, Helen Carina Barbosa; FONSECA, Gabrielle Darc Banczek; CASAGRANDE, Ana Lara. Educação híbrida na rede estadual matogrossense: o documento de referência curricular. **EmRede**, [s. l.], v. 12, 2025. Available at: <https://www.aunirede.org.br/revista/index.php/emrede/article/view/1123/1009>. Accessed on: Jun. 27, 2026.

VALENTE, José Armando (org.). **O computador na sociedade do conhecimento**. Campinas: NIED/UNICAMP, 1999. Available at: <https://www.livrosgratis.com.br/ler-livro-online-45540/o-computador-na-sociedade-do-conhecimento>. Accessed on: Jul. 24, 2026.

VILAS NOVAS, Soraya Cunha de Almeida. **O processo de ensino remoto em ciências nas escolas da rede estadual de Mato Grosso: possibilidades e desafios**. 2024. 139 f. Dissertação



(Mestrado em Ensino de Ciências e Matemática) — Universidade do Estado de Mato Grosso, Barra do Bugres, 2024. Available at: https://portal.unemat.br/media/files/soraya_cunha_de_almeida_vilas_novas.pdf. Accessed on: Oct. 2, 2025.

This work is licensed under a
Creative Commons License

