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Open science, political economy, and disputes over knowledge in public distance education: the AVASUS ecosystem as a digital and strategic common good

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Abstract: This study analyzes public Distance Education from the perspective of political economy and critical theories, investigating the AVASUS ecosystem as a digital common good against commercial logic. The theoretical-documentary methodology is based on the analysis of transparency

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indicators (2025/2026). The results demonstrate that governance in Open Educational Resources ensures cognitive sovereignty and the democratization of knowledge. The study concludes that public infrastructures are strategic in the face of platform capitalism in Public Health.

Keywords: Public Distance Education; Open Educational Resources; Digital common good.

Ciência aberta, economia política e disputas pelo conhecimento na EaD pública: o ecossistema AVASUS como bem comum digital e estratégico

Resumo: Este estudo analisa a Educação a Distância pública sob a ótica da economia política e de teorias críticas, investigando o ecossistema AVASUS como bem comum digital contra a lógica mercantil. A metodologia teórico-documental tem como base a análise de indicadores de transparência (2025/2026). Os resultados demonstram que a governança em Recursos Educacionais Abertos assegura soberania cognitiva e democratização do conhecimento. O estudo conclui que infraestruturas públicas são estratégicas frente ao capitalismo de plataforma na Saúde Coletiva.

Palavras-chave: Educação a Distância pública; Recursos Educacionais Abertos; bem comum digital.

Ciencia abierta, economía política y disputas por el conocimiento en la EaD pública: el ecosistema AVASUS como bien común digital y estratégico

Resumen: Se analiza la Educación a Distancia pública desde la perspectiva de la economía política e teorías críticas, investigando el ecosistema AVASUS como bien común digital frente a la lógica mercantil. La metodología teórico-documental se asocia al análisis de indicadores de transparencia (2025/2026). Los resultados demuestran que la gobernanza en Recursos Educativos Abiertos asegura la soberanía cognitiva y la democratización del conocimiento. Se concluye que las infraestructuras públicas son estratégicas frente al capitalismo de plataforma en la Salud Colectiva.

Palabras clave: EaD pública; Ciencia Abierta; Bienes comunes digitales.

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INTRODUCTION

The vertiginous expansion of Distance Education (DE) in recent decades cannot be understood in isolation or in a merely instrumental manner, as if it resulted exclusively from the natural evolution of digital information and communication technologies. It is, fundamentally, a structural phenomenon intrinsically tied to the macroeconomic reconfiguration of informational capitalism and to the metamorphosis of the role of the State on the periphery of the world-system. Under the aegis of neoliberal managerialism, a profound transition is underway in which historically achieved social rights, such as education and health, are displaced from their condition as inalienable public goods to become highly profitable financial assets that are tradable on stock exchanges.

In this scenario of intensified educational commodification, technology-mediated education comes to occupy a strategic geopolitical and economic position. The aggressive advance of large private educational oligopolies has redefined the higher education ecosystem, capturing digital infrastructures to operate under the rationality of the relentless pursuit of scale, curricular standardization, and algorithmic monetization. In parallel, global discourses emerge, such as the UNESCO recommendations and reports (2019, 2021) on the new social contract for education, which coin the term "global common good." However, the coexistence of these normative formulations with the predatory expansion of platform capitalism reveals a fundamental contradiction: how can education be sustained as a human right in an environment structurally designed for value extraction and surveillance?

Faced with this contested landscape, the present work rejects technical neutrality and assumes a political-epistemological stance grounded in the political economy of information, critical theory, and decolonial perspectives. The central objective is to move beyond naive adherence to institutional discourses of Open Science in order to investigate their concrete conditions of implementation, their structural limits, and their contradictions in peripheral territories. To empirically materialize this reflection, the study takes as its object the Virtual Learning Environment of the Brazilian Unified Health System (AVASUS), a public infrastructure developed by the Laboratory for Technological Innovation in Health (LAIS/UFRN) in coordination with the Ministry of Health. The hypothesis guiding this expanded essay is that AVASUS functions as an authentic technopolitical laboratory of the commons, capable of subverting market efficiency metrics and redefining the horizons of digital and cognitive sovereignty in the training of health workers.

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1 The Trajectory of Distance Education in Brazil: from pioneering initiatives to contemporary challenges

Based on decades of consolidated research and practice in the field of Distance Education (Educação a Distância – EaD), it is imperative to contextualize the evolution of DE in Brazil to understand the nuances of the current scenario. Far from being a recent phenomenon, Brazilian DE has deep roots, dating back to correspondence courses in the twentieth century, passing through educational radio broadcasting and television, up to the emergence of Digital Information and Communication Technologies (Tecnologias Digitais de Informação e Comunicação – TDIC), which redefined its possibilities and challenges (Parra, 2019). This trajectory, marked by pioneering initiatives and adaptations, culminated in the "platformization" of education, in which technological mediation became omnipresent, though not always in the service of an emancipatory educational project.

From the perspective of DE generations, the ecosystem analyzed in this study is situated at the transition from the fifth generation (intelligent learning model) to an emerging proposal for a sixth generation, characterized by the full opening of resources and distributed governance. While previous generations focused on industrialization (Peters) and individual autonomy (Moore), the theory guiding this analysis is that of Networked Learning and Critical Connectivism, which postulates that technology is not merely a support but also a mediator of a collective cognitive sovereignty that reduces transactional distance through open collaboration.

Historically, public DE, often driven by initiatives such as the Open University of Brazil System (Sistema Universidade Aberta do Brasil – UAB), sought to democratize access to higher education and continuing education, especially in remote regions and for publics that would otherwise be excluded (Farias; Romão, 2020). However, the expansion of DE was also accompanied by a movement of commodification and privatization, which transformed education into a financial asset, subjecting it to the logic of profit and market efficiency. This duality between democratizing potential and market capture is one of the central axes of this analysis.

1.1 The metamorphosis of the State and Education as a common good

The macroeconomic reconfiguration of informational capitalism imposed a metamorphosis on the role of the State, especially in countries on the periphery of the world-system. Under the influence

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of neoliberal managerialism, there is a tendency toward disinvestment in public policies and the transfer of social responsibilities to the private sector. Fundamental rights, such as education and health, are progressively stripped of their condition as inalienable public goods and converted into tradable commodities (Chomsky, 1999). This transition is not merely economic; it redefines the very conception of citizenship and access to essential services.

In this context, the defense of education as a common good assumes a crucial political and epistemological dimension. The notion of common good, as opposed to that of private good or even traditional public good, emphasizes collective management and universal accessibility, resisting the logic of exclusion and commodification. Public DE, when conceived and implemented from this perspective, has the potential to subvert the dominant rationality, promoting cognitive sovereignty and the strengthening of state capacities in strategic areas such as public health. It is within this struggle that the relevance of AVASUS as an object of study is situated, a technopolitical laboratory that challenges market metrics and reaffirms the commitment to the public interest.

1.2 Problematization and central hypothesis

The tension between "Education as a Financial Asset" and "Education as a Common Good" constitutes the core of the problematization in this work. How are digital infrastructures, which could be tools for the democratization of knowledge, frequently co-opted into the logic of capital accumulation and algorithmic surveillance? More importantly: how is it possible to build robust and resilient alternatives that guarantee education as an inalienable human right in an environment structurally designed for value extraction?

The hypothesis guiding this expanded essay is that AVASUS, by operating under a governance model based on Open Educational Resources (Recursos Educacionais Abertos – REA) and Creative Commons licenses, not only subverts the market metric of "cost per student" but also establishes itself as a technopolitical laboratory of the commons. This public infrastructure demonstrates the viability of a DE model that converts the intellectual capital generated by the State into an inalienable social patrimony, strengthening cognitive sovereignty and the front lines of Public Health in the face of the advance of platform capitalism. The empirical analysis of AVASUS therefore offers support for the construction of a new horizon for public DE, in which technology serves emancipation and social well-being rather than commodification and surveillance.

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2 METHODOLOGICAL PATHWAY

This research is characterized as an exploratory and critical case study of a qualitative and quantitative nature (mixed methods). The methodological pathway was structured in three stages, namely: 1) documentary research: analysis of the UNESCO Recommendations on OER (Unesco, 2019) and Open Science (Unesco, 2021), using Bardin's (2016) content analysis technique to identify the categories "common good" and "digital sovereignty"; 2) secondary data collection: extraction of operational indicators from the AVASUS Transparency Portal (Jan/2025 to Jun/2026), focusing on enrollment volume and certification rate; 3) comparative analysis: triangulation between the platform's scale data and the assumptions of the Political Economy of Information. Regarding ethical aspects, since these are aggregated and anonymized public data, in accordance with the General Data Protection Law (Lei Geral de Proteção de Dados – LGPD) and CNS Resolution 510/2016, the study is exempt from submission to the CEP/CONEP system, ensuring transparency without violating the privacy of users.

2.1 Epistemology of the research: political economy as a critical perspective

The choice of political economy as the epistemological framework for this study is not fortuitous, but rather a conscious methodological decision grounded in decades of experience in the critical analysis of education and public policies. The political economy of information and communication offers a robust theoretical framework for unveiling the power relations, ownership structures, and dynamics of capital accumulation that shape the field of DE (Fuchs, 2022). Instead of accepting technology as a neutral given, this approach makes it possible to question who benefits from the expansion of DE, which interests are served, and how technological innovations are appropriated by different social actors.

The analysis of public policies must be grounded in a critical approach, transcending the mere description of programs and indicators. It demands a deep understanding of the historical, economic, and social forces that engender and condition them. In the context of DE, this means going beyond pedagogical analysis to investigate the implications of commodification, platformization, and algorithmic surveillance in the formation of subjects and in the construction of national sovereignty. Political economy, in this sense, is an indispensable tool for denaturalizing processes and revealing the ideological and material disputes that permeate the educational ecosystem.

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2.2 Transparency and ethics in open data research

The use of aggregated data from the AVASUS Transparency Portal not only lends empirical robustness to our analysis but also reveals important questions regarding transparency and ethics in Open Science research. The public availability of these data is, in itself, a reflection of AVASUS governance as a digital common good, such that information generated with public resources is accessible for scrutiny and analysis (Subirats, 2021). This practice contrasts with the opacity frequently found on private platforms, whose usage and performance data are proprietary and inaccessible to independent researchers.

From an ethical standpoint, the analysis of aggregated and anonymized data, such as those made available by AVASUS, respects user privacy while enabling a macrostructural understanding of the platform's impact. Transparency in the collection and dissemination of these data is a fundamental pillar of Open Science, ensuring that research is replicable, verifiable, and that its conclusions are based on solid evidence. Methodological integrity and ethical responsibility are non-negotiable, and the choice of open and transparent data sources reflects this commitment.

3 THEORETICAL FOUNDATIONS: PLATFORM CAPITALISM AND THE OPERATIONAL UNIVERSITY

Understanding the contemporary dynamics of Distance Education requires critical immersion in the structural transformations of informational capitalism, particularly regarding the rise of platform capitalism and its implications for higher education. This phenomenon, characterized by the centrality of digital platforms that mediate social and economic interactions, has profoundly reconfigured the relations of production, consumption, and, crucially, knowledge (Fuchs, 2022; Van Dijck; Poell; The Waal, 2018). In the educational field, platformization is not limited to the mere digitalization of content; it implies a restructuring of pedagogical logics, institutional governance, and the very conception of value in education.

3.1 The Platformization of Education and algorithmic surveillance

The expansion of digital platforms in higher education, both in the private sector and, increasingly, in the public sector, introduces a new regime of control and value extraction. The

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automated collection of behavioral data from students and faculty, the algorithmic personalization of learning pathways, and the monetization of digital interactions become structuring practices of what Shoshana Zuboff (2019) calls surveillance capitalism. In this model, education becomes fertile ground for the extraction of "behavioral surplus," transforming the learning experience into a continuous flow of data to be mined and commercialized (Zuboff, 2019).

For public DE, dependence on private platforms for the management of Virtual Learning Environments (Ambientes Virtuais de Aprendizagem – AVAs) and the provision of courses represents a significant risk of digital colonialism. Control over knowledge, technological infrastructure, and pedagogical data migrates to transnational corporations, undermining educational sovereignty and university autonomy (Ceccim, 2005). The critique of this platformization is not restricted to the technical dimension but also extends to the political and ethical dimension, questioning whom these technologies serve and which values they promote. In this scenario, DE can become an instrument of curricular standardization and the precarization of teaching labor, rather than a vector of democratization and innovation.

3.2 Critique of the operational university and academic capitalism

Marilena Chauí (2001, 2003) astutely diagnosed the emergence of the "Operational University," an institutional arrangement in which university autonomy, research detached from profit, and emancipatory educational evaluation processes are suffocated in favor of managerialist training and the commodification of standardized instructional packages. This critique resonates with the reality of contemporary DE, in which the pursuit of scale and cost reduction often leads to the precarization of pedagogical quality and the devaluation of intellectual labor.

The concept of Academic Capitalism (Chauí, 2001) complements this analysis, evidencing how universities, pressured by international rankings and market logic, adopt business practices, transforming knowledge into a commodity and research into an asset to be exploited. In private DE, this logic manifests in the provision of massified courses with little interaction and a focus on rapid certification, to the detriment of critical and in-depth education. It is possible to observe that this tendency is not inherent to the modality, but rather a consequence of the political and economic choices that shape it.

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3.3 Digital sovereignty and Digital Public Goods in Education

In the face of the challenges posed by platform capitalism and the operational university, the construction of digital sovereignty emerges as a strategic imperative for public education. Digital sovereignty, in this context, refers to the capacity of a country or an institution to control its digital infrastructures, its data, and its knowledge production processes without depending on foreign corporations or market logics that subvert the public interest (Krawczyk, 2005; Laval, 2004).

Digital Public Goods (DPGs) are crucial elements for the materialization of this sovereignty. As Marcos Sunye points out (Chomsky, 1999), DPGs are open-source digital solutions developed with public funding and made freely available to society, such as Pix or the digital Unified Health System (Sistema Único de Saúde – SUS). In the field of education, infrastructures such as AVASUS and the Sabiá Platform represent concrete examples of DPGs, as they ensure that algorithmic control, metadata storage, and pedagogical design remain under the public and sovereign governance of the Brazilian State (Dias Sobrinho, 2008; Fuchs, 2022). The defense and strengthening of these goods are essential to ensure that public DE fulfills its role of promoting inclusion, equity, and civic education, resisting the logic of commodification and surveillance.

4 THE TECHNOPOLITICAL ECOSYSTEM OF AVASUS: INFRASTRUCTURE AND INTEROPERABILITY

Far beyond an isolated repository of educational content or a conventional Learning Management System (LMS), AVASUS must be understood as a component integrated into a complex information and communication ecosystem. This public ecosystem is composed of more than 170 highly articulated and interdependent systems, developed under the premise that technology in the public sector must serve to strengthen democracy and universal care. The sustainability and resilience of this infrastructural arrangement are rooted in its robust interoperability bus, embodied by the Sabiá Platform (Open Health, Interactivity, and Learning).

The Sabiá Platform acts as the dynamic nucleus that integrates data, formative profiles, and qualification demands of millions of professionals distributed across a continental territory. It is this decentralized network architecture that enables AVASUS to respond with immediate technical agility to complex health emergencies, converting the scientific production generated in university laboratories into learning pathways with high national capillarity. From the perspective of

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technopolitics, the Sabiá Platform breaks with dependence on proprietary architectures and with the technological lock-in of software corporations, ensuring that algorithmic control, metadata storage, and pedagogical design remain under the public and sovereign governance of the Brazilian State.

4.1 Technopolitical architecture: interoperability and state autonomy

The robustness of the AVASUS ecosystem resides in its technopolitical architecture, which transcends mere technical functionality to assert itself as a political project of autonomy and sovereignty. The Sabiá Platform, as its interoperability bus, is not merely a data hub; it is a mechanism that ensures the fluidity of information among the more than 170 interconnected systems, enabling the Brazilian State to maintain control over its digital infrastructures (Krawczyk, 2005). This interoperability is crucial to avoid "technological lock-in" by proprietary software corporations, a constant risk in digital environments in which dependence on external solutions can compromise national security and autonomy.

Based on decades of experience accompanying technological evolution in education, it is possible to affirm that the choice of an open and interoperable architecture, such as that of the Sabiá Platform, is a strategic decision that strengthens the State's capacity to manage its own public policies. It allows the development of new functionalities and adaptation to new demands to occur organically and sovereignly, without the need for costly licenses or complex negotiations with external suppliers. This translates into savings of public resources and, more importantly, into the guarantee that technology serves the interests of society rather than the imperatives of the market.

4.2 Resilience and emergency response: AVASUS in crisis scenarios

The capacity to respond to emergencies is one of the pillars that distinguishes robust and socially engaged digital infrastructures. The AVASUS ecosystem, through the agility provided by the Sabiá Platform, has demonstrated its resilience and effectiveness in crisis scenarios, such as the COVID-19 pandemic and other health emergencies. The rapid conversion of scientific production into learning pathways with high national capillarity, as observed during the pandemic, is a testament to AVASUS's capacity to mobilize knowledge and train health professionals at scale and in record time (Valentim et al., 2022).

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This agility is not a mere technical attribute; it is a manifestation of public governance and commitment to public health. In times of crisis, the capacity to disseminate accurate information and to rapidly train a large number of professionals is vital. AVASUS, by providing courses and educational materials in an agile and accessible manner, acts as a shield against disinformation and as a catalyst for coordinated health action. DE teaches us that public infrastructure, when well planned and managed, is irreplaceable in guaranteeing rights and protecting the population in critical moments.

5 DISCUSSION AND DATA ANALYSIS

The data extracted from the AVASUS Transparency Portal reveal a volume of more than 4.8 million enrollments in the 2025/2026 cycle. This indicator, when examined through the lens of political economy, ceases to be merely a metric of scale and becomes evidence of the subversion of the "cost per student" logic. While in platform capitalism access is mediated by data extraction and monetization, in the AVASUS ecosystem, governance based on Open Educational Resources (Recursos Educacionais Abertos – REA) converts public investment into an inalienable common good.

The high capillarity demonstrated in the Public Health itineraries not only fulfills a pedagogical function but also materializes cognitive sovereignty in the face of educational oligopolies. Unlike the "operational university" criticized by Chauí (2003), AVASUS demonstrates that public infrastructure can operate under the rationality of the commons, in which the knowledge generated is reappropriated by society without the barriers of informational capital. Thus, the results presented in this study validate the hypothesis that it is possible to build resilient alternatives to predatory platformization, ensuring education as an inalienable human right.

5.1 Public Scale in response to the private oligopolization of DE

The expansion of Distance Education in the Brazilian scenario has been historically captured by large private educational oligopolies that justify their market growth under the rhetoric of logistical efficiency, methodological innovation, and the alleged exclusivity in the capacity for scale (Krawczyk, 2005). Under the mantle of investment funds and transnational mergers, the corporate private sector has reduced DE to a Fordist arrangement for the transmission of precarious content.

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However, the data extracted from the transparency portal of the Virtual Learning Environment of the Unified Health System (Ambiente Virtual de Aprendizagem do SUS – AVASUS) empirically contradict the thesis of the superiority or necessity of private management in the massive provision of technology-mediated education.

AVASUS registers, in consolidated figures, an expressive total of 1,607,916 registered users, surpassing the mark of 4,630,854 enrollments completed in multiple formative itineraries, which have already resulted in 2,969,029 certifications awarded. These numerical indicators gain greater critical prominence by demonstrating that an entirely public platform, managed by a federal higher education institution (UFRN) in cooperation with the Ministry of Health (through LAIS), can achieve a multimillion-scale pedagogical impact. This performance occurs outside the dynamics of capital accumulation and the commercial logic of the student-client, proving unequivocally that the State possesses the technical, technological, and pedagogical capacity to extend permanent education public policies across the entire sovereign national territory.

5.2 The economic subversion of the "cost per student" through Open Educational Resources: the economy of the commons

In the private corporate model of higher education, the financial architecture rests strictly on minimizing the unit cost per student to maximize shareholder profit margins (Chomsky, 1999). This market capture of the formative space reflects what Chauí (2001, 2003) precisely diagnoses as the emergence of the "Operational University." It is an arrangement in which university autonomy, research detached from profit, and emancipatory educational evaluation processes (Dias Sobrinho, 2008) are suffocated in favor of managerialist training, the commodification of standardized instructional packages, and the rapid delivery of training inputs demanded by the flexibilized labor market.

In the opposite direction, the institutional, political, and technological governance of AVASUS promotes a radical subversion of the operational logic denounced by Chauí. By formally adopting the philosophy of Open Educational Resources (Recursos Educacionais Abertos – REA) protected by Creative Commons licenses, the platform demonstrates that the initial public investment in the production of highly complex scientific pedagogical architectures is diluted on such a massive scale that the economic value per student tends asymptotically toward zero in the long term (Unesco, 2019,

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2022). From the perspective of Political Economy and Public Health, the knowledge produced ceases to be a rival and excludable good to constitute itself as an imperishable social patrimony.

This is the essence of the Economy of the Commons: the transition from a logic of artificial scarcity, imposed by proprietary platforms to inflate prices, to a logic of abundance and sharing. Instead of imprisoning pedagogical content in paid proprietary platforms restricted to enrollment periods, open licensing allows the intellectual capital generated with public funds to remain free for download, adaptation, remixing, and reuse by other public or community-based educational institutions. This dynamic nullifies the logic of artificial scarcity generated by private platforms to inflate prices, inaugurating a metric of macroeconomic efficiency in which success is measured by the level of emancipation of subjects and by the sustainability of permanent education within the SUS (Romão et al., 2023, 2026).

5.3 From closed to common: the life cycle of formative itineraries in Public DE

One of the major dilemmas faced in the governance of public DE concerns the circumstantial restrictions that sometimes impose limits on the immediate opening of certain educational offerings. Contractual constraints arising from specific funding projects, budgetary limits for the temporary hiring of human tutoring, or logistical and regulatory requirements of local health departments demand, in specific scenarios, the creation of offerings configured as "closed cohorts" or exclusive to certain professional segments or territories.

However, the technopolitical ecosystem of AVASUS and the Sabiá Platform resolves this structural contradiction by designing a rigorous life cycle focused on Digital Commons. The guiding premise of the system establishes that the chronological closure of a closed cohort with tutorial mediation does not decree the burial or withdrawal of the didactic material produced. At the end of the restricted offering period, the scientific content, interactive media, hypertexts, and self-learning tools are compulsorily converted into OER and made available under a regime of free access and permanent self-instruction. In this way, the ecosystem uncompromisingly upholds Open Science in health, ensuring that even formative pathways initially delimited return to the collective patrimony of society, preventing the waste of state resources and expanding the pedagogical lifespan of knowledge.

This State policy against the waste of intellectual capital is a paradigmatic example of how public DE can be a vector for the democratization of knowledge. By ensuring that content produced

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with public resources becomes a common good, AVASUS not only maximizes the return on social investment but also strengthens society's capacity to access and use essential information for health and well-being. This approach, which prioritizes universal access and the sustainability of knowledge, is a model to be replicated in other areas of public education.

5.4 Open Educational Resources and cognitive sovereignty: the case of the SUS front lines

The analysis of the political economy of Open Science requires going beyond mere normative adherence and investigating how the democratization of access materializes in peripheral contexts. AVASUS operates under a rationality of commons, in which content is made available under a free and open regime, without financial barriers (paywalls) or corporate technological lock-ins.

The strength of this open pedagogical architecture is reflected in the distribution of its target audience and in the typology of its most sought-after offerings. When analyzing the most accessed courses on the platform, a surgical focus on the qualification of workers who structure the Unified Health System becomes evident. The Introductory Course for Community Health Agents (ACS) accounts for 159,993 enrolled students, while the Introductory Course for Endemic Disease Control Agents (ACE) reaches 96,249 users.

In terms of public health, modules such as Present Father: Care and Commitment (183,445 enrolled students) and Breastfeeding Management (116,355 enrolled students) demonstrate that public DE does not function as a mere simulacrum of superficial teaching for the purposes of commercial statistics. On the contrary, it acts as a space for strengthening Permanent Education in Health, oriented toward the real epidemiological needs of the population. The dilution of value per student in these scenarios reaches exponential proportions: courses of high social and epidemiological relevance are offered at a marginal cost close to zero, maximizing the social impact of public investment.

This capillarity and epidemiological relevance are crucial for the construction of cognitive sovereignty in the field of health. By training Community Health Agents and Endemic Disease Control Agents, AVASUS strengthens the front lines of the SUS, which are essential for health promotion and disease prevention at the local level. Public DE, in this sense, is not merely a teaching tool but also an instrument of public policy that contributes directly to improving the population's quality of life and to the country's autonomy in relation to external knowledge and technologies. Thus,

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it is possible to affirm that quality education, accessible and aligned with social needs, is a fundamental pillar for the development of a sovereign nation.

FINAL CONSIDERATIONS

This study demonstrated that AVASUS transcends the condition of a mere digital repository, configuring itself as a strategic infrastructure of resistance to platform capitalism in public Distance Education. In responding to the central objective of this investigation, it became evident that the adoption of the principles of Open Science and Open Educational Resources (Recursos Educacionais Abertos – REA) allows the State to reclaim its role as an inducer of innovation and professional training without submitting to the commercial rationality of data extraction.

The initial hypothesis was confirmed: the analyzed ecosystem acts as a technopolitical laboratory of the commons, converting public investment into an inalienable social patrimony and strengthening cognitive sovereignty in Public Health. As a limitation of this work, the need for future research to evaluate the longitudinal impact of these training programs on the clinical practice of graduates within the SUS is pointed out. It is concluded that the AVASUS governance model offers a new horizon for Brazilian public DE, in which technology acts as a guarantor of the human right to education and health, consolidating an authentic ecosystem of digital commons in the face of contemporary challenges.

It is possible to envision that the future of public DE in Brazil will be shaped by persistent challenges and promising horizons. The challenges include the continued pressure of neoliberal managerialism and platform capitalism, which seek to commodify and privatize digital infrastructures and educational processes. Algorithmic surveillance and digital colonialism represent real threats to cognitive sovereignty and university autonomy. However, the AVASUS experience demonstrates that it is possible to resist these pressures and build robust alternatives

The promising horizons reside in the capacity to strengthen and expand initiatives such as AVASUS, which prove the effectiveness of public management and Open Science. Academic freedom, in this context, assumes a crucial role in the production of critical knowledge, in the training of engaged researchers, and in the uncompromising defense of education as a universal right. Public DE, far from being a secondary modality, is a strategic field for the construction of a more just, equitable, and sovereign society, in which knowledge is an instrument of emancipation rather than

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domination. For the strengthening of cognitive sovereignty and the consolidation of public DE as a digital and strategic common good, the following public policy recommendations are imperative:

1. Continuous investment in public infrastructures: prioritize the funding and development of open and interoperable digital platforms, such as AVASUS and the Sabiá Platform, ensuring that technological control and data remain under state governance.
2. Fostering the production and use of OER: encourage the creation, adaptation, and reuse of Open Educational Resources in all spheres of public education, promoting a culture of sharing and collaboration.
3. Regulation and oversight of the private sector: establish rigorous regulatory frameworks for the private DE sector, curbing practices of excessive commodification, precarization of teaching labor, and abusive data collection.
4. Training and valuing education professionals: invest in the continuing education of faculty and managers for DE, with an emphasis on critical approaches and open technologies, and ensure dignified working conditions and professional recognition.
5. Promotion of Open Science and transparency: strengthening Open Science policies, encouraging open-access publication, the availability of research data, and the participation of civil society in the scrutiny of educational policies.
6. Intersectoral coordination: promote collaboration among different government sectors (Education, Health, Science, and Technology) for the development of integrated digital ecosystems that comprehensively address social needs.

By adopting these measures, Brazil will be able to consolidate its digital and cognitive sovereignty, ensuring that Distance Education is a fundamental pillar for a more just, inclusive, and democratic future.

REFERENCES

BARDIN, Laurence. **Análise de conteúdo**. Lisboa: Edições 70, 2016.

CECCIM, Ricardo Burg. **Educação permanente em saúde:** desafio ambicioso e necessário. Interface - Comunicação, Saúde, Educação, Botucatu, v. 9, n. 16, p. 161-177, 2005.

CECCIM, Ricardo Burg; FEUERWERKER, Laura C. M. O quadrilátero da formação para a área da saúde: ensino, gestão, atenção e controle social. **Physis: Revista de Saúde Coletiva**, Rio de Janeiro, v. 14, n. 1, p. 41-65, 2004.

This work is licensed under a Creative Commons License

DOI: http://doi.org/10.53628/emrede.v13i1177 ISSN 2359-6082

CHAUÍ, Marilena. A universidade operacional**. Revista da Avaliação da Educação Superior**, Campinas; Sorocaba, v. 4, n. 3, 2003.

CHAUÍ, Marilena. **Escritos sobre a universidade**. São Paulo: Unesp, 2001.

CHOMSKY, Noam. **Profit over People:** neoliberalism and global order. New York: Seven Stories, 1999.

DIAS SOBRINHO, José. Avaliação educativa: produção de sentidos com valor de liberdade. **Avaliação: Revista da Avaliação da Educação Superior**, Campinas, v. 13, n. 1, p. 193-207, Mar. 2008.

FUCHS, Christian. **Digital Capitalism**: Media, Communication and Society Volume Three. London: Routledge, 2022.

KRAWCZYK, Nora Rut. Políticas de regulação e mercantilização da educação: socialização para uma nova cidadania? **Educação & Sociedade**, Campinas, v. 26, n. 92, p. 799-819, Oct. 2005. DOI: 10.1590/S0101-73302005000300005.

LAVAL, Christian. **A escola não é uma empresa**: o neoliberalismo em ataque ao ensino público. Londrina: Planta, 2004.

PARRA, Henrique Zoqui Martins. Laboratório tecnopolítico do Comum: protótipos, reticulação e potência da situação. **DoisPontos**, Curitiba, v. 16, n. 2, p. 1-15, Dec. 2019. DOI: 10.5380/dp.v16i2.70266.

FARIAS, Carlos Aldemir; ROMÃO, Manoel Honório. Para ler o mundo no fluxo do presente: a pesquisa como ato político. **Revista Educação em Questão**, [s. l.], v. 58, n. 55, 2020. Available at: https://periodicos.ufrn.br/educacaoemquestao/article/view/20052. Accessed on: 21 May 2026.

ROMÃO, Manoel Honório et al. AVASUS' Contributions to Promoting Lifelong Learning in Health: Toward Achieving the SDGs and Strengthening Global Health Security. In: SAXENA, Shalendra K. **One Health Approach** - Advancing Global Health Security with the Sustainable Development Goals. [s. l.]: IntechOpen, 2023. Available at: https://www.intechopen.com/chapters/88676. Accessed on: 21 May 2026. p. 01-17.

ROMÃO, Manoel Honório et al. Permanent health education for health economics in Brazil: a forgotten facet? **Frontiers in Public Health**, [s. l.], v. 14, 2026. Available at: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1776536/full. Accessed on: 21 May 2026.

SUBIRATS, Joan. **El poder de lo público en la era digital**. Madrid: Catarata, 2021.

UNESCO. **Recomendação sobre Recursos Educacionais Abertos (REA).** Paris: UNESCO, 2019.

UNESCO. **Recomendação sobre Ciência Aberta**. Paris: UNESCO, 2021.

UNESCO. **Reimaginar nossos futuros juntos:** um novo contrato social para a educação. Paris:

This work is licensed under a
Creative Commons License

UNESCO, 2022.

VALENTIM, Ricardo Alexandro et al. Virtual Learning Environment of the Brazilian Health System (AVASUS): Efficiency of Resilience in Public Health Training. **Frontiers in Medicine**, [s. l.], v. 9, p. 1-15, Jun. 2022. DOI: https://doi.org/10.3389/fmed.2022.896208.

VAN DIJCK, José; POELL, Thomas; DE WAAL, Martijn. **The Platform Society:** Public Values in a Connective World. Oxford: Oxford University, 2018. DOI: https://doi.org/10.1093/oso/9780190889760.001.0001

ZUBOFF, Shoshana. **The Age of Surveillance Capitalism:** The Fight for a Human Future at the New Frontier of Power. New York: PublicAffairs, 2019.

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