

**PUBLIC POLICIES, EDUCATIONAL TECHNOLOGIES, AND OPEN
EDUCATIONAL RESOURCES (OER)**

***POLÍTICAS PÚBLICAS, TECNOLOGIAS EDUCACIONAIS E RECURSOS
EDUCACIONAIS ABERTOS (REA)***

***POLÍTICAS PÚBLICAS, TECNOLOGÍAS Y RECURSOS EDUCACIONALES
ABIERTOS (REA)***

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ABSTRACT: The interpretive-critical analysis focuses on the micro-contexts of teacher formation policies and practices for enhancing Technological-Pedagogical Fluency (TPF) with Open Educational Resources (OER). Within this framework, public policy devices are analyzed in light of universal principles such as the right to education, democratization of knowledge, and lifelong learning. The thematic delimitation, the data and the conclusions are systematized under the methodological structure of three cartographic matrices typical of an action-research: Dialogic-Problematizing Matrix (DPM), Thematic-Organizing Matrix (TOM) and Thematic-Analytical Matrix (TAM). The results highlight the plurality of local perceptions, translations, and (re)interpretations of policies related to educational technologies and Open Educational Resources (OER). The discursive practices demarcate naive typologies in curvatures ranging from negationist to futurologist. As an outcome, the affirmative proposition emphasizes Technological-Pedagogical Fluency (TPF) as a basic principle to operate in a critical and emancipatory way in the interpretation, recontextualization and retemporalization of public policies.

KEYWORDS: Public policies. Educational technologies. Open Educational Resources (OER). Teacher education. Technological-Pedagogical Fluency (TPF).

RESUMO: *A análise interpretativo-crítica centra-se nos microcontextos das políticas e práticas de formação de professores para aprimoramento da Fluência Tecnológico-Pedagógica (FTP) com Recursos Educacionais Abertos (REA). Nesse âmbito, os dispositivos das políticas públicas são analisados à luz de princípios universais como o direito à educação, democratização do conhecimento e aprendizagem ao longo da vida. A delimitação temática, os dados e as conclusões são sistematizadas sob a estrutura metodológica de três matrizes cartográficas típicas de uma pesquisa-ação: Matriz Dialógico-Problematizadora (MDP), Matriz Temático-Organizadora (MTO) e Matriz Temático-Analítica (MTA). Os resultados ressaltam a pluralidade de percepções, traduções e (re)interpretações locais das políticas relacionadas às tecnologias educacionais e Recursos Educacionais Abertos (REA). As práticas*

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discursivas demarcam tipologias ingênuas em curvaturas que vão desde a negacionista até a futurologista. Como desfecho, a proposição afirmativa acentua a Fluência Tecnológico-Pedagógica (FTP) como princípio basilar para operar de modo crítico e emancipatório na interpretação, recontextualização e retemporalização das políticas públicas.

PALAVRAS-CHAVE: *Políticas públicas. Tecnologias educacionais. Recursos Educacionais Abertos (REA). Formação de professores. Fluência Tecnológico-Pedagógica (FTP).*

RESUMEN: *El análisis interpretativo-crítica se centra en los microcontextos de las políticas y prácticas de formación del profesorado para mejoramiento de la Fluencia Tecnológico-Pedagógica (FTP) con Recursos Educativos Abiertos (REA). En ese ámbito, los dispositivos de las políticas públicas son analizados a la luz de principios universales como el derecho a la educación, democratización del conocimiento y aprendizaje a lo largo de la vida. La delimitación temática, los datos y las conclusiones son sistematizadas bajo la estructura metodológica de tres matrices cartográficas típicas de una investigación-acción: Matriz Dialógico-Problematizadora (MDP), Matriz Temático-Organizadora (MTO) y Matriz Temático-Analítica (MTA). Los resultados señalan la pluralidad de percepciones, traducciones y (re)interpretaciones locales de las políticas relacionadas a las tecnologías tipologías ingenuas en curvaturas que van desde la negacionista hasta la futurologista. Como desfecho, la proposición afirmativa acentúa la Fluencia Tecnológico-Pedagógica (FTP) como principio basilar para operar de modo crítico y emancipador en la interpretación, recontextualización y retemporalización de las políticas públicas.*

PALABRAS CLAVE: *Políticas públicas. Tecnologías educacionales. Recursos Educativos Abiertos (REA). Formación del profesorado. Fluencia Tecnológica-Pedagógica (FTP).*

Introduction

The microcontexts of teacher education and performance are nurtured by the guidelines set out in the current educational public policies. It is based on the principle that in societies with democratic forms of government, public policies are the possibility of materializing the ethical ideals of the common good and advocating the exercise of citizenship under the assumption of equality of all people. In view of the sovereignty of the people, mediated by recurring methodologies in representative democracies, public policies imply decisions oriented towards community life and, therefore, impact all individuals and collectives. Public policies are based on national rules and agreements, usually expressed in large documents, such as the Federal Constitution. In the field of education, at the macro level are the Law of Guidelines and Bases for National Education (LDB, Portuguese initials), as well as the National Education Plan (PNE, Portuguese initials).

In this text, the problematization of legal provisions aims to build an interpretive-critical analysis regarding the microcontexts of policies and practices of teacher education to improve

Technological-Pedagogical Fluency (TPF) with Open Educational Resources (OER).

Thus, the article is structurally organized into five sections. The first section deals with the interface between public policies and educational technologies, considering the conceptual contributions of democracy, ethics and citizen education with a focus on the texts of current legislation. In the second part, the characteristics and particularities of Open Educational Resources (OER) are unfolded, linked to the basic principles of Technological-Pedagogical Fluency, according to the course of the first part. In the third moment, the systematic of the methodological processes of the typology of action research is presented, equipped by the three cartographic matrices: Dialogic-Problematising Matrix (DPM), Thematic-Organizing Matrix (TOM) and Thematic-Analytic Matrix (TAM). In this wake, in the fourth section, the results and discussions are composed. Conclusively, in the fifth moment, the final considerations are highlighted.

Public Policies and Educational Technologies

The political process is permeated by the tensions of macro and micro-contexts that originate and, at the same time, are the stage for confrontation of the textual provisions of current legislation. In this way, the movements of transposition of public policies to pedagogical microcontexts condense these tensions that are not always fully pacified in the text of the law. At the same time, they generate discursive waves, ethical sounds, empirical analyzes and theoretical models with the potential to reformulate legal provisions. The movements of public policies are historical, procedural, ascending, encompassing convergences and dissonances that call into question the social demands and interests of those in power.

Thus, the reflection has as a parameter the universal principles of the right to education, the democratization of knowledge and lifelong learning. As expressed by Wencznovicz (2020, p. 1751, our translation):

Education is a human right and points to a horizon of achievements. Education as a Human Right, or rights that apply to everyone, appears for societies to understand the irrationality that is the trivialization of life, and that success in dealing with problems comes from thinking, theorizing, clarifying the facts and recognizing the collectivities as holders of rights.

Therefore, it is urgently necessary to discuss the role of public policies in supporting, fostering and mobilizing teacher and student performance mediated by networked educational technologies. This is situated in the broad spectrum of valuing the knowledge construction process as an interpretive-critical rationality. Thus, the thesis is that the way to expand and

consolidate education mediated by networked educational technologies, especially OER, is to understand the mobilizing character of educational public policies. With this, it is intended to clarify that the texts of the current legislation admit a directive nature mainly in public institutions. This is evident in light of the constitutional precepts that govern the role of public servants in public administration in all spheres of government (Federal, State, District and Municipal). In this line of reasoning, the understanding of Guerra; Figueiredo and Zanardini (2020, p. 2200, our translation) collaborates when stressing the concepts of the field of law linked to public policies:

[...] Public Policies are linked to the field of Law, notably Constitutional Law, based on the concepts of concentrated control of constitutionality; of unconstitutionality; and the judicialization of Public Policies, as well as the differences between the conception of Education as a public service, public good and public right.

The constitutional dictates of public administration are expressed in Article 37 of the Federal Constitution: a) legality: it is crucial to comply with what is provided for in the legislation; b) impersonality: decisions must be based on the notion of neutrality, since preferential treatment should not be given to any person, natural or legal; c) publicity: all actions must be public knowledge based on transparency; d) efficiency: the actions taken by the public service are governed by the idea of utility, rationality and economy in the use of means, aiming to achieve the best results; e) administrative morality: conduct based on the set of ethical and honest rules that make up the code of public administration; f) administrative probity: accentuates public servant decisions and actions that do not cause harm, do not generate illicit enrichment and/or use of information in a privileged manner; g) popular initiative: monitoring and popular actions.

These constitutional principles make it evident that in the forms of government and management in representative democracies, public policies, materialized in current legislation, are guiding nuclei for decisions and actions in the perennial field of conflict resolution. In other words, in the tensions between social demands and the State. In the meantime, it is worth clarifying that this understanding of the role and guiding power of legal provisions cannot have an instrumental and application foundation as essential. Public policies in democratic societies cannot be structures of a legal nature created by government entities uncritically directed at a specific public that administers, monitors, evaluates and regulates them. According to Mainardes (2006), due to public policies being a field of controversies, there is a "need to articulate macro and micro processes in the analysis of educational policies", considering the

"micropolitical processes and the action of professionals who deal with policies at the local level" (MAINARDES, 2006, p. 49, our translation). In this analytical line, Wencznovicz (2020, p. 1754-1755, our translation) states that education, "when universally disseminated can be a relevant mechanism for promoting opportunities for the community".

The full achievement of universal principles such as the right to education, the democratization of knowledge and lifelong learning requires much more than the restrictive work of the legions of guardians of legal documents. The work of managers and specialists needs to be problematized, especially when these groups provide support for the continuity of repressive mechanisms, limited access, precarious work structures for education professionals, and the devaluation of knowledge created in emerging micro-contexts.

In this sense, in the outline of formative processes, with emphasis on the role of universities, Santana, Cardoso and Silva (2019, p. 2005) state that university education has been guided by a "technical rationality". When thinking behaves linearly in relation to the role of public policies, a large volume of specialized information is produced about education, but with a bias that is highly reproductive and maintainer of the groups in power.

In the field of educational technologies, the most common discourses that circulate among the community are data referring to the lack of conditions and infrastructure. From this perspective, unsuspecting consumers assume and favor naive positions that tarnish the interactive, collaborative and humanizing potential of technology-mediated education. It is opportune to emphasize that the universality of the right to education, the democratization of knowledge and lifelong learning permeate access and active participation, co-producer of life mediated by technologies. According to Vieira Pinto (2005, p. 308, our translation), "man never gets rid of technology, he only transforms his relationship with the existing one, replacing it with a better one, more productive and economical".

From this perspective, the author emphasizes the role of scientific knowledge, which, according to the interpretive-critical inferences produced, is encouraged, intensified and completely grounded in public policies. In this view of the world, science, technology and society are always integrated. In other words, public policy is not some type of action or program that assumes as a destination certain social groups that are more or less favored in terms of access to culture, health, education, social welfare etc. At this point, the contribution of Viera Pinto (2005, p. 250-251, our translation) is crucial when he says that:

[...] naive mentality thinks that governing is synonymous with administering. Governing consists of instituting the system of human coexistence. In this sense, it designates an act of an existential order, thus requiring another way

of thinking, configured in the categories of dialectical logic. [...] Governing is identified with the establishment of the system of social relations and not simply with taking initiatives for material progress, without understanding what they mean in the reciprocity established with the people's existential living conditions.

Along these lines, it should be made clear that public policies are effective mechanisms to establish, organize, monitor and regulate the complete system of social relations, regardless of the form of government. When considering current legislation, actions and programs as devices that give materiality and visibility to public policies, it is appropriate to understand that the impacts on social, political and economic reality occur in all instances of human life. They even extend beyond geographic boundaries. Therefore, even micro-contexts are determinant complexities and determined by international mechanisms and movements. Thus, the analytical spectrum at this time is the OER and the Technological-Pedagogical Fluency (TPF) required to achieve fundamental rights.

Open Educational Resources (OER) and Technological-Pedagogical Fluency (TPF)

Policies are always dynamic because of social demands that are not fixed, especially since many of them have never been consolidated throughout history. What gives life to public policies is the effective dynamics of understanding and transposing in the micro-contexts what is textually established in the current legislation, regarding research, teaching, resources, financing, management, evaluation and regulation.

Interferences and influences, including those of international mechanisms, compile a universe of constitutive principles of public educational policies whose analyzes have as many variants as the quantitative-qualitative knowledge produced. Thus, it is necessary to be clear that open education is a global movement that finds operational support in open practices and operational support in OER. The United Nations Educational, Scientific and Cultural Organization (UNESCO) is considered a pioneer in the coordination, dissemination and preparation of international documents with definitions and guidelines on OER.

The scenario that originates OER is known as the open education movement, which emerges both from the educational tradition of sharing good ideas between teachers and students, and from the culture of integrating educational technologies into networks, with the principles of collaboration through co-authorship. This movement is based on the premise that teachers and students must have the freedom to use, customize, contextualize, improve and redistribute educational resources without restrictions. In this sense, enabling opening beyond access, it enhances not only the dissemination of knowledge, but the feasibility of its application in interventional actions, in different

emerging or consolidated educational contexts and sectors (JACQUES; MALLMANN; BAGETTI, 2019, p. 1046, our translation).

According to the authors, OER mobilizes the production of scientific, cultural and educational knowledge, especially by promoting processes of sharing, authorship and co-authorship. The practice of the five freedoms of OER, the so-called 5Rs coined by Willey (2014), which are to retain, reuse, revise, remix, redistribute, are the basis of didactic transposition processes to recontextualize and retemporalize teaching, learning and research materials. It is, therefore, a culture aimed at mobilizing knowledge as conflict resolution, problem solving, improving living conditions and well-being. In other words, an ethical sense exactly aligned with the purest democratic foundations of public policies.

The year 2002 is a reference in the history of OER, and the Forum on the impact of Open Educational Software in Higher Education in developing countries was the locus that generated the first mention of OER. Ten years later, again under UNESCO coordination, the World Congress on Open Educational Resources (OER) was held in Paris. In the Paris OER Declaration document, the OER concept is systematized as:

[...] teaching, learning and research materials in any media, digital or otherwise, that are in the public domain or that have been disclosed under an open license that allows free access, use, adaptation and redistribution by third parties, under no restriction or few restrictions. Open licensing is built within the existing framework of intellectual property rights, as defined by relevant international conventions, and respects the authorship of the work (UNESCO, 2012, p. 1, our translation).

This 2012 document systematizes a whole course of events and activities of different groups that evidently influence the formulation of legal texts of the most diverse nations. In this variant, it is necessary to consider that OER is not a random and isolated concept from a whole historical course of work mediated by educational technologies, but it is an ethic of inclusion. In the 1990s, OER precursors were Learning Objects (WILEY, 2000), which, with the advent of digital content, already contemplated an organizational structure around the curricula. The design and packaging of digital documents was accentuated with the promulgation of contents in interoperable formats on the web, possibilities of accessible repositories, expansion of the offer of distance courses supported by tools for interaction on the Internet. Thus, in the early 2000s, the granularization of digital content, interactivity and its potential for reuse in different microcontexts was already a potential present in Learning Objects.

When asked what is new and original in OER compared to previous technical possibilities, the answer is correct: OER were born with a humanitarian, inclusive and equitable

oxygenated purpose. The interpretive-critical analysis around the legal, technological and pedagogical settlements of OER is not an advocacy exercise that ignores the conflicts, challenges, commercial confrontations, the precariousness of teaching work, the facets of teacher formation, the disinvestment of the State in public funding of education.

In other words, while Learning Objects were fixed on the possibility of distribution and reuse, OER adopt a perspective of co-creation as a possibility of transformation according to the particularities of each micro-context. Regarding the freedom of choice and sovereign participation of education professionals in the choice of educational resources, Viera Pinto (2005, p. 257, our translation) highlights that “the power of decision in the choice, maintenance and direction of technology, not only in terms of origin but also equally as to its nature, constitutes the most significant trait to prove the possession of self-awareness”. As a political movement centered on the practice of the five freedoms, OER and all open practices acquire a democratic breadth because they allow and encourage free participation. This participation understood not only as access, but as co-development as it builds, from an epistemological point of view, a critical and emancipatory rationality. The practice of the five freedoms that underlie the OER fosters the construction of Technological-Pedagogical Fluency (TPF) in co-authorship movements in technological-educational solutions. These solutions are part of the political process of solving the most pressing problems according to the transpositions required for recontextualization, retemporalization and conceptual recompilation due to curriculum guidelines, evaluative goals, logistical configurations, valuing education professionals, pluralism of ideas and pedagogical conceptions.

In this sense, in relation to OER, it is essential that public policies, implemented by current legislation, demarcate the irreplaceable role of the State articulated with the sovereign power of civil society. The advance of neoliberal social policies and managerial perspectives in education, denounced by Apple (2002), cannot mischaracterize the OER movement as a real possibility to ensure the right to education, democratization of knowledge and lifelong learning. Investing in the development and improvement of the TPF of education professionals around technologies and OER is to contribute to strengthening the practice of freedom of choice and expression of thought, didactic-pedagogical autonomy, plurality, as determined by constitutional principles. According to Apple (2002, p. 56, our translation), “education is a space of conflicts and compromises [...]. In this way, education is simultaneously cause and effect, that is, determined and determinant”.

The argument around TPF gains strength when considering that public educational policies are essential contributions to leverage education mediated by network educational

technologies in this “space of conflicts and compromises”. Developing and improving TPF is an ongoing process that lasts a lifetime. It is with more and better TPF that education professionals can resolve the antagonisms and discrepancies of educational public policies when it comes to educational technologies and, invariably, OER.

TPF is based on both theoretical and practical and emancipatory knowledge. The process of solving educational problems, as an essentially political process, implies materialized rationality around technology and pedagogy. "For this purpose, it is argued that the dimensions of empowerment, creativity, inventiveness and democratic participation in the production of scientific-technological knowledge, enhanced by digital culture, need to be contemplated in university education" (MALLMANN; QUINTAS-MENDES, 2020, p. 225, our translation).

The fluency required in the micro-contexts of technological-pedagogical coupling always has a technical, practical and emancipatory character that implies contemporary skills, fundamental concepts and intellectual capacities. Creating, inventing, participating in political life mediated by interactions and technological interactivity of contemporary life implies knowing how to move fluently between personal, collective and professional macro and micro contexts.

In TPF's functional framework, which is not restricted to the digital universe, contemporary skills make explicit the technical knowledge of human activity, which is interventional as a way of producing existence. That is, they are repetitive knowledge (for example, turning on/off, connecting cables, filling in logins and passwords, typing/erasing/correcting, copying/pasting etc.) until new technical procedures are created and/or the old ones improved. The fundamental concepts reflect the practical nature and it should be explained that these are the operations necessary to create solutions based on technical knowledge for particular contexts, situations and purposes. These are actions informed by the theory-practice composition or vice versa. Without this practical component of the TPF, the transposition of public policies in the pedagogical microcontexts would be unfeasible as an interpretive-critical human activity.

Technical and practical knowledge, locally decontextualized from cultural knowledge, beliefs, values and infrastructure, appear isolated, that is, they refer to the typical reproductive models of a persuasive, colonialist, neoliberal and neoconservative politics and culture. This means that very low levels of TPF compromise the potential of educational technologies and OER in micro-contexts, even if there is provision in the provisions of current legislation.

At the level of the culture of production of change based on democratic ethics, equity,

inclusion and plurality, TPF is demanding. Not content with technical and practical know-how, it drives towards emancipatory knowledge based on intellectual capacities. It can be understood as a third dimension of TPF, but it is by no means disconnected from the two previous dimensions. Producing and sharing knowledge, content, solutions in communities in macro and micro contexts is a continuous formative and (self)reflective process. Thus, it is an intellectual capacity that needs the tutelage of public policies materialized in current legislation. Based on the emancipatory character, the meaning of TPF around technologies, especially OER, is coherent with the democratic ethics of the universal right to education, knowledge for all and lifelong learning.

Methodological processes

Research has analyzed the possibilities and challenges regarding the integration of Open Educational Resources (OER) in micro-contexts of initial and continuing teacher education. Action research has produced data in undergraduate, masters, doctoral and continuing education programs for basic and higher education teachers. Initially, these programs were aimed at professionals in Rio Grande do Sul, but at the moment, on demand, they have already been expanded through technical cooperation agreements with institutions in other states of the federation.

This is how these action-research actions gather evidence from micro-contexts with intentionality aimed at solving the most urgent problems. Evidently, this is articulated with the universal principles that premeditate education in different modalities and formats with a view to expanding places, including more people, accessibility, respect for diversity and differences, interiorization and expansion of public education etc.

The theoretical principles of action research are confluent with the canons of open education, OER and TPF. This is because they are based on the participation of all those involved in the critical examination of practice, the collective construction of solutions to the most pressing problems, the collaborative perspective for improving working and living conditions and professional development. Kemmis and McTaggart (1988) and Elliot (1997), reference authors in action research with an emancipatory matrix, emphasize this production of knowledge aimed at individual and collective improvements.

Therefore, the thematic delimitation, data and conclusions are systematized under the methodological structure of three cartographic matrices typical of an action research: Dialogic-Problematising Matrix (DPM), Thematic-Organizing Matrix (TOM) and Thematic-Analytic

Matrix (TAM). This public cartographic trilogy in Mallmann's text (2015) aims to contemplate the cyclical path in the procedural dynamics of action research unfolded in the stages of (re)planning, action, observation, and reflection. The procedural systematic of action research focusing on educational technologies, especially OER, has a particular characteristic of the breadth of data. Thus, the phases of thematic delimitation, production and interpretative-critical analysis of results and the construction of theoretical propositions have been guided by the DPM, TOM and TAM.

The main purpose of the DPM is to organize the delimitation of the research theme and, in its entirety, it results in sixteen question cells. For the design of the DPM, we start with the definitions of each element of the matrix, which in this case are: **Thematic** -> didactic-methodological innovation mediated by hypermedia educational technologies, especially Open Educational Resources (OER); **Teachers** -> Basic Education (BE) and Higher Education (HE) teachers in initial and continuing teacher education courses; **Students** -> Basic Education (BE) of the schools involved, undergraduates, masters and doctoral students; **Context** -> guidelines of educational public policies for the integration of technologies in Basic Education and Higher Education. In Table 1, we highlight the DPM cells that focus on the context, mixed with the other elements.

Table 1 – Cutting of the Dialogic-Problematizing Matrix (DPM)

	1 -Teachers	2 - Students	3- Thematic	4- Context
D - Context	D1) Do public policies establish clear guidelines so that teachers can plan, produce, reuse and share resources that allow them to deepen and consolidate knowledge through the integration of hypermedia educational technologies, especially Open Educational Resources (OER)?	D2) Do public policies establish clear guidelines so that students can deepen and consolidate knowledge through the integration of hypermedia educational technologies, especially Open Educational Resources (OER)?	D3) Does the implementation of continuing education courses for teachers in the <i>Small Open Online Courses</i> (SOOC) format enhance didactic-methodological and curriculum innovation at BE?	D4) Do current educational public policies establish clear guidelines to introduce, deepen and consolidate the integration of hypermedia educational technologies, especially Open Educational Resources (OER) in BE?

Source: Devised by the authors

In this (self)reflective line, engaging in the OER movement can be a viable way to improve practices in micro-contexts. Expanding conditions for critical awareness of education as a historical, social and cultural process is essential to understanding the relationships between

science, technology and society. Likewise, democratically experiencing the time-spaces of public policies that determine and are determined both by macro and micro-contexts.

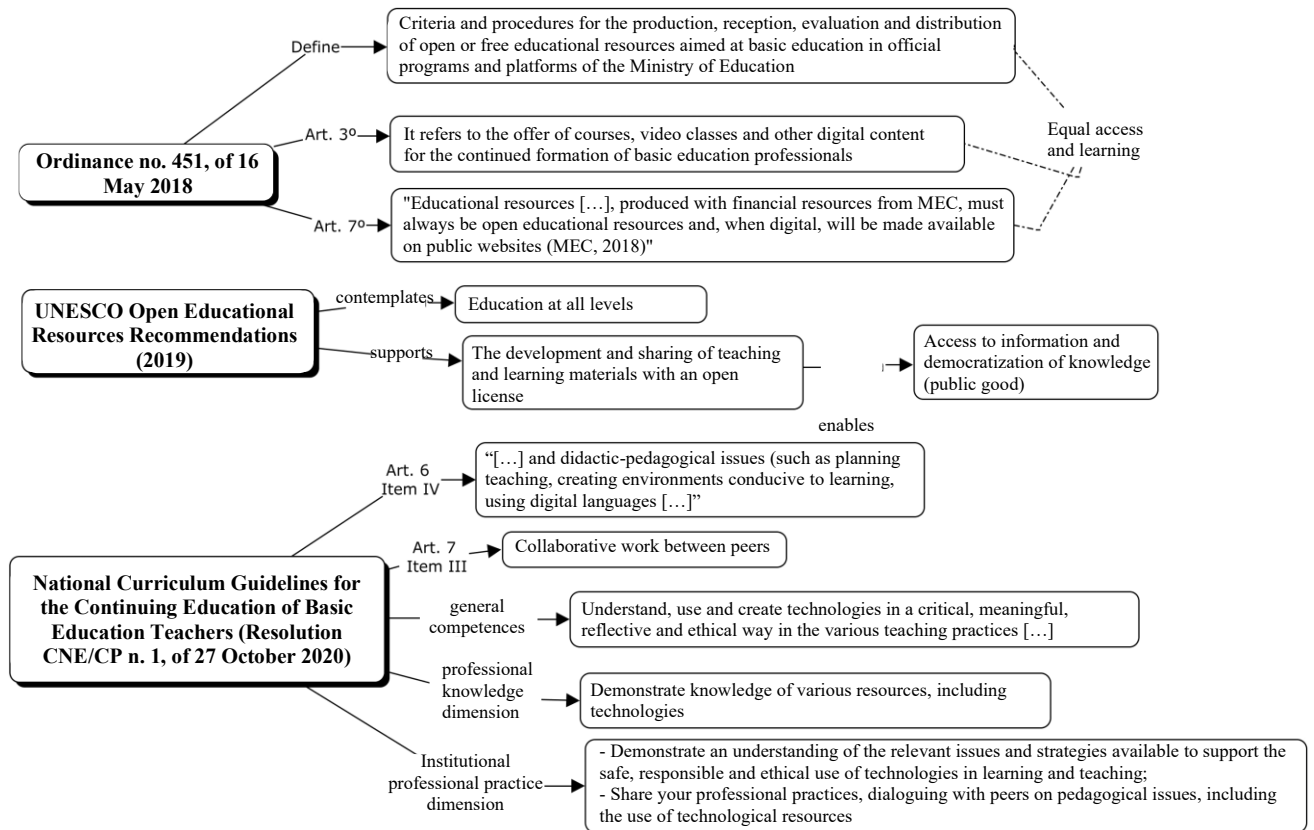
For the elaboration, implementation and recurrent evaluation of action research in cyclical stages of planning, action, observation and reflection (evaluation and deliberation) it starts with the conceptual delimitation of the thematic concern. This is essential for evidence and characterization of the central problem that surrounds both the general objective and the specific ones. Thus, each research question only acquires operational potential when it is possible to signal the respective methodological developments to achieve the built-in goals. Each cell in the matrix contains a single question that is considered to be synthesis after dialogic debugging with everyone involved. In the phases where there are still more questions, it is indicated that more (self)reflective steps are taken to recognize what is considered more problematic and subject to critical investigation for resolution purposes.

To answer the questions, the prospective and retrospective movement of action research includes several possibilities for data production, such as participant observation, survey-type questionnaires, document analysis, records of participation in online environments etc. It is precisely the information arising from these methodological procedures that are provided in the TOM and feed the analysis for the composition of the final assertions in the TAM.

Results and discussions

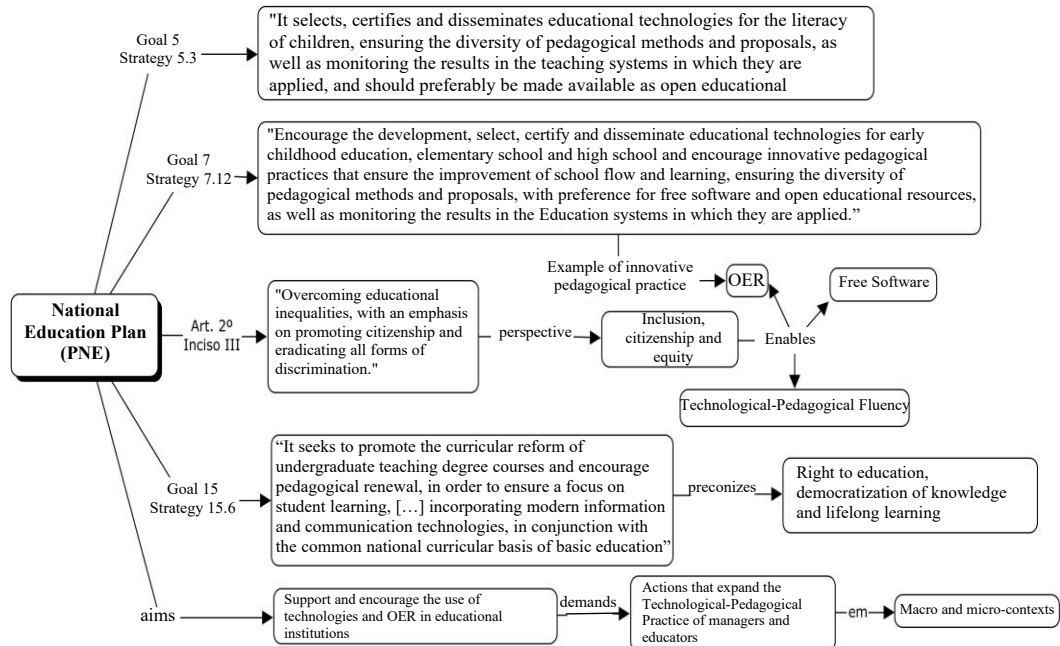
The analytical cutout are cells D1, D2, D3 and D4 because they refer to explicit thematic concerns in relation to the set of public policies. For these four cells, the indications of the origin of the data production are compiled in the TOM, coming, in this case, from thematic seminars in the 2019/2020 postgraduate course; curricular components in the graduation 2018/2019/2020; 2018/2019/2020 editions of continuing education courses for the public network. In this cartographic sketch on technologies and OER in national public policies and international documents, illustrated summaries were produced in the form of thematic networks (Figures 1, 2 and 3).

Figure 1 – Legal provisions UNESCO, CNE, Ordinance n.451



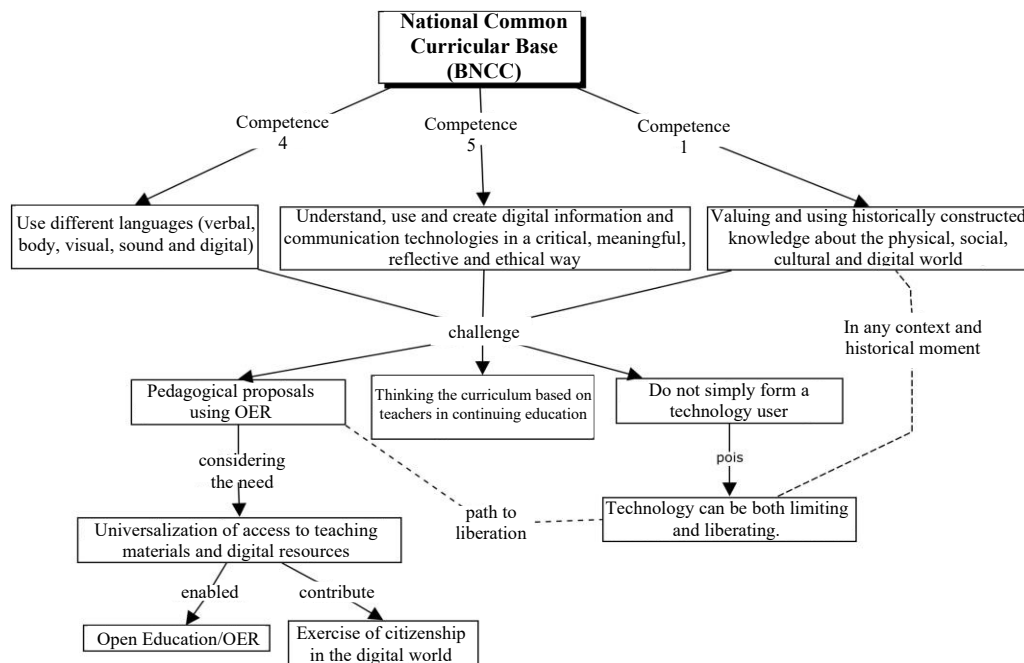
Source: Devised by the authors

Figure 2 – Legal provisions of the PNE



Source: Devised by the authors

Figure 3 – BNCC legal provisions



Source: Devised by the authors

To highlight the textual bases, the UNESCO Recommendations on OER of 2019 were selected; the National Education Plan (PNE) effective 2014-2024; Ordinance no. 451, of 16 May 2018; and CNE/CP Resolution, n. 1 of 27 October 2020, which establishes National Curriculum Guidelines for the Continuing Education of Basic Education Teachers and the Common National Curricular Base (BNCC).

CNE/CP Resolution n. 01, which deals with the continuing education of teachers, and even the PNE, make it clear that technologies are understood as an instrumental arsenal without being tied to an epistemological framework, as the basic principles of Technological-Pedagogical Fluency (TPF) have been deployed. Evidently, in the systematic and creative effort made explicit in the thematic networks, it was possible to tension confluences of legal provisions in relation to the principles of the universal right to education, the democratization of knowledge, lifelong learning, inclusion, citizenship, equity etc. These confluences are not non-existent, however, as foundational landmarks of a public policy with democratic ethics, they still lack cohesion and coherence. The first filter makes it clear that the terminologies, nomenclatures and conceptual references are different from each other. It is evident that document devices such as Ordinance n. 451 and BNCC assign a procedural place to technologies, since the centrality is the distribution of resources and reformist curricular mechanics.

Based on the syntheses shown in Figures 1, 2 and 3, the concluding propositions are systematized in the TAM cells corresponding to the DPM questions. It is about creating theoretical systems that can be understood and dimensioned and that go beyond local cases marked by the particularities of micro-contexts. In this way, it is possible to build legitimate and multimodal analytical frameworks.

Table 2 – Conceptual Propositions of the Thematic-Analytical Matrix (TAM)

	1 -Teachers	2 - Students	3- Thematic	4- Context
D - Context	D1) Public policies encourage curricular reforms based on the integration of educational technologies, OER and free software with ambitious purposes of literacy, overcoming inequalities and promoting citizenship. However, they are not coupled to devices that provide effective improvement of Technological-Pedagogical Fluency (TPF) as development and enhancement of education professionals encompassing teaching, research, extension and management.	D2) Public policies, materialized in current legislation, establish goals, guidelines and competences that touch on technologies, free software and OER for both Basic Education and Higher Education, being textually centered on the provision of digital resources and inconsistent in terms of equity, access, permanence and regular completion of studies.	D3) National public policies are improvised in relation to the promotion of initial and continuing teacher education, fundamental in didactic-methodological and curricular innovation, which supports negationist discourses and technical assertions in relation to open practices mediated by technologies, free software and OER.	D4) The sparse nature of the guidelines for the integration of technologies, free software and OER in Brazilian public education shows that the practice of the five freedoms is still incipient in the micro-contexts of Basic Education and Higher Education, generating parsimony in the face of the universal challenges of the right to education, democratization of the knowledge and lifelong learning.

Source: Devised by the authors

The results highlight the plurality of perceptions, translations and local (re)interpretations of policies related to educational technologies and Open Educational Resources (OER). It is not surprising, therefore, that discursive practices demarcate various naive typologies in deterministic curvatures that range from the negationist to the futurologist. Although all selected documents of current legislation make use of technologies, free software, open licenses and OER as strengths, the uncompromising character in relation to the formation, development and valuing education professionals is notorious.

Final considerations

Universal principles such as the right to education, democratization of knowledge and lifelong learning are at the center of a polysemic debate. The variables are wide, as they are based on a historical accumulation of demands, expectations and democratic forces, sometimes more neoliberal, populist and/or more neoconservative. In this sense, expanding and strengthening the Technological-Pedagogical Fluency (TPF) around Open Educational Resources (OER) and other contemporary developments is a necessary path to correct the distortions of access, permanence and successful completion of studies.

Expanding the production, availability, remix, readaptation and circulation of OER is within the framework of education as a universal social right, aiming at democratizing access as a way of operating social justice. In this sense, public policies, in a democratic sphere that is concerned with well-being and presupposes equality, need to foster Technological-Pedagogical Fluency (TPF) around networked educational technologies and OER. This is how it will be possible to mobilize the cultural capital of all people involved in defending the right to education, democratization of knowledge and lifelong learning.

Theoretical construction around network educational technologies and OER needs to be carried out by everyone: specialists, researchers, managers, teachers and students, both in Higher Education and Basic Education. For this, it is essential to understand that: a) OER are inserted in a real context in which public policies materialized in current legislation weigh; b) consolidated transpositions of OER in microcontexts imply the existence of political guidelines and institutional actions seriously committed to the ethics of inclusion, equity, democratization of knowledge; c) channels for dissemination and civil society participation are needed during the legislation's weaving processes, and even for evaluations during its implementation, which can facilitate productive dialogues and more reliable and legitimate solutions.

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