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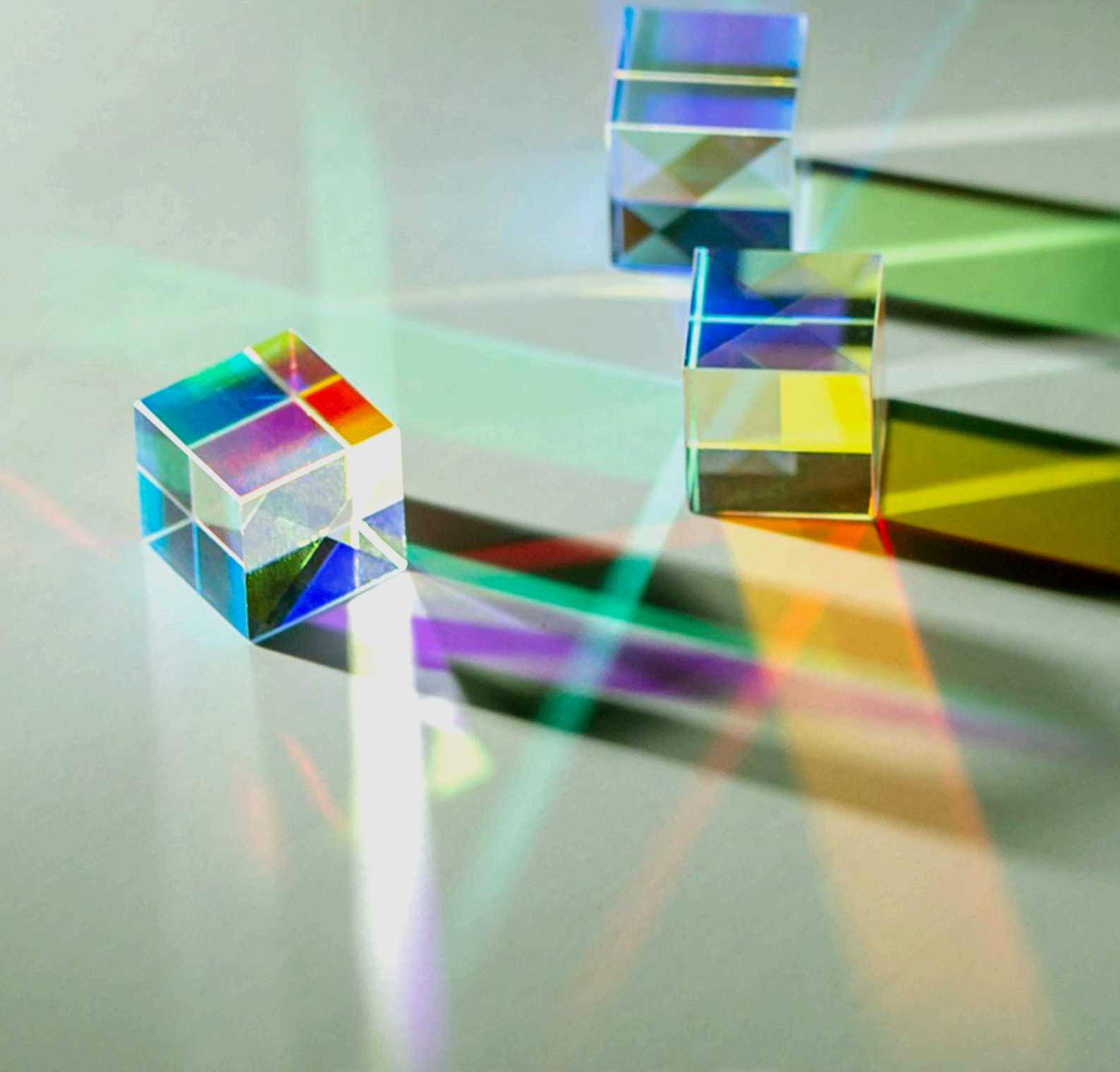

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FROM CONNECTIVISM TO EDUCATION 5.0: PHILOSOPHICAL, SOCIAL AND CULTURAL FOUNDATIONS

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ABSTRACT

This study investigates the evolution of educational conceptions in the face of contemporary technological and sociocultural transformations. It analyzes Education 4.0, characterized by the intense incorporation of digital technologies into teaching, and Education 5.0, which proposes the integration of these resources into humanized and learner-centered pedagogical practices. Using a framework that combines philosophical, historical, social, and cultural foundations, the study also examines the influence of Connectivism Theory as a theoretical support for both models. The research, qualitative and descriptive in nature, was based on a bibliographic survey of national and international databases, encompassing classic and contemporary authors. The analysis was conducted through a comparison between the two educational proposals and the ways in which Connectivism articulates with each, highlighting points of convergence and divergence. The results indicate that, while Education 4.0 emphasizes technological efficiency and preparation for the digitized job market, Education 5.0 seeks to balance innovation and integral human development. It is concluded that incorporating connectivist perspectives offers the potential to build more collaborative, adaptive, and culturally sensitive educational experiences.

Keywords: Education 4.0. Education 5.0. Connectivism. Pedagogical Innovation. Humanization of Education.

INTRODUCTION

The social and technological transformations of recent decades have directly impacted educational systems, demanding new ways of teaching and learning. Advances in artificial intelligence, large-scale data analysis, and digital networks have created a scenario in which Education 4.0 has emerged as a proposal focused on the intensive incorporation of technology into pedagogical processes, responding to the demands of a globalized and highly automated market.

More recently, Education 5.0 has gained prominence, presenting itself as a movement that seeks to integrate digital innovation with humanistic, socio-emotional, and cultural dimensions, aiming at the formation of critical, creative, and socially responsible individuals. In this context, Connectivism emerges as a theoretical framework that recognizes learning as a networked process, supported by multiple connections between people, information, and technologies.

Given this scenario, the following research problem arises: how does Connectivism Theory relate to the foundations of Education 4.0 and Education 5.0, highlighting convergences and divergences between these two educational models?

This research is justified, firstly, by its scientific relevance, as it contributes to broadening the academic debate on the impacts of the Fourth Industrial Revolution and new educational perspectives in the field of pedagogy. Secondly, its social importance lies in the fact that understanding these models can support managers, teachers, and public policy makers in making decisions involving the balanced and humanized integration of technologies into education. In a scenario where schools and universities still face challenges in adapting to contemporary demands, research that problematizes the relationship between technological innovation and the humanization of the educational process becomes fundamental.

Thus, the objective of this study is to comparatively analyze the philosophical, historical, social, and cultural foundations that structure Education 4.0 and Education 5.0, discussing how Connectivism relates to each of these proposals and what implications arise from this articulation for 21st-century education.

METHODOLOGY

This is a basic study , with a qualitative approach and descriptive-analytical character , based on bibliographic research. The purpose was to gather, examine, and compare scientific productions that address Education 4.0, Education 5.0, and Connectivism Theory, seeking to identify their convergences, divergences, and possibilities for articulation.

The search for materials was conducted in the following databases : Google Scholar, SciELO, Harvard Education Press, and Harvard University Press. The following descriptors were used as a search strategy , combined in different forms and associations: “Education 4.0”, “Education 5.0”, “Connectivism” , “networked learning” , and “learning theories in the digital age”.

The survey was conducted between August 2024 and March 2025. Preference was given to up-to-date references that reflect recent changes in the field of education, as well as fundamental texts for the historical or theoretical understanding of the subject.

Portuguese, English, and Spanish were selected in order to broaden the scope of the discussions and incorporate national and international perspectives.

The inclusion criteria involved: (i) thematic relevance to Education 4.0, 5.0 or Connectivism; (ii) publications in peer-reviewed journals or recognized academic publishers; (iii) availability of full access to the text; and (iv) explicit alignment with the research objectives.

The exclusion criteria included: (i) strictly opinion-based materials without scientific backing; (ii) duplicate publications in different databases; and (iii) texts whose content did not directly address the research problem.

The initial screening process involved reading the titles and abstracts , during which works that did not meet the established criteria were discarded. Following this, the selected articles and books were read in full, with entries recorded in index cards organized by thematic categories. This systematization allowed for the identification of convergences and divergences between the materials, supporting the comparative analysis conducted in the results.

The results of the collected data were interpreted in light of the theoretical framework of Farias Filho and Arruda Filho (2013).

PRESENTATION AND DISCUSSION OF RESULTS

Connectivism: learning from connections

The term "connection," often associated only with the digital world, comes from the Latin "*conexione*", meaning link or nexus. Since antiquity, human beings have sought ways to connect, such as smoke signals used for long-distance communication. In the biological realm, the first form of connection occurs through the umbilical cord and, after birth, expands into the physical and emotional interactions established with the people around them. Over time, these connections have evolved, keeping pace with technological development, especially with the expansion of the internet, which has profoundly transformed forms of communication and learning (Pilonetto; Paz; Rodrigues, 2019).

In this context, George Siemens (2004) and Stephen Downes (2005) developed the theory of Connectivism, arguing that knowledge is not restricted to individual memory, but circulates in networks and databases, and can be accessed and learned from the connections established. For the authors, learning occurs at different levels—biological, conceptual, and social—and is stimulated by external factors.

Inspired by complexity theory and Morin's (2005) systemic vision, Connectivism understands society as an interconnected network of elements. Each "node" can represent a person, idea, data, organization, or information, composing a system of interdependence in which subjects are understood as points of connection that interact with others, human or not. This conception broadens the notion of knowledge, which comes to be understood as something dynamic, distributed, and constantly updated.

Recognizing that learning is not limited to the individual, but is constructed in relationships and information flows, Connectivism proposes an innovative approach to social and technological transformations. Siemens (2005) highlights that, although education still shows resistance to such changes, it is urgent to consider new digital tools and contexts, as they redefine the ways of learning and relating to knowledge.

Although widely discussed, Connectivism is not without its critics. Kop and Hill (2008) and Verhagen (2006), cited by Gomes, Monteiro and Nascimento (2017), question whether the proposal can actually be considered a learning theory, pointing out conceptual and methodological weaknesses, as well as the absence of significant differences compared to other approaches, such as Constructivism and Cognitivism.

To counter such criticisms, Siemens (2005) compared the principles of Connectivism with other theories — Behaviorism, Cognitivism, and Constructivism — using the criteria of Ertmer and Newby (1993), which allowed him to support the theoretical status of his proposal.

Table 1 – Comparison between Learning Theories

Propriedades	Behaviorismo	Cognitivismo	Construtivismo	Conectivismo
Como ocorre a aprendizagem?	Caixa negra com enfoque no comportamento observável	Estruturado, computacional	Social, sentido construído por cada aprendente (pessoal)	Distribuído numa rede social, tecnologicamente potenciado, reconhecer e identificar padrões
Fatores de influência	Natureza da recompensa, punição, estímulos	Esquemas (*schema*) existentes, experiências prévias	Empenho (*engagement*), participação social e cultural	Diversidade da rede
Qual é o papel da memória?	A memória é o enculcar (*hardwring*) de experiências repetidas – onde a recompensa e a punição são mais influentes	Codificação, armazenamento e recuperação (*retrieval*)	Conhecimento prévio remisturado para o contexto atual	Padrões adaptativos, representativos do estado atual, existentes nas redes
Como ocorre a transferência?	Estímulo-resposta	Duplicação dos contructos de conhecimento de quem sabe ("knower")	Socialização	Conexão (adição) com nós (nodes)
Tipos de aprendizagem melhor explicados	Aprendizagem baseada em tarefas	Raciocínio, objetivos claros, resolução de problemas	Social,vaga ("mal definida")	Aprendizagem complexa, núcleo que muda rapidamente, diversas fontes de conhecimento

Source: Gomes, Monteiro, Nascimento (2017, p. 848 - Journal of Medicine and Health Promotion)

In short, Connectivism offers a new perspective on the educational process, understanding it as fluid, decentralized, and dependent on multiple sources, in a scenario where learning is organized in a network and renewed through diversity, collaboration, and adaptability.

Building Education 4.0

Marc Prensky (2001) is an American educator and writer, known for his theories in the field of Education and Technology. Famous for calling the 21st-century generation "digital natives," due to the fact that they are born hyper-stimulated by technology, and for calling their parents and teachers "digital immigrants," as they are part of a generation that had to adapt to the digital age; not dividing them into two groups to create barriers, but rather highlighting the generational differences that coexist in the same time and physical space, he also presents discussions on the educational policies necessary for the implementation of Information and Communication Technologies (ICTs).

From the perspective of Coelho, Costa, and Mattar Neto (2018), Brazilian educational policy considers programs for only one generation, whether "natives" or "immigrants," even though both groups participate in the educational landscape, share knowledge, possess potential, and are deserving. Based on Prensky (2001), the reactions of the nervous, kinesthetic, neuronal, articulatory, and sensory systems of "digital natives" are different. Given this, and being aligned with the digital age, it is impossible to demand that they learn in the same way as "digital immigrants," as they feel, react, speak, and act differently, and vice versa.

As Prensky (2001) argues, teachers often say that students don't want to learn or don't pay attention; in the author's view, the "digital native" chooses not to pay attention and not to do the activities because what is proposed at school is not attractive to them, since their way of relating to learning is different.

Neuroscientist Desmurget (2021) challenges Prensky's (2001) theories, elucidating that "digital natives" only show interest in recreational tasks linked to technology, thus experiencing difficulties with concentration and learning at school. They show no interest in any content outside of social networks and recreation.

Pierre Lévy (1999), philosopher and sociologist, was born in Tunisia and for over 30 years has been researching and writing about the impacts of the internet on society, cyberculture, virtual reality, fake news, collective intelligence, cyberdemocracy, cybereducation, artificial intelligence and technopower.

As Lévy (1999) argues , cyberculture and its relationship with education are reaching levels that will force educational systems to update themselves due to the following factors: the extreme speed at which information emerges and changes; the new nature of knowledge; distance learning; the teaching profession, which will depend on constant renewal and updating, where the teacher will take on the role of guiding individual paths, creating contexts for critical reflection, and recognizing the experiences acquired by students ; and cyberspace, which will empower the collective, excluding the paradigm that one person or group holds all information, as the internet universalizes them. However, Lévy (1999) points out that information and knowledge are distinct things.

Trindade (2023), based on the theories of Pierre Lévy and Connectivism, outlines new educational practices in the professional context, elucidating that teaching and learning are linked to Virtual Learning Environments – VLEs, the Web , knowledge networks, various teaching platforms, virtual communities, podcasts , discussion forums, blogs, among others . In light of this, it is increasingly necessary for educators to seek professional development. and new ways of appropriating cybereducation to promote learning.

The concept of Education 4.0 emerges as a consequence of the historical evolution of educational models, strongly influenced by the industrial and technological revolutions. The so-called Education 1.0 was characterized by teaching centered on the authority of the teacher and the rigid and passive transmission of knowledge, initially focusing on reading, writing, and Christian teaching, gradually expanding to subjects such as arithmetic, grammar, rhetoric, and dialectic (Führ; Haubenthal, 2018). With the Industrial Revolution, the educational model began to meet the demands of factory work, prioritizing the repetition of tasks, memorization, and individual learning, constituting what was called Education 2.0. Education 3.0, in turn, incorporated emerging digital tools, such as social networks and online platforms, and sought to promote greater student protagonism, stimulating creativity, autonomy, and collaborative work.

Education 4.0, in turn, represents a qualitative leap, integrating emerging technologies such as artificial intelligence, augmented reality, big data, the internet of things, and robotics, proposing a personalized and adaptive learning environment (Führ; Haubenthal, 2018; Felcher; Blanco; Folmer, 2022). The notion was introduced into the educational debate by the German engineer and economist Klaus Schwab in 2017, inspired by the term "Industry 4.0," coined years earlier to describe the processes of industrial automation and digitalization (Lemes and Santos, 2022). The Brazilian researcher Cassiano Zeferino de Carvalho Neto (2021) contributed to the systematization of the concept in the country, reinforcing that educational innovation is not limited to the insertion of technological equipment in the classroom, but implies the construction of critical and meaningful methodologies that use technology to promote learning.

The Covid-19 pandemic further highlighted the relevance of the discussion, shifting face-to-face education to other territories, in a process of deterritorialization and reterritorialization, as defined by Lacerda and Greco Junior (2021). The closure of schools required the rapid adaptation of pedagogical practices to virtual environments, intensifying the use of digital technologies and connectivity as indispensable resources for the continuity of the teaching-learning process.

In this context, teaching practice faces new challenges. Pilonetto, Paz, and Rodrigues (2019) emphasize that changes should not be limited to the scope of school units, but need to be articulated by education systems, which still lack effective policies to guarantee adequate infrastructure, material resources, and continuing teacher training. Public schools, in particular, suffer from precarious physical spaces, outdated equipment, and a lack of investment, which compromises the implementation of proposals linked to Education 4.0.

Peredrienko, Belkina, and Yaroslavova (2020) argue that the implementation of Education 4.0 should go beyond the mere ability to manipulate digital tools, proposing a formative process aimed at developing autonomous individuals with digital competencies, encompassing managers, teachers, and students. Thus, teaching in contemporary times implies understanding that technology must be appropriated critically and pedagogically, as an instrument of transformation, and not merely as technical support.

Building Education 5.0

Education 5.0 represents the most recent phase of educational evolution and is associated with the so-called fifth industrial revolution, which integrates technological advances with the human and socio-emotional dimensions of learning. Unlike Education 4.0, focused on mastering digital technologies and preparing for the automated job market, the Education 5.0 proposal emphasizes the holistic development of the student, considering both cognitive and socio-emotional development. This concept emerged in Japan in 2016 and has been further explored by various researchers and educational institutions seeking to reconcile high technology with a humanistic approach, capable of preparing individuals not only for professional performance but also for the full exercise of citizenship (Felcher; Blanco; Folmer, 2022).

According to Felcher, Blanco, and Folmer (2022), Education 5.0 is not limited to innovative methodologies or the use of advanced digital resources, but proposes a curricular restructuring that articulates inclusion, neuroscience, multiple intelligences, learning styles, and diversified forms of assessment. The authors compare the proposal to an iceberg: the most visible part includes elements such as digital technologies, active methodologies, and blended learning, while below the surface are less apparent, but equally essential, dimensions such as equity, the valuing of individual differences, and the strengthening of socio-emotional skills. Thus, there is no hierarchy among the elements that make up Education 5.0, since they all contribute in an integrated way to the education of the 21st-century student.

This approach also presupposes a review of the philosophical and social foundations that underpin educational practice.

From a philosophical point of view, Education 5.0 proposes a transformation of the school as a learning space, guided by a student-centered pedagogy personalized according to their needs, potential, and contexts. Technology is incorporated as a mediator of knowledge, but always at the service of humanizing teaching processes and promoting values such as empathy, collaboration, and sustainability (Felcher; Blanco; Folmer, 2022).

Historically, Education 5.0 is part of a continuous line of educational evolution, starting from traditional models, passing through Education 4.0, and renewing itself in light of technological innovations. However, it distinguishes itself by emphasizing that digital advancement should not be dissociated from respect for cultural and social diversity. In this sense, technological innovations, far from being an end in themselves, become tools for building a more inclusive and equitable education, aligned with contemporary global needs (Felcher; Blanco; Folmer, 2022).

From a social perspective, Education 5.0 seeks to train citizens capable of responding to the

demands of a constantly transforming world, valuing preparation for the job market, but also a commitment to a more just and sustainable society. To this end, it emphasizes the development of digital skills combined with critical, creative, and emotional abilities, allowing students to move between different areas of knowledge and interact collaboratively in multicultural environments (Felcher; Blanco; Folmer, 2022).

Culturally, Education 5.0 recognizes diversity as a structuring element of the educational process. Globalization and digital interconnection have broadened the possibilities of contact between cultures, requiring pedagogical practices to be sensitive in adapting methodologies and technologies to different realities. Thus, the proposal values both the universality of access to knowledge and respect for local contexts, reaffirming the role of the school as a plural space for civic education and the strengthening of cultural identity (Felcher; Blanco; Folmer, 2022).

Figure 1 - Education 5.0 and its Fundamental Elements

Source: Felcher, Blanco, Folmer (2022). https://rsdjournal.org/index.php/rsd/article/view/35264

Felcher, Blanco, and Folmer (2022) present, in the figure above, an analogy with an iceberg, highlighting more visible elements, such as digital technologies, artificial intelligence, and active methodologies, which form blended learning, and less visible elements, such as inclusion, neuroscience, multiple intelligences, learning styles, and assessment. However, they emphasize that there is no hierarchy of priority among the elements, as all are relevant.

The analysis of the results of this research was carried out based on Farias Filho and Arruda Filho (2013), in two movements. The first sought to identify the differences and similarities between

Education 4.0 and Education 5.0, while the second examined how Connectivism influenced both educational proposals from philosophical, historical, social, and cultural perspectives.

Regarding the differences, based on the theoretical contribution of Felcher, Blanco, and Folmer (2022), it is observed that Education 4.0 has consolidated itself in a context strongly marked by the incorporation of digital technologies and the preparation of students for an automated and globalized job market, emphasizing efficiency, productivity, and the development of technical and digital skills. Education 5.0, on the other hand, broadens this horizon by proposing the integration of technology with the human dimension, understanding that education should prepare for a more sustainable, inclusive, and sensitive future to socio-emotional issues.

From this perspective, while Education 4.0 maintains structured curricula, data-driven teaching methods, and assessments focused on quantitative results, Education 5.0 values flexible curricula, holistic assessment processes, and pedagogical practices centered on the student as an active protagonist of learning.

Analyzing through the theories of Trindade (2023), despite these differences, there are important convergences between the two proposals. Both Education 4.0 and Education 5.0 recognize the centrality of digital technologies in the teaching-learning process and the need to promote personalized and active education. Both share the concern of preparing students for the challenges of the future, although the emphasis falls on different aspects: Education 4.0 prioritizes technological adaptation and the development of digital skills, while Education 5.0 integrates these skills with socio-emotional, collaborative, and critical abilities. In both, the importance of lifelong learning is recognized, a fundamental characteristic in a constantly transforming world.

In the second stage of the analysis, considering the influence of Connectivism on the proposals of Education 4.0 and 5.0, and using the theoretical basis of Felcher, Blanco, and Folmer (2022), it was identified that this theory constitutes a structuring basis in both models, although with different approaches. In Education 4.0, Connectivism manifests itself in a restricted way, aligned with the logic of digital interconnection and networked learning, reinforcing the idea that knowledge is distributed in databases and digital systems. The focus, in this case, is on rapid adaptation to technological changes and efficiency in accessing and using information.

In Education 5.0, anchored in the theoretical framework of Felcher, Blanco, and Folmer (2022), Connectivism is reinterpreted and expanded, incorporating not only the digital dimension but also the human and social dimensions. Networked learning is seen as a space for integrating technical skills and humanistic values, seeking to balance technological advances with principles of empathy, collaboration, and sustainability. Historically, while Education 4.0 is associated with the context of the digital revolution, Education 5.0 emerges from the need to rethink educational practices in light of the social and cultural consequences of this process, proposing a more holistic and balanced approach.

From a social perspective, according to the aforementioned theoretical assumptions, Education 4.0 responds to the demands of a digitized and rapidly transforming society, highlighting the role of social and professional networks as learning channels. Education 5.0 expands this vision by emphasizing social inclusion and diversity, recognizing that access to technologies must be accompanied by policies that ensure equity and democratic participation.

From a cultural point of view, theoretically grounded in Felcher, Blanco and Folmer (2022), while Education 4.0 reflects the digital culture marked by the speed of information and constant technological renewal, Education 5.0 articulates this culture with respect for local and global identities, promoting a balance between innovation and the appreciation of cultural diversity.

Thus, the analysis allows us to affirm that Connectivism is present in both Education 4.0 and 5.0,

but assumes distinct roles: initially it supports digital interconnection as the basis of the learning process and, subsequently, it integrates social, human and cultural dimensions, proving itself as an indispensable reference for understanding and guiding education in the 21st century.

FINAL CONSIDERATIONS

The study revealed that Education 4.0 and Education 5.0 constitute educational responses to the transformations brought about by the technological revolution and the new social demands of the 21st century. Education 4.0 is characterized by the incorporation of digital resources, artificial intelligence, robotics, and big data, primarily aimed at preparing individuals for a highly technological job market. Education 5.0, while still valuing digital innovation, broadens the perspective by placing the human being at the center of the educational process, promoting a training that integrates cognitive, technical, social, and emotional competencies.

It was also found that Connectivism, a theory that understands knowledge as a constantly updated network, plays a fundamental role in underpinning both proposals. In Education 4.0, it manifests itself in a more technical way, reinforcing the centrality of digital connections and rapid adaptation to technological transformations. In Education 5.0, however, Connectivism takes on a more comprehensive character, articulating human, social, and cultural dimensions, in order to support a pedagogical practice that unites technological innovation and humanization.

The results also show that, although these proposals are circulating in academic debate and in some school practices, many institutions still operate under older models, demonstrating the mismatch between the speed of technological transformation and educational reality. This gap points to the need for public policies that guarantee infrastructure, investments in technology, and ongoing teacher training, in order to enable the effective implementation of these concepts.

It can be concluded, therefore, that Education 4.0 and Education 5.0 should not be seen as separate stages, but as complementary processes, in which the former prepares the ground for the latter to be fully realized. The advancement of contemporary education demands that technological innovation go hand in hand with the integral formation of the individual, ensuring both adaptation to the demands of a digital world and the construction of a more just, inclusive, and sustainable society.

For future research, it is recommended to conduct empirical studies that investigate how the principles of Education 5.0 have been effectively implemented in schools and universities, as well as comparative analyses between different sociocultural contexts. Furthermore, it is relevant to critically explore the tensions between technology and social equity, in order to prevent digitalization from deepening inequalities instead of contributing to the democratization of knowledge.

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A LOOK AT FREEDOM OF EXPRESSION ON THE INTERNET

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ABSTRACT

This article aims to present a perspective on freedom of expression, which can be understood as the right of every individual to freely express their ideas, opinions, and dogmas without suffering any kind of reprisal or censorship from society or the State. Therefore, the focus is on freedom of expression in the context of the internet and how its exercise in a pluralistic and globalized society like today's raises several questions for the Brazilian legal system. The methodology used is bibliographic, primarily employing scientific journals and academic publications found in repositories of major institutions. Furthermore, material from reliable websites such as Google Scholar and SciELO, among others, is used to enrich the work. Finally, the choice of this theme is justified because it is a topic of great discussion within the field of Civil Law today, and it also offers extremely rich content for debate among researchers. Constitutional conflicts arising from the exercise of a fundamental constitutional right such as Freedom of Expression are present in various sectors of society.

Keywords: Freedom of Expression. Freedom. Internet. Civil Law. Demonstration.

INTRODUCTION

Freedom of expression as a fundamental right has been immensely important throughout human history, as its purpose is to allow individuals to have thoughts, opinions, and ideas, and to express and externalize them without fear of reprisals from public or private actors.

It is certain that democracy depends on the exercise of freedom by its citizens. Freedom has many facets, and can be understood as the right to religious, ideological, informational, and press freedom. Given the history of dictatorial, authoritarian, and radical governments that suppressed these rights, several countries have given special attention to the protection of freedom in their legislation and constitutions.

Thus, while it is correct to affirm that freedom of expression has immense value for the ideal functioning of democracy, other principles are also equally important, among them the principle of the dignity of the human person. Every citizen has the right to defend themselves against any offense against their image, their honor, their privacy, and anything else related to their personality.

The attribution of responsibility in these cases has received special attention from legal professionals and must adhere to normative criteria, as well as be analyzed from a perspective that seeks to guarantee the fundamental duality of justice and legal certainty. This resulted in the creation of Bill No. 2,630 of 2020, which establishes the Brazilian Law of Freedom, Responsibility, and Transparency on the Internet. Initiatives like this are attempts to resolve the social conflict in question, taking into account fundamental rights and civil liability for damage caused to third parties.

This article aims to present a perspective on freedom of expression, which can be understood as the right of every individual to freely express their ideas, opinions, and beliefs without suffering any kind of reprisal or censorship from society or the State. Therefore, the research focuses on freedom of expression in the context of the internet and how its exercise in a pluralistic and globalized society like today's raises several questions for the Brazilian legal system.

The methodology used is bibliographic, which primarily utilized scientific journals, as well as academic publications found in repositories of the main public and private universities in the country. Furthermore, material from reliable websites such as Google Scholar, SciELO, JusBrasil, among others, was used, with the main goal of enriching the knowledge base for the work to be carried out.

Finally, the choice of this theme is justified because it is a topic of great discussion within the field of Civil Law today, and it also offers extremely rich content for debate among researchers. Constitutional conflicts arising from the exercise of a fundamental constitutional right such as Freedom of Expression are present in various sectors of society.

DEVELOPMENT

First and foremost, it is necessary and fundamental to contextualize the concept and history of freedom of expression in order to understand the nuances involved in this topic.

Looking at the historiography of the concept of Freedom of Expression, it is clear that its emergence stemmed from the first codes of the modern age, which became known worldwide as the Bill of Rights of 1689, a document that went hand in hand with freedom of religious belief.

It should be noted that, before the English Revolution succeeded, the Absolutist Regime was in place, which required every citizen to belong to a single religion, living under the whims of the clergy by order of the Kings, thus suppressing religious freedom and automatically the freedom of expression of the population at the time (Martins, 2017).

It is noteworthy that the Declaration of Rights was, in fact, a great advancement in terms of

democracy during the 17th century, as it addressed, in its subtext, and sought to protect fundamental rights. However, freedom of expression, understood as the manifestation of ideas and opinions articulated by any means without reprisals by any citizen, regardless of their color, creed, gender, and social class, was still a dream far from the reality of citizens around the world during that particular period.

It is necessary to bear in mind that in no way was freedom of expression, as well as any other fundamental right inherent to man, which has been acquired over the years, granted as a gift to the citizen by a King or Emperor, nor created by a state or parliamentary body; fundamental rights only exist today due to historical demands in pursuit of such rights (Martins, 2017).

It is understood that all the natural cultural and social development of all societies ended up forcing the appropriate conditions for the emergence of such rights, which were essential for the evolutionary process of the Democratic Rule of Law.

It was with the advent of the French Revolution that fundamental rights began to be noticed, since during its course the Declaration of the Rights of Man and of the Citizen was created and approved in 1789. This document stipulated that the ideals of liberty, equality, and fraternity, which were the basis of the entire French political and social revolution, should be equally applied to the entire population without any kind of distinction.

Freedom of expression was enshrined in the Declaration of the Rights of Man and of the Citizen in its articles 10 and 11.

> Article 10. - No one may be harassed for their opinions, including religious opinions, provided that their expression does not disturb the public order established by law.
>
> Article 11. - The free communication of ideas and opinions is one of the most precious rights of man. Every citizen may therefore speak, write, and print freely, but shall be responsible for abuses of this liberty as defined by law (France, 1789).

It is extremely important to emphasize that freedom of expression encompasses various forms , such as: religious, press, ideas, information, sexual, etc. Therefore, it is clear from all historical readings that, due to the customs of the time, no individual could fully exercise their right to freedom of expression in France in 1789.

With regard to Brazil and Fundamental Rights, such as Freedom of Expression, these became more evident with the end of the Brazilian Military Dictatorship, since after that moment, there was a process of redemocratization that ended up resulting in the Federal Constitution of 1988, finally enshrining fundamental rights and guarantees, the essential guiding principles for a legal order of a Democratic State of Law.

The Brazilian Constitution of 1988 guarantees freedom of expression in its fifth article, which begins Title II of the Constitution entitled "Fundamental Rights and Guarantees," through clauses IV and IX:

> Article 5 - All are equal before the law, without distinction of any kind, guaranteeing to Brazilians and foreigners residing in the country the inviolability of the right to life, liberty, equality, security and property, under the following terms:
>
> [...]
>
> IV - Freedom of expression is guaranteed, anonymity being prohibited;
>
> [...]
>
> IX - Freedom of expression of intellectual, artistic, scientific and communicative activity is guaranteed, regardless of censorship or licensing (Brazil, 1988).

Thus, by understanding the concept and historical trajectory of freedom of expression, it becomes clear that this fundamental right was won through long social and political struggles, constantly being

improved and challenged over time. From its earliest philosophical manifestations to its consolidation in contemporary democratic legislation, freedom of expression reveals itself as an essential pillar for the maintenance of citizenship, democracy, and human dignity, requiring, even today, constant vigilance to ensure that it is fully guaranteed and respected.

Freedom of Expression as a Fundamental Right

The foundations, ranging from the philosophical to the social realm, are vast and allow for the classification of freedom of expression as a fundamental right, which is the basis of any democratic state governed by the rule of law.

As previously defined, freedom of expression can be understood as the right of every individual to freely express their ideas, opinions, and beliefs without suffering any kind of reprisal or censorship from society or the State.

As presented by Coutinho (2019), the exercise of Freedom of Expression is an end in itself, with the author stating that every human being has the need to express themselves, to communicate, to exchange ideas and experiences. Such mechanisms would not be possible if Freedom of Expression were not enshrined as a Fundamental Right.

Based on what Coutinho (2019) presented, it can be understood that man's freedom to express himself freely has an instrumental nature, since its exercise ends up being used to achieve something important for the society to which he belongs. Thus, it is perceived that the effective exercise of freedom of expression, in fact, enables the formation of free public opinion, that is, without any external interference that for some reason might coerce certain individuals or social groups.

According to Sarmento (2020), public opinion is in fact an essential requirement of democracy; therefore, freedom of expression holds a preferential position within the Democratic Rule of Law, since it concerns allowing individual participation in political decisions. He further states that for democracy to function, it is extremely important that the State itself protects freedom of expression for the benefit of its citizens.

According to Sarmento's thinking (2020), it is understood that the State can in no way censor manifestations that result from the exercise of freedom of expression, since they end up becoming targets of the manifestations which have the legitimacy to consider the exercise of freedom valid or not, based on the Principle of the Dignity of the Human Person.

It is noted throughout the research that the right to freedom of expression within the Brazilian legal system, like all other fundamental rights, cannot be understood as an absolute right, and needs to be subject to limitations when it conflicts with other constitutional guarantees, in order to enable harmony between fundamental rights that are naturally sometimes pitted against each other in the daily life of society as a whole.

Although one of the objectives of the fundamental right to freedom of expression is to prohibit censorship, this mechanism does not preclude the fact that many individuals express themselves in a discriminatory or even violent manner, and may be held civilly and criminally liable, even if their right to express themselves freely is recognized.

The method used to resolve conflicts related to freedom of expression and human dignity is the principle of proportionality. This is because, despite the various limitations on freedom of expression within the constitutional text itself, it remains difficult to limit it in practice.

It is clear that cases where the exercise of freedom of expression conflicts with other fundamental rights encompass all types of freedom of expression, such as religious freedom and freedom of the press, which are the main "types" of the "genus" that is freedom of expression.

Globalization and Freedom of Expression

Globalization, as a phenomenon that has intensified the interconnection between peoples, cultures, and economies, has brought profound transformations to the way information is produced, shared, and consumed. In this new scenario, freedom of expression has come to play an even more central role, allowing individuals from different parts of the world to express their ideas and opinions in real time, breaking down geographical and cultural barriers.

According to the online dictionary Dicio, globalization is defined as a process that leads to integration, or a close connection, between economies and markets in different countries, resulting in the breaking down of borders between them. Globalization is selective and not always democratic and inclusive (Diniz, 2023).

According to Giddens (2018), two views are evident regarding the phenomenon of Globalization, thus being divided into two groups of people: the skeptics and the radicals. Also according to Giddens (2018), members of the Skeptics group claim that Globalization is nothing more than a myth created by man, thus it is evident that the global economy has not in fact undergone any major changes. In contrast to this group of people, the Radicals believe that Globalization is in fact, the effects of which can be felt everywhere; for them, as for most of society, it is evident that the market as a whole is in constant development.

Based on the author's analysis, it is understood that it would not actually be possible to explain the phenomenon of Globalization in an absolute way, since it is a multifaceted phenomenon involving distinct areas, thus acting in various spheres such as the economy, the social and cultural spheres, geopolitics, as well as demographic and religious spheres. In this way, Giddens sees Globalization as a complex network of processes. (Giddens, 2018).

With the arrival of advanced technologies, the use of the internet for social purposes became increasingly evident. In the 1980s, it was used only for military and academic purposes and for connecting research laboratories. However, it spread around the world, becoming popular among all types of people in 1992 with the creation of internet service providers (Dias, 2018).

This widespread dissemination has led to people becoming increasingly connected to one another, regardless of their location, through the use of emails and today through social networks. This gave rise to the phenomenon of cyberculture, which constitutes a multiverse of events, trends, and phenomena of a large networked society, an informatized society connected, in an atemporal way, by new information technologies.

In today's world, it's noticeable that there are a large number of social networks worldwide, each with a different purpose and aimed at a different audience, but all sharing the same common goal: fostering relationships between people.

According to IBGE (2021), the consumption of social networks is currently recent, considering that the first social networks were known during the first decade of the 21st century, more specifically between the years 2004-2010.

Starting from the understanding that contemporary society operates through the use of the internet, and consequently through the interaction provided by social networks, it is clear that this reality has completely changed the way young people and adults act, think, interact, and express themselves .

Regarding freedom of expression, it is positive to state that it is one of the individual rights that most reflects the characteristics of each human being, since it concerns the capacity to think, communicate, and experience life.

Therefore, freedom of expression should not be understood solely from an individual perspective, but also from a diffuse perspective. As an individual right, it consists of each person's right to express

themselves freely within the society to which they belong, and as a diffuse right, it refers to society's right to obtain and receive information, free from any interference or obstacles. In this way, freedom of expression becomes a true instrument of exchange and communication among all citizens belonging to a given society, where knowing the thoughts of others becomes as important as expressing one's own.

In this context, it is stated that the emergence of the internet has represented the possibility, to a degree never seen or imagined before, for individuals to express themselves, as can be seen in the words of the International Commission on Human Rights: "the Internet, like no other means of communication that existed before, has allowed individuals to communicate instantly and at low cost, and has had a dramatic impact on journalism and on how we share and access information and ideas" (Organización de Los Estados Americanos, 2013, p. 5).

The great potential of the internet stems from its unique characteristics, especially its speed and global reach, and sometimes relative anonymity (Silva, 2021). These characteristics enable individuals to disseminate information in real time, thus driving people towards both good and illicit and violent actions. Silva (2021) mentions that:

> The characteristics of the Internet – a radically open, decentralized, and plural space – result from its network architecture, devoid of a center. It developed from principles rooted in its design, and it is of paramount importance that any regulatory framework preserves these principles and takes this architecture into account. The Internet cannot be treated in the same way as other means of communication (Silva, 2021, p. 21).

As previously mentioned in this research, no fundamental right is absolute. It is certain that there are legitimate reasons related to protection, collective security, and others entirely linked to other rights that concern the same dignity. Thus, in the case of conflict between freedom of expression and other values that thrive on the same protections , a reasonableness test of restrictive measures is usually applied.

Similarly, restrictions on internet freedom will only be legitimate if they simultaneously meet a set of demanding requirements, namely:

a) Exceptionality and legal provision, that is, the restrictions must be exceptions expressly provided for in a law, in both formal and material terms, specified in clear and objective language, and which must be interpreted restrictively.

b) Adequacy, that is, the restrictions must aim at a legitimate purpose and be in fact capable of promoting that purpose. The purposes legitimately recognized by international declarations of rights are protecting the reputation of other individuals and protecting national security, public order, or public health.

c) Necessity, that is, freedom of expression on the Internet should only be restricted to the extent strictly necessary to achieve the objectives of the restriction, after careful consideration of other less restrictive alternatives.

d) Proportionality, that is, a positive relationship between the benefits expected from the restriction compared to the sacrifice imposed on freedom of expression.

e) Possibility of review by an independent authority, in accordance with due process: any decision that restricts the right to freedom of expression must be applied by an authority independent of any undue influences, whether political, commercial, or otherwise, in a way that is not arbitrary or discriminatory, and with adequate safeguards against abuse, including the possibility of challenge and invalidation against its abusive application.

These requirements must be taken into account in the formulation of regulatory frameworks on the use of the Internet, aspects of which will be developed in the following topics. According to the

United Nations Special Rapporteur on Freedom of Opinion and Expression, legitimate types of information that may be restricted include child pornography, hate speech, defamation (in order to protect the rights and reputation of others against unjustified attacks), direct and public incitement to commit genocide, and advocacy of national, racial or religious hatred that constitutes incitement to discrimination, hostility or violence.

Civil Liability in the Brazilian Legal System and Internet Crimes

In the context of the digital society, civil liability takes on new dimensions within the Brazilian legal system, especially given the increasing occurrence of illegal acts committed in the virtual environment. The internet, while a space that expands the exercise of freedom of expression, has also been the stage for conduct that violates personality rights, such as honor, image, and privacy, generating the need to hold the agents involved accountable.

When analyzing what civil liability is, it can be seen, according to Diniz (2023, p. 44), that this mechanism varies according to the aspects it aims to cover, thus there is no single correct definition of what can be understood by civil liability. This multiplicity of understandings stems from the very complexity of social and legal relations, which impose different forms of interpretation depending on the context and the subjects involved.

Within this perspective, it is also possible to understand the etymological origin of the term, which, according to the scholar Dias (2018), comes from the Latin respondere , that is, "to answer for something," which reinforces the idea that accountability arises as a necessary response to the practice of a harmful act, supported by the social demand that everyone assume the consequences of their actions.

The etymology of the word "responsibility" reveals the idea of obligation, of consideration. In this sense, Dias (2018, p. 33) emphasizes that responsibility expresses an equivalence between the act and its consequence, representing a correspondence between the conduct and the reparation due. This conception dialogues with the notion that civil liability is directly linked to the idea of reparative justice.

Complementing this understanding, Diniz (2023, p. 44) defines responsibility as "the situation of someone who, having Having violated a rule or obligation, causing harm, one is subject to the resulting consequences. their harmful act, that is, to the reparation of the damage, by restoring the status quo ante or by indemnity".

When addressing the issue of the reparability of damage, Rodrigues (2007, p. 51) observes that the real problem of liability is "knowing whether the damage experienced by the victim must or not to be repaired put who caused it", highlighting the element of causality as central to legal analysis.

Along the same lines, Gonçalves (2021) reinforces that civil liability is a phenomenon of an eminently social nature, as it translates the requirement to impute to whoever commits an unlawful act — or omits a legal duty — the burden of bearing the consequences of the harm resulting from their conduct.

Sarmento (2020) states regarding civil liability:

> Civil liability is the duty to compensate for patrimonial or moral damage caused to another, imposed on the agent causing the damage. Accidents resulting from damaged urban public roads can cause material, aesthetic, and even moral damages. The attribution of responsibility in these cases has received special attention from legal professionals and must comply with normative criteria, as well as be analyzed from a perspective that seeks to guarantee the fundamental duality: justice and legal security (Sarmento, 2020, p. 65).

Complementing this understanding, Machado and Santos (2019) broaden the comprehension of the term "responsibility," associating it with the obligation to give, do, or not do something, to compensate or repair damages, to bear penal sanctions, expressing at all times the obligation to answer for something. Thus, responsibility is nothing more than the duty undertaken by the one who caused the threat of harm, to assume before the entire public sphere, through judicial or extrajudicial means, the damage caused to another through their actions.

In light of the above, Santos (2021) translates that:

> Civil liability almost always entails a burden on the agent of the damage, through compensation, which may fall on the passive subject of the original relationship or on some third party. When liability arises from one's own act, there is so-called direct liability, and indirect liability is that which arises from a wrongful act beyond one's control, but somehow under one's protection and supervision. We can then say that civil liability is the obligation to compensate for the loss or damage, originating from an act of the agent himself (direct) or an act or fact under his supervision (indirect), and that this obligation must be assumed before the Judiciary (Santos, 2021, p.12).

Thus, it is evident that civil liability plays a central role in protecting the rights of victims, ensuring full compensation for damages suffered, either through the direct liability of the perpetrator of the harmful act, or by imputing responsibility to someone who, although not directly involved in the harmful event, had control or supervisory power over the principal agent. This distinction between direct and indirect liability, in addition to reflecting the complexity of contemporary legal relations, imposes on legal professionals the need to carefully assess the nature of the relationship between the parties, as well as the circumstances surrounding the damage, in order to adequately substantiate the claim for compensation before the Judiciary .

Venosa (2023) states that:

> In principle, any activity that causes harm generates liability or a duty to compensate. There will sometimes be exclusions that prevent compensation, as we shall see. The term liability is used in any situation in which any person, natural or legal, must bear the consequences of a harmful act, fact, or transaction. Under this notion, therefore, all human activity can entail a duty to compensate (Venosa, 2023, p. 358).

According to legal scholars, responsibility manifests itself in various ways, appearing as the capacity to bear the consequences of one's own actions, as the duty to compensate, and also as the obligation to repair damages.

Regarding civil liability in the cyber environment, the enactment of Law No. 12,965, of April 23, 2014, known as the Brazilian Civil Rights Framework for the Internet, stands out. This legislation recognizes internet access as essential to the exercise of citizenship in contemporary society, while establishing the legal framework for the use of the network, considering the particularities of virtual space (Brazil, 2014).

According to Article 19 of the aforementioned legal instrument, internet application providers can only be held liable for damages caused by information produced by third parties if, after a court order, they fail to take adequate measures to remove the content considered infringing, which must be clearly identified and located (Brazil, 2014). Therefore, anyone who considers themselves offended by statements published on social media should contact the Judiciary, provide the default resource locator where the offensive content is located, and request a court order mandating the removal of the material from the virtual environment.

The civil liability of internet providers, websites, and social media application managers is being analyzed within the scope of the Supreme Federal Court. The general repercussion of the matter regarding the constitutionality or not of article 19 of Law No. 12.965/14 was recognized, as the matter was considered of unequivocal relevance, given the importance and reach of social networks, and

could form the basis for thousands of similar lawsuits throughout the country, with legal and financial impact, reverberating in national economic activity (Brazil, 2014).

However , it must be emphasized that social media platforms become jointly liable with the user who caused the harm if they become aware of the injury through legal channels and fail to remove the offensive content. Therefore, the aim is to prevent prior censorship, so that, initially, freedom of expression is guaranteed against restrictions; however, in cases of violation of fundamental human rights that guide the dignity of the human person, there will be subsequent liability for the damages caused, encompassing both the user who caused the harm and, in case of inaction, the social media platform itself .

It is important to highlight that civil liability is an institution of Brazilian civil law composed of elements such as: conduct, fault, causality, and damage. The aim is to restore the status quo ante to the injured individual. Therefore, when fake news is spread , there must be accountability for the damage caused by such an action, since the fundamental right to freedom of expression does not negate such an act.

The Brazilian legislative branch has diligently sought to address the problem of fake news . Proof of this is Bill No. 2,630 of 2020, which establishes the Brazilian Law of Freedom, Responsibility, and Transparency on the Internet. Initiatives like this are attempts to resolve the social conflict in question, taking into account fundamental rights and civil liability for harm caused to third parties. This stance, although still lacking more in-depth studies, is the beginning of the debate proposed in Brazilian law to better deal with the new reality caused by the dissemination of fake news and its relationship with civil liability.

FINAL CONSIDERATIONS

With the conclusion of this research, it is understood that freedom of expression is a fundamental right enshrined in the Federal Constitution, a fact that should not change in the face of new challenges that may arise even decades after its creation, as it is a pillar of democracy.

It is worth noting that when observing the current scenario, analyzing the media and the internet, it can be observed that these are not environments entirely free from particular interests contrary to society. It is evident that the problem revolving around the interests of one party to the detriment of another is not recent; one only needs to study history to verify, for example, that fake news and its dissemination are not a novelty in the world, being a civilizational challenge that predates the creation of the printing press and the internet, and one that has not been solved to this day.

However, it should be noted that freedom of expression – like most fundamental rights – is not absolute and has its limits. For example, it is limited by civil liability, which affects the issue of spreading false news, or so-called fake news.

Finally, it is worth highlighting the idea that, to address the new reality, updated legislation is necessary. Technology alone will not suffice. Only the law guarantees the opportunity for defense and fair proof, characteristic of mature democracies. Within this scope, without any intention of stagnating on an extremely complex subject, the aim was merely to contribute and assist in a deeper discussion of the matter at hand, so commonly found in our legal field. Finally, once again, it is worth emphasizing that our country has been standing out and strengthening itself in the fight against criminal transgressions exposed and prevalent on the web, even though it lacks specific legislation.

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READING COMPREHENSION AS A DETERMINING FACTOR IN PERFORMANCE IN MATHEMATICS

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ABSTRACT

This study investigates reading comprehension as a decisive factor in students' performance in mathematics in the final years of elementary school. It starts from the understanding that learning mathematics goes beyond mastering calculations and procedures: it requires attentive reading, interpretation of statements, comprehension of problem situations, and attributing meaning to symbolic representations. The research, using a qualitative approach with quantitative data support, was conducted with 6th-grade classes through the application of diagnostic assessments of reading and mathematical problem-solving. The data analysis showed that students with greater reading proficiency performed better in interpreting problems, identifying relevant information, and choosing problem-solving strategies. Conversely, many of the difficulties attributed to mathematics were revealed to be related to failures in textual comprehension, and not just to a lack of numerical skills. The results reinforce the importance of pedagogical practices that integrate literacy into mathematics teaching, recognizing reading as a structuring competence of school learning.

Keywords: Reading skills. Literacy. Mathematics education. Problem solving. School learning.

INTRODUCTION

In recent decades, large-scale assessments, such as the Basic Education Assessment System (SAEB) and the Programme for International Student Assessment (PISA), have highlighted a recurring scenario: students exhibit significant difficulties in mathematics that are often not only related to mastering calculations or algorithmic procedures, but also to understanding the wording of the questions. Mathematical problems, especially contextualized ones, require careful reading, interpretation, selection of relevant information, establishment of logical relationships, and attribution of meaning to the data presented.

In this context, a central question emerges: how does students' reading comprehension influence their performance in mathematics, especially in understanding and solving problem situations in the final years of elementary school?

Historically, schools have treated reading as a primary responsibility of the Portuguese Language subject. However, school mathematics is deeply mediated by language, involving symbols, graphs, tables, and statements that demand active, inferential, and critical reading. When a student has difficulty understanding specific vocabulary, logical connectives, or identifying the central issue of a problem, their difficulty is not exclusively mathematical, but also linguistic and cognitive.

Therefore, understanding the relationship between reading and learning mathematics becomes fundamental for improving pedagogical practices. The Brazilian National Common Curriculum Base (BNCC) reinforces reading as a transversal competence, necessary in all areas of knowledge, by proposing practices that involve interpretation, analysis, and problem-solving.

Furthermore, authors such as Solé (1998) highlight the importance of reading strategies—before, during, and after reading—as fundamental to the construction of textual comprehension, while Vygotsky (1998) emphasizes the role of language as a structuring instrument of thought. These perspectives reinforce that mathematical learning is directly related to the development of reading competence.

In this context, a central question emerges: to what extent is poor performance in mathematics associated with weaknesses in reading comprehension? Given literacy events, one must select reading strategies appropriate to different objectives and characteristics of genres and media, according to the aforementioned skill:

> To read autonomously and understand – selecting reading procedures and strategies appropriate to different objectives and taking into account the characteristics of genres and media – children's and young adult novels, folk tales, horror stories, Brazilian, indigenous and African legends, adventure narratives, mystery narratives, myths, chronicles, autobiographies, comic books, manga, free and fixed form poems (such as sonnets and cordel literature), video poems, visual poems, among others, expressing an evaluation of the text read and establishing preferences for genres, themes, and authors. (BRAZIL, 2018, p. 169)

Traditionally, schools separate areas of knowledge, treating reading as the primary responsibility of Portuguese Language. However, school mathematics is strongly mediated by language: symbols, graphs, tables, written problems, and problem-solving situations are forms of text that demand active, inferential, and critical reading. When a student does not understand specific vocabulary, logical connectives, cause-and-effect relationships, or cannot identify the central question of a problem, their difficulty is not exclusively mathematical, but also linguistic and cognitive. Thus, failure may stem less from an inability to solve and more from a difficulty in understanding what needs to be solved.

Thus, Solé (1988, p. 90) proposes reading strategies, seeking to contribute with viable methodologies for a better understanding of meaningful reading practices. For her, the use of these strategies is essential to promoting students' reading skills. Therefore, the reading activity, according

to the author, should follow some stages, namely: before reading, during reading, and after reading.

Studies in the fields of Mathematics Education and Applied Linguistics indicate that reading in Mathematics has specific characteristics, but maintains common bases with general reading competence: efficient decoding, fluency, construction of inferences, monitoring of comprehension, and articulation between text and prior knowledge. Furthermore, the Brazilian National Curriculum Base (BNCC) reinforces the idea that reading is a transversal competence, necessary in all areas, by proposing practices that involve data interpretation, information analysis, and contextualized problem-solving. Therefore, it is not just about teaching mathematical content, but about ensuring that the student develops strategies to understand mathematical texts according to the BNCC (2017):

> "(...) a competent reader possesses diverse skills, attitudes, and values. Skill is knowing how to do something. Being competent means mobilizing a set of skills in pursuit of a specific goal, to solve problems. A competent reader is able to perform various actions on the text in order to understand it."

The relevance of this discussion becomes even greater when considering the profile of basic education students, especially in contexts of social vulnerability, where access to reading practices outside of school may be limited. In these situations, the classroom assumes a decisive role in the formation of the reader, including the reader of mathematical texts. If reading is not worked on intentionally and integrated into mathematics classes, learning inequality widens, as students with a greater reading repertoire tend to have advantages in mathematical performance as well.

Furthermore, understanding the relationship between reading comprehension and mathematical learning contributes to rethinking pedagogical practices. Instead of attributing difficulties exclusively to "lack of logical reasoning" or "aversion to mathematics," space is opened for interventions that involve guided reading of problems, collective discussion of statements, expansion of mathematical vocabulary, analysis of different forms of representation, and development of textual comprehension strategies. This perspective dialogues with interdisciplinary approaches and pedagogical proposals that value language as a tool for constructing thought. According to (VYGOTSKY, 2001):

> Language is not only a means of communication, but a fundamental instrument in the formation of thought and the organization of cognitive functions. (VYGOTSKY, 2001)

Therefore, investigating reading comprehension as a determining factor in mathematical performance is justified both from a theoretical point of view—by articulating fields of study that have historically progressed in parallel—and from a practical point of view, by offering support for improving teaching practices and, consequently, learning outcomes. It is about recognizing that reading well is a prerequisite for learning mathematics with comprehension, autonomy, and meaning.

Given this scenario, this study aims to analyze how reading comprehension influences students' performance in mathematics, especially considering the comprehension of statements, the interpretation of problems, and the construction of problem-solving strategies. To this end, it seeks to identify the main reading difficulties that interfere with the resolution of mathematical problems, as well as to investigate the relationship between levels of reading comprehension and students' performance in mathematical activities. Furthermore, it intends to analyze pedagogical practices that integrate reading into mathematics teaching and to propose didactic approaches that favor the development of reading comprehension in the context of mathematics classes.

Thus, this research is justified by the need to understand reading as a structuring element of mathematics learning, contributing to the development of more integrated, meaningful, and equitable pedagogical practices.

METHODOLOGY

This research is characterized as a qualitative study, supported by quantitative data, of a descriptive-analytical nature, focusing on understanding the relationship between reading competence and performance in mathematics in the context of basic education. In an interdisciplinary manner, it is based on the assumption that mathematical performance cannot be analyzed in isolation, and that it is necessary to consider the reading and interpretation processes involved in problem-solving.

The study was conducted in a 6th-grade class in the final years of elementary school at a state public school located in the municipality of Conceição do Castelo, Espírito Santo, involving regularly enrolled students. The choice of research field is justified by representing a real context of pedagogical practice, in which recurring difficulties are observed in both reading and mathematics learning.

The participants initially comprised the entire class, totaling 28 students. However, for the purposes of a more in-depth analysis, an intentional selection of 10 students was made, with 5 showing higher reading performance and 5 showing lower performance. This choice is justified by the need to compare contrasting profiles, allowing for a more detailed analysis of the relationship between reading proficiency levels and performance in mathematics, as recommended by qualitative studies that value the comparative analysis of cases. The inclusion criteria for participants considered regular class attendance and participation in the activities proposed during the research period.

The data collection instruments involved four pillars:

1. Diagnostic reading activities, consisting of verbal and non-verbal texts, with questions that assess literal, inferential, and interpretive comprehension;
2. Math activities with contextualized problems, requiring reading, interpreting statements, analyzing data, and developing problem-solving strategies;
3. Classroom observation, with recording in a field diary, in order to identify how students interact with mathematical texts and what strategies they use to understand them;
4. A questionnaire or semi-structured interview with students (and, if relevant, with teachers), aimed at identifying perceptions about reading difficulties and problem-solving.

Data collection occurred in stages. Initially, a diagnostic reading assessment was applied, followed by mathematical activities. Subsequently, pedagogical interventions were developed that integrated reading and mathematics, such as collective reading of problems, linguistic analysis of statements, exploration of mathematical vocabulary, and oral discussion of interpretation strategies. These interventions made it possible to observe changes in how students understand and solve problem situations.

The qualitative data analysis was performed using content analysis techniques, with the prior and emerging definition of analytical categories, such as:

- difficulties in literal comprehension;
- difficulties in inferential comprehension;
- Misinterpretations of statements;
- Reading strategies used (anticipation, rereading, identification of keywords);
- Types of resolution adopted (adequate understanding, mechanical attempt, lack of strategy);
- The relationship between text comprehension and accuracy/incorrectness in mathematical problem-solving.

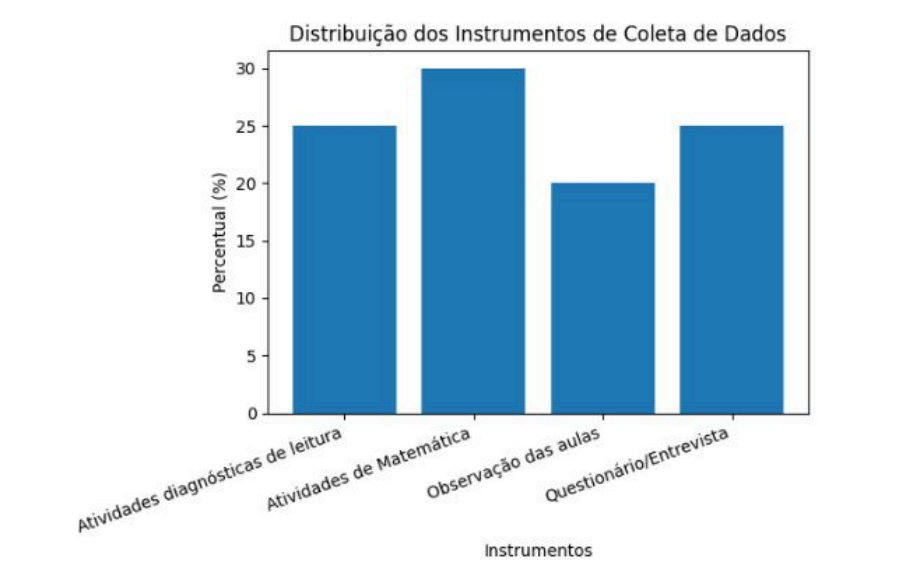
The quantitative data (number of correct answers, types of errors, and performance levels) were organized into tables and graphs, allowing for the identification of patterns and possible correlations between reading comprehension and mathematical performance.

Regarding ethical aspects, the research respected the principles of confidentiality and anonymity of the participants, using free and informed consent forms signed by the legal guardians of the students and by the school institution.

It is expected that the methodology adopted will make it possible to understand, in an integrated way, how reading competence interferes with mathematical learning, offering support for interdisciplinary pedagogical practices that favor the improvement of student performance.

PRESENTATION AND ANALYSIS OF THE RESULTS

The data analysis revealed a significant relationship between students' reading comprehension skills and their performance in mathematical activities involving problem-solving. It was observed that students who performed better in text comprehension activities also demonstrated greater success in interpreting mathematical statements, selecting relevant information, and developing problem-solving strategies. On the other hand, students with reading difficulties showed a higher incidence of errors related to interpretation, even when they demonstrated mastery of basic operations, as shown in the following graph.



Source: Prepared by the authors (2026)

The research was conducted with a class of 27 students; however, for a more in-depth approach to the proposed activity, a group of 10 students was selected. This selection allowed for a more detailed monitoring of the learning process, favoring a qualitative analysis of the difficulties and strategies employed by the students, especially regarding the relationship between reading comprehension and performance in mathematics.

The graph presents the distribution of data collection instruments used in the research, highlighting a relative methodological diversity. It can be observed that mathematics activities account for the largest share (30%), indicating a significant focus on the direct analysis of student performance in specific situations within the subject. Next are diagnostic reading activities and questionnaires/ interviews, both at 25%, demonstrating a concern with understanding both reading skills and the

perceptions of the subjects involved in the educational process. Classroom observation represents 20%, configuring itself as a complementary, yet relevant, instrument, as it allows for the analysis of the pedagogical context and teaching practices in real-world situations. This distribution suggests a balance between quantitative and qualitative instruments, reinforcing the research's intention to understand the investigated phenomenon in a broad and integrated way, articulating performance, processes, and perceptions.

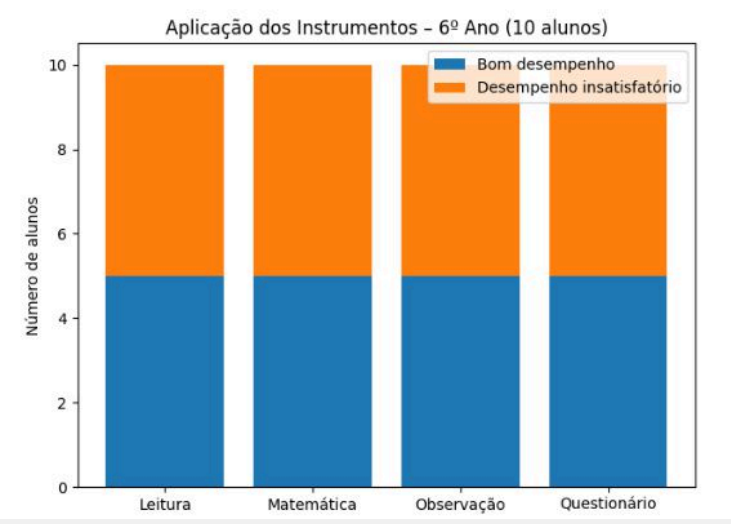
Therefore, the result presented in the graph above directly relates to the studies of Smole and Diniz (2001), who affirm that reading, writing, and problem-solving are inseparable skills in the process of learning mathematics. According to the authors, difficulty in mathematics is frequently associated with an inability to understand the problem statement, and not necessarily with a lack of mathematical knowledge. Along the same lines, Fonseca (2013) highlights that language in mathematics is not merely a support, but a constitutive element in the production of meaning, which reinforces the centrality of reading competence in student performance.

In the diagnostic reading assessment, weaknesses were identified mainly at the inferential and interpretive levels. Many students were able to locate explicit information, but had difficulty establishing relationships between data, understanding implicit meanings, and identifying the text's intention. These same difficulties appeared in mathematical activities, especially in contextualized problems, where the student needed to understand the described situation before applying any procedure.

This finding can be understood in light of the contributions of Solé (1998), who emphasizes that effective reading involves active processes of meaning-making, including inference, anticipation, and hypothesis testing. When these strategies are not employed, textual comprehension becomes superficial, compromising problem-solving in different areas of knowledge.

Furthermore, the BNCC (2018) reinforces that reading competence involves the ability to interpret, analyze, and use information in different contexts, being essential for the development of school learning. During classroom observation, it was found that, when faced with written problems, some students immediately sought to perform calculations without carefully reading the problem statement.

This behavior resulted in answers inconsistent with the question posed, revealing that the obstacle was not in the mathematical operation itself, but in understanding the problem situation. This data reinforces the idea that many errors attributed to mathematics originate from reading failures, as indicated by studies in the field and the following graph.



Source: Prepared by the authors (2026)

The graph presents the results of applying data collection instruments to a sample of 10 sixth-grade students, highlighting the distribution between "good performance" and "unsatisfactory performance" in the different dimensions evaluated: reading, mathematics, observation, and questionnaire. It is observed that, in all instruments, there is a balanced division, with 5 students showing good performance and 5 with unsatisfactory performance. This pattern suggests the existence of a heterogeneous group, in which half of the students demonstrate mastery of the assessed skills, while the other half still faces significant difficulties. This balance reinforces the hypothesis that the challenges are not restricted to a single area, but cross different aspects of the learning process, including reading competence and its relationship with performance in mathematics. Furthermore, the data indicate the need for targeted pedagogical interventions that consider this diversity of levels and promote integrated teaching strategies aimed at improving the overall performance of the students.

This behavior can be interpreted from the reflections of Onuchic and Allevato (2011), who advocate problem-solving as a process that requires understanding, planning, and reflection, and not just the mechanical application of procedures. When the student ignores the reading and interpretation stage, they reduce mathematical activity to an operational exercise, emptying its formative potential.

The data collection instruments were applied to a 6th-grade class of 28 students. For analytical purposes, 10 students were selected, 5 with higher reading performance and 5 with lower performance. The results indicated that students with higher reading proficiency performed better on the proposed activities, while those with difficulties demonstrated limitations in both reading and solving mathematical problems.

These data highlight the need for pedagogical interventions focused on developing reading and interpretive skills, since these abilities directly impact the understanding of mathematical statements and the development of problem-solving strategies. In this perspective, Vygotsky (1998) contributes by stating that language plays a fundamental role in the organization of thought, mediating higher cognitive processes. Thus, strengthening language also implies enhancing mathematical learning.

The pedagogical interventions carried out throughout the research—such as collective reading of problems, oral discussion of the statements, highlighting of keywords, and analysis of mathematical vocabulary—showed a positive impact on student participation and the quality of their solutions. More time was spent understanding the text before calculations, and there was an increase in the exchange of strategies among students. These practices favored the construction of meaning and reduced interpretation errors.

This result aligns with Freire's (1996) perspective, which argues that reading the world precedes reading the word, indicating that comprehension is not limited to decoding, but involves critical interpretation and meaning-making. By promoting dialogical and reflective practices, the teacher enables the student to understand the problem before solving it, making learning more meaningful.

Another relevant result relates to the different forms of representation. When the problems were accompanied by tables, diagrams, or graphs, some students demonstrated greater comprehension, while others revealed difficulty in articulating these representations with the verbal text. This confirms that mathematical learning involves the coordination between different languages, as Dante (2010) and Fonseca (2013) point out, highlighting that mathematics teaching should include multiple forms of representation to favor the construction of meaning.

The discussion of the results therefore indicates that reading comprehension skills serve as a foundation for learning mathematics with understanding. The data corroborate the literature by showing that reading a problem involves interpreting, inferring, selecting information, and assigning

meaning to the language used. Thus, school mathematics requires guided reading practices, teacher mediation, and integration between language and content.

Thus, the results of this research point to the need for interdisciplinary pedagogical practices that value reading in mathematics classes, not as an accessory activity, but as a constitutive part of the learning process. In this context, reading ceases to be merely a support and becomes a structuring element of mathematical thinking, contributing to the improvement of student learning in a holistic way.

CONCLUSION

The analysis of reading comprehension as a determining factor in mathematical performance reveals that students' difficulties in this area cannot be attributed solely to limitations in logical reasoning or procedural skills. The results show that reading plays a central role in problem-solving, as it is through reading that students understand the problem statement, select relevant information, and develop response strategies.

It has been observed that many errors considered mathematical actually originate from misinterpretations, such as difficulties in understanding terms, identifying what is essential in the problem, and relating the presented data. This reveals that learning mathematics also requires knowing how to read, interpret, and attribute meaning to information, reinforcing the presence and importance of language as a structuring element of this process.

The research also shows that pedagogical practices that link reading and mathematics—such as guided analysis of statements, work with specific vocabulary, and group discussion—contribute to more meaningful learning. When students understand what they read, they become more engaged, participate with greater confidence, and expand their problem-solving possibilities.

In this context, it becomes essential to rethink teaching, methodologies, and practices, recognizing that reading should be present in all areas of knowledge. Promoting reading competence is not just a task for the Portuguese Language department, but a commitment of the entire school, especially when seeking to reduce learning inequalities.

Furthermore, it is necessary to invest in more reflective teaching practices that consider language as an essential part of mathematics education. Teaching is not limited to the transmission of content, but involves creating conditions for the student to understand, question, and construct meaning.

In short, reading comprehension is an indispensable condition for meaningful mathematical learning. Strengthening this relationship through integrated and intentional practices—that is, working in an interdisciplinary way—is an important path to improving student performance and making learning more accessible, critical, and effective.

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ORGANIZATIONS AND SUSTAINABLE DEVELOPMENT

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ABSTRACT

Sustainable development has become one of the main guiding paradigms of contemporary organizational practices, especially in the face of intensifying global environmental, social, and economic crises. This article aims to critically analyze the theoretical foundations and practical applications of sustainability in the organizational context, considering its relationship with corporate governance, business ethics, and market competitiveness. The research adopts a qualitative approach, based on a literature review of classic and contemporary authors, as well as relevant institutional reports and case studies. The evolution of the concept of sustainability is discussed, from the Brundtland Report to the consolidation of ESG (Environmental, Social , and Governance) practices , highlighting its influence on the strategic formulation of organizations. It argues that sustainability has ceased to be an accessory practice and has become a central element in the construction of organizational value, directly impacting innovation, reputation, and financial performance. Furthermore, the article presents concrete examples of companies that have incorporated

sustainability into their operations, demonstrating how such practices can generate lasting competitive advantages. Finally, the role of leadership and organizational culture in consolidating sustainable models is reflected upon, pointing out paths for ethical and responsible business practices aligned with the challenges of the 21st century.

Keywords: Sustainable development. ESG. Social responsibility. Corporate governance. Sustainable innovation.

INTRODUCTION

The incorporation of sustainable development into organizational strategies represents one of the most significant transformations in the field of contemporary management. What was previously treated as a peripheral concern or an institutional marketing action, now occupies a central position in the strategic decisions of organizations, directly influencing their social legitimacy and competitiveness in the global market.

According to Elkington (1998), the concept of triple bottom This line establishes that organizational performance should be measured by integrating three fundamental dimensions: economic, social, and environmental. This perspective breaks with the traditional paradigm focused exclusively on profit, proposing a broader view of organizational value.

Sachs (2009) expands on this approach by highlighting that sustainable development involves interdependent dimensions, including social equity, technological innovation, and ethical governance. In this context, the concept of ESG emerges, guiding investors and stakeholders in evaluating organizational practices.

Faced with challenges such as climate change, scarcity of natural resources, and socioeconomic inequalities, it is essential that organizations take an active role in building sustainable solutions. This article aims to critically analyze this scenario, discussing theoretical foundations, business practices, and social impacts associated with organizational sustainability.

According to Marques et al. (2021), the university is also moving in this direction, as it is a place of learning with a social function of knowledge production, development, science and technology.

Fundamentals of Sustainable Development

The concept of sustainable development gained international prominence following the Brundtland Report (WCED, 1991), which established the need to meet present demands without compromising future generations. This definition introduces an intergenerational ethical dimension that remains central to contemporary debates.

From a theoretical point of view, sustainable development is characterized by its systemic and interdisciplinary nature. Sachs (2009) argues that its effectiveness depends on the integration of economic growth, social justice, and environmental preservation, requiring structural changes in production models.

In an organizational context, this approach implies the adoption of practices such as:

- efficient management of natural resources;
- transparency in processes;
- corporate social responsibility;
- Sustainable innovation.

The growing relevance of ESG criteria reinforces this transformation, highlighting that sustainability is not only an ethical imperative, but also an economic one.

Figure 1: The importance of ESG for business

Source: REDLICH (2021)

The Influence of Sustainable Practices in the Corporate Environment

Transformations in the contemporary corporate environment highlight a paradigmatic shift in the relationship between companies and society. Growing consumer awareness and investor pressure have driven the adoption of sustainable practices as a requirement for organizational legitimacy.

According to Nielsen (2015), consumers' willingness to pay more for sustainable products reveals a significant shift in consumption behavior, especially among younger generations.

Greenwashing stands out, representing a threat to organizational credibility. As Kunsch (2003) argues, corporate communication must reflect real practices, otherwise it risks compromising institutional reputation.

Porter and Kramer (2011) introduce the concept of shared value, according to which companies can generate economic value while simultaneously promoting social benefits. This approach reinforces the idea that sustainability and competitiveness are complementary dimensions.

Machado et al. (2022) demonstrated in their study that the adoption of sustainability has become crucial for industries in the global market.

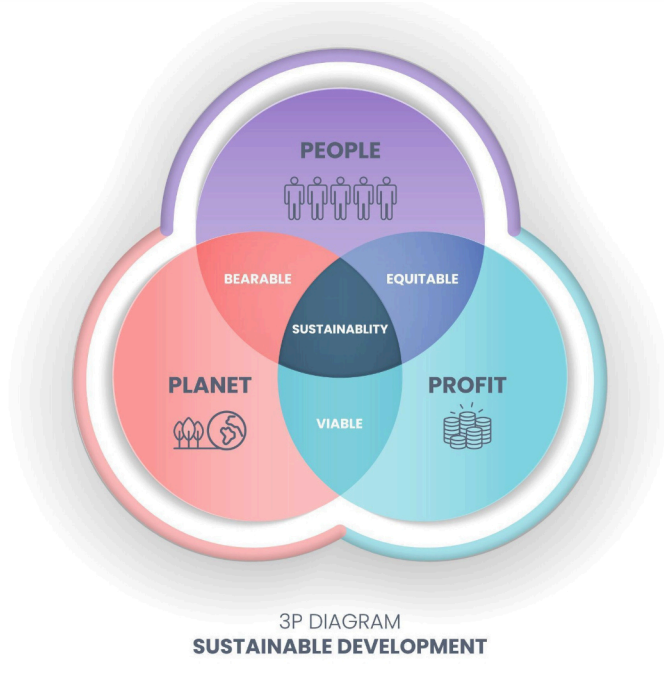
Sustainability and Competitive Advantage

Sustainability has become a key strategic factor for organizational competitiveness. Recent studies (McKinsey, 2022) indicate that companies with consistent ESG practices show superior financial performance, highlighting the correlation between socio-environmental responsibility and economic results.

The triple bottom model This approach remains relevant when proposing an integrated assessment of organizational performance.

Romão et al. (2022) emphasize that, although the academic literature on Sales and Operations Planning (S&OP) has grown significantly, as have its implementations in the industry, companies still face difficulties in successfully implementing the process and obtaining the expected benefits. It is evident, however, that professionals benefit from the results of this research.

Figure 2 – Triple Bottom Line



Companies like Natura and Unilever demonstrate, empirically, that sustainability can be incorporated as a central axis of business strategy, generating innovation and strengthening the brand.

Ethics, Governance and Social Responsibility

Organizational sustainability is intrinsically linked to ethics and corporate governance. Oliveira (2012) highlights that business ethics transcends regulatory compliance, encompassing social responsibility and integrity in institutional relations.

Corporate governance, in turn, ensures transparency and accountability , which are fundamental elements for stakeholder trust.

Corporate social responsibility is evolving from one-off philanthropic actions to an integrated strategic approach, influencing all organizational dimensions.

The Role of Leadership in Sustainable Practices

Leadership plays a central role in consolidating organizational sustainability. According to BCG (2021), leaders who incorporate purpose and socio-environmental responsibility promote more resilient organizational cultures.

These leaders act as agents of transformation, integrating sustainability into strategic decisions and stimulating innovation. Internal communication and collective engagement are essential elements in this process (Severino, 2007).

Practical Applications and Social Impacts

Implementing sustainability within organizations requires its cross-functional integration across all areas. Practices such as circular economy, use of renewable energy, and responsible supply chain management exemplify this approach.

Furthermore, social initiatives, such as inclusion and community development, reinforce the positive impact of organizations on society.

Also noteworthy is the emergence of the regenerative economy, which seeks not only to reduce impacts, but also to restore natural and social systems.

Case study: Patagonia

Patagonia represents a paradigm of corporate sustainability, integrating environmental values into its business strategy.

Figure 3 – "Don't" Campaign Buy This Jack"

The company stands out for practices such as:

- Transparency in the production chain;
- governance oriented towards the common good;
- corporate environmental activism.

Their decision to allocate profits to environmental causes represents a significant innovation in the corporate governance model.

Sustainable Innovation and Digital Transformation

The relationship between sustainability and innovation has intensified significantly in recent decades, especially with the advancement of digital technologies and the growing demand for scalable solutions with low environmental impact. So-called sustainable innovation is not limited to the creation of new products, but involves the reconfiguration of processes, business models, and value chains.

According to Schumpeter (1934), innovation is the engine of economic development. In the contemporary context, this innovation is now guided by socio-environmental criteria, incorporating principles of energy efficiency, emission reduction, and a circular economy.

Digital transformation, in turn, acts as a catalyst for this process. Technologies such as artificial intelligence, the Internet of Things (IoT), and blockchain have enabled greater traceability, transparency, and resource optimization. Companies that use smart sensors to monitor energy consumption or data analytics systems to reduce waste exemplify how technology can be an ally of sustainability.

However, it is necessary to recognize that digitalization itself presents challenges, such as the energy consumption of data centers and the generation of electronic waste. Therefore, sustainable innovation requires a critical approach that considers the entire lifecycle of the implemented technologies.

More than operational efficiency, sustainable innovation represents a change in mindset. It's about rethinking the company's role as an agent of transformation, capable of creating solutions that simultaneously meet economic demands and the planet's ecological limits.

Circular Economy and New Business Models

The transition from a linear economy — based on extracting, producing, and discarding — to a circular economy represents one of the most relevant pillars of contemporary sustainability.

According to the Ellen MacArthur Foundation (2015), the circular economy proposes maintaining the value of products, materials, and resources for as long as possible, reducing waste generation and promoting regenerative cycles.

In an organizational context, this approach has driven the creation of new business models, such as:

- reuse and remanufacturing systems;
- Subscription models as a replacement for ownership;
- Product design with a focus on durability and recyclability.

Companies that adopt this paradigm not only reduce environmental impacts, but also create new revenue streams and strengthen their resilience in the face of resource scarcity.

It is important to highlight that the implementation of the circular economy requires structural changes, including:

• redesign of production processes;

• Integration with suppliers;

• consumer engagement.

In this sense, circularity is not just an environmental strategy, but a systemic innovation that redefines the logic of production and consumption.

ESG Indicators, Metrics and Performance Evaluation

The consolidation of ESG practices has brought with it the need to measure and evaluate the sustainable performance of organizations. In this context, indicators become essential tools for monitoring, comparing, and communicating results.

Among the main frameworks used, the following stand out:

• GRI (Global Reporting Initiative);

• SASB (Sustainability Accounting Standards Board);

• TCFD (Task Force on Climate-related Financial Disclosures).

These models allow companies to report information related to carbon emissions, diversity, governance, and social impact, promoting greater transparency.

However, significant challenges remain:

• Lack of global standardization;

• risk of superficiality in the reports;

• difficulty in measuring intangible impacts.

The quality of ESG data is a critical factor. Inconsistent or incomplete information can compromise organizational credibility and generate distrust among stakeholders.

Therefore, measuring sustainability should be understood not only as a technical requirement, but also as an ethical commitment to transparency and accountability.

Risks, Challenges and Limitations of Organizational Sustainability

Despite the progress observed, the implementation of sustainability in organizations faces several structural challenges. Among the main ones are:

a) Conflict between short and long term

Many sustainable decisions require significant initial investments, the returns of which only become apparent in the long term.

b) Complexity of global supply chains

Supplier traceability, especially in international supply chains, represents a significant challenge for ensuring ethical practices.

c) Greenwashing

The misuse of sustainable discourse remains a recurring practice, undermining market confidence.

d) Regional inequalities

The adoption of sustainable practices varies significantly between countries and sectors, reflecting economic and institutional inequalities.

Furthermore, it is necessary to recognize that sustainability is not a final state, but an ongoing process, subject to contradictions and adjustments.

This more realistic—and less idealized—understanding is fundamental to building effective and lasting strategies.

Organizational Culture and Paradigm Shift

The consolidation of sustainability depends, to a large extent, on the transformation of organizational culture. Values, beliefs, and daily practices directly influence how strategies are implemented.

According to Schein (2010), organizational culture is a set of shared assumptions that guide the behavior of members of an organization. In this sense, sustainability needs to be incorporated as a core value, and not just as a formal guideline.

Cultural change involves:

- education and training;
- employee engagement;
- Alignment between discourse and practice.

Organizations that manage to internalize these values tend to show greater coherence and consistency in their actions.

More than policies, it is culture that sustains sustainability over time.

Sustainability in the Global Context and the 2030 Agenda

The UN's 2030 Agenda, with its 17 Sustainable Development Goals (SDGs), represents a milestone in the global effort towards sustainability.

Organizations play a key role in this process, acting as agents for implementing the established goals.

Among the main areas of business activity, the following stand out:

- combating climate change (SDG 13);
- Responsible consumption and production (SDG 12);
- Decent work and economic growth (SDG 8).

Integrating the SDGs into corporate strategies strengthens the alignment between business

interests and social demands.

Furthermore, it reinforces the idea that sustainability is not just an individual responsibility of companies, but a collective and global effort.

Sustainable Capitalism and the Future of Organizations

The debate on sustainability has led to a reconfiguration of the very concept of capitalism. Traditional models, focused exclusively on profit maximization, are being questioned.

In this context, the idea of sustainable capitalism emerges , which seeks to balance financial return with social and environmental impact.

Contemporary authors argue that the future of organizations will depend on their ability to generate shared value and act responsibly.

This movement is driven by:

- institutional investors;
- stricter regulations;
- increasing social pressure.

Thus, sustainability ceases to be a choice and becomes a condition for remaining in the market.

FINAL CONSIDERATIONS

Sustainability is a strategic imperative in the contemporary organizational context. More than a trend, it is a structural requirement imposed by social, environmental, and economic transformations.

The evidence presented indicates that organizations that incorporate sustainable practices in an integrated way tend to achieve greater legitimacy, innovation, and financial performance.

It can be concluded that building sustainable organizational models depends on the articulation between leadership, organizational culture, governance, and social responsibility. In this sense, sustainability should be understood as a continuous process of transformation, guided by ethics, innovation, and commitment to future generations.

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SCHOOL MANAGEMENT PLANNING FROM THE PERSPECTIVE OF EDUCATIONAL LEADERSHIP: A TOOL FOR QUALITY EDUCATION

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ABSTRACT

Contemporary society demands high-quality schooling that promotes human potential and positively impacts social and economic development. Within this scenario, the school management plan emerges as a paramount tool for educational leadership. This study analyzes the development and application of such a plan from the perspective of democratic and participatory management, drawing on authors such as Day (2001), Lück (2009), Nóvoa (1992), and Paro (2010). The research proposes a multidimensional approach to planning, structured across administrative, pedagogical, and relational dimensions. Methodologically, the work confronts leadership theories with school practice, identifying the management plan not merely as a bureaucratic tool, but as an object of interpretation. The results demonstrate that management effectiveness lies in the ability to collectively engage school actors, treating the management plan as an opportunity for dialogue and improvement.

Keywords: School management plan. Participatory management. School organization. Educational leadership.

INTRODUCTION

Today's basic education schools are immersed in a scenario of constant social, technological, and economic changes. In what has become known as the "knowledge society," schools are required to respond not only to productivity and competitiveness indices but, primarily, to the holistic development of the human being. In this sense, school management ceases to be a merely bureaucratic or administrative activity and presents itself as a form of leadership capable of articulating the tensions between social demands and the specificities of the community.

Authors writing on this subject, such as Heloísa Lück (2009), Antônio Nóvoa (1992), and Vitor Paro (2010), share the understanding that the quality of education is intrinsically linked to the nature and performance of management. For Lück (2009), the type of leadership is capable of mobilizing subjects around a common and greater goal. However, to prevent this leadership from turning into authoritarianism, the exercise of participatory management is essential, where power is shared and responsibility for results is a collective achievement.

The management tool that enables this intentionality is the school management plan. More than a document or a bureaucratic requirement, the management plan must be understood as a living document that translates the community's aspirations and the guidelines of educational policies, such as the National Common Curricular Base (BNCC). According to Libâneo et al. (2007), planning is the moment when a minimum consensus on objectives and methods is ensured, allowing the school to have clarity regarding its identity and purpose.

This study proposes an analysis of the management plan under three fundamental dimensions: the administrative, understood as the management of resources and spaces; the pedagogical, focused on the teaching-learning process and the curriculum; and the relational, which looks at conflict mediation and communication. The challenge set here is to investigate how this plan acts as a tool for participatory leadership, capable of transforming a diagnosis of reality into effective improvement actions. Therefore, it seeks to understand to what extent the management plan is fulfilling its guiding function for schools in the pursuit of quality education.

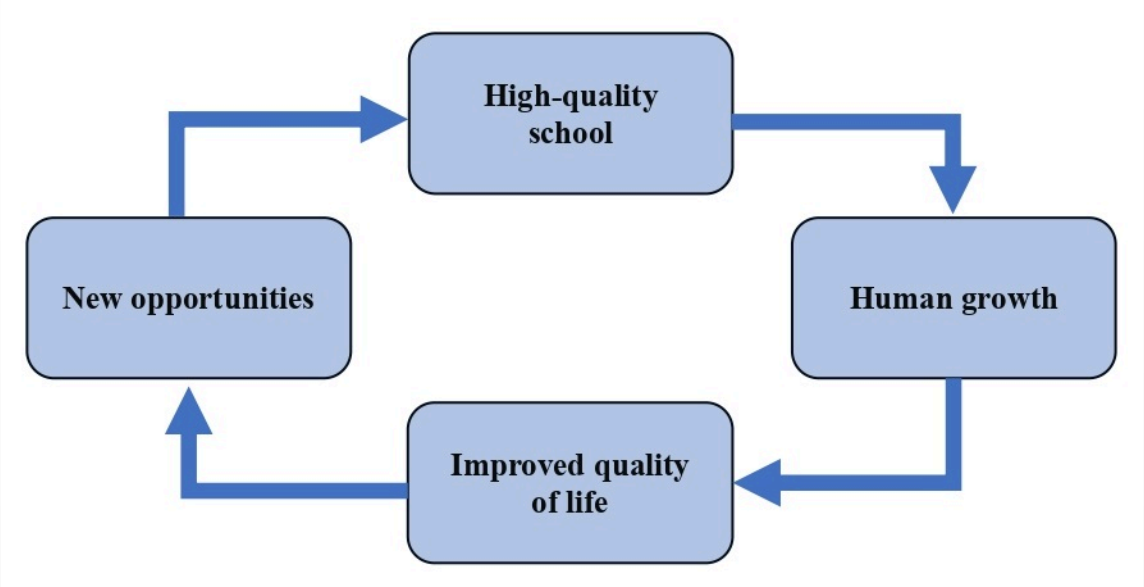
DEVELOPMENT

With globalization, contemporary society can be characterized as a knowledge society, as information is available and accessible, shortening distances and providing networks of contacts and relationships at an unprecedented speed, just a touch away on a cell phone or computer. The development of communication technologies and tools has added to the transformations in society, politics, and economy, serving education as another significant option for change and improvement.

This scenario demands a high-quality school, connected to the world, that promotes the potential growth of the human material it forms and reflects positively on the economy, given its insertion in society and its response to population demands. Thus, a virtuous circle emerges in which education transforms the population by representing a reduction in economic inequalities, better living conditions, and new opportunities for access to a better-qualified labor market, feeding back into a system that returns to the school, impacting quality and more refined educational demands.

The proposed challenge is the sharing of responsibilities and actions, which can be executed through participatory management in basic education schools. To this end, the school thinks of the curriculum in terms of competencies and skills, as proposed by the BNCC – National Common Curricular Base, in a search for the articulation of knowledge. Consequently, there is a strong trend in the school curriculum toward organization by areas of knowledge, project-based work, and even thematic axes, involving a reorganization of materials, teaching resources, learning times,

differentiated learning spaces, and intensive training for both teachers and managers.



In this sense, the school increasingly assumes its political and economic importance, as it is the institution capable of reaching society as a whole by educating the population and reflecting on the market as graduates integrate into the world of work. The school also reaches society directly and indirectly through its actors: students, parents, families, teachers, managers, administrative staff, and various suppliers (e.g., educational materials, textbooks, food). The result of the actions of all these stakeholders appears in society heterogeneously but with a common goal: the search for improvements in the performance of the teaching and learning process, since the school is an agent of social and economic change.

In political terms, participatory management presents itself as a real and feasible opportunity for action. It presupposes organization and planning. Thus, schools develop plans that outline paths, vehicles, and objectives in compliance with educational policies, which are always linked to broader political expressions. Therefore, in school, the management plan is a tool to be used as a leadership strategy. The school plan, understood as such, is a way to enable the development of education to improve its quality. The plan articulates guidelines, High-quality school Human growth Improved quality of life New opportunities 4 intentionalities, and respect for social yearnings, expressed through commitments translated into goals and actions, which, in turn, are guided by initial diagnosis, processual evaluation, and regular monitoring of results.

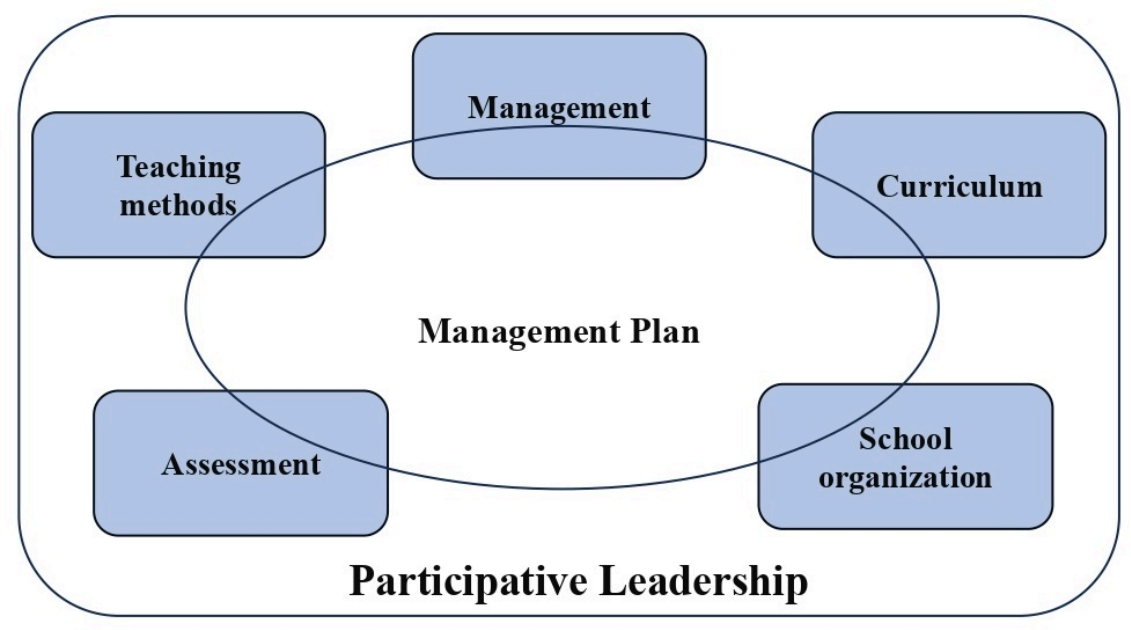
When leadership is democratic, it enables collective participation, which expresses and represents society within the school. In these circumstances, there is space and voice for representatives of students, teachers, families, administrative staff, operational, maintenance, cafeteria staff, and the community in which the school is located. It is the school administrator's responsibility to articulate all segments for the preparation, execution, monitoring, and evaluation of the management plan. The school team must be involved and committed in a movement of such magnitude that it fosters the improvement of educational quality. However, the team must still meet educational policies and broader guidelines, respecting legislation and the school network's orientations while maintaining individuality, autonomy, and an incessant search for improved student learning.

The school's intentionalities will be expressed in the management plan, developed to:

> (...) ensure a minimum consensus between the school leadership and the teaching staff regarding the objectives to be achieved, teaching methods, evaluation systems, forms of student grouping, shared norms on teacher absences, compliance with schedules, and attitudes toward students and staff. (LIBÂNEO et al., 2007)

The management plan, therefore, is a management tool—that is, a leadership tool—that can be democratic and participatory in the school. It is one of the means to formalize the school's intentions and objectives, presupposing the curriculum, methodology, and evaluation, as well as management and school organization practices. With this instrument, the school team can think clearly about objectives, evaluate school practice, reflect upon it, and adjust what is necessary to correct course in a movement of action-reflection-action.

Based on a thematic analysis, one can understand the different aspects grouped by proximity, constituting the three major dimensions of the management plan: Administrative, Relational, and Pedagogical. These three dimensions are interconnected and have proportional weight and importance, composing a single school unit.



The administrative dimension covers the management of the physical school environment, teaching resources, materials, finances, different learning spaces (including extracurricular activities), student-to-classroom ratios, and the proportion of teachers and assistants per student group. It is also within the administrative dimension's competence to manage human resources (teachers, administrative, support, security, maintenance, cafeteria, cleaning, etc.) and establish the team for in-service training. Therefore, the management plan requires space and time for the description of the administrative sphere, including considerations on the structural, physical, and human diagnosis. This is followed by a guarantee of space for proposed improvement actions and resolution of needs. Specific studies should be ensured, such as cases of high absenteeism, which is a management problem of an administrative nature that impacts student learning.

In the pedagogical dimension, focused on the teaching and learning process, evaluation must be considered as a comprehensive and delicate process. A specific project is necessary, including diagnostic and internal school evaluations, performance results, and processual and formative monitoring. Evaluation includes monitoring indices that measure educational quality. Human factors such as indiscipline must be considered as they influence student development. It is vital to guarantee spaces for collective discussion with students and teachers, performance analysis, especially for learning difficulties, and the dissemination of successful practices.

Finally, the relational dimension is equally relevant. This scope includes student participation, family involvement, communication (internal and external), interpersonal relations, divergent ideas among staff, indiscipline, rights and duties, conflict resolution, dissemination of legislation protecting

minorities, inclusion of people with disabilities, absenteeism, and school dropout rates.

FINAL CONSIDERATIONS

The management plan is a document that explicates and identifies the school, presenting a diagnosis based on its specific needs and characteristics. It must be proposed so that objectives are clear, indicating current status, goals, available resources, and necessary articulations. The best solutions will always be found within the limits of each school and with the conditions available, as represented in the plan.

A well-developed management plan that relies on collective participation— involving everyone in the school and its surroundings—leads to greater adherence by the school community, reflecting in the results achieved. In these cases, goals are reached and held accountable by all. It is in the collectivity that team members feel represented, heard, and responsible.

When the management plan contemplates the three dimensions—administrative, pedagogical, and relational—results tend to be monitored with greater clarity and agility, as they are described through specific objectives and actions. It is a way to ensure nothing is left in the background. Thus, the management plan identifies responsibilities, schedules, and monitoring indices, providing a tool that concentrates efforts to guarantee meaningful learning opportunities for students.

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THE IMPORTANCE OF ONGOING EDUCATION ON LITERACY PNAIC AND CNCA: FROM TEACHER TO TEACHER

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ABSTRACT

This article proposes a reflection on the importance of continuing education for elementary school teachers in the early years, by university professors who are directly linked to the teaching-learning process through government programs and bring new perspectives on teaching methods such as literacy and the exchange of experiences among education professionals for the construction of meaningful knowledge. The text aims not only to acknowledge the importance of PNAIC and CNCA training for teachers, but also the positive impact that the collective constructions in each training session have on students in the classroom. These continuous formative encounters have transformed and continue to transform not only IDEB data, for example, but the lives of all those involved in the process of social transformation through the improvement of educational practice.

Keywords: Teaching Practice. Continuing Education. Transformation.

INTRODUCTION

The practice of continuing education has been a constant concern for the Education Departments of Brazilian municipalities. Each year, municipal administrators seek to offer initial training for their teachers, training that is mostly offered and delivered by consulting firms and specialists who often lack formal teacher training but rather hold various specializations. This raises the question: how can someone not intimately connected to the educational reality properly address something so delicate and important for the development of a given community and society? Previously, many training programs were offered in a content-focused and traditional way, which we can compare to Freire's statement below.

> Instead of communicating, the educator makes "announcements" and deposits that the students patiently receive, memorize, and repeat. This is the "banking" concept of education, in which the only margin of action offered to the students is to receive the deposits, keep them, and file them away. A margin for them to be collectors or filers of the things they archive. In the end, however, the great archived objects are the people themselves, in this (at best) misguided "banking" concept of education. Archived, because, outside of the search, outside of praxis, people cannot be. Educator and students are archived to the extent that, in this distorted view of education, there is no creativity, no transformation, no knowledge (FREIRE, 1987, p. 33).

In this sense, we also need to understand the relationship between elementary school teachers and higher education teachers who work in the creation of study materials and continuing education programs, so that they can see themselves as mediators of their students' learning in the literacy cycle, and no longer with the egocentrism of being the holders of knowledge, forcing their students to learn in the same way that they themselves were taught.

> Thus, the relationship between those who teach and those who learn, and the numerous factors involved in this complex relationship, still seem obscure or even poorly understood, given the limited investment in this discussion and in the didactic-pedagogical training of both novice and veteran teachers (RAMALHO, 2006).

The practice of teaching as we understand it today requires a solid humanistic education, not only in the scientific content of the disciplines themselves , but also in aspects related to teaching methods, the handling of the various variables that characterize teaching, preparation and constant updating, and respect for students, seeing them holistically, perceiving them as social individuals possessing knowledge acquired inside or outside of school, knowledge that needs to be valued and explored to facilitate learning within the classroom. As Freire states in his quote below:

> “What I am proposing is a profound respect for the cultural identity of the students, a cultural identity that implies respect for the language of the other, the color of the other, the gender of the other, the social class of the other, the sexual orientation of the other, the intellectual capacity of the other; which implies the capacity to stimulate the creativity of the other.” (Freire, 2014)

From this Freirean perspective, the teacher needs above all to understand in practice what theory presents as so distant from their realities. For this to happen, the teacher needs to be in a constant process of training, ensuring that their practice is consistent with current educational needs. Continuing education is capable of transforming theory into something real, bringing the teacher closer to the student so that the teaching-learning process happens from one to the other and with one another through the exchange of experiences.

The advances promoted by PNAIC were strengthened and expanded by the Literate Child Program , which continued this commitment to education in the early years. The National Commitment to a Literate Child maintained the concern with the training of literacy teachers, offering technical and pedagogical support to ensure that classroom practices were inclusive, diverse, and aligned with the contemporary needs of education.

Just as in the PNAIC , the CNCA reaffirms the essential role of higher education professors in the training of primary school teachers, consolidating the dialogue between theory and practice, and recognizing education as an instrument of social, emotional, and human transformation. Both programs have demonstrated that investing in teacher qualification and valuing the exchange of experiences is fundamental to building a more equitable and effective public education system.

When a teacher wishes to teach their students critically and constructively, so that they achieve the desired objectives, they need to think of a method that can be worked according to the reality in which these students find themselves. This requires creativity and playfulness, which should always be present in their classrooms, a point that was more than evident and referenced in the PNAIC (National Pact for Literacy at the Right Age) and continues in the CNCA (National Curriculum Framework for Children and Adolescents). To better explain what a method is, Correa and Salch (2007, p. 10) state that:

> The word "method" has its origin in Greek. Methods refers to the path to reach a goal. In a more general sense, it refers to a way of acting, a manner of proceeding, a means; in a more specific sense, it refers to the planning of a series of operations that must be carried out, including anticipating potential errors, in order to reach a certain end.

This highlights the need to use a method, but it's important to understand that no single method is considered the best or only one. The PNAIC (National Pact for Literacy at the Right Age) brought precisely the understanding that if students learn in different ways and at different times, a single, rigid methodology cannot be conceived. Therefore, it is through observation and the exchange of experiences offered in CNCA (National Center for Cultural Activities) training that teachers can change, adapt, and reassess their practices in order to improve teaching, and this has been the key to the progress observed in Brazilian education since 2013.

When we consider literacy, which is also one of the foundations of the teaching proposal of these two government programs, we observe a clear understanding that this same process occurs with the continuing education offered to teachers in rural, indigenous, and quilombola communities. This has made and continues to make these programs accessible tools that are socially concerned with all the realities found in Brazil, taking into account their specific characteristics.

So that all teachers, wherever they may be, can bring to their classrooms the practical application of theory that best suits their daily work.

Higher education teaching and its relationship to the literacy process through government programs

What does higher education teaching have to do with this topic? Everything, after all, continuing education requires an understanding of theories that can be effectively applied in the classroom, improving and facilitating the teaching-learning process. To ensure this positive relationship, a group of professors from the Federal University of Pernambuco – UFPE began a study on literacy in early childhood education and the first years of elementary school.

These training programs designed by these professors at UFPE would only work if they researched new combinations of practices and theories for constructing knowledge, new ways of evaluating, and the processes that children go through until they become literate.

The entire PNAIC training program was based on the perspective of literacy learning, which consists of bringing students' lived experiences into the school, observing and problematizing the social function that language and mathematics have in children's lives. To this end, it is also necessary to reflect on teaching practices in the classroom, given that many teachers still have a traditional view of teaching, as in the case of assessment, for example.

> From this perspective, the trainer's task, in relation to their learning, refers to factors that are "theoretical and practical, intelligent and creative, allowing the professional to act in unstable, indeterminate, and complex contexts" (ALARCÃO, 1998, p. 13). The performance of the reflective professional is the product of an integrated mixture of science, technique, and art, "based on the awareness of the capacity for thought and reflection that characterizes the human being as creative and not as a mere reproducer of ideas and practices that are external to them [...] acting in an intelligent and flexible, situated and reactive way " (ALARCÃO, 2007, p. 41).

Alarcão's thought reflects the concern of thinking about an education where both university students and elementary school children learn to think and position themselves in the world. The PNAIC study notebooks brought precisely this perception of valuing what the student thinks and encouraging their full development, no longer just encoding and decoding. This same thinking and actions were guaranteed with the arrival of CNCA, which was built from the experience gained from the operation and application of PNAIC throughout the national territory. Therefore, it is appropriate to affirm that:

> It is certain that professional competence implies knowledge situated in holistic, creative, personal action , building knowledge that depends, among other things, on the professional's ability to appreciate the value of their decisions and the consequences that result from them (ALARCÃO, 1996).

Once again, we realize that the work of teaching is realized in the act of teaching, as a way of contributing to the process of humanization and respect for social reality, in which historically it becomes necessary to develop knowledge and skills that enable the construction of one's own knowledge from the challenges that teaching as a social practice demands , thus allowing the creation of one's own identity. An identity that, according to Pimenta:

> It is a process of constructing the historically situated subject, this being built from the social significance of the profession; from constant revision and traditions. It can also be constructed by the meaning that each teacher, as actor and author, confers on the teaching activity in their daily life based on their values, their way of situating themselves in the world, their life history, their representations, their knowledge, their anxieties and desires, and the meaning that being a teacher has in their life (1999, p. 18).

These professionals had long yearned for training that would bring real change to their classrooms, successful experiences that could be shared with their colleagues, and a recognition of the teaching profession in a way that would effectively transform the reality of literacy in Brazil.

Understanding the backgrounds of study advisors and literacy teachers. from PNAIC

Study advisors undergo an initial 40-hour training program, during which the cultural needs of their municipalities for their continuing education are discussed. These advisors, in turn, seek situations that encourage reflection and knowledge building for ongoing teacher training. One focus of this training is precisely to reflect on practices, monitor and assist literacy teachers in their daily practices. After this initial meeting, four meetings will be held between the study advisors and their respective trainers, who are university professors, all holding master's degrees in Portuguese language and mathematics, which facilitates dialogue and the meaningfulness of the exchange and continuing education process.

Literacy teachers in their respective municipalities will receive monthly training sessions of 8 to 12 hours, totaling 80 hours at the end of each year. Through the exchange of experiences and new teaching perspectives, these literacy teachers will be able to bring diverse practices and activities to their classrooms, which will facilitate the teaching and learning process for children aged 6 to 8.

Understanding how training programs function and their direct and indirect integration between elementary and higher education teachers, it is observed that the clear and familiar language used in the materials, which include several examples from literacy teachers, facilitates classroom work in its various aspects.

According to data from the Basic Education Development Index (Ideb) of 2013, after the implementation of PNAIC training programs, the country surpassed the targets set for the initial years (1st to 5th grade) of elementary school by 0.3 points. The national Ideb for this stage was 5.2, while in 2011 it was 5.0. The initial years of elementary school are primarily offered by municipal networks, which account for 81.6% of public school enrollments at this stage. The total number of students in the first years of elementary school is 15,764,926, with 84% of them (13,188,037) attending public schools. The targets for the municipal education network were achieved by 69.7% of Brazilian municipalities.

Considering this data, the success of PNAIC in the early years of elementary education is clear. This success was achieved collectively and brought a new reality to Brazilian literacy, where the importance of an education based on the critical construction of knowledge modifies not only educational data but also the lives of those involved in it. Thinking about Freire's vision of knowledge construction, we observe the importance of the teacher being, above all, a researcher in search of new ways of teaching and learning. This is what happens in PNAIC training programs when the exchange of experiences confirms Freire's theory that:

> There is no teaching without research and no research without teaching. These activities are intertwined. As continuous teaching, I am constantly searching and researching . I teach because I search, because I have inquired, because I inquire and question myself. I research to ascertain, and by ascertaining, I intervene; by intervening, I educate and educate myself. I research to know what I do not yet know and to communicate or announce the new information (FREIRE, 1996, p. 32).

Teaching should involve the pursuit of new ways of teaching and learning, through inquiries that transform research into concrete action. For Freire, this search for being and learning to learn coexists with the teaching profession, which presents itself as liberating in terms of the construction of the being in its fullness, questioning reality and transforming it into something just and equal for all. Education also requires encouraging students from childhood to value their culture and the environment in which they live, extracting from both the best for the transformation of their lives.

It is from this perspective that the PNAIC's ongoing training sessions take place monthly, with the sharing of activities applied in classrooms, dialogued presentation of didactic sequences planned to address students' difficulties, presenting diverse activities such as games, storytelling, and other actions that have transformed classes into enjoyable learning moments. All of this is supported by the pedagogical team of the municipal training staff, who also participate in training with university professors. These professors were involved in the creation of printed materials and the overall organization of the PNAIC in Pernambuco. Everything is designed to improve literacy outcomes in the early years. The program aims to ensure that all children are literate by the age of eight, not just in the mechanical sense of coding and decoding, but in a comprehensive literacy process that considers the student's critical awareness of the world around them, the social function of what they learn at school, always starting from their own environment to build a better and more equal society for all. The proposal is not only to integrate them into school and the world , but to include them in their fullest sense, thus guaranteeing their constitutional rights, among them one that is essential and is enshrined in the LDBEN - Law of Guidelines and Bases of Education - in its Article 1: Education encompasses the formative processes that develop in family life, in human interaction, at work, in educational and research institutions, in social movements and civil society organizations, and in cultural manifestations.

In this way, dreaming of an education system that works is getting closer and closer to our reality, and investing in teacher training is to guarantee meaningful learning for everyone, without distinction.

Training of Facilitators and Trainers in the National Commitment to a Literate Child: Challenges and Potential

The National Commitment to Literate Children (CNCA), an initiative of the Ministry of Education, aims to ensure that all children in Brazil are literate by the age of 8. To achieve this goal, the program establishes a network of professionals involved in a continuous training process, which includes municipal, regional, and state coordinators. The training of municipal coordinators, with a workload of 24 hours per year , distributed in 8-hour meetings each, is one of the essential steps for the success of the program. During these meetings, the pedagogical guidelines of the CNA are addressed, allowing the coordinators to plan and implement strategies adapted to the reality of each municipality. As highlighted by the Ministry of Education (2019), "the flexibility of the training allows the coordinators to adjust to local specificities, ensuring that pedagogical practices meet regional needs" (BRAZIL, 2019, p. 7).

Regional coordinators , who are responsible for coordinating municipal coordinators, also participate in training sessions focused on providing a broader and more strategic vision of the program's actions. These professionals need to work to ensure integration between municipalities and the achievement of CNCA's goals. According to the Ministry of Education, " regional coordinators must be trained to act as facilitators of the process, guiding and monitoring actions at the local level" (BRAZIL, 2019, p. 11). In addition, state trainers , responsible for the technical training of coordinators and teachers, participate in 32 hours annually , distributed across four 8-hour meetings. This training aims to ensure that state trainers, who work directly with municipal trainers who need to pass on this training to their municipal teachers, maintain a network that is interconnected and in constant partnership. According to the MEC (2019), “state and municipal trainers play a crucial role in building solid pedagogical knowledge and preparing educators to face the challenges of the literacy process” (BRASIL, 2019, p. 13).

The National Commitment to a Literate Child and its dialogue with the PNAIC (National Pact for Literacy at the Right Age)

Continuing education programs have become fundamental to filling gaps in initial teacher training, especially in undergraduate and pedagogy courses, which often lack consistent practical experience. In this sense, programs such as PNAIC and Criança Alfabetizada play a crucial role, offering teachers a space for reflection and improvement of pedagogical practices, connecting them directly to the realities of the classroom.

Initial teacher training courses, despite their theoretical relevance, often fail to address the complexities of daily school life. Topics such as classroom management, literacy strategies in challenging contexts, inclusion of students with specific difficulties, and the connection between theory and practice are treated superficially or relegated to the background. This deficiency in initial training contributes to many teachers arriving in the classroom unprepared to deal with the real challenges of teaching, highlighting the importance of initiatives such as continuing education programs.

The training programs offered by the Literate Child Program, for example, stand out for providing not only theoretical updates for teachers, but also for offering practical opportunities that allow for the re-evaluation of their methodologies. Unlike the traditional approach that prevails in higher

education courses, these training programs place teachers at the center of a dialogical process, in which they share experiences and build collaborative solutions to common problems faced in the daily school routine.

Furthermore, the program emphasizes the idea that student learning is closely linked to the continuous learning of teachers. Inspired by the Freirean perspective, it recognizes the classroom as a living space where teaching practice needs to be constantly renewed and adapted to the needs of students. This type of training allows teachers to understand how practice can be enriched by theory, and vice versa, creating a virtuous cycle of training that benefits the entire school community.

In this way, continuing education programs are presented as an essential complement to initial training, functioning as a laboratory for deepening pedagogical practice. They enable teachers to develop skills that were not fully explored in their academic training, such as the use of educational technologies, the planning of interdisciplinary activities, and the creation of strategies for literacy in a diverse social and cultural context.

The connection between educational practice and the real needs of the school, promoted by programs such as the Literate Child program, also strengthens the teacher's self-confidence, who begins to recognize themselves as an agent of transformation. This transformation directly impacts the quality of education, bringing benefits to students and society as a whole.

Therefore, reinforcing the continuity and expansion of these continuing education programs is essential to ensure that Brazilian basic education is capable of forming conscious, critical citizens prepared for the challenges of the 21st century. Only through solid, practical, and dialogical training will teachers be able to fully exercise their role as mediators and facilitators of the teaching-learning process.

FINAL CONSIDERATIONS

Continuing education plays a fundamental role in the qualification of teachers, especially with regard to literacy. Although initial training provides a necessary theoretical foundation, it is not always able to address the complexities of the classroom, such as student management, adapting teaching methods to different realities, and including students with specific needs. In this sense, programs such as PNAIC (National Pact for Literacy at the Right Age) and CNCA (National Commitment to a Literate Child) have emerged and remain powerful solutions, providing educators with continuous and contextualized training. These programs not only expand teachers' theoretical repertoire but also offer practical tools to face the challenges of daily school life, which strengthens the quality of the literacy process for children.

The PNAIC and CNCA are examples of how continuing education can help overcome an existing gap between the theory learned in initial training and the reality of the classroom. As described in the text above, CNCA offers practical and dialogical training, in which teachers share experiences and build collective solutions to educational problems. This collaborative approach reflects the Freirean perspective, which values learning as a continuous process for both students and teachers. This integration between theory and practice allows educators to feel more prepared to innovate in their methodologies and transform their classes into meaningful learning spaces for all students, especially with regard to literacy.

Therefore, the importance of continuing education goes beyond simple theoretical updating. It is fundamental to creating a virtuous cycle of teaching and learning, in which teachers not only apply acquired knowledge but also revisit their practices, adapting to emerging needs. Continuing education programs, such as CNCA , promote the empowerment of educators, which directly results in an education more conscious of its social function in the lives of children, in the pursuit of the full

development of the citizen.

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