

USE OF DIGITAL TOOLS IN TIMES OF REMOTE EDUCATION: AN ANALYSIS  
FROM THE PERSPECTIVE OF HERMENEUTIC RATIONALITY

*USO DAS FERRAMENTAS DIGITAIS EM TEMPOS DE EDUCAÇÃO REMOTA: UMA  
ANÁLISE A PARTIR DA PERSPECTIVA DA RACIONALIDADE HERMENÊUTICA*

*USO DE HERRAMIENTAS DIGITALES EN TIEMPOS DE EDUCACIÓN REMOTA:  
UN ANÁLISIS DESDE LA PERSPECTIVA DE LA RACIONALIDAD HERMENÉUTICA*



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**ABSTRACT:** This article discusses the use of digital tools in the period of emergency remote education implemented in the COVID-19 pandemic and the need to reconstruct the meanings of technologies in education in the light of hermeneutic rationality. For this, a bibliographical review is used aiming to present the hermeneutic rationality as a possibility of theoretical-conceptual understanding about the use of digital technologies in remote teaching. Based on the research carried out, it was possible to conclude that the use of digital tools analyzed from the perspective of hermeneutic rationality allows bringing historicity and language as a basis for access to the world and for the development of students through understanding and dialogue, in a process of semantic linkage between tradition and knowledge innovation.

**KEYWORDS:** Digital tools. Cyberspace. Remote education. Hermeneutical rationality.

**RESUMO:** Este artigo discute o uso das ferramentas digitais no período da educação remota emergencial implementada na pandemia de COVID-19 e a necessidade de reconstrução dos sentidos das tecnologias na educação à luz da racionalidade hermenêutica. Para isso, recorre-se a uma revisão bibliográfica objetivando apresentar a racionalidade hermenêutica como uma possibilidade de compreensão teórico-conceitual acerca do uso das tecnologias digitais no ensino remoto. Com base na pesquisa realizada, foi possível concluir que a utilização das ferramentas digitais analisadas sob a perspectiva da racionalidade hermenêutica permite trazer a historicidade e a linguagem como base para acesso ao mundo e para o desenvolvimento dos educandos por meio da compreensão e do diálogo, em um processo de encadeamento semântico entre a tradição e a inovação do conhecimento.

**PALAVRAS-CHAVE:** Ferramentas digitais. Ciberespaço. Educação remota. Racionalidade hermenêutica.

**RESUMEN:** Este artículo discute el uso de las herramientas digitales en el período de educación a distancia de emergencia implementada en la pandemia de COVID-19 y la necesidad de reconstruir los significados de las tecnologías en la educación a la luz de la racionalidad hermenéutica. Para esto, se utiliza una revisión bibliográfica con el objetivo de presentar la racionalidad hermenéutica como posibilidad de comprensión teóricoconceptual sobre el uso de las tecnologías digitales en la educación remota. A partir de la investigación realizada se pudo concluir que el uso de herramientas digitales analizadas desde la perspectiva de la racionalidad hermenéutica permite traer la historicidad y el lenguaje como base para el acceso al mundo y para el desarrollo de los estudiantes a través de la comprensión y el diálogo, en un proceso de vinculación semántica entre la tradición y la innovación del conocimiento.

**PALABRAS CLAVE:** Herramientas digitales. Ciberespacio. Educación remota. Racionalidad hermenéutica.

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## Introduction

The purpose of this paper is to reflect on the use of digital tools in times of remote education in Brazil in the light of hermeneutic rationality. To this end, it includes a literature review on the subject and lists elements that make up the construction of the master's thesis of one of its authors. Thus, the emergence of virtuality in the teaching and learning process is debated and the hermeneutic rationality is presented as a possibility of theoretical-conceptual understanding about the use of digital technologies in remote teaching.

At first, it is necessary to understand the context that was the cradle for the origin of the study presented here. The years marked by the confrontation with the COVID-19 pandemic brought great losses to society, which was observed in several areas. This reality was no different for the education system, which, with the emerging challenges, found itself facing the need to reinvent and re-signify the teaching and learning processes in the context of social distance, taking on other spaces of transmission and interaction in order to reduce the impacts caused by this scenario.

By focusing on this space-time in education, this article goes through the intertwining between education and technology, showing how the emergency remote teaching was characterized and what were the challenges faced by teachers and students, using as corpus of analysis the virtual classroom environment made possible through Google Meet, Google Classroom and WhatsApp, digital tools that, in the period of the COVID-19 pandemic, began to be used as spaces for school learning.

From this understanding, contextualized in an atypical period in the educational system, we seek to point out the hermeneutic rationality as a basis to show and justify not only the methodological issues, but the meaning of being in the virtual world, demonstrating that digital tools can contribute effectively to the development of the teaching and learning process.

This theme is relevant not only because of the increasing use of digital tools in the teaching and learning processes, but, above all, because of the proportion that remote learning has taken in the pandemic period, making it necessary to reflect about the educational practices that have been and are carried out in these spaces and if they contribute to the development of the potentialities of the students and their capacity to question, to reflect, to produce meaning and knowledge from these learning experiences.

As for the structure of this study, initially some considerations about remote learning are presented, pointing out the normative basis of the implementation of this teaching modality in Brazil during the pandemic. Next, a discussion on emergency remote learning and the new

learning spaces that stood out in this period is presented. Finally, we discuss hermeneutic rationality, presenting it as a perspective to understand and enhance the use of digital tools within this emergency context and beyond.

### **Remote Learning Remarks**

With the pandemic caused by the new coronavirus (COVID-19)<sup>4</sup>, started in 2020, the education sector had to reinvent itself overnight, because one of the measures to contain the spread of the virus in schools was the suspension of classroom lessons as a way to stop the transmission, which occurred mainly through social contact. So, immediately and unexpectedly, the schools in the countries that presented cases of contamination by COVID-19 had to suspend their classroom activities.

So that the students would not be left without classes, the educational scenario went through a transition: from face-to-face to virtual space. Due to the emergency situation, it was up to the State, responsible for promoting public education, to adopt remote learning as a temporary solution to try to reduce the impact of the pandemic on education. In this way, the adoption of the use of new technologies has become essential to enable the teaching and learning process.

In the case of Brazil, the implementation was recognized by the National Education Council (CNE) and by the Ministry of Education (MEC), which assigned validity to the workload of synchronous and asynchronous activities<sup>5</sup> developed during the pandemic through this teaching modality.

Remote teaching, the model adopted in the pandemic period, is characterized by the use of technological means in different contexts and educational spaces, in addition to having different teaching strategies, including the use of active learning methodologies.

In this modality, it is possible for the classes to take place synchronously or asynchronously. However, whether the classes are live or recorded, they take place on the same days and at the same times as the face-to-face classes. In addition, the material used in the remote classes is created by the teacher who teaches the subject, which allows the needs of the students in each group to be considered.

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<sup>4</sup> COVID-19 is an infectious disease caused by the SARS-CoV-2 coronavirus. It was discovered in December 2019, in the city of Wuhan - China, and became a pandemic shortly after.

<sup>5</sup> Asynchronous learning is defined as learning where interaction between participants does not necessarily occur at the same time. In contrast, synchronous activities provide interaction in real time, instantaneously. We can mention web conferencing, audio conferencing and chat.

The possibility of interaction between students and teachers is also a factor that deserves to be highlighted, since it allows students to ask questions, either during classes, in the cases of synchronous classes, or by other interaction tools made available.

In the Brazilian context, on April 1st, 2020, the Federal Government edited the Provisional Measure no. 934 (BRAZIL, 2020), which prescribed exceptional rules about the school year for Basic Education and Higher Education as a result of the measures adopted to face the COVID-19 pandemic.

With these regulations in place, teachers' and students' homes quickly became part of new classrooms, and adaptation was necessary to make this possible. Starting with synchronous and asynchronous meetings, the classes in Emergency Remote Learning (ERL) began to take shape. However, for there to be a minimum of learning, teachers and students needed to master certain technological knowledge, adapt and select content, have certain devices available, as well as have access to a stable internet network.

The teacher, faced with the new context in which he had to develop his work activities, had, once again, to reinvent himself, reinforcing a daily practice of this professional who, not only at this moment, but recurrently, is urged to rethink and reformulate his practices in order to overcome the flaws present in Brazilian education.

In this perspective, another major problem arises: knowing how to make correct use of digital tools with a view to school learning, since the teaching and learning process depends on everyone involved.

Under this view, Senhoras (2021, p. 31-32, our translation), when discussing the use of technology in education, asserts that using correctly the Digital Information and Communication Technologies (DICT) can be a way for "positive results in the student's perspective and in the promotion of teaching and learning". With the proper use of digital tools, it becomes possible to observe, as for the students, certain "improvement of communication via technology, increased motivation, convenience, increased time that can be used for study, etc." (SENHORAS, 2021, p. 32, our translation).

Still highlighting the contributions of digital technologies to education, specifically in the period of isolation experienced, Lenhardt (2020), quoted by Senhoras (2021, p. 28, our translation), highlights that,

before the pandemic, we were already experiencing the wave of active methodologies, maker/handson culture, support of digital technologies in face-to-face classes or in the hybrid teaching model, and the discourse on the need for student protagonism in learning. Now, in the face of this rapid need

for transformation due to the absence of the physical space of the classroom, digital technology has become primordial for the maintenance of learning.

However, even if the implementation of emergency remote teaching aimed to mitigate the damage and delays to the educational development of students resulting from the impossibility of continuing face-to-face classes due to the need for social distance, some problems were highlighted by this new teaching model.

The challenges that accompanied the implementation of these new classrooms in virtual environments included the teachers' lack of preparation to use digital tools and to integrate into the new educational work space; the lack of electronic devices or Internet access to participate in the classes, which was experienced both by students and teachers, among other factors that further deepened the disparities in access to education motivated by social inequality.

The effectiveness of learning was also hindered in this period. This reality is evidenced when, for example, students perform parallel activities during class time or when they, due to the possibility of leaving their cameras turned off, connect to the class, but do not effectively follow it. Given these weaknesses, it is difficult for the teacher to ensure that the student really participated in the class, since being connected does not guarantee participation.

While recognizing these vulnerabilities, which can impact the teaching and learning processes, it must be acknowledged that DICTs have been essential to the educational process in times of pandemic around the world.

Immersed in this new formative process in the digital networks, without having the time to get the proper training, the teacher had to quickly reinvent himself, to use virtual pedagogical materials and digital tools, which certainly will subsist as educational strategies aimed at education in the post-pandemic, such as Google Meet, Google Classroom and WhatsApp.

### **New learning spaces in times of pandemic**

In the period of implementation of remote emergency education, teachers had to create new learning spaces, reorganizing their classes for the remote format, having their activities mediated by technology, but guided by the principles of face-to-face education.

Turning to the construction of a definition of digital technologies, Frade (2010, p. 15, our translation) elucidates that it is a set of informational and communicational media perceived as the "set of 'language vehicles' used for human communication, which aim at the fulfillment of different interests and purposes, according to the audience that is intended to be reached.



Expanding this understanding, Ana Elisa Ribeiro, in an entry included in the Ceale Glossary, published by UFMG (2014, our translation), infers that

Digital technology is a set of technologies that allows, mainly, the transformation of any language or data into numbers, that is, into zeros and ones (0 and 1). An image, a sound, a text, or the convergence of all of them, that appear to us in the final form on the screen of a digital device in the language we know (still or moving image, sound, verbal text), are translated into numbers, which are read by various devices, that we can generically call computers.

Digital technology, understood from this perspective, has posed great challenges to the teaching and learning processes, such as, for example, taking ownership of knowledge that is constantly changing.

According to Lévy (2010), the learning processes, which are driven by the technological world, have undergone some qualitative changes. The author, when questioning about how to keep pedagogical practices updated in face of the new processes of knowledge transmission, clarifies that it is not a matter of

to use technologies at any cost, but rather *to consciously and deliberately accompany a change of civilization* that profoundly questions institutional forms, the mentalities and culture of educational systems and, above all, the roles of teacher and student (LÉVY, 2010, p. 174, emphasis added, our translation).

Hence, we realize that the digital technologies present in the students' daily lives are already becoming part of and changing pedagogical practices. The knowledge of text linearity has also changed, as well as the reading and writing procedures.

These new learning spaces have contributed significantly to the transformation of language practices, since these spaces have made us reflect on the enhancement of multiple languages resulting from cyberculture.

### **Cyberspace as a key element for emergency remote learning in times of pandemic**

Digital resources, computer systems and communication tools are already, concretely, part of the educational world. These resources are not only part of the educational context, but have become indispensable accessories in the performance of everyday actions.

This world of technologies and digital tools has taken a big proportion in the educational scenario in the midst of the coronavirus pandemic, and a new informational and technological

operations space has stood out: cyberspace. From this space, new ways of living and expressing oneself were born, shaping a set of cultural practices: the cyberculture.

According to the philosopher Lévy, in his work *Cyberculture* (2010, p. 17, our translation):

The term cyberspace specifies not only the material infrastructure of digital communication, but also the oceanic universe of information that it houses, as well as the human beings who navigate and feed this universe. As for the neologism 'cyberculture', it specifies here the set of techniques (material and intellectual), practices, attitudes, ways of thinking and values that develop along with the growth of cyberspace.

Therefore, the activities developed in cyberspace, according to Lévy (2010), aim to promote the cultural production of a society: cyberculture. According to the same author, cyberculture designates "the set of techniques (material and intellectual), practices, attitudes, ways of thinking and values that develop along with the growth of cyberspace" (LEVY, 2010, p. 17) and acts, as explained by Lemos (2004), as a cultural dynamic factor from the notion that it is able to promote a transformation and, consequently, knowledge exchange in cooperative processes.

In cyberspace, the teacher assumes the role of mediator, that is, he becomes a member of the group that has the function of guiding and directing the discussions, in order to make the students achieve the learning objectives in an autonomous and responsible way. To this end, the teacher must promote strategies capable of stimulating and promoting communication among the group, collectively building knowledge.

Cordeiro (2020, p. 04, our translation), when discussing this issue, elucidates that the advance of digital technologies

has enabled the creation of tools that can be used by teachers in the classroom, which allows greater availability of information and resources for the learner, making the educational process more dynamic, efficient, and innovative. The use of technological tools in education must be seen from the point of view of a new teaching methodology, enabling the digital interaction of students with the content, that is, the student starts to interact with several tools that allow him to use his mental schemes from the rational and mediated use of information.

In the context of remote teaching, some digital tools have been essential for teaching mediation. Among them, we highlight in this study Google Classroom, Google Meet, and WhatsApp.



Google Classroom is an environment that enables communication between students and teachers in a virtual classroom. Because it is an asynchronous tool, students and teachers do not necessarily need to be connected at the same time for tasks to be completed. In this way, the student is free to access the content at any time. The teacher, on the other hand, can schedule the time when the publication will be posted on the platform, scheduling his or her time in the best possible way.

In Google Classroom, it is possible to create classes, share documents, assign tasks and schedule discussions. Through the creation of topics, the teacher organizes his classes, being able to share documents, audios, videos, links and many other things, such as, for example, exercises with notes and feedback.

For Dotta *et al.* (2013), it is essential for the realization of the teaching process to alternate in the mediation of learning, combining synchronous and asynchronous tools, in order to innovate and improve the quality of remote teaching. In this direction, Google Meet presents itself as a proposal for synchronous mediation, since it is a tool used as a communication service through videoconferencing.

In the context of the coronavirus pandemic, Google Meet was essential to give continuity to the classes and reduce the loss caused by COVID-19, transforming itself into virtual classrooms and providing conditions for teacher-student interaction in real time. This synchronous meeting tool has been used by many teachers, from Elementary Education to Higher Education, due to its ease of access.

WhatsApp is a multiplatform tool for instant voice and video calls. With it, the user can send text messages, videos, images, files, and make free calls and video calls, needing only to be connected to an internet network. According to Mattar (2014), WhatsApp is a fast communication tool and promising to be used as a platform to support education, by enabling the sending of texts, images, sounds and videos and the creation of user groups.

In this regard, we highlight the ease with which teachers and students can use WhatsApp, as well as the greater possibility of access by the less favored classes. During the emergency remote activities, WhatsApp was an alternative widely used by teachers from all over Brazil, due to its practicality and accessibility, as well as its speed in the way communication happens. It is worth remembering that the activities developed through WhatsApp occur through synchronous and asynchronous communication.

## **The emergency use of digital tools under the hermeneutic rationality perspective**

Given the diversity of technological tools that have been used in education, especially during the pandemic period, it becomes necessary to discuss the possibility of achieving a reconstructive and learning function through the pedagogical interweaving between education and technology, bearing in mind that the fact of using technology in teaching and learning processes is not able, by itself, to effect changes in education.

In order to achieve beneficial learning processes through the appropriation of technological tools, it is necessary to think about a perspective of reconstruction of the meaning of technology in education, allowing students to become protagonists in their learning process.

From this perspective, it is relevant to prioritize the quality and understanding of the information accessed more than the quantity and speed with which it is accessed, aiming not only to master technology as a tool, but, through it, to develop new learning and knowledge experiences, seeking self-development and the attribution of meaning to the concrete world.

It is guided by this perspective that the hermeneutic understanding, analyzed in the light of Heidegger (2013, 2014) on understanding and Gadamer (2008) on language, is addressed in this study as a way to reflect on the emergent virtuality of the teaching and learning process, as it enables the understanding of the plural dimension of reality permeated by the advances of technological tools.

As Hermann (2002, p. 29, our translation) points out, "opening new possibilities of reflection is basically the challenge of a hermeneutic approach". In this direction, the hermeneutic rationality aims at the appropriation of a space of search for meaning and significant production of knowledge through remote education, which is constituted in the dialogue mediated by the technologies.

From the perspective of hermeneutic rationality, understanding becomes a matter of extreme importance because it essentially changes what is understood. For Heidegger (2013), understanding is understood as a way of being in the world, redirected towards existence. In this sense, Adams and Junges (2013, p. 50, our translation) reaffirm this change suggested by Heidegger (2013) when they argue that

Understanding, in this sense, is not constituted by the apprehension of a fact of language, a text, a discourse or the life of another, but as a condition for the possibility of being and existing; it is always a projection of Being-there<sup>6</sup> released and placed in the world.

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<sup>6</sup>Approximate translation of the German term "dasein".

Thus, "hermeneutics becomes existential. It turns to existence to the extent that its primary function becomes that of interpreting the *Dasein*<sup>7</sup> in its own way of being, that is, in its existence" (FERREIRA, 2019, p. 86, our translation). Heidegger justifies this need for change because "we do not understand ourselves hermeneutically, but rather, we accept what tradition tells us" (SCHMIDT, 2014, p. 97, our translation).

According to Heidegger (2013), hermeneutics makes accessible to *Dasein* its own being, "its phatic existence, avoiding, with this, that it gets lost in what tradition imposes and reaches it" (FERREIRA, 2019, p. 87, our translation). In this way, Heidegger (2013) understands that *Dasein* cannot only better understand itself, but be what it understands, since, as already mentioned, understanding is always the possibility of being. For the author:

Hermeneutics has the task of making the being-there itself accessible on every occasion in its ontological character of the being-there itself, of communicating it, it has the task of clarifying this alienation from itself that the being-there is reached. In hermeneutics, being-there is configured as a possibility of coming to understand itself and of being this understanding (HEIDEGGER, 2013, p. 21, our translation).

It is thus observed that "the understanding of being is not mediated conceptually, but in the totality of relationships in which man is inserted" (PALHANO; SOUZA, 2020, p. 07, our translation). The opening to possibilities is the constitutive opening of understanding that, according to Heidegger (2014), is the very condition for *Dasein* to project itself as possibilities. In this way, we will only have a true openness to understanding when, through language, we realize that we belong to a tradition. This occurs when something puts us to the test.

In relation to Gadamer, he enters the hermeneutic tradition by reflecting on the conditions under which understanding is realized (PALHANO; SOUZA, 2020). According to the philosopher, knowledge is the fruit of a process that takes place through history and language. For him, every understanding is preceded by a pre-understanding, which is constituted by previous meanings that are part of the individual's world experience, thus constituting what Gadamer (2008) calls "interpretative act".

Concerning the issue of language, Gadamer (2008) brings to the hermeneutic thought an important philosophical reflection by inferring that it is through language that one can attribute meaning to the world. Hermann (2002), adding elements to this understanding, concludes that language is summarized in the realization of the historical consciousness of

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<sup>7</sup>For Heidegger (2014), *Dasein* is what being has with itself, the characteristics of which are called existential. It is a way of being to relate to its own existence.

individuals, the way of being of man in the world, in a given historical-cultural moment, conditioning his understanding of reality.

In this sense, for Gadamer (2008), language acts as a fundamental condition for the individual to appropriate and live experiences in the world, as a mode of behavior in front of the world. Thus, language enables an agreement between the interlocutors and their understanding of the things said in the dialogue.

Also, according to this author (2008), the conversation has its own spirit and the language used has its own truth. "To understand what someone says is to put oneself in agreement with the language and not to transfer oneself to the other and reproduce his or her experiences" (GADAMER, 2008, p. 497, our translation). Finally, Gadamer (2008) shows that the function of language is to mediate the whole hermeneutic experience as an experience of the world, serving as a *medium*.

Hermann (2002, p. 13, our translation), in this same perspective, states that, "by producing knowledge, by saying how things are, man produces rationality, showing a close relationship between the two terms - knowledge and rationality". In this way, by bringing this discussion to the educational field, the author asserts that "education is, par excellence, the place of dialog, therefore the place of the word, of reflection, which goes beyond the appropriation of knowledge to lead us to personal formation" (HERMANN, 2002, p. 95, our translation).

Hermeneutic rationality, thus, can contribute through a re-signification of the educational processes in face of the challenges of the current context in which we are inserted. For this reason, it is necessary to bring the hermeneutic rationality as an opportune epistemology to reflect on the transformations that occurred in the educational and formative processes during the emergency remote education.

Through hermeneutics, it is possible to think about the educational reality in a plural dimension, since the current society is totally dependent on digital media, and there is no more room for a unitary understanding of the world; in particular, we can no longer understand education in an isolated way. Therefore, as Nering (2015, p. 59-60, our translation) points out, through hermeneutic understanding, it is possible

to create a form of knowledge, or rather, a configuration of knowledge that, being practical, does not fail to be enlightened and, being wise, does not fail to be democratically distributed. This, which would have been utopian in Aristotle's time, is possible today thanks to the technological development of communication that modern science has produced.

Therefore, the author shows us that, through the hermeneutic rationality applied to digital tools, it is possible to notice the breakdown of the hierarchy of discourses, because, in the virtual world, there is no way a discourse can say the totality. Nering (2015) elucidates that this can be observed, for example, with hypertexts, which provide the rupture of this discursive superiority by increasing the unevenness of the discourse.

Still from the perspective of hermeneutic rationality, Nering (2015) discusses the balance between *adaptation* and *creativity*. In this direction, the human limitations to the learning process were seen on a national scale, especially regarding economic issues, bringing consequences focused more on adaptation than on creation.

Moreover, teachers and students everywhere in the world needed to understand and adapt to the techniques. Thus, Nering (2015) infers that technology cannot hold individuals' hostage to itself at the cost of preserving their personal and social identities, a balance must be found between adaptation and creativity through a proper understanding of technique.

When analyzed from the perspective of hermeneutic rationality, the imbrication between technologies and education presents itself as an alternative to guide and develop a process of dialogue and understanding, fostering a transformative education, capable of propelling social improvement.

School today should form individuals who are able to act in a variety of situations and are capable of developing solutions to the problems that arise in their daily lives. Students, therefore, should be prepared to discuss, argue, construct reflections, concepts, point out contradictions and relationships, developing their thinking more effectively.

In this sense, hermeneutic rationality brings indispensable foundations to think about a new pedagogical action. The subject, in the light of Gadamerian hermeneutics, educates himself through dialog with the other, which brings basis, as highlighted by Dal Mago (2009), for a pedagogical praxis based on reflection, dialog, understanding, and appreciation of the human dimensions that strengthen and enrich the educational act.

Transported to the analysis and effectiveness of remote teaching, especially in the emergency perspective, this understanding of how education develops allows a differentiated appropriation of technological tools, making it possible to explore them as a space to value language and all the human complexities that are entangled in the construction of this infinite network of information and communication.

Understanding and effecting the link between education and technology as an essentially hermeneutic phenomenon consists of an attitude that opens space for possibilities of

understanding and dialogue, for teaching and learning, which come to be understood as hermeneutic processes, as interpretative processes permeated by a "complex enchainment of meanings and re-significations that link tradition, in the scope of its historical alterity, to the prospective of the produced and always renewed advances of knowledge" (SICHELERO, 2019, p. 08, our translation).

With Hermann (2002, p. 10, our translation), we argue that "hermeneutics has exposed this openness in all its radicality, pointing to history and language as structuring elements of our access to the world and of our learning." Thus, hermeneutic rationality should be seen as a guiding element of this relationship, in order to achieve its full potential, making the teaching and learning processes significant as to the development of the power to question, reflect and evolve through understanding and dialogue.

### **Final remarks**

With the implementation of emergency remote education and the continued use of digital tools such as WhatsApp, Google Classroom and Google Meet in a complementary way to face-to-face teaching, technology was evidenced as a tool that can contribute to the educational space, when used appropriately.

In order to promote a better use of these tools, the hermeneutic rationality allows bringing historicity and language as a basis for access to the world and for the development of the students, in a process of semantic linking between tradition and innovation of knowledge.

In this way, the link between education and technology, in the light of hermeneutic rationality, contributes to the direction of teaching and learning processes based on the evolution of students through understanding and dialogue, developing reflection and the ability to question reality in order to understand it and to understand oneself.

The present research, far from intending to indicate absolute views on the theme, sought to weave lines of reflection that can and should be expanded or contested by future studies. It is understood that the intersection between technologies and education presents several possibilities for thinking about the educational phenomenon. In the same way, hermeneutic rationality shows itself to be a fruitful path to better understand and enhance the use of digital tools.

In view of this, future studies could address issues related to public investment policies aimed at the insertion of technologies in educational institutions and access for all students, as

well as the existence of continuing education for teachers that allows them to have a better appropriation of technologies and theories, such as hermeneutic rationality, which can offer a new perspective on the use of DICT in education.

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