

# FORMAÇÃO DOCENTE, TECNOLOGIAS DIGITAIS e INTERCULTURALIDADE: REFLEXÕES PARA EDUCAÇÃO EM UMA SOCIEDADE PLURAL E CONECTADA<sup>1</sup>

*Karen Graziela Weber MACHADO<sup>1</sup>*

*Adriana Justin Cerveira KAMPFF<sup>2</sup>*

*Thomas Selau de CASTRO<sup>3</sup>*

## **Resumo**

O presente estudo visa analisar as contribuições das tecnologias digitais para a formação docente, em relação aos aspectos interculturais. Os sujeitos de pesquisa são 12 estudantes, de um curso de Pós-graduação em Educação, de uma universidade do sul Brasil. Para a realização da coleta de dados utilizou-se um questionário on-line, contendo questões fechadas e abertas. Os dados coletados foram analisados pelo método de Análise Textual Discursiva (ATD). A análise originou 2 categorias, denominadas: Tecnologias digitais e os aspectos interculturais; Formação docente e as demandas da sociedade. Os resultados do estudo revelam, que os participantes da pesquisa compreendem as tecnologias digitais, como contribuição para a formação docente, quanto aos aspectos interculturais, pois existem recursos tecnológicos (MOOCs, redes sociais, dentre outros) que permitem realizar conexões e momentos reflexivos e interativos entre pessoas de diferentes regiões possibilitando assim, momentos significativos de aproximação com diversas culturas.

**Palavras-chave:** Formação de professores. Tecnologias digitais. Interculturalidade. Ensino Superior.

---

<sup>1</sup> Doctoral student in Education at the Graduate Program of the Pontifical Catholic University of Rio Grande do Sul (PUCRS). Researcher at the Interdisciplinary Research Group on Digital Technologies, Internationalization, and Student Retention (GeTIPE). Member of the ARGOS Research Group - Interdisciplinary Research Group on Digital Education. Her current training is supported by the Coordination for the Improvement of Higher Education Personnel (CAPES) through a scholarship granted to the author. <https://orcid.org/0000-0002-5115-8989>. E-mail: karen.machado@edu.pucrs.br.

<sup>2</sup> PhD in Education Informatics from the Federal University of Rio Grande do Sul (UFRGS). Pro-Rector for Undergraduate Studies and Continuing Education at the Pontifical Catholic University of Rio Grande do Sul (PUCRS). Professor and researcher in the Graduate Programs in Education and in Science and Mathematics Education. Member of the Center for Studies in Higher Education (CEES) and the ARGOS Research Group - Interdisciplinary Research Group on Digital Education. <https://orcid.org/0000-0003-1581-1693>. E-mail: adriana.kampff@pucrs.br.

<sup>3</sup> Master's degree in Education from the Graduate Program of the Pontifical Catholic University of Rio Grande do Sul (PUCRS). Bachelor's degree in History (PUCRS). Currently pursuing a postgraduate degree in Educational Management at the University of São Paulo (USP). Specialist in Education from Instituto Ânima. <https://orcid.org/0000-0001-5151-6435>. E-mail: thomas.castro@edu.pucrs.br.

# TEACHER TRAINING, DIGITAL TECHNOLOGIES AND INTERCULTURALITY: REFLECTIONS FOR EDUCATION IN A PLURAL AND CONNECTED SOCIETY

*Karen Graziela Weber MACHADO*  
*Adriana Justin Cerveira KAMPPFF*  
*Thomas Selau de CASTRO*

## **Abstract**

This study aims to analyse the contributions of digital technologies to teacher education in relation to intercultural aspects. The research subjects are 12 students from a postgraduate course in Education, at a university in southern Brazil. To carry out the data collection, an online questionnaire was used, containing closed and open questions. The collected data were analysed using the Discursive Textual Analysis (ATD) method. The analysis originated 2 categories, called: Digital technologies and intercultural aspects; Teacher training and the demands of society. The study results reveal that research participants understand that digital technologies contribute to teacher education in relation to intercultural aspects, as there are technological resources (MOOCs, social networks, among others) that allow connections, reflective and interactive moments between people to be made from different regions, thus enabling rich moments of approximation with different cultures.

**Keywords:** Teacher training. Digital technologies. Interculturality. Higher Education.

# FORMACIÓN DOCENTE, TECNOLOGÍAS DIGITALES E INTERCULTURALIDAD: REFLEXIONES PARA LA EDUCACIÓN EN UNA SOCIEDAD PLURAL Y CONECTADA

*Karen Graziela Weber MACHADO  
Adriana Justin Cerveira KAMPFF  
Thomas Selau de CASTRO*

## **Resumen**

Este estudio tiene como objetivo analizar las contribuciones de las tecnologías digitales a la formación del profesorado, en relación con los aspectos interculturales. Los sujetos de investigación son 12 estudiantes de un posgrado en Educación, en una universidad del sur de Brasil. Para realizar la recolección de datos se utilizó un cuestionario en línea, conteniendo preguntas cerradas y abiertas. Los datos recopilados se analizaron mediante el método de Análisis Textual Discursivo (ATD). El análisis originó 2 categorías, denominadas: Tecnologías digitales y aspectos interculturales; La formación del profesorado y las demandas de la sociedad. Los resultados del estudio revelan que los participantes de la investigación entienden que las tecnologías digitales contribuyen a la formación del profesorado, con respecto a los aspectos interculturales, ya que hay recursos tecnológicos (MOOCs, redes sociales, entre otros) que permiten realizar conexiones, momentos reflexivos e interactivos entre las personas diferentes regiones, lo que permite ricos momentos de aproximación con diferentes culturas.

**Palabras clave:** Formación de profesores. Tecnologías digitales. Interculturalidad. Educación Superior.

## Introduction

With the changes occurring in our society, one of the issues that has been widely discussed in the field of Education is the conception of teaching in response to the new demands presented by the world we live in, requiring reflection on teacher education. In this regard, Macedo (2011) asserts that such demands are responsible for generating changes in the teaching profession, and this has been explicitly addressed in educational debates, in literature, in teaching associations, in education departments, and in educational institutions.

Furthermore, the aforementioned author highlights that teachers need to meet the new demands of today's world to ensure that pedagogical work is developed in a contextualized and efficient manner. Therefore, teacher education must consider the changes in society and their implications for the educational field, which arise from shifts in the labor market, the intensification of new knowledge production, the rapid development of digital communication and information technologies, globalization that has led to transformations in various sectors of society (economic, social, political, and cultural), and the challenges of developing strategies for remote teaching in the context of the COVID-19 pandemic (MACHADO, SOSO, and KAMPFF, 2020).

According to UNESCO (2015), in an increasingly interconnected and interdependent world, a transformative pedagogy is necessary, one that empowers students to solve challenges involving humanity as a whole. With the growing interconnectivity through digital technologies, opportunities for collaborative responses, cooperation, and shared and collective learning have been expanded.

The European Digital Competence Framework for Educators (LUCAS and MOREIRA, 2018) understands that, due to the ubiquity of digital technologies<sup>4</sup>, profound social transformations have occurred and are still taking place, directly impacting various dimensions of daily life, such as communication, work, learning, knowledge production, and leisure. Even though young people, born into an already digitalized world, are unfamiliar with any other social structure regarding the constant presence of digital technologies, this does not mean they are naturally equipped for this new way of life marked by digitality and the efficient and conscious use of digital technologies.

According to Walsh (2005), in Latin America there is a concern related to cultural diversity, stemming from legal recognition and the need to foster positive relations among different cultural

---

<sup>4</sup> The term, originally used by Mark Weiser in the 1990s, refers to the direct and constant presence of computing and technology in people's daily lives. The challenge of ubiquitous computing is to make the internet and technology increasingly present in people's lives, fully integrating the relationship between humans and machines.

groups, with the aim of combating discrimination, racism, and exclusion. Taking these aspects into account can contribute to the formation of citizens who are aware of differences, enabling them to work together collaboratively in the development of countries and the construction of just, equal, and plural democracies.

Historically, policies and actions have been developed in Latin American territories aimed at the full integration of information and communication technologies into educational systems and practices. However, the success of these policies and actions is directly related to the perspective of state development, rather than isolated projects of specific governments. Thus, various civil society institutions, private companies, and government agencies have been engaging in partnerships and collaborations aimed at educational technological development through research networks, implementation, monitoring, and evaluation of various local, regional, national, and transnational initiatives (UNESCO, 2021).

In this perspective, the educational process must prepare students to live and work in a hyper connected world mediated by digital technologies, as this is an essential formative factor in today's context. Moreover, it is crucial to address the issue of humanization, aiming to promote education for global citizenship, so that it becomes possible to live with and respect cultural diversity. In the current scenario, it is therefore understood that teacher education must consider preparing educators who respect and value intercultural aspects, reflecting on the development of competencies for global citizenship.

In light of the issues mentioned, this study aims to analyze the contributions of digital technologies to education in intercultural aspects, through the discussion of concepts and strategies related to the topic. Additionally, it seeks to discuss the data obtained through the application of a questionnaire to a group of graduate students in Education, with the goal of understanding their perceptions regarding aspects related to this theme.

## **Teacher Education in the Present Day**

One of the main objectives of teacher education is to prepare students to work in educational institutions within changing contexts, which implies the development of continuous reflection on the role of teachers, their professionalism, and how it is understood (FLORES, 2010). It is important to highlight, as Imbernón (2010) points out, the existence of significant elements that influence the field of education as well as teacher education, namely:

- the accelerated evolution of society in its various structures (material, institutional, and forms of social organization, including family models, production, and distribution), as well as in communication and technology. These issues reflect changes in the ways people live, think, feel, and act, which transform personal and institutional life, putting traditional forms of teaching into crisis;
- the existence of a multicultural and multilingual society, where dialogue between cultures implies global enrichment, making it essential to learn how to live and coexist in diversity;
- the importance of sociocultural background in education, which includes scientific content, communication, group work, processes, joint project development, and democratic decision-making;
- the different ways of accessing and selecting knowledge, which require new skills and competencies that must be practiced by teachers to effectively develop them in the educational context.

In this sense, it is clear that teacher education offered by higher education institutions must provide learners with the opportunity to acquire competencies that enable them to develop their teaching practice. It is essential to seek updates and innovations when necessary, taking into account the improvement of the teaching and learning process.

Digital technologies, in summary, consist of technological manifestations that, through devices, software, and media, enable the connection of various environments and individuals into a network, facilitating communication among its members and expanding the actions and possibilities already provided by technological means (SOARES, 2015).

Over the past two decades, digital technologies (DT), especially information and communication technologies (ICT), have transformed work models, communication, knowledge production, and consequently, the teaching and learning process. This transformation was exponentially intensified during the COVID-19 pandemic (MACHADO, SOSO, and KAMPPF, 2020). In higher education, DT has been integrated into teaching practices as tools for promoting more meaningful learning experiences. The use of digital technologies aims to increase student engagement, while serving as pedagogical support for teachers in the development of pedagogical practices guided by active, more participatory, and collaborative methodologies<sup>5</sup>. In other words,

---

<sup>5</sup>According to Moran (2018, p. 4), "active methodologies are teaching strategies centered on the effective participation of students in the construction of the learning process, in a flexible, interconnected, and hybrid manner".

digital technologies are transforming and becoming a part of contemporary culture, weaving through the various layers of the social fabric, and in this specific case, higher education.

In this perspective, the adoption of digital technologies by higher education institutions occurs mainly due to the recognition by students and administrators of the increasing rejection of traditional teaching methods, particularly as students begin to seek alternative sources of information, no longer limiting themselves to the teacher or the textbook.

In this regard, Xavier (2005) asserts that, although students do not directly question the foundations of conventional pedagogy in teaching and learning, those who are learning through digital technologies challenge traditional educational systems and suggest new ways of learning. These new forms of learning are characterized by being more dynamic, participatory, decentralized, and guided by the independence, autonomy, and immediate needs and interests of each learner, who are constant users of digital technologies. In this new scenario, which intensifies discussions on present needs and future trends (UNESCO, 2022), the active teacher assumes the role of mediator, promoting dialogue and actively participating in the construction of knowledge with their students, in hybrid contexts that value intercultural, interdisciplinary, and collaborative approaches, rather than being the central figure in the process.

In this sense, understanding technology as culture implies thinking about digital culture, developed with the advent of the internet and the creation of the web as a universal space for communication and information. In this regard, Manuel Castells (2005) already highlighted in the early 2000s that the internet brought the possibility of connecting the global with the local and empowering individuals to produce knowledge based on the information accessed, stating that "technology does not determine society: society shapes technology according to the needs, values, and interests of the people who use technologies" (Castells, 2005, p. 17). Kenski (2018), in turn, conceptualizes digital culture as:

A new, current, emerging, and temporal term. The expression integrates diverse perspectives linked to innovations and advancements in knowledge, as well as their incorporation, facilitated by the use of digital technologies and network connections, enabling new types of interaction, communication, sharing, and action within society (KENSKI, 2018, p. 139).

In this context, educational institutions, teachers, and other members of school communities are pressured by the urgency and accelerated process of digitalizing education to understand what constitutes digital culture and how it relates to pedagogical practices and perspectives.

In the information society, higher education institutions—administrators, teachers, and other staff—serve an increasingly heterogeneous audience, with respect to both student profiles and

methodologies aimed at teaching and learning, where technological and intercultural competencies play an increasingly important role. In this way, digital technologies create connections between the global and the regional, addressing both individual and collective needs, enhancing teaching and learning processes through access to diverse information and perspectives. When these perspectives are critically engaged, they can lead to the construction of deeper and more complex knowledge (UNESCO, 2022).

Distance learning (EAD), for example, has solidified as an educational modality that promotes learning opportunities by dissolving spatial and knowledge boundaries. It also provides access to education in isolated regions without the physical infrastructure of higher education, through new methodologies and technological resources. EAD courses allow students from diverse cultures to access the network of higher education institutions, offering a wide variety of courses, sometimes in languages different from the student's own.

Interculturality - the meeting of people and groups with different cultural, ethnic, or linguistic backgrounds - is an element that increasingly characterizes the social fabric and, consequently, higher education. There is a noticeable rise in population mobility and sociocultural movements in contemporary times. The emphasis on international exchanges (whether for cultural, educational, or scientific purposes), the internationalization of education, and the development of EAD strengthen the movement toward innovation focused on interculturality in higher education through digital technologies. However, despite the innovations that digital technologies bring to pedagogical practices and the development of interculturality, UNESCO (2015) warns that:

New ICT offers vast opportunities to accelerate progress toward sustainable and inclusive development, but, on their own, they are not enough. Empowering women and men individually requires not only access to information but also the skills to transform it into knowledge. This involves quality education, in both formal and informal settings, in a way that promotes full student participation. It demands policies focused on overcoming the new digital exclusions that are emerging around the world, both between different societies and within them (UNESCO, 2015, p. 7).

In this regard, international organizations such as the UN and OECD (2020) highlight the importance of education professionals considering individual and sociocultural diversities while developing their professional practices, encouraging training in the intercultural sphere. They also recognize the necessity of implementing training programs that encompass intercultural and technological aspects in both the initial and continuing education of professionals. For this, the intercultural and technological perspectives of information, communication, and education must be



integrated into a broader approach to knowledge construction, intercultural training, pedagogy, and communication, promoting equal opportunities and citizenship. These elements should be at the core of the educational process of teaching and learning, as well as human, social, and cultural development (RAMOS, 2016; UNESCO, 2022).

In this context, it is essential to understand that technology is not the primary focus of the teaching and learning process, but rather a tool that facilitates mediation between the educator, the learner, and intercultural knowledge. The integration of digital technologies should serve administrators, teachers, and students as resources to transform educational institutions into more democratic spaces enriched by diverse cultures, promoting educational actions that transcend the classroom and encouraging students to see the world beyond the university walls, while constantly respecting the thoughts and principles of others (OLIVEIRA & MOURA, 2015).

Consequently, when technology is integrated into education, it offers new possibilities to those involved in educational processes, especially when considering social mobility and constant cultural change. Digital technologies function as innovative resources only when combined with methodologies that break away from the traditional education model. It is necessary to bring the student into the learning environment whether virtual or not along with their experiences and knowledge, valuing the learning acquired in other contexts. In this way, the teacher must take on the role of mediator, curator, or facilitator in transforming information into new knowledge. From this perspective, both the student and the teacher are active participants and protagonists in the learning and teaching process, fostering the development of intercultural competencies through digital technologies.

From this point of view, Imbernón (2010) had already asserted that social reality, teaching, educational institutions, and the goals of the educational system have evolved over time, and consequently, teachers needed to change the way they practiced their profession through their training process. Today, in the face of the challenges of maintaining relevant educational processes in a world undergoing accelerated transformation due to the effects of the COVID-19 pandemic, preparing teachers to mediate teaching and learning processes in digital and distributed environments has become even more necessary. Therefore, it is essential that teacher education fosters indispensable knowledge, allowing teachers to perform their work with quality and offer innovative alternatives.

At the international level, the European Framework for the Digital Competence of Educators (DigCompEdu) synthesizes the perspectives and goals of developing digital competencies through a general reference tool for planning and implementing training actions aimed at teachers.

DigCompEdu (LUCAS and MOREIRA, 2018) covers twenty-two core competencies, distributed across six distinct areas: professional engagement; digital educational resources; teaching and learning; assessment; empowering learners; and fostering learners' digital competencies.

The intrinsic value of DigCompEdu (LUCAS and MOREIRA, 2018) lies in its ability to offer a consolidated foundation for guiding policies at various levels, as the framework is applicable to teachers from early childhood education to higher education. Moreover, it serves as a model that enhances the implementation of training actions by enabling the personalization of the instrument based on regional characteristics, without the need for the prior construction of a robust framework by educational authorities in different regions. In this way, although there may be different perspectives according to the regions, the logic of DigCompEdu remains transversal at both macronational and international levels.

In the specific case of Brazil, a resolution was approved in 2019 that defines the National Curriculum Guidelines for Initial Teacher Education for Basic Education and establishes the National Common Base for Initial Teacher Education (BNC-Formação). This regulation aims to ensure that the learning objectives outlined in the National Common Core Curriculum (BRASIL, 2018) are effectively met through qualified teaching practice, meaning that teacher education is geared toward preparing teachers to teach.

Unlike the European framework, the Brazilian resolution does not present in-depth perspectives related to teachers' digital competencies. However, the resolution text does include provisions related to digital culture. One of these is found in Article 8, which addresses the pedagogical foundations of initial teacher education courses and highlights the "pedagogical use of digital innovations and languages as a resource for the development, by teachers in training, of competencies aligned with those outlined in the BNCC and with the contemporary world" (BRASIL, 2019). Another provision is found in Article 12, which discusses the integration of teaching competencies with the implementation of the learning objectives of the National Common Core Curriculum (BNCC), specifying the following element: "f) basic understanding of digital phenomena and computational thinking, as well as their implications for contemporary teaching and learning processes" (BRASIL, 2019).

The BNCC (BRASIL, 2018) presents greater robustness compared to the resolution on teacher education guidelines, as it includes digital competencies as one of the general competencies - specifically, number 5 - integrated into a set of 10 general competencies. General competency number five is composed of three dimensions: digital world, digital culture, and computational

thinking. Each dimension offers specific perspectives on being, acting, and thinking in a digitalized, technology-driven world. To advance initial and continuing teacher education, it is therefore important to establish a vision that integrates what the teacher education guidelines and the national student curriculum outline with international documents that address current and future needs for education in a global context.

## Methodology

This study is characterized as qualitative research and utilizes Discursive Textual Analysis (DTA) as its methodology. According to Minayo, Deslandes, and Gomes (2011), qualitative research aims to respond to specific questions, focusing on a reality that cannot be quantified. This type of research deals with the universe of meanings, motives, aspirations, beliefs, values, and attitudes, corresponding to a deeper exploration of relationships, processes, and phenomena, which cannot be reduced to the operationalization of variables.

For Moraes and Galiuzzi (2020), qualitative research has been widely used in textual analyses, either by analyzing existing texts or by producing material for analysis, with the aim of deepening the understanding of the phenomena being investigated through rigorous and meticulous analysis of this type of information.

In this context, with the objective of analyzing the contributions of digital technologies to teacher education in relation to intercultural aspects, an online questionnaire was used to collect research data. The tool used to develop the questionnaire for this study was Google Forms. According to Gil (2019), the design of the questionnaire should include questions relevant to the proposed research objective.

Thus, the questionnaire was created by the researchers themselves and made available to respondents via email, using a link automatically generated by the tool. In the initial part of the questionnaire form, a Free and Informed Consent Form (TCLE) was presented to inform participants about the theme, objective, justification, and participation process of the study, allowing the recipients to choose whether to participate in the research.

Subsequently, the research subjects were asked to respond to four questions, both open and closed- Participant Characterization: 1. Gender (Female, Male); 2. Age (years); Academic Background: 3. Specify the degree(s) completed at the undergraduate, specialization, master's, and doctoral levels, the institution, the start and completion year, and/or the expected period for completion of the same; Professional Activity: 4. Indicate your professional role: Teacher in Basic

Education (Public), Management Team in Basic Education (Public), Teacher in Basic Education (Private), Management Team in Basic Education (Private), Teacher in Higher Education (Public, In-person Education), Manager in Higher Education (Public, In-person Education), Teacher in Higher Education (Private, In-person Education), Manager in Higher Education (Private, In-person Education), Teacher in Higher Education (Public, Distance Education), Manager in Higher Education (Public, Distance Education), Teacher in Higher Education (Private, Distance Education), Manager in Higher Education (Private, Distance Education), None of the above options; 4.1 Length of professional experience..

The research participants were then asked to respond to six questions (both open and closed):

1. How can teacher education contribute to preparing educators who respect and value intercultural aspects? 2. In your experience of integration into an educational institution, have you observed this need? If so, please provide examples. 3. Can digital technologies contribute to the development of an understanding of intercultural aspects? Justify your answer; 4. Indicate the possible technologies to support activities that foster an understanding of intercultural aspects: Multimedia resources, such as videos, audios, MOOCs...; Immersive virtual environments, such as online games, virtual museums...; International news websites, NGOs, and others; Communication tools (social networks – Email, Facebook, YouTube, Skype...), None of the above. 4.1. Cite examples of using these and/or other resources in learning situations that promote an understanding of intercultural aspects; 5. In your experience as a student, do you perceive the use of digital technologies in academic activities offered by the Higher Education Institution with the goal of expanding knowledge related to interculturality, global citizenship, and internationalization? Justify your answer; 6. Provide contributions regarding teacher education for a better understanding of interculturality, internationalization, and the demands of a globalized society. Highlight how digital technologies can be used in this context. In summary, these questions relate to the themes of teacher education, digital technologies, interculturality, and internationalization.

The sample consisted of 12 students from a Graduate Program in Education at a university located in southern Brazil, who agreed to participate in the study. The majority of the research participants were female, with 9 participants. Ages ranged from 23 to 66 years, with an average age of approximately 33 years. The academic background of the participants can be observed in the following Table 1.

**Table 1:** Academic background of participants

Undergraduate	Specialization	Master's Degree	Doctorate
- Pedagogy (6)	- Early Childhood Education and Primary Education; Inclusive Special Education (1)	- Master's in Education - ongoing (3)	- PhD in Education - ongoing (9)
- Literature (2)	- Grammar and Teaching of Portuguese Language (1)	- Master's in Education - completed (5)	
- Physics (1)	- Human Resources Training (1)	- Master's in Science Education (1)	
Psychology (2)	- Philosophical and Political Foundations of Education; Management of Socio-Education Centers; Education: Methods and Teaching Techniques (1)	- Master's in Educational Management (1)	
-Philosophy (1)	- Distance Education (1)	- Master's in Developmental Psychology (1)	
	- People Management (1)	- Biomedical Gerontology (1)	
	- Quality Management, Production Management; MBA in Marketing (1)		
	- School Psychology; Education Management: - Administration, Supervision, and Guidance (1)		
	- Linguistic Studies of Text (1)		
	- Systemic Therapy (1)		
	- No specialization course completed (2)		

Source: Prepared by the authors.

Subsequently, based on the students' responses regarding their professional roles in a multiple-choice question, it was found that they are: teachers in public basic education (3), administrators in public basic education (1), teachers in private basic education (1), administrators in private basic education (2), administrators in public higher education (2), teachers in private higher education (2), CAPES scholarship holders in postgraduate studies (1), technical analysts in education (1), or none of the mentioned professional roles (2). Among the mentioned subjects, it was noted that the duration of professional experience ranged from 4 months to 24 years.

Finally, it is important to emphasize that the student participants in the research are identified in the analysis through the letter "E," followed by sequential numbering, in order to ensure the anonymity of the subjects who constituted the sample. Furthermore, the responses to the questions in this study were processed using Discursive Textual Analysis (DTA). As discussed by Moraes and Galiazzi (2020), this method allows for the analysis of qualitative textual information. DTA, included in the qualitative research movement, aims to contribute to the understanding and reconstruction of existing knowledge regarding the investigated topics. Discursive Textual Analysis is developed through the organization of arguments, considering four focuses: unitarization, categorization, production of metatexts, and communication.

## Discussion and Results

The analysis of the participants' responses in this study was carried out rigorously through the stages of Discursive Textual Analysis. Initially, the corpus was deconstructed into units of meaning, which were cataloged with a specific code, such as E1 - P1 - U1. Here, 'E' refers to the student, 'P' corresponds to the question, 'U' represents the unit of meaning related to the given question, and the number 1 indicates the first instance.

Subsequently, the process of unitarization was performed, which involves fragmenting the text into units of meaning and rewriting each unit in a way that achieves a complete and coherent meaning consistent with the original excerpts. In addition, a title or brief summary was assigned to each developed unit to facilitate the categorization process. In this manner, the units of meaning were compared and grouped by similar elements and/or meanings, thus forming the categories of analysis.

For the development of this study, a mixed method of categorization was used. This involved a deductive method, where *a priori* categories were constructed from the theories underlying the study and the questions in the questionnaire, as well as an inductive method, where the *a priori* categories were complemented and reorganized based on the analysis. In summary, sets of similar elements were organized into primary, intermediate, and final categories.

From this process, two final categories were established, namely: Digital technologies and intercultural aspects; Teacher education and the demands of society. Therefore, the development of the study required engagement with these two categories, as they allow for the formulation of

arguments regarding the research problem and/or objective, which is to analyze the contributions of digital technologies to teacher education in relation to intercultural aspects.

The following section will present the metatext of the Discursive Textual Analysis, highlighting the relationships between the categories obtained, with the aim of reaching a unifying argument for the overall set and the production of new meanings.

### ***Category 1 - Digital Technologies and Intercultural Aspects***

According to Ramos (2016), on the global stage, education has been undergoing changes related to the presence of multiple cultures, ethnicities, and nationalities within educational institutions, as well as the development of digital technologies. These issues highlight the diversity, complexity, heterogeneity, and the reduction of boundaries for the development of teaching and learning processes.

Thus, for the effective integration of digital technologies and intercultural aspects, it is essential to rethink teaching methodologies. By understanding that people, regardless of their geographical location, can acquire knowledge, the process becomes plural and, consequently, much more enriching (NARIKAWA & SARAIVA RODRIGUES, 2022). Furthermore, according to the author:

Aligning intercultural processes that codify and construct these new forms of teaching and learning compels us to think beyond the edges of the quilt and, often, beyond the limits of the standard, institutionalized education system (NARIKAWA & SARAIVA RODRIGUES, 2022).

The study participants stated that digital technologies can contribute to the development of an understanding of intercultural aspects, highlighting in their justifications that these resources can serve to:

"Assist in forming communication networks with other professionals, who can also contribute their experiences to the Brazilian context" (E2-P3-U3).

"Bring people closer and also facilitate the spread and acceptance of interculturality outside the school environment. Digital technologies establish a bridge between the school and society at large" (E3-P3-U3).

"Develop an understanding of what interculturality is and how it can be promoted, through its use for awareness-raising actions, short-term training, videoconferences, among others" (E5-P3-U3).

"Provide rich opportunities for connection with diverse cultures" (E6-P3-U3).

"Expand the knowledge and experiences of the teaching staff regarding the topic" (E9-P3-U3).

"Engage with people from different cultures" (E10-P3-U3).

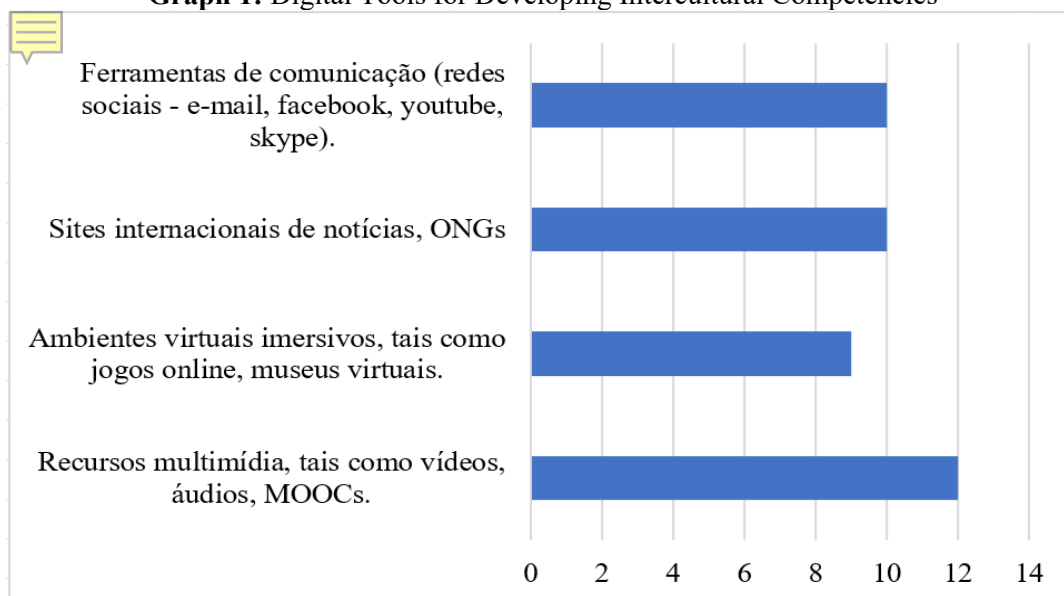
Regarding this, Oliveira and Moura (2015) mention that digital technologies can contribute to the construction of students' knowledge through communication and interactions with a world of pluralities, without geographical and cultural limitations, as the exchange of knowledge and experiences occurs constantly. In this way, digital technologies can become important resources for the development of education, provided that teachers and students know how to use them appropriately, thereby enhancing and improving pedagogical practices both inside and outside the classroom.

Additionally, Ramos (2016) highlights that these technologies enable digital and social inclusion through the development of education, encompassing intercultural aspects. In this sense, digital technologies can support an education that prepares individuals, by developing fundamental digital competencies, for the varied use of technologies and intercultural competencies, particularly in linguistic, communicational, and pedagogical areas. The goal is to facilitate education, intercultural communication, training, and cultural awareness (UNESCO, 2022). Faced with the challenges of an interdependent world, permeated by digital technologies, it is crucial that individuals are capable of promoting competent interventions, respecting cultural issues, and helping individuals become culturally sensitive professionals and citizens, ready to live, communicate, and work in the multicultural society of this historical period.

The study participants also highlighted the digital technologies that could support activities aimed at understanding intercultural aspects, including: multimedia resources such as videos, audios, and Massive Open Online Courses (MOOCs); immersive virtual environments like online games and virtual museums; international news and non-governmental organization (NGO) websites; communication tools such as email, instant messaging apps, various social networks, and YouTube. This can be observed in Graph 1.



**Graph 1: Digital Tools for Developing Intercultural Competencies**



**Source:** Prepared by the authors.

In accordance with the issues presented in **Graph 1**, it was found that the majority of participants believe that multimedia resources, such as videos, audios, and MOOCs, are effective digital tools for developing an understanding of intercultural aspects. According to Moran (2018), technologies and digital competencies are indispensable components for a comprehensive education, as students who are not connected and lack digital skills miss numerous opportunities to gather information, access meaningful materials, communicate, become visible to others, publish their ideas, and enhance their future employability.

According to the Horizon Report (EDUCAUSE, 2022), technological transformations have been hyper-accelerated by the global context imposed by the COVID-19 pandemic. These transformations have been profound and established points of no return. This means that the global conditions prior to the pandemic will not be restored. From this perspective, the report presents, in five dimensions, the main trends that will shape, or are already shaping, teaching practices and pedagogical perspectives:

- Social: online and hybrid learning; competency-based learning; remote work.
- Technology: big data and analytics for learning; cybersecurity; redefinition of instructional models.
- Economy: costs of basic and higher education; digital economy; financial deficits.
- Environment: planetary health; implementation of sustainable development goals; physical structures for learning.

- Politics: uncertainties regarding educational policies; influence of political ideologies on education; reduction of public funding for education.

In the educational context, Moran (2018) states that real-time sharing is the key to learning. Communication tools serve to facilitate group interaction, discussion of projects and ideas, presentation of results, and guidance. Such tools enable collaboration among people, regardless of the physical distance between them, expand the notion of space for studying, and integrate students and teachers from different countries, languages, and cultures. Thus, individuals have opportunities to engage, learn, and develop lasting relationships in their lives (MORAN, 2018).

The participants cited several examples of using digital resources in learning situations that can enhance understanding of intercultural aspects, as illustrated in the excerpts presented below.

"Discussion and debate forums on related topics" (E2-P4-U4).

"Collective school projects, information exchanges between students/students, and students/teachers, etc." (E3-P4-U4).

"Reports, videos, and/or websites that offer online visits to various cities, places, and museums to explore different environments, lifestyles, and diverse cultures around the world. Bringing the experience of other spaces and cultures closer to students" (E7-P4-U4).

"YouTube videos from various locations" (E8-P4-U4).

"Accounts of experiences between different cultural contexts through video calls and/or Skype; through international news websites, it is possible to learn more about political and cultural issues; one can discover tourist and historical sites through immersive virtual environments..." (E9-P4-U4).

"In learning situations, cultural differences can be understood through videos about the formation of different peoples, educational games on representation and tolerance, and social networks can serve as spaces for sharing experiences, among others" (E10-P4-U4).

"In our doctoral classes, we had international guests participate via Skype, enriching the debates and showcasing their realities, fostering contrasting viewpoints throughout the semester" (E11-P4-U4).

From these arguments, it is clear that the use of digital technologies can provide experiences and learning regarding intercultural aspects. These tools are, therefore, important resources for promoting greater inclusion, participation, and collaboration among students in learning environments. They foster new working methods, new values and competencies, new relational modalities, and new paradigms of information, education, communication, and interculturality, encouraging more active, open, supportive, collaborative, and autonomous participation from learners.

## ***Category 2 - Teacher Education and the Demands of Society***

Regarding the following question, "How can teacher education contribute to preparing educators who respect and value intercultural aspects?" student 5 presented the following argument:

"Teacher education actions (both initial and ongoing) must deepen the understanding of the concept of interculturality among all teaching professionals, developing pedagogical attitudes that can promote an environment of respectful and fruitful coexistence among different cultures in the school setting. Professionals need to be equipped with theoretical and practical knowledge on the subject so that their repertoire of pedagogical practices is expanded to include interculturality within the school environment " (E5-P1-U1).

Walsh (2005) defines the term interculturality as "between cultures," which involves contact between different cultures and an exchange established on equitable terms, under conditions of equality. This, in turn, should be understood as a continuous process of relationship, communication, and learning among different people, groups, knowledge, values, and traditions, aiming to generate, build, and promote mutual respect and the full development of individuals' capacities, transcending their cultural and social differences.

It is worth noting that, regarding the concept of interculturality, student 3 emphasized that:

"Interculturality is conceived as a pedagogical proposal aimed at establishing relationships of cooperation and acceptance of different cultures in the learning environment, preserving cultural identities while providing an atmosphere for the exchange of experiences and cultural enrichment for all participants in the process" (E3-P1-U1).

According to Walsh (2005), it is of utmost importance that the educational context promotes the development of interculturality, as it is related to the foundation of human formation and serves as a means for the maintenance of a society, its development, growth, transformation, and the liberation of that society and its human potential.

In this way, it is important to emphasize that "In a globalized world, education emphasizes the importance of equipping individuals from an early age and throughout life with the knowledge, skills, attitudes, and behaviors they need to be informed, engaged, and empathetic citizens" (UNESCO, 2015). This occurs through a training process that encompasses the acquisition of necessary competencies for better performance in the professional field and in the world in which we live.

As a recommendation, UNESCO (2019) advises that actions be taken to deepen public policies for the integration of technologies into education; improve connectivity and infrastructure in the country, particularly in the educational system; create, maintain, and promote the use of digital platforms and resources; support and train teachers in the educational use of digital

technologies; and involve other stakeholders in the educational use of digital technologies. Thus, the most significant challenge for countries is to sustain the process of incorporating the educational use of digital technologies, which was intensified in 2020 in the context of the pandemic.

In this regard, the participants further noted that teacher education:

"It is one of the most important elements for this movement of appreciation to occur, as understanding that society is composed of different social groups, principles, and ways of life qualifies teaching work, as well as the teaching and learning processes in educational spaces. Its contributions provoke reflection to change practice, other ways of thinking and acting, collective awareness, and engagement for those immersed in the process" (E7-P1-U1).

"It is essential for expanding teachers' knowledge regarding intercultural aspects. The exchanges and experiences provided by courses and training, both within and outside the work environment, can assist in the pedagogical practice of educators" (E9-P1-U1).

"It is the essential aspect in any teaching action. In the cited case, it is even more urgent, as it is a demand of our globalized society."  
(E11-P1-U1).

Complementing the points raised, it is important to mention that, in contemporary times, education professionals need to cater to a diverse range of students. Therefore, it becomes essential to understand and effectively manage this diversity, necessitating the acquisition of intercultural competencies (RAMOS, 2016). UNESCO (2017) emphasizes that intercultural competencies refer to having general knowledge about specific cultures, which can be developed through receptive attitudes that facilitate the acquisition of skills for interacting with, establishing, and maintaining contacts with people from various cultures.

Regarding the experiences of integration within the educational institution, the participants noted the need for training that addresses cultural aspects, that is:

"In higher education, I identify that the approach to interculturality needs to be part of the ongoing training actions promoted by the institution, as well as being a topic discussed in course committee meetings, course coordinations, and higher collegiate bodies, among others. The subject is relevant, and although there is low adherence among university teachers to ongoing training processes, actions such as seminars, discussion circles, and sharing of experiences can help keep the topic prominent in the university environment" (E5-P2-U2).

"The profiles of students have changed significantly, but although I feel the need to work on intercultural aspects and citizenship, I haven't gained much knowledge in my teacher training. I am concerned about developing this intercultural perspective, but I don't always know how to conduct these processes or how to enhance dialogue with students and other colleagues in the field" (E7-P2-U2).

"In relationships between people from different places" (E8-P2-U2).

"Because we increasingly have foreign students and teachers, as well as courses taught in other languages, and it is an urgent need of our current economic model" (E11-P2-U2).

"Sometimes, educators lack the skills to deal with different aspects in the classroom, such as immigrant students" (E12-P2-U2).

Therefore, it is understood that teacher educators must rethink the development of their role concerning the challenges imposed by contemporary society. Initial and ongoing training courses should be organized according to the realities presented (FLORES, 2010).

The incorporation of digital technologies should support administrators, teachers, students, parents, and staff in transforming the school into a democratic space that promotes educational actions that transcend the boundaries of the classroom, encouraging learners to see the world beyond the school walls while respecting the thoughts and principles of others (OLIVEIRA & MOURA, 2015; MORAN, 2018).

Thus, teacher education needs to equip educators with the necessary conditions to promote quality education. In this regard, in addition to demonstrating that they possess the necessary skills to face the complexity and changes inherent in teaching, it is essential for educators to commit to updating their knowledge in order to develop and enhance teaching and learning processes throughout their careers. Among current aspects, beyond understanding learning processes and methodologies, digital technologies and intercultural implications must be considered.

Regarding the respondents' experiences in training processes at the university they attend, 8 participants reported that they perceive the use of digital technologies in the academic activities offered by the higher education institution, aiming to expand knowledge related to interculturality, global citizenship, and internationalization, such as lectures, conferences, and international symposiums, presentations by teachers and students, group work, and presentations. Furthermore, they also highlight specific courses that explicitly address these themes, such as Methodology of Higher Education; Topics in Digital Education; Online Education; and Curriculum, Culture, and Teacher Education.

Although the educational institution develops some activities related to interculturality, global citizenship, and internationalization, there is a perceived need to expand work involving this theme. In this sense, student 7 states that:

"Teacher education is one of the most important elements for improving the quality of education. In this sense, digital technologies are essential for this training to meet current demands, student profiles, the job market, and the diverse lifestyles of today, as the world revolves around digital technologies... However, schools and universities need to promote greater awareness and citizen and technological education among individuals, as we know we need to address interculturality, globalization, and the challenges of the present, but we do not know how to implement this innovation" (E7-P6-U6).

The field of education is one of the spheres of society that needs to constantly update its agendas and working methods to address the new demands presented in our society. The presence of digital technologies in people's lives is evident, which gives students access to vast amounts of information that educational institutions and teachers are often unprepared to handle in order to develop a more contextualized pedagogical practice. Thus, the adaptation to and lack of mastery of technological resources remain challenges for educational units and teachers (OLIVEIRA & MOURA, 2015). In this context, as evidenced in recent years by the necessary adaptations made during the emergency situation caused by the COVID-19 pandemic (MACHADO, SOSO, and KAMPFF, 2020), socioeducational experiences demonstrate the need to reflect on the adequacy of policies for incorporating the educational use of ICT in various contexts, territories, and populations, as well as the necessary participation of their diverse stakeholders (UNESCO, 2022).

Dessa forma, alguns participantes registraram contribuições referentes à formação dos docentes, para melhor compreensão de aspectos interculturais, de internacionalização e das demandas da sociedade globalizada, destacando como as tecnologias digitais podem ser utilizadas neste contexto:

"Teacher education needs to provide more practical moments that allow for reflection and exchanges with other people" (E6-P6-U6).

"Virtual environments for interaction and study can bring together individuals and different cultures" (E12-P6-U6).

"Through forums, social networks, or even online courses, it is possible to give and receive contributions to the ongoing education of teachers" (E2-P6-U6).

"I believe that lectures, TED talks, and videos could contribute" (E8-P6-U6).

In this perspective, student 10 discusses a means that can help develop the issues raised:

"By encouraging constant contact with people from different cultures, a mindset of global integration can be created. The earlier these values are addressed, the greater the chances of forming citizens with an internationalized and globalized consciousness. Technologies are present in all areas of our society, so it is natural for them to be part of this process. However, individuals need to be trained to use virtual spaces responsibly, promoting inclusion rather than exclusion" (E10-P6-U6).

Student 5 emphasizes, as a summary of their perceptions, that:

"Digital technologies are tools that expand the reach of actions such as the initial and ongoing training of teachers. Their use is relevant for education on interculturality, internationalization, and the demands of contemporary society, as they have the potential to reach people who are far away and need to optimize their time, allowing them to use these tools to improve themselves during the hours they have available. For those who are distant from major urban centers, where opportunities for training are scarce, technology enables knowledge to reach everyone with the same quality, regardless of their location" (E5-P6-U6).

Regarding the issues mentioned, it is evident that, today, it is essential for the teacher to act as a mediator in the teaching and learning processes, being attentive to the resources that facilitate these processes and the relationships that are established. This teacher must, in turn, encourage the use of various digital technologies among students, providing the necessary support for their appropriate use, and intervene when needed to ensure that the utilization of technological resources is conducted responsibly. For this to happen, the teacher should seek ongoing training to keep their knowledge updated and understand how digital technologies can assist in their pedagogical practices, thereby contributing to the students' learning (LUCAS e MOREIRA, 2018).

From this perspective, there is a need to understand the technical specificities, the functioning of digital technologies, and their potential uses. To achieve this, it is important for teachers to have available time to reflect on and identify the pedagogical potential during the teacher training process. Supporting this perspective, Castro (2021) emphasizes that:

Technology, when integrated into the teaching and learning process, provides new possibilities for both the educator and the learner, especially when considering this phase of social change and the prevailing culture. ICTs (Information and Communication Technologies) function as innovative resources only when aligned with methodologies that break away from the traditional education model. It is essential to bring the student into the classroom along with their experiences and knowledge, valuing the knowledge that has been constructed in other educational environments, both formal and informal (CASTRO, 2021, p. 31).

The teacher training process should aim to empower teachers to learn how to learn and how to unlearn through communication, self-analysis, and self-regulation, utilizing knowledge, skills, and attitudes to develop restless and innovative professionals. To achieve this, it is essential to develop intellectual tools that allow for reflection on one's own teaching practice, with the primary goal of learning to interpret, understand, and reflect on the teaching and learning process and social reality in a collective manner. The creation of networks, questioning, research, and the development of critical thinking will facilitate an understanding of the complexities presented (IMBERNÓN, 2010).

## **Final considerations**

This article facilitated reflection on aspects that should be present in both initial and ongoing teacher education, from the perspective of the increasing use of digital technologies in various human activities, particularly in educational activities that generate more sophisticated understandings due to intercultural aspects, which are important elements in a plural and connected society.

With this objective, references from the fields of teacher education, digital technologies, and interculturality were intertwined in the research presented, which specifically included the application of an online questionnaire to students in a *Stricto Sensu* Graduate Program in Education at a university located in southern Brazil, with 12 respondents.

In this instrument, master's and doctoral students, predominantly educators and educational managers across various levels of teaching, were asked about their perceptions regarding the necessity and relevance of addressing intercultural aspects in educational activities within an increasingly connected and plural society, as well as their views on the use of digital technologies, which are manifested in various resources in scenarios of active and collaborative methodologies, to contribute to the enhancement of intercultural competencies. Regarding the present themes, they were questioned about initial and ongoing teacher education, its challenges and possibilities, based on the perceptions they provided.

The results of the study reveal that the research participants understand that digital technologies contribute to teacher education concerning intercultural aspects, as there are technological resources that enable access to information from different origins and contexts. Additionally, these technologies foster connections that enhance reflective and collaborative moments between people from different regions and cultures, particularly highlighting online courses, interactions on social networks, distributed research groups, and participation in international events and collaborative projects in virtual environments.

While various initiatives are recognized at the higher education institution where the participants are master's and doctoral students, there is still much to be done in this and other educational institutions. Participants indicate that educational activities should be organized with clear and explicit intent during both initial and ongoing teacher education, ensuring that these important objectives are realized. This can be achieved through theoretical and reflective discussions on the topics addressed here, as well as through the organization of practical experiences in using digital technologies in intercultural contexts, fostering engagement and giving meaning to the studies and experiences.

In the context of the COVID-19 pandemic, teacher education for the use of digital technologies has become even more pressing. The need to discuss global issues and prepare individuals for collaboration in building integrated and effective solutions in scenarios filled with complex problems has become increasingly evident, highlighting the urgency of developing



intercultural competencies that enable joint action in distributed and plural contexts, addressing global topics.

Revisiting teacher education - beyond merely updating the university curricula for teacher training programs but also examining guidelines and ongoing training plans for practicing teachers - is a challenge to be embraced globally

## References

BRASIL. Ministério da Educação. **Base Nacional Comum Curricular**. 2018.

BRASIL. Conselho Nacional de Educação. **Resolução n. 2/2019**, de 20 de dezembro de 2019. Define as Diretrizes Curriculares Nacionais para a Formação Inicial de Professores para a Educação Básica e institui a Base Nacional Comum para a Formação Inicial de Professores da Educação Básica (BNC-Formação). Brasília, DF: 2019.

CASTELLS, M. A Sociedade em rede: do conhecimento à política. *In*: CASTELLS, Manuel; CARDOSO, Gustavo. **A sociedade em rede: do conhecimento à ação política**. Belém: Imprensa Nacional – Casa da Moeda, 2005, p. 17-30.

CASTRO, T. S. de. 2021. **Ensino de História: Realidade Aumentada enquanto recurso pedagógico**. Dissertação de Mestrado. Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brasil. Disponível em: <https://tede2.pucrs.br/tede2/handle/tede/9667>. Acesso em: 25 out. 2022.

EDUCAUSE. **Horizon Report**. Teaching and Learning Edition. EDUCAUSE, 2022. Disponível em: <https://library.educause.edu/resources/2022/4/2022-educause-horizon-report-teaching-and-learning-edition>. Acesso em 26 out. 2022.

FLORES, Maria Assunção. Algumas reflexões em torno da formação inicial de professores. **Educação**, v. 33, n. 3, p. 182-188, 2010.

GIL, Antônio Carlos. **Métodos e técnicas de pesquisa social**. 7. ed. São Paulo: Atlas, 2019.

IMBERNÓN, Francisco. **Formação continuada de professores**. Porto Alegre: Artmed, 2010.

KENSKI, Vani Moreira. Cultura digital. *In*: MILL, Daniel. **Dicionário crítico de Educação e tecnologias e de educação a distância**. Campinas: Papirus, 2018, p. 139-144.

LUCAS, M; MOREIRA, A. **DigCompEdu: quadro europeu de competência digital para educadores**. Aveiro, 2018.

MACHADO, Karen Graziela Weber; SOSO, Felipe Sereno; KAMPFF, Adriana Justin Cerveira. Aulas on-line no contexto da educação superior em tempos de pandemia. **Currículo sem Fronteiras**, v. 20, n. 3, p. 633-655, set./dez. 2020.

MACEDO, Valcinete Pepino de. Formação de professores do contexto das mudanças educativas. **25º Simpósio Brasileiro e 2º Congresso Ibero-Americano de Políticas e Administração da Educação**, 2011. São Paulo: Anpae, 2011.

MORAN, José. Metodologias ativas para uma aprendizagem mais profunda. **Metodologias ativas para uma educação inovadora: uma abordagem teórico-prática**. Porto Alegre: Penso, 2018, p. 02-25.

MORAES, Roque; GALIAZZI, Maria do Carmo. **Análise textual discursiva**. Ijuí: Unijuí, 2020.

NARIKAWA, T. A.; SARAIVA RODRIGUES, O. Colcha de retalhos: humanidades digitais e interculturalidade no aprendizado de línguas. **Revista Mediação**, [S. l.], n. 13, 2022. Disponível em: <https://revista.uemg.br/index.php/mediacao/article/view/6233>. Acesso em: 31 out. 2022.

OCDE - Organização para a Cooperação e Desenvolvimento Econômico. **A framework to guide an education response to the COVID-19 Pandemic of 2020**. 2020a. Disponível em: [https://read.oecdilibrary.org/view/?ref=126\\_126988-t63lxosohs&title=A-framework-to-guide-an-education-response-to-the-COVID-19-Pandemic-of-2020](https://read.oecdilibrary.org/view/?ref=126_126988-t63lxosohs&title=A-framework-to-guide-an-education-response-to-the-COVID-19-Pandemic-of-2020). Acesso em: 04 jun. 2020.

OLIVEIRA, C.; MOURA, S. P. TIC's na educação: a utilização das Tecnologias da Informação e Comunicação na aprendizagem do aluno. **Pedagogia em Ação**, v.7, n.1, p.75-95, 2015.

RAMOS, Natália. Tecnologias digitais de informação e comunicação, interculturalidade e formação docente. **Revista EDaPECI: Educação a Distância e Práticas Educativas Comunicacionais e Interculturais**, p. 9-30, 2016.

SOARES, S. J. **O uso das tecnologias digitais de informação e comunicação no processo de ensino-aprendizagem**. In: Congresso Internacional ABED de Educação à Distância, 21º, 2015, Bento Gonçalves/RS. Disponível em: [http://www.abed.org.br/congresso2015/anais/pdf/BD\\_145.pdf](http://www.abed.org.br/congresso2015/anais/pdf/BD_145.pdf). Acesso em: 31 out. 2022.

UNESCO. **Educação para a cidadania global: preparando alunos para os desafios do século XXI**. Brasília: UNESCO, 2015.

UNESCO. **Renovando a visão das sociedades do conhecimento para a paz e o desenvolvimento sustentável**. São Paulo, UNESCO, 2015.

UNESCO, UniTin. **Competencias Interculturales**. Marco conceptual y operativo. Bogotá: Organización de las Naciones Unidas para la Educación, la Ciencias y la Cultura. 2017.

UNESCO. **Políticas digitais em educação na América Latina no contexto da pandemia de COVID-19**. Buenos Aires: UNESCO, 2021.

UNESCO. **Reimaginar nossos futuros juntos: um novo contrato social para a educação**. Brasília: Comissão Internacional sobre os Futuros da Educação, UNESCO; Boadilla del Monte: Fundación SM, 2022. Disponível em: <https://unesdoc.unesco.org/ark:/48223/pf0000381115>. Acesso em: 30 out. 2022.

XAVIER, Antonio Carlos dos Santos. **Letramento Digital e Ensino**. Disponível em: <http://www.nehte.com.br/artigos/Letramento-Digital-Xavier.pdf>. Acesso em: 08/04/2020. Acesso em: 24 out. 2022.

WALSH, Catherine. **La interculturalidad en educación**. Perú. Ministerio de Educación. Dirección Nacional de Educación Bilingüe Intercultural, 2005. Disponível em: [https://centroderecursos.cultura.pe/sites/default/files/rb/pdf/La%20interculturalidad%20en%20la%20educacion\\_0.pdf](https://centroderecursos.cultura.pe/sites/default/files/rb/pdf/La%20interculturalidad%20en%20la%20educacion_0.pdf). Acesso em: 09 out. 2021.

WEISER, M. **Ubiquitous Computing**. 1993. Disponível em: <https://rasmusbroennum.files.wordpress.com/2009/02/ubiquitous-computing-mark-weiser-1993.pdf>. Acesso em: 25 out. 2022.



The licensing rights used by the journal Education in Focus is the *Creative Commons Attribution-NonCommercial 4.0 International* license (CC BY-NC-SA 4.0)

Recebido em: 07/12/2021  
Aprovado em: 18/11/2022