PERCEPTION OF STUDENTS ON THE DEGREE COURSE IN GEOGRAPHY AT UNIMONTES IN RELATION TO THE USE OF DIGITAL TECHNOLOGY IN EDUCATION

Vanessa Tamiris Rodrigues Rocha
Mestranda do Programa de Pós-Graduação em Geografia, Universidade Estadual de Montes Claros, Brasil
vanessatamiiris@gmail.com

Maria Ines Fernandes dos Santos
Mestranda do Programa de Pós-Graduação em Geografia da Universidade Estadual de Montes Claros, Brasil
mariaines.mi60@gmail.com

Rahyan de Carvalho Alves
Docente do Programa de Pós-Graduação em Geografia da Universidade Estadual de Montes Claros, Brasil
rahyan.alves@unimontes.br

RESUMO – The objective of this work is to briefly highlight the perception of students of the 6th term of the degree course in Geography, at the university located in the north of Minas Gerais about the use of digital technology in education. For that, the quantitative and qualitative method was used and as methodology: bibliographic review and analysis of data collected in work/field exercise carried out in April 2023, with the application of questionnaires to students. It is considered that most of the interviewees have already made use of technological resources in their classroom experiences. And, in a majority way, they see this use as beneficial for students' learning, since it tends to contribute to the improvement of this process, stimulating creativity and making teaching more attractive.

Keywords: Geographical Education; Teacher Training; Technology.

PERCEPÇÃO DE ALUNOS DO CURSO DE LICENCIATURA EM GEOGRAFIA DA UNIMONTES EM RELAÇÃO AO USO DA TECNOLOGIA DIGITAL NA EDUCAÇÃO

ABSTRACT – O objetivo deste trabalho é destacar brevemente a percepção dos estudantes do 6° período do curso de licenciatura em Geografia, de uma Universidade localizada no norte de Minas Gerais, sobre o uso da tecnologia digital nas aulas de Geografia. Para tanto, utilizou-se como metodologia: revisão bibliográfica e análise de dados coletados em trabalho/exercício de campo realizado no mês de abril de 2023, com a aplicação de questionários aos estudantes. Considera-se que, a maioria dos entrevistados já fizeram uso de recursos tecnológicos nas experiências em sala de aula. E, que de forma majoritária, veem este uso como benéfico para o aprendizado dos alunos, uma vez que tende a contribuir para a melhoria deste processo, estimulando a criatividade e tornando o ensino mais atrativo.

Palavras-chave: Educação Geográfica; Formação de Professor; Tecnologia.

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INTRODUÇÃO

Since the 1970s/1980s, we have experienced the process of transforming society through computerization, arising from the technological revolution characterized as a technical-scientific-informational means, a spatial consequence of the time marked by globalization, by the production of mass consumption. This process has major impacts (positive and negative), such as: improvement of techniques and technological advances in both the productive and scientific fields (innovations in the areas of robotics, genetics, telecommunications, electronics, transport and infrastructure), on the other hand, the replacement of manufacturing through machine manufacturing and the improvement of techniques meant that labor was abruptly devalued and natural resources were increasingly exploited in an unsustainable way.

NegroPonte (1995), identified the massive presence of technological devices in all spheres of social life as a tendency towards the virtualization of human experience, which gives rise to new forms of insertion of the subject in an increasingly fragmented universe, in a multiple reality and hypermedia.

It is clear that the technological advances that have occurred in recent decades (especially since 1970/1980) have resulted in significant changes in the various spheres of society, influencing the economic, political, social and, above all, educational sectors. Because, according to Jonassen (2007), digital technologies are carrying out profound transformations in learning processes and changes occurring in the school environment. It denotes that the use of technologies in education provides interdisciplinarity, a hierarchical organization that encourages cooperative and supportive participation and promotes student autonomy and responsibility.

In this context, the objective of this work is to briefly highlight the perception of students in the 6th term of the Degree in Geography course, at the University regarding the use of technology in education. To this end, a bibliographic review was used as a methodology, based on authors, such as: Callai (2010); Cavalcanti (2012); França (2009); Negroponte (1995), Nogueira (1968) among others, through reading books and scientific articles available in virtual libraries; based on the descriptors: geographic education, teacher training, digital technology, etc., and analysis of data collected in field work/exercise carried out in April 2023, with the application of questionnaires to students.

The work was developed in four stages: the first focused on a brief bibliographical review on the teaching of geography and the use of Digital Information and Communication Technologies (TDICs) as didactic-pedagogical resources in the teaching-learning process. The second stage consisted of presenting some alternative platforms that can contribute to the understanding of school geography as a socially and politically emancipatory discipline. The third stage consisted of presenting the data obtained in the field. And finally, we present the final considerations.

Therefore, below we present a brief bibliographical review on the teaching of geography and the use of digital technologies in pedagogical practice.

METHODOLOGY

In 2023, we went into the field to investigate the perception of students/academics from the 6th term of the Degree in Geography course at university located in the north of Minas Gerais, on the use of digital technology as a resource to facilitate the Geography teaching and learning process. To this end, we used the application of a questionnaire, of the undisguised Structured type (the respondent knows what the objective of the research is, and the questionnaire is standardized, with mainly closed questions), applied in person to the 6th term class, as these students have been involved in the school field since the 5th term, due to the subject: Mandatory Supervised Curricular Internship (ECS), present in the Pedagogical Political Project (PPP) of the respective course.

In this we ask students about the use of digital technologies for pedagogical purposes in the experiences they have in the classroom, whether through the Institutional Teaching Initiation Program (PIBID), Program Pedagogical Residency (PRP) or Supervised Curricular Internship (ECS) and the activities developed from this use, in addition to highlighting the results obtained

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from the practices; their view of the use of technology in education; the elements to which learning from TDICs is predominantly attributed; the level of knowledge and experience with the use of digital technologies for teaching and the difficulties involved in this process.

It is worth noting that the questionnaire is a fundamental instrument for social investigation, whose data collection system aims to obtain information directly from the individual to be interviewed. For Nogueira (1968, p.129), the form can be defined as "[...] a formal list, catalog or inventory intended for collecting data resulting from either observation or interrogation, which is completed by the investigator himself, as he makes observations or receives answers, or by the person being researched, under his guidance".

According to Silva et al. (2013), the use of questionnaires in academic research becomes viable due to their practicality, as they allow collecting information in a short period of time and obtaining results that are representative of the target population. Thus, it has great relevance for geographic investigations.

The questionnaire applied to the class seeks to verify students' perception regarding the use of technology in education. The word perception originates from the Latin Perceptio-onis, and denotes "[...] action or effect of perceiving, of understanding the meaning of something through sensations or intelligence" (Dicio, 2019, p.14).

In this way, perception can be characterized as the responses given as a result of the interaction between the senses and the mind, how human beings understand and interact with the space that surrounds them; being possible "[...] to state that it is through perception that knowledge of the adjacent space is constructed and organizes another, individualized space" (Malanski, 2014, p.20).

Therefore, the present study is based on the students' perspective on the use of technological resources in the teaching and learning process in basic education. This is a quantitative and qualitative study, where the results obtained from the questionnaire will be tabulated and systematized in the form of graphs created in the Microsoft Word, subsequently analyzed and expressed in the form of textual interpretation. Then, it seeks to collect/organize/analyze empirical data, through observation of the speeches of the interviewed subjects (their opinions, reports and experiences), on the aforementioned subject.

Geography teaching and the use of digital technologies in pedagogical practice

The educational scenario has been reformulated by society with the presence of technology in its daily activities. Since, technological innovations have driven changes in the teacher's teaching methodology and new theories about the way the student learns. These theories help educators realize that the teaching and learning process does not occur only through the transmission of information, but through the result of an internal construction based on interaction with the environment, be it physical, social or virtual.

Higher education courses often give more notoriety to theory and end up avoiding practice, that is, theory and practice are not seen as inseparable components, as defended by Vásquez (1997) and reaffirmed by Pimenta (2010). Both authors argue that teacher training courses must be committed to eradicating the dichotomy that involves theory and practice.

About the integration between theory and practice in teaching methodologies:

Firstly, it (methodology) is not just theoretical. In the precise sense that theory itself implies a practice, which occurs in the movement of reality. However, it is of fundamental importance to understand that theory cannot be confused with practice (or vice versa), which leads us to the need to consider the specificity of each one, and concomitantly, the relationship between them. Otherwise, the tendency is to make a mistake in identifying the two, which causes the difference to be lost, and one ends up privileging either practice or theory. By privileging one or the other, what one effectively does is deny one in favor of the other, which means, more broadly, that one continues to work within that perspective according to which the object is/is separated from the subject (Rubia, 1987, p.46).

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That said, digital technologies emerge as support tools for the teaching and learning process, as they allow the student to combine the theory discussed in expository-dialogue classes with practice – which enables the materialization of theory. Leading them to gain a new perspective on the subject.

According to Prensky (2001), the traditional teaching model no longer meets students' desires; for many students, educational methods are exhausting and purposeless. This traditional methodology, which does not meet their expectations, makes the teaching and learning process increasingly distant. Therefore, the teacher is expected to fulfill his role of ensuring that students acquire the knowledge, skills and competencies that society wants them to be able to master. And, students are expected to learn roles/knowledge/skills and internalize norms and values to build a fairer, more effective and democratic society (Crahay, 2013).

For Knüppe (2006), students currently live in a society with countless attractions that enchant and fascinate them. There is the possibility of accessing information through the media, which motivates them to feel more attracted to these technological resources than going to school, since being regular in class does not offer the same motivation exerted by society. Furthermore, Fragelli (2017) denotes that the indifference related to school subjects occurs in the way they were treated. Since, most of the time, the content was approached in a way that was disconnected from the student's reality.

We are in a society immersed in digital culture, which, according to Prensky (2001), is related to the notion of virtual space created by computer networks and also includes other objects that gave rise to the term cyberspace. This notion is characterized by Lévy (2005) as the oceanic universe constituted by the intangible infrastructure of digital communications, the information and the people that transit through it.

In this cyberspace scenario, interpersonal relationships have changed due to the development of technology, which has led to the need for adjustments in various sectors, including the educational sector. According to Lévy (2005) and Prensky (2001), the traditional teaching model is outdated. And one of the reasons for this problem is, precisely, the constant changes and technological advances that make exposure to the virtual world much more interesting than formal teaching methods.

It is clear that teachers need to consolidate the use of new technologies and rethink their role within the classroom, to develop more attractive meetings, as young people are subjected to constant reception of information. That said, the way of teaching and learning can benefit from these technologies because there is Internet – which provides various information, media, software and other tools – which, when used correctly, help in the construction of knowledge (Negroponte, 1995).

Teachers, as educators of progressive education, must reflect and accept the challenge of educating in new times, knowing the school in its entirety, because they face this challenge, namely, educating for the citizenship of virtualization. From this perspective, we can consider that the significant and critical use of digital resources contributes to the construction and appropriation of knowledge, by allowing teachers and students to understand reality in order to transform it (Jonassen, 2007).

It is extremely important to highlight that the National Curricular Guidelines for Basic Education, dated July 13, 2010, already provided for the use of these technologies as pedagogical resources and sought to guarantee their presence in the school curriculum. Which signals the government's concern with this issue (Brasil, 2010).

In addition to the educators' strategies, it is necessary to expand the teaching-pedagogical approach used in classrooms to promote interaction, inclusion, communication and bringing different groups together, thus reducing inequalities and bringing the subjects involved closer together, as stated Bortolini et al. (2012, p.142):

It is necessary, however, to understand the insertion of information and communication technology resources in schools beyond digital inclusion, through the appropriation of these resources as instruments that extend the human capacity to store, retrieve, explore and

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disseminate information. In this context, the school is challenged to observe, recognize, appropriate and contribute to the consolidation of a new learning culture.

Teachers must seek to understand the relationship between knowledge, technology and teaching-learning (França, 2009). Designing alternative ways to improve the educational process, aiming for the majority of students to have access to the use of technologies in favor of learning, breaking the barrier of digital apartheid (Sabbatini, 2000).

For Bonilla and Oliveira (2011), the digital apartheid can be understood as unequal access of large populations to information and communication technologies. Sabbatini (2000), denotes that digital apartheid is the expression used to characterize the separation, the abyss of differences formed between the part of the population that uses computers, accesses Internet etc., and those who do not have access to these resources. According to Castells (2005, online), digital exclusion can present itself in three ways:

Firstly, there is no access to the computer network. Second, it has access to the communication system, but with very low technical capacity. Third is being connected to the network and not knowing which access to use, what information to seek, how to combine one piece of information with another and how to use it for life. This is the most serious because it expands and deepens the most serious exclusion in all of History; it is the exclusion of education and culture because the digital world is growing extraordinarily.

It is worth highlighting that digital technology is a resource that assists the teaching process, it is a support, interaction tool, and, not, the protagonist, it only collaborates in the teaching and learning process. Since, "[…] without the effective mediation of the teacher, the use of technologies at school favors fun and entertainment, and not knowledge" (Moran, 2013 p.58).

Given this, it is important to emphasize that teaching mediation is necessary and plays a fundamental role in all learning processes. The teacher's skills and knowledge will be valued as systematized knowledge, and their mediation action will consist of learning and granting students the possibilities of internalizing/externalizing socially constructed aspects of knowledge appropriation. It is believed that the inclusion of TDICs in the Geography teaching process can promote countless learning possibilities. To this end, it is essential that the teacher, through appropriate methodology and planning, acts as a mediator in this process.

Geography aspires to knowledge of various topics of our daily lives applied to science. For Callai (2010), Geography as a curricular component creates conditions for students to recognize themselves as subjects who participate in the space in which they live and study. In this way, students can understand socio-spatial phenomena based on the productions of society in geographic space (Cavalcanti, 2012).

The contents of geography are important, as they allow it to establish its individuality and differentiate itself in comparison to other areas of knowledge and contextualize it with the others. That said, school geography, related to the basic school curriculum, is fundamental, assuming a role of great relevance for student training (Callai, 2010).

However, it is clear that the contents taught in geography are, at times, marked by the fragmentation of knowledge and the disregard of students' experiences and the geographic baggage brought by each one. This leads to mechanical learning of content - which still persists today in most Brazilian schools, forgetting the informal curriculum (Cavalcanti, 2012).

According to Rupel (2011, p.2) "[...] many times during the development of Geography content in the daily classroom, the activities become tiring and unattractive for students, mainly because they do not always alternative methodologies are sought to motivate them". Therefore, the use of activities that encourage active participation by students can contribute to their learning. To this end, it is necessary for teachers to improve teaching methodologies and diversify the uses of teaching resources, including digital tools, applying the teaching and learning process successfully (Costa et al., 2021).

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With this, the needs of schools, teachers and students are essentially based on adapting to new learning and communication models, since the school seeks to overcome the centrality of its teaching and learning process solely on the use of tools such as the board, the chalk and books, however, not detracting from their importance, but using other resources that contribute to the diversification of classes (Jonassen, 2007).

In this sense, the use of digital resources, when well conducted and with organized pedagogical objectives, brings significant benefits to the construction of knowledge. And, digital technologies must be seen as facilitating tools for mediating the teaching and learning process, however, it is not enough to just know how to handle them, there is a need to provide a purpose for using the tool in teaching practice, in a way that involves the student in this process in an active and creative way (Costa et al., 2021).

Thus, digital tools emerge as potential resources for the mediation of geographic knowledge, as they stimulate students' curiosity and interest in classes, consequently tending to increase their engagement in the discussions and activities carried out (Fragelli, 2017; Maranhão et al., 2019).

In view of the above, below, we will briefly present some digital platforms that can be used as facilitating resources in the teaching and learning process in geography.

Digital tools as potential resources for the medication of geographic knowledge

Currently, there are several platforms/sites/games/programs that allow for more dynamic and attractive geography classes, free of charge and easy to use, namely: *Geoguessr; Drive & Listen; Google Earth; PowerPoint; Seterra Geography; Canva; Scratch; FazGame; Efuturo; Wordwall; Educaplay,* among many others.

The game *Geoguessr* was created in 2013 by Anton Wallén and is available for free over the internet, requiring connection to a data network to use it. The same consists, basically, in the random draw of images on the platform *Google Street View*, which are offered to the user and challenge him to find the exact location of that respective image in the planisphere (FIGURE 1). When accessing the platform for the first time, using the address https://www.geoguessr.com/game/, this offers a quick tutorial to understand its working dynamics (Geoguessr, 2023).

Figure 1 - Print screen of the game *Geoguessr,* 2023

Source: https://www.geoguessr.com/game/. Accessed on: April, 24 2023.

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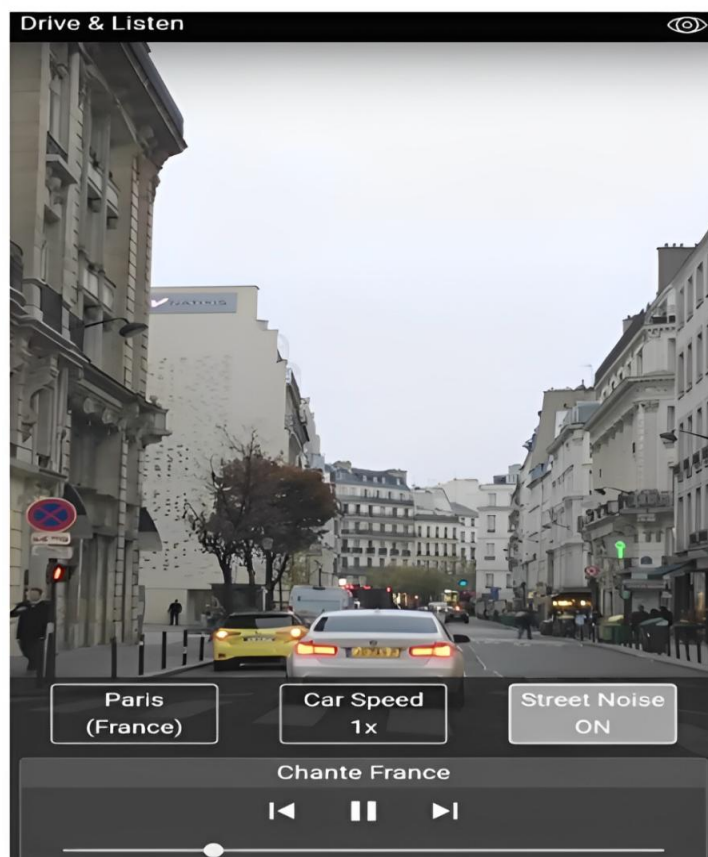
From the figure presented by the platform, the user must analyze the various components of the illustrated landscape, dragging to the side to have a panoramic view of the location or clicking on the white arrow to advance to the right or left and thus, recognize aspects that lead them to mark the approximate location on the planisphere. Players receive scores according to the proximity between the location measured by the user and the correct position of the image on the world map, with the exact location displayed immediately after marking.

To carry out the correct measurement or get closer to it, the user needs to evaluate natural and built elements of the represented landscapes, namely: vegetation pattern, elements of atmospheric weather, aspects of relief and soil, shapes of buildings, economic activities, among several other aspects that make this identification possible.

Furthermore, the game makes it possible to create more specific spatial sections, in order to focus on regions and locations at a global level. This resource has great emphasis on geography classes, as it allows the teacher, in moments that is dealing with the Geography of Brazil, for example, use the *Geoguessr* only with images and locations from Brazilian territory, promoting conversations about the diversity of landscapes and places in our country. And, for each country chosen, the platform offers a statement about it, presenting characteristics and/or curiosities.

The website *Drive & Listen*, available at: https://driveandlisten.herokuapp.com/, features cities from all over the world and several local radio stations, so the user can choose the soundtrack and enjoy the car ride (Drive e Listen, 2023). It allows them to enable or disable the sound of the city streets, as well as the speed of the car and the radio with the musical style that pleases them. This allows the teacher to create opportunities for the student to discover spaces and places they did not know before, contributing to the enrichment of cultural capital and the improvement of the teaching and learning process (Figure 2).

Figure 2 – Print screen of the website *Drive e Listen*, 2023.

Source: https://driveandlisten.herokuapp.com/. Accessed on: April, 24 2023.

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Another alternative for working with current cartography is the *Google Earth* - software developed by the company *Google*, which presents the globe seen through satellite images, making it possible to observe images from all continents and countries, available at: https://www.google.com.br/earth/index.html. This resource provides different routes and routes, providing students with the opportunity to discover other places virtually in an interactive way (Google Earth, 2023). It presents the images in a three-dimensional way and can zoom in or out and rotate it to any angle, making it possible to explore global issues, such as the distribution of resources, the effects of urbanization and socioeconomic disparities, among others (Figure 3).

**Figure 3** – Print screen of the website Google Earth, 2023.
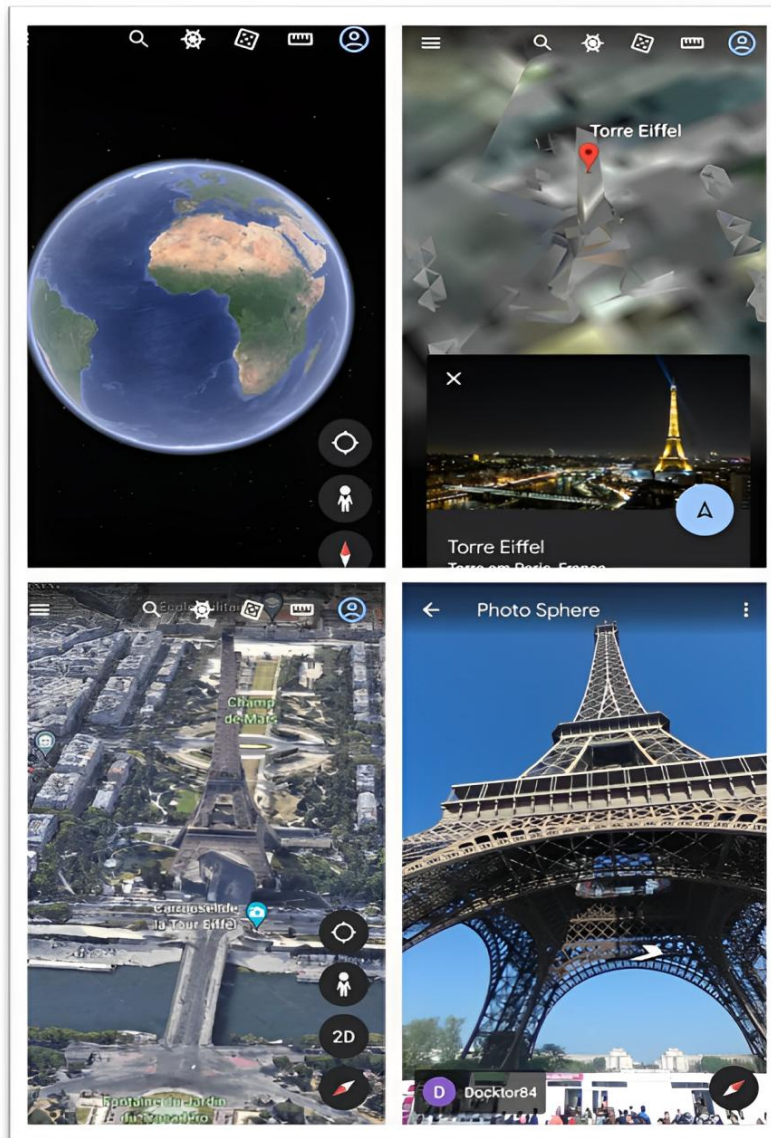
Source: https://www.google.com.br/earth/index.html. Accessed on: April, 24 2023.

Both alternatives presented above enable the identification of different landscapes and also allow the involvement of other categories of geographic analysis, namely: Place, Region, Territory and Space. Because it is impossible to think about the phenomena and physical aspects of the Earth without their relationship with human beings, that is, the society that lives, uses, transforms and suffers the influences of the phenomena and aspects of nature.

Power point can be used in a more attractive way, such as, for example, to create a game, similar to the renowned "Super Mário Game". It is a board game with two characters (Mário and Luigi). The game model can be accessed through the address, namely: https://drive.google.com/file/d/1ACTjcfVmwiUKBzLsz_R59UaOpEQ4UL83/view   (Power Point, 2023).

After access, simply download the file, but one must have the PowerPoint application installed to view and edit the game according to one's needs. The game is completely configured, with the animations, the celebrations, all stylized in the Super Mário design, there is only a need to include the desired questions, with multiple choice alternatives. After completing the questions present in the game, it is time to save the file, to do so it is necessary to follow a few steps, namely: click on the "files" option, "save as", choose the storage location, "type" and "*Power point* slide presentation" (Powerpoint, 2023). It is worth highlighting the practicality of this, considering that it is not necessary to have an internet connection to take advantage of its possibilities. The game tends to make the class more attractive and interesting for students and promotes the development of socio-emotional skills, such as resilience, teamwork, problem solving and decision making (Rocha *et al.*, 2022) (Figure 4).

Figure 4 – Super Mario board game created in *Power point*, 2023.
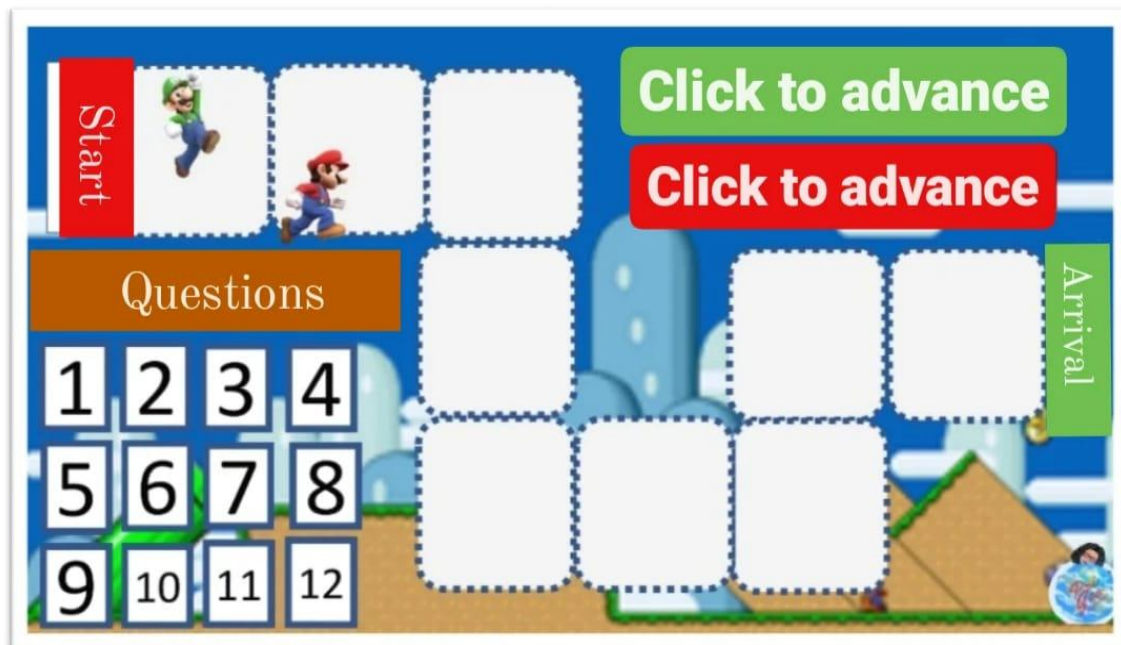
Source: *Power point*, 2023.

Website *Seterra Geography*, available at, namely: https://www.geoguessr.com/seterra/pt/vgp/3675, is a free software that has more than 70 different geographic exercises. It is possible to learn through these about countries, capitals, flags and cities across the globe. It is composed of several maps and blocks of questions (Seterra Geography, 2023). The exercises are presented in order of difficulty, starting from the easiest to the most complex (Figure 5).

Figure 5 – Print screen of the website *Seterra Geography*, 2023.

Source: https://www.seterra.com/. Accessed on: April, 24 2023.

Canva is a digital tools website, available at: https://www.canva.com/, which contains a significant amount of graphic resources. It was launched in 2007, by *Melanie Perkins*, professor at the Westem University - Australia. She realized the need for a program that was capable of meeting the needs of her students, since they demonstrated difficulties related to handling design tools for the creation of professional and personal projects (Canva, 2023).

The website facilitates the development and creation of designs of the most varied types, from presentations to specific tools for commercial design (logos, cards, posts, banners, flyers, etc.). Using it, photographs, graphics, icons, among many other means can be explored. Furthermore, it has a "drag and drop" work dynamic that favors access to graphic resources. This versatility allows it to be used in various pedagogical disciplines. To this end, teachers can use it to create, for example, *slides* and mind maps and, through these, carry out content review, establish concepts, among several other purposes (Rocha; Alves, 2021).

In August 2020, in partnership with *Google for Education*, *Canva for Education*, an extension of its platform aimed specifically at teachers from different teaching areas, was launched. On this platform, teachers have the possibility of creating an interactive virtual teaching/learning environment, sharing it with their students, and being able to even integrate into *Canva* other tools, such as: *Dropbox*, *Google Drive and Google Classroom*, enhancing its use (Canva, 2023).

Another platform is *Scratch*, considered the largest coding community in the world for children and young people, with a simple visual interface that allows the creation of stories, games and digital animations. It is designed, developed and moderated by *Foundation Scratch* - a non-

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profit organization. Mainly aimed at the 8 to 16 age group, however, it is used by people of all ages, being used in more than 200 countries, and available in more than 70 languages. This has been widely used in schools, from elementary to higher education, since the educator, when proposing its use, encourages students to think creatively, to reason systematically and working collaboratively, fundamental aspects for good development (Rocha; Alves, 2022). To do this, the teacher must access the website, through the address, namely: https://scratch.mit.edu/.

The platform *Make Game*, available in: https://www.fazgame.com.br/, was developed by the Brazilian company TecZelt, in which the user develops games, having the possibility of creating characters, scenarios, objects and their own story. This platform is free to access, but to enable certain functions, it is necessary to subscribe to a payment plan. In the educational context, the teacher can use it as a motivating, dynamic and simple form of learning (Rocha; Alves, 2022).

Efuturo platform consists of an educational social network, which together with teachers and students can develop a collaborative and playful approach through technology for schools. The platform offers dozens of educational games, but also allows customization and the creation of new games (word games, memory games, puzzles, scratch cards, question and answer games), based on proper content. To do so, the teacher must access the website, through the address, https://www.efuturo.com.br/index.php (Rock; Alves, 2022).

The Educaplay platform was created by *AD Formación,* in 2010. Games similar to those on Efuturo platform can be created on this platform, such as word games and memory games. A new game proposal available on the platform is "Saltos de Sapo", where with just a few clicks there is the possibility of creating a game where players will have to make the frog "jump" through places with the correct answers to their questions, aiming to reach the coast safely. In this game, players will be excited to respond against the clock, fighting to avoid running out of time or lives. It is also possible to remove these obstacles, if one's prefer that the player follows their own pace, giving them unlimited time and lives. To do so, it is necessary to access the website, via the address: https://www.educaplay.com/types-of-activities/froggy-jumps.html, where the user has many resources to create their questions and answers, combining texts, images, audio files, or even *gifs* animated films (Rocha; Alves, 2022).

Another example worth mentioning is the platform *Wordwall*, a digital interactive gaming platform that has public access, available at: https://wordwall.net/pt. It was designed to provide the creation of personalized, multiple and versatile activities, allowing its use in various pedagogical disciplines. Teachers can use it to create minigames and, through these, review content, establish concepts, among many other purposes (Rock; Alves; Ribeiro, 2021).

Using this platform can be done in two ways, namely: *i)* Free mode allows the creation of up to five games per *email* registered, which can be edited at any time, creating new tasks at no cost; *ii)* the plan mode: individual, basic or "Pro", which allows creation and storage of unlimited activities, at a very affordable cost. The games created can be played individually or in groups, from devices such as computers, smartphones and tablet, as long as they have access to the internet (Rock; Alves; Ribeiro, 2021).

The use of these digital resources, when used well, provides significant benefits, both for the teacher and the student, as it makes the teaching and learning process something practical, dynamic and enjoyable, capturing attention and motivating students to explore and learn in a more active and participatory way. In view of the above, below, we will present the data collected in the field research carried out.

RESULTS AND DISCUSSIONS

Based on data obtained from the application of the questionnaire to eleven academics (8 residents in Montes Claros and 3 residents in Francisco Sá — Minas Gerais) present in the classroom at the time of interaction between researchers and interviewees, this out of a total of

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twenty academics frequent, we profile them based on gender and age. Among those interviewed, female students totaled 5, equivalent to 45%, and male students totaled 6, corresponding to 55%. The majority of respondents (4 students) are 22 years old, equivalent to 37%; followed by students who are 21 years old, with 3 students, equivalent to 27%; then 2 students (18%) aged 20 and, finally, 1 student (9%) aged 23 and 1 student (9%) aged 28.

In observing the data, it was found that even though they have numerous technologies, some students do not have the necessary resources to fully carry out their educational activities, in which it was found that 3 interviewees (27%) do not have resources such as a computer/notebook and even access to quality internet.

Figure 6 represents the distribution of students by use of digital technologies in their teaching experiences. Of the interviewees, 8 (73%) responded that they had already used technological resources in the classroom and 3 (27%) responded that they had not used them.
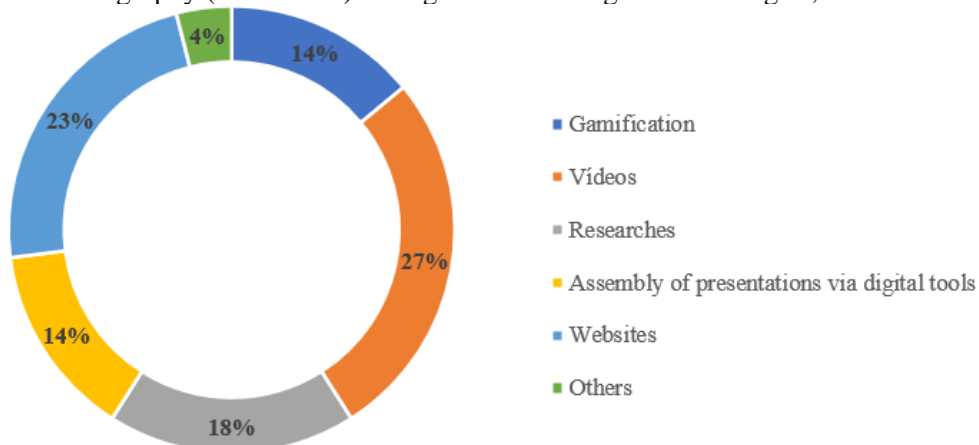
Figure 6 - Distribution of students from 6th term of the Degree in Geography (Unimontes) by using digital technologies in their teaching experiences, 2023.
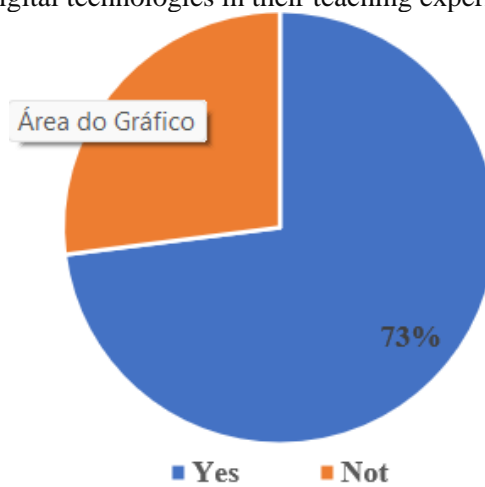
Source: Direct Research, 2023.

According to Figure 7, the activities that stand out most among the academics who responded affirmatively to the previous question are, respectively: Videos (27%); Websites (23%); Research (18%); Gamification (14%); Assembling presentations via digital tools (14%) and Others (4%).

Figure 7 – Distribution of activities carried out by students in the 6th term of the Degree in Geography (Unimontes) through the use of digital technologies, 2023.
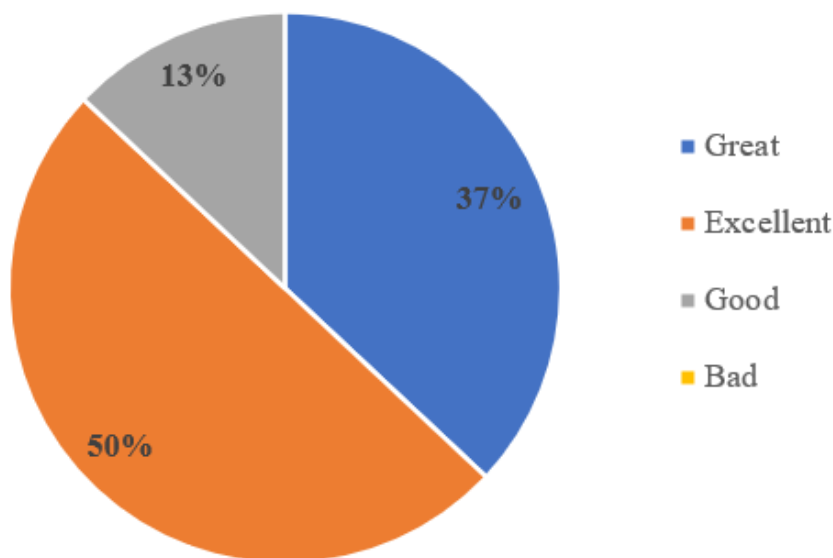

Source: Direct Research, 2023.

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One student, in particular, reported his teaching experience using videos. He mediated a class at PIBID with the theme of cartography, in which students created the compass rose in three-dimensional folding. Subsequently, its production phases were grouped into a single file, posted on the program's social networks – viewed by countless people and receiving several positive comments. Furthermore, this video was passed on to other classes at the school.

Of the 8 students from the 6th term of the Geography course who used technological resources in the classroom, 4 (50%) considered the results to be excellent, 3 (37%) believed they were excellent, 1 (13%) said they were good and, none chose the bad alternative (Figure 8).

Figure 8 - Distribution of students from 6th term of the Degree in Geography (Unimontes) about the results of the use of technological resources in the classroom, 2023.

Source: Direct Research, 2023.

The use of technological resources in the classroom was considered by interviewees to be positive and beneficial for student learning. Because, when asked whether the use of technology in education contributes to the teaching and learning process, of the 11 students interviewed, the majority of 11 (100%) stated that its use contributes to improving this process.

Given the students' reports about their experiences with digital technology in the classroom, one of them reported about a fact noticed during the internship in a 9th year class of Elementary School II, at a state school located in Montes Claros (Minas Gerais). In a certain regency, when teaching a theoretical class on Globalization, he noticed that the majority of students were using cell phones (playing virtual games), without giving importance to his role as a teacher. This made him question his teaching methodology. Thus, in the next meeting, instead of an expository class, he proposed a more practical activity to the class, based on this reality of games, that is, he used gamification as a resource to facilitate learning in geography. In the interviewee's view, throughout his entire training process, this was the class that most aroused the students' interest and that led to significant participation from them, providing effective learning. Furthermore, to assess this learning, after the practical activity, they were asked to discuss the aforementioned content, a proposal that resulted in excellent discussions.

According to another academic, in the 8th year class of Elementary School II, at a state school in Montes Claros, where they carry out RP activities, there are three students with special needs who do not pay attention to the theoretical classes taught by the teacher. However, in an intervention carried out by the resident, using digital games in a *Quizzes*, there was their active participation, where they demonstrated dexterity and interest in the proposed questions, which dealt with themes

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that had been debated in previous classes, such as: distribution of the world population and population movements and diversity and dynamics of the population global and local.

Another academic points out that based on students' enchantment with digital technologies, which arouse their curiosity and interest, the use of technologies in pedagogical practice improved the development of activities in the classroom and facilitated interaction between teacher and student. Considering that technological tools are here to stay, especially due to the audience of students from the Alpha generation (children born from 2010 onwards), who live connected to the internet, already accustomed to computer screens, cell phones, tablets and the like, to learn, seek information and knowledge (Rocha *et al.*, 2022).

It is worth highlighting that, in the school scenario, we have, for example, two distinct realities: on the one hand, there is a generation already inserted in the technological reality; and, on the other side, a generation that does not have access to technology. Therefore, its use in the classroom represents the opportunity for students to have their first contact with technological resources, being a way of including them in school spaces.

Figure 9 presents the answer to the question: "To which element do you predominantly attribute your learning with TDICs (Digital Information and Communication Technologies)?", of which 7 (64%) students said it was at undergraduate, 2 (18%) said it was studies carried out individually /self-taught, 1 (9%) responded to a specific course and 1 (9%) responded to being related to other people (family, friends, etc.). This question aimed to identify the scenario in which students had contact with TDICs and their possibilities.

Figure 9 – Distribution of students from 6th term of the Degree in Geography per learning element of TDICs, 2023.
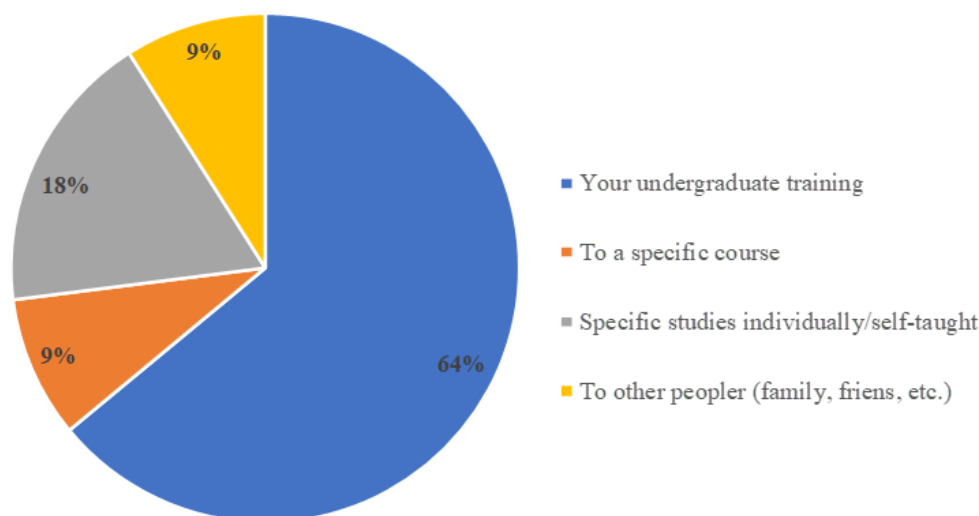
Source: Direct Research, 2023.

In Figure 10, it can be seen the students' response when asked about the level of knowledge and experience with the use of digital technologies for teaching. With the purpose of investigating their proximity to the TIDCs. Of the interviewees, 5 (46%) stated that they knew a few tools, but had experience with them, 4 (36%) responded that they knew several tools and had experience with them, 1 (9%) said that they did not know any tools, but that they intends to know and have experience and, 1 (9%) chose the alternative "I know several tools, but I have no experience with any of them". Emphasizing that none responded that "they do not know and do not intend to know and have experiences" – in other words, they do not rule out the alternative of working didactically with digital tools in the classroom.

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Figure 10 – Student distribution of 6th term of the Geography Degree course (Unimontes) by level of knowledge and experience with the use of digital technologies for teaching, 2023.
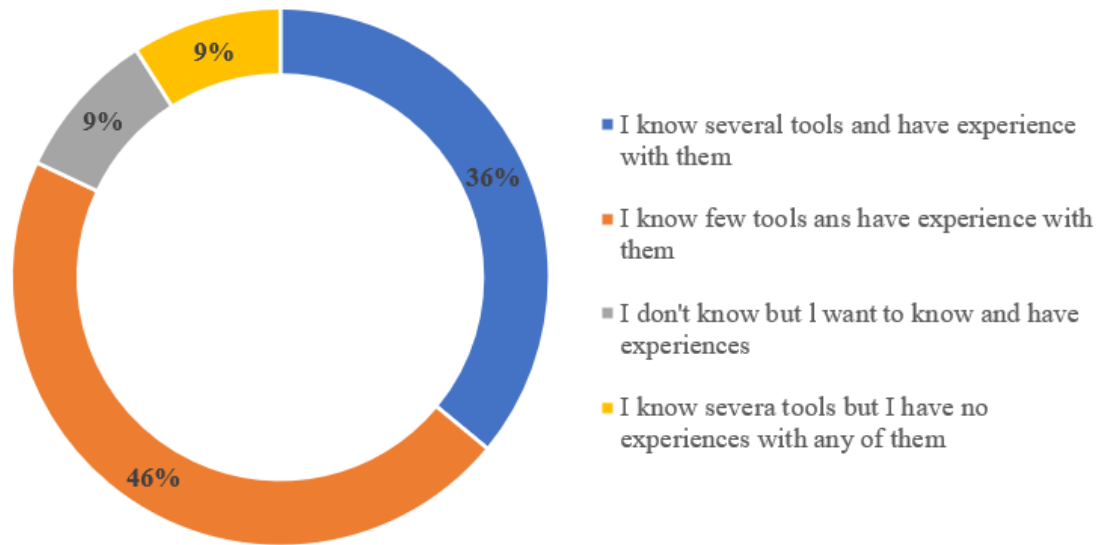
Source: Direct Research, 2023.

Regarding the difficulties related to the use of technology in education, of those interviewed, 5 (53%) stated that the lack of training in this direction was most pronounced, 3 (29%) responded that it was the lack of skills in handling technological tools, 2 (12%) %) said the school's internet connection was very slow and 1 (6%) said it was a lack of time for lesson planning. None of them chose the answers "the school does not have an internet connection" and "the school's computer laboratory is disabled" (Figure 11).

Figure 11 - Student distribution of 6th term of the Degree in Geography (Unimontes) due to difficulties encountered in the use of technology in education, 2023.
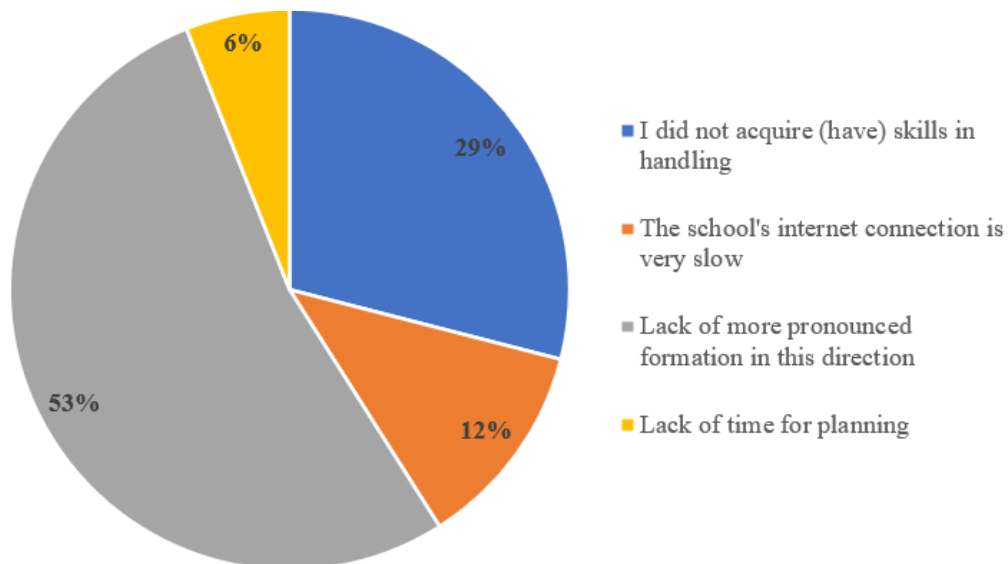
Source: Direct Research, 2023.

This shows that educational institutions have technological resources (computer laboratories and internet access), allowing technology-related activities to be carried out. Therefore, the teacher needs to consider technological resources as learning facilitators, an additional device capable

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of arousing students' interest in different areas of knowledge. Because, in the face of this new digital era, the teacher has assumed an essential role, becoming the link between teaching/learning, facilitating the acquisition of knowledge using technological tools. Therefore, there is a need for teachers to understand technological and digital tools, according to their possibilities, in addition to the limitations of their use in pedagogical practice.

In this sense, below we present the final considerations of the research.

FINAL CONSIDERATIONS

This research elucidated that the use of digital technology in the classroom context allows students to combine theory with practice. It enables the materialization of the previously discussed theoretical content, now applied with the support of digital tools. Leading them to obtain a new perspective on geographic knowledge, as it will use tools that tend to be related to their daily life. Nowadays, there are several digital platforms that transform the teaching and learning process into something more attractive and dynamic, namely: Geoguessr; Drive & Listen; Google Earth; Power point; Seterra Geography; Canva; Scratch; FazGame; Efuture; Wordwall; Educaplay, among many others.

Regarding the perception of students/academics from the 6th term of the degree course in Geography/Unimontes, regarding the use of digital technology as a resource to facilitate the teaching and learning process, it was found that 8 (73%) of them, that is, that Most interviewees have already used technological resources in classroom experiences. Whether through videos (27%); websites (23%); research (18%); gamification (14%); assembly of presentations via digital (14%) or other (4%) tools.

Furthermore, students' learning with TDICs comes mainly from undergraduate training, but the lack of more pronounced preparation in this direction makes it difficult to use them in classes made possible by PIBID, RP and Internship. However, the majority of all stated that they see its use as positive and beneficial for students' learning, as it tends to contribute to the improvement of this process, arousing the interest and active participation of students in classes.

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