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To analyze the use of educational technologies in the teaching and learning processes in the middle of the elementary school pandemic final years

Analisar o uso das tecnologias educacionais nos processos de ensino e aprendizagem em meio a pandemia do ensino fundamental anos finais

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Abstract

This article presents an exploratory study on the reality of teachers at different levels of education, with the suspension of face-to-face activities caused by the COVID-19 pandemic. In times of a pandemic, a new context is placed in front of the school reality, students and teachers increasingly physically distant and connected through a single possible resource, technology. The objective is to analyze the use of educational technologies in the teaching and learning processes amid the pandemic of elementary school final years. The study is qualitative, with analysis of the responses of 54 subjects between Elementary School and High School, from private institutions and public education networks. The collection was carried out in the first semester of social isolation in Anápolis-GO, and the results indicate that the lack of infrastructure to carry out the activities and the fragility in the training of teachers for the use of digital technologies are the elements identified as major obstacles in the success of remote classes.

Keywords: Educational Technologies. Process dand Teaching. Pandemic.

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Resumo
Este artigo apresenta um estudo exploratório sobre a realidade dos professores de diversos níveis de ensino, com a suspensão das atividades presenciais provocada pela pandemia do COVID-19. Em tempos de pandemia um novo contexto está posto diante da realidade escolar, os alunos e professores cada vez mais distantes fisicamente e conectados por meio de um único recurso possível, a tecnologia. O objetivo é analisar o uso das tecnologias educacionais nos processos de ensino e aprendizagem em meio a pandemia do ensino fundamental anos finais. O estudo é qualitativo, com análise das respostas de 54 sujeitos entre o Ensino Fundamental e o Ensino Médio, de instituições particulares e redes de ensino público. A coleta foi realizada no primeiro semestre de isolamento social em Anápolis-GO, e os resultados indicam que a falta de infraestrutura para a realização das atividades e a fragilidade na formação dos docentes para o uso das tecnologias digitais são os elementos apontados como grandes obstáculos no sucesso das aulas remotas.

Palavras-chave: Tecnologias Educacionais. Processo de Ensino. Pandemia.

1. Introduction

In item 2.1, the challenges of teachers amid the pandemic with the use of technology will be discussed, in which the educational environment in Brazil was also affected by the coronavirus pandemic, and the classrooms of schools and universities in the country are paralyzed indefinitely.

Covid-19 created an unprecedented situation, closing schools not only across the country, but around the world. A report by Portal Exame in March 2020 showed that, due to the COVID-19 pandemic, the life habits of more than 54 million students have changed. Teachers and students are having to update themselves in the midst of the digital age to maintain a new relationship in classrooms, which are now digital. If we consider that, in many cases, innovation is a response to problems, needs or social challenges, we can assume that, in the face of a crisis, we have the opportunity to propose major changes that can change the way we see education in Brazil.

In item 2.2, we will discuss the importance of technology in the school environment and in social life, enabling the construction and acquisition of knowledge, as the acquisition of information can occur at any time and space. Children born in this century have 10 skills to deal with technical resources. These technologies have impressive abilities that make them more accessible and beneficial opportunities, but the number of resources, skills, and facilities often limits simple daily tasks. People think they are technically nimble, but most people fail to connect with parents, friends and family in a non-virtual environment in an emotional and social way. When this interaction occurs, it doesn't take long to realize that in a few moments, a family member or among friends, someone connected to the cell phone, appears.

In item 2.3 we will discuss the from the experiment during the pandemic, how to predict the post-pandemic scenario of technology.

Doubts, changes, forecasting, replanning and intensive thinking. In view of the global spread of the new coronavirus, all these resources have entered educational institutions in recent months. In this way, the department's managers, specialists and entrepreneurs clarify the possible paths of the post-pandemic environment, rethinking the use of technology, teaching method, social and emotional relationships, the approximation between school and family, and the flow of employees in the institutions . . The most important thing is to realize that the changes are profound and must change the entire labor market – so that everyone can contribute. If, on the one hand,

technological change is inevitable and has already fully developed, on the other hand, we live in a future in which humanity will become increasingly fundamental.

In item 4.0 apresentaremos os, results of the research that proves the reality of the teacher and the weight he carries in developing dynamic suggestions for the students, but also reveals the situation of children, in many cases, they do not have direct adult supervision. Learning, even without being able to use the technical means used in the classroom, and still far from interacting with peers.

Silva (2017, p.42) believes that “current teaching transcends content to connect to this new reality. Then a new culture emerges, which takes care of our homes, our jobs and people's lives”. Research has shown that providing guarantees of adequate infrastructure for the organization of the educational process in the teaching plan and continuing education that includes digital technology requires reflection, discussion and more effort to ensure the quality of teaching and learning.

2.1 DISCUSS THE CHALLENGES OF TEACHERS IN THE MIDDLE OF THE PANDEMIC WITH THE USE OF TECHNOLOGY

Brazil's educational environment has also been affected by the coronavirus pandemic, and classrooms at schools and universities across the country are indefinitely paralyzed. Covid-19 created an unprecedented situation, closing schools not only across the country, but around the world. A report by Portal Exame in March 2020 showed that, due to the COVID-19 pandemic, the life habits of more than 54 million students have changed. Teachers and students are having to update themselves in the midst of the digital age to maintain a new relationship in classrooms, which are now digital.

Teachers who have little or no exposure to technology were faced with a new challenge that required a rush of knowledge. A plan B of action was needed to combine online preparatory courses to improve the resources of technology tools with practice and experience in online classes. Through these courses, challenges emerged that are not common in face-to-face meetings, such as connection problems and remote student participation.

Another challenge is dedication, connection with the students, understanding if the classes are being meaningful, if the student is really learning, if he is interested in the classes and if he is doing his homework.

For the teacher of Colégio Estadual Maria Aparecida Alves, in the city of Anápolis - GO (Marta Silva Santos Mendes) and professor Ronaldo Adriano Júnior , this situation has had many complications, especially those related to students' difficulties in using electronic devices and the quality of internet signals.

In addition, the need to maintain social isolation and, consequently, the impossibility of meeting friends. As a result of this situation caused by the quarantine, the motivation of young students was lower, and all these feelings had negative reactions directly related to school performance.

In this environment of uncertainty, isolation and restrictions, the public and private education sectors in Brazil can find new technologies and important allies to maintain their commitment to the education of young people and adults throughout Brazil. In this case, startups and technology companies play a decisive role in proposing solutions to the market.

However, Almeida (1988) states that the use of computers in a correct, effective, creative and innovative way is important, but that responsibility in the programs does not depend on the computer industries or the commerce of the computer branch. It is necessary that there is a pedagogical teaching team to evaluate the content that will

be applied so that this tool is in fact an aid in the teaching process to represent managers and teachers in their work.
If we consider that, in many cases, innovation is a response to problems, needs or social challenges, we can assume that, in the face of a crisis, we have the opportunity to propose major changes that can change the way we see education in Brazil.
According to Tijiboy (2001), with the advent of computers, a new form of communication "Virtual Communication" – In an unlimited virtual space, people can "navigate" with other people, even without knowing where you are. It is possible to explore countries, cultures, cuisine of any region and meet people. This makes it possible to reproduce information quickly at a lower cost.
When we think of technology in education, the first idea that comes to mind is devices such as tablets, smart computers and robots. It is true that these resources are increasingly being inserted into the classroom, but for more than three centuries, technology and innovation have become part of the school environment.
Technology itself is an active tool and one of its concerns is the way in which information and all technical resources are used and interpreted in schools. Einstein said for many years, "I fear the day when technology overtakes human interaction. There will be a generation of idiots in the world." When people use and misunderstand technology, that technology becomes the villain, as it makes the relationship between people and emotions, friendship and critical and reflective dialogue very distant, thus creating human beings who always take the time to find information. and talk to society through interactivity.

> "Computer and internet in the classroom in the hands of trained teachers form an important teaching tool. Having access to the internet is no longer a matter of increasing your thinking ability. It became vital. It's like knowing how to read and write in the 50s." (SCHWARTZ 1999 p. 32).

According to the educational manager, Anne Coifman (2020), it is necessary to emphasize the use of technology to facilitate the dissemination of knowledge. She indicates just below some tools that were already used through distance education in higher education courses and who are being used more every day.

- Distance Learning Platforms (EAD);
- Use of social networks such as Facebook and Youtube, to carry out video transmissions;
- Video call tools such as Skype, Hangouts , Zoom, among others;
- Use of devices such as computers, cell phones and tablets;
- Possibility of broadcasting classes through open television channels.

Today these tools and some technological resources have been supporting, not only in higher education, but also in Kindergarten, Elementary and High School. Some technological resources may be added to conventional lessons in an effort to improve learning. As, animations, games, video classes, learning platforms, virtual laboratory, augmented reality, social networks, applications, text editors are some examples of these resources.

2.2 UNDERSTAND THE IMPORTANCE OF TECHNOLOGIES IN THE SCHOOL ENVIRONMENT

The importance of technology in the school environment and in social life expands the possibilities of construction and acquisition of knowledge, as the acquisition of information can occur in any time and space. Children born in this century

have 10 skills to deal with technical resources. These technologies have impressive abilities that make them more accessible and beneficial opportunities, but the number of resources, skills, and facilities often limits simple daily tasks. People think they are technically agile, but most people are unable to connect with parents, friends and family in a non-virtual environment in an emotional and social way. When this interaction occurs, it doesn't take long to notice that in a few moments a family member or among friends someone connected to the cell phone appears.
New tools are developed every day to simplify daily work and make activities more practical and faster. In this case, the application of technology in education has become increasingly prominent. At that time, schools had to rethink and redesign teaching practices and curricula, incorporate TDIC's into their school environment and conceptualize digital culture as follows:

> Digital culture is network culture, cyberculture that synthesizes the relationship between contemporary society and Information Technologies (IT's). At the same time that digital culture harbors small totalities and their meanings, it remains devoid of flows, knowledge and creations, which gives body and identity to the organizations that constitute them. (AMADEU, 2016, p.20).

The SEB Institute, one of the largest innovative education groups, is a pioneer in the application of technology to education, highlighting that the purpose of technology is not to replace teachers or traditional teaching methods, but to enhance research. For a long time, the school was a space that offered outdated teaching methods, based on blackboards, books and fully explanatory classes. In the lives of young people outside of school, this type of teaching is not reasonable, which generates a demand for the application of technology in education. The methodology of transforming technological innovations into teaching tools can attract the attention of more contemporary students. Therefore, the need to adapt to the educational system is increasing.
The use of technology in the classroom can redefine traditional teaching methods, free teachers from their comfort zone, and seek to increase student engagement.
Therefore, tools previously resisted by educators, such as cell phones, tablets and laptops, have become important allies in the educational process. There are many benefits to using technology in the classroom. According to the Eleva teaching platform, which helps some schools with technological tools, some of these benefits are highlighted, such as: Assistance in building a more efficient school planning, with the support of online surveys; Optimize the creation of lesson plans — bimonthly, semi-annual and annual; Enable the elaboration and generation of learning reports — individual and class.
Using these advantages, teachers have information that can better analyze class performance. Thus, he can assess the strengths of each student and their main difficulties in understanding the content taught, and then propose new strategies - helping students to understand more complex topics, arousing attention, and increasing participation among teachers and other classmates. Fusion.
Moacir Gadotti believes that in the face of technological innovation and increasing demand and unexpected challenges in the context of today's world, people naturally see and think about the new face of the common world.

> New technologies have generated new spaces of knowledge. Now, in addition to the school, the company, the home space and the social space have also become educational. Every day more people study at home, because from there they can access the cyberspace of training and distance learning, search outside, the information available in the interconnected computer

> networks services that respond to their knowledge demands. On the other hand, civil society is getting stronger, not only as a space for work, but as a space for the dissemination and reconstruction of knowledge (GADOTTI , 2005, p. 16).

Considering that we currently live in the era of globalization, whether in the economic field or constantly modifying and directly reflecting the technologies and information of culture and society, the educational system produced from the implementation of educational policies will affect teaching practice.

2.3 BASED ON THE EXPERIMENT DURING THE PANDEMIC, PREVIEW THE POST-PANDEMIC SCENARIO OF TECHNOLOGY.

Doubts, changes, forecasting, replanning and intensive thinking. In view of the global spread of the new coronavirus, all these resources have entered educational institutions in recent months. In this way, the department's managers, specialists and entrepreneurs clarify the possible paths of the post-pandemic environment, rethinking the use of technology, teaching method, social and emotional relationships, the approximation between school and family, and the flow of employees in the institutions.
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According to the director Meire Felix of Colégio Estadual Maria Aparecida Alves, in the city of Anápolis - GO , she said that the reflexes caused by the coronavirus in all areas of society will bring other perspectives to all aspects of social life, especially education. Furthermore, in the process of reengineering educational practice, educators and educational institutions will realize that “there are countless possibilities for educational innovation and changes will only occur if participants are willing to believe and experiment”. In this sense, “we believe that the focus of the training-teaching, learning and evaluation process – will only change if the people who relate to them and the way they are constructed change”, highlights the director.

It is too early to imagine the impact of the Covid-19 pandemic on our daily lives. Currently, Brazil works hard to control the infection and spread of the virus, facing real challenges in the health sector, and at the same time formulating strategies to reduce the social and economic damages that already exist in most states and municipalities. But it is no exaggeration to say that when the situation finally returns to normal, we will no longer be the same.

The most important thing is to realize that the changes are profound and must change the entire labor market – so that everyone can contribute. If, on the one hand, technological change is inevitable and has already fully developed, on the other hand, we live in a future in which humanity will become increasingly fundamental.

3.0 METODOLOGIA

The research is based on the qualitative method in Minayo (1996), because, according to the author, this method shows that the quantity and quality of facts and relationships are indivisible and interdependent, so that human reality can be understood. Thus, for the development of the research, data from the literature were analyzed, the online scientific electronic library-SciELO and the Google Academic Repository were consulted, and teaching, learning, teacher-student relationship, etc. were used as descriptors.

To collect quantitative data, we developed a structured questionnaire with closed questions through Google Sheets that, in addition to the challenges we felt in the process, involved questions about continuity, frequency, difficulties faced with the

technology and course format. The questions described in this questionnaire aim to reveal the meaning of the teaching and learning process in a specific context that teachers have been building throughout the development of emergency distance courses. Then, we sent the questionnaire to elementary school teachers and high school teachers. By sharing the generated link on Google Sheets, teachers can get these files through the WhatsApp app. A deadline has been set for returning our data collection tools. Therefore, after receiving the correctly answered questionnaire, the data are sorted.

To process the data, the graphs are organized to assist in the reading of the questions, which can specify the teacher's view of the teaching process in an emergency remote classroom through language. To clarify this explanation, it is necessary to focus on the aforementioned reading.

4.0 FINAL CONSIDERATIONS

By analyzing the scenario of teachers who used digital technology in remote classrooms during the COVID-19 pandemic.

In view of the pandemic scenario, the present work configured a representation of the teacher's view on pedagogical practice, including technological tools and social distancing. Such conditions evidenced the need on the debate regarding the use of these tools, the assistance given to the student.

The research proves the reality of the teacher and the weight he carries in developing dynamic suggestions for the students, but it also reveals the situation of children, in many cases, they do not have direct adult supervision. Learning, even without being able to use the technical means used in the classroom, and still far from interacting with peers.

The results show that approximately 65% of teachers have not yet received instructional training and training for remote activities, and 75% of teachers do not consider that continuing education actions that use digital technology in teaching are useful at that time. However, the professors made an effort, as about 70% of the professors sought some external guidance/training to improve their work with the TDIC. Check out the confrontation of teachers who agreed that they need to master technology more, so they need to be trained to carry out remote activities, ignoring any previous training. Another factor to be considered is the lack of sufficient structure and materials to carry out remote activities at home, and there is a lot of work to plan suitable courses for distance learning. In this case, regardless of the quality or quantity of training, we are aware of the urgency of teacher training. In addition, it is necessary to guarantee the structuring of the educational process, and to use technical resources to achieve a more qualitative and significant form in the teaching process.

Silva (2017, p.42) believes that “current teaching transcends content to connect to this new reality. Then a new culture emerges, which takes care of our homes, our jobs and people's lives”. Research has shown that providing guarantees of adequate infrastructure for the organization of the educational process in the teaching plan and continuing education that includes digital technology requires reflection, discussion and more effort to ensure the quality of teaching and learning.

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