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TEACHING PRACTICE AND THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES (TICS) DURING THE PANDEMIC PERIOD MANAGED BY THE STATE OF EDUCATION OF THE AMAZON STATE

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Abstract: This article deals with teaching practice and the use of information and communication technologies in the pandemic context managed by the education department of the state of Amazonas. In this sense, through bibliographical research, the basis for approaching the chapters was theoretically raised, based on the assumptions of understanding the teaching work in relation to the application of ICTs in the period in which the world faced the COVID-19 pandemic, as well as digital literacy. The general objective is to identify whether teachers understand that in their practice, starting from the pandemic period, it is necessary to be digitally literate and make use of information and communication technologies (ICTs). The discussion to be undertaken concerns theoretical considerations on the implementation of information and communication technology and distance education. To contribute, among others no less relevant, the texts of Adriana dos SANTOS (2011) are evoked, with the article Information and communication technologies: limits and possibilities in higher education, as well as the text of Antônio NÓVOA (2022), with the book Schools and teachers: protect, transform, value.

Keywords: education; Teaching practice; Information and communication technologies (ICTs); Pandemic period.

INTRODUCTION

The following work deals with the theme of teaching practice and the use of information and communication technologies (ICTs) in the pandemic context managed by the Amazonas State Secretariat for Education and Teaching Quality (SEDUC-AM), as well as contemplates the discussion of literacy digital.

The theoretical contribution is based on the assumptions of the aforementioned theoretical categories in order to raise questions and present concepts that help to understand the teaching work in relation to the application of ICTs in the period when the world faced the COVID-19 pandemic. Therefore, the objective of the work is to identify whether teachers understand that in their practice, from the pandemic period, it is necessary to be digitally literate and make use of information and communication technologies (ICTs).

This way, the research is justified by investigating how the process of distance education and the use of ICTs can occur, which is the focus of the research, so that this adaptation is understood in its processes and problems, since it will make part, not only of the history of education in Brazil, but also of the new school routine.

The research problem is given in parts subject to some conditions. Initially, one of the obstacles occurs due to the multiplicity of the subjects to be investigated, the teachers, in relation to the management that directs them, since, even with a greater direction given by the state secretary of education, there are the district coordination offices and the boards with local management.

The object of the research are effective teachers of the public network of the state of Amazonas, active in the pandemic period, since education was also faced with a gigantic problem and it was the teachers who dealt with this situation, bringing a unique and interesting experience to the scientific context, since they inaugurated an evolution, or rather, a revolution in the digital field that, for a long time, times, timidly entered schools and, with the pandemic, had to be abruptly incorporated and put into practice. Meanwhile, teaching was saved thanks to information and communication technologies applied by teachers who had to adapt so abruptly.

At the end of the exegesis, it is expected that the understanding of ICTs will be clear, because, even as solutions, they can also present difficulties. For clarification purposes,

the discussions raised are quite associable and close in several points, therefore, it is necessary to explain that it is possible to seek citations of authors who will be better worked on in different subsections, but who can also contribute to other topics.

DEVELOPMENT

TEACHING THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY (TICS)

To start the discussions, it is necessary to bring the concept of information and communication technologies. Initially, it is worth mentioning the concept of technology, as a set of techniques, skills or processes aimed at facilitating the execution of some activity or solving a problem. The most common way to use technology is through technological tools.

Adriana dos Santos (2011), a researcher in the area of education, brings a useful definition to the discussion initiated here regarding the ICTs when he says that "the term information and communication technologies (ICT) refers to the combination of computational or computer technology with telecommunications technology" (SANTOS, 2011, p. 131).

In view of this, information and communication technology is attributed to the means, which today are digital, of diffusion, transmission and reception of information with a communicative purpose, that is, interaction and data exchange. With the global reach, it can be considered as ICTs platforms that allow sound and image connection, such as social networks or applications designed for this purpose, as well as information access programs, including research sites, electronic books, digital libraries, and tools that provide knowledge transmission.

KENSKI corroborates this by saying that there are technological eras and that "all eras correspond to the predominance of a certain type of technology [...], each in its own way, 'and technological reasons'" (KENSKI, 2003, p. 19). According to each era, new tools emerge to facilitate the realization of some intent. Over the centuries, technology has improved and provided new tools. Therefore, Kenski then makes the connection with the digital context, in which we are inserted:

> [...] articulated to intelligence technologies we have 'communication and information technologies' which, through their supports (media, such as newspapers, radio, television...), carry out access, dissemination of information and all other forms of communicative action around the world. (KENSKI, 2003, p. 21).

The term "innovation" is attributed to this constant improvement. Ricoy and Couto (2014) also claim that "in the educational field, the term innovation refers to the incorporation of new components that allow for improvement, to produce changes understood as an element of pedagogical renewal" (p. 899). The two theorists credit the constant improvement of technological tools with the inclusion of new methods, practices and concepts. This means that such advances only occur with what we can call "updating", that is, what is good can be improved and what is not, can be replaced by something that is more productive and profitable.

Curado Silva (2017) goes on to discuss that pedagogical practice is not merely transmission and acceptance of knowledge, on the contrary, the keyword becomes "production" or "construction", since the action is reflexive and mutual, as well as it intends to transform the world, it transforms man in the sense of emancipating him (p. 129). However, for the teacher, as a mediator, it is essential to understand the "knowledge production process and the search for different possibilities to initiate students, in a rigorous and critical way, into the universe of culture"

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(p. 129).

The exegesis carried out here is again faced with the term praxis, added to the adjective "innovative", which refers to the context of constant updating. Ricoy and Couto (2014) refer to "the possibility of innovating with new technological resources, based on the integration of dynamic and interactive didactic strategies that promote meaningful learning in students" (p. 900).

It is, therefore, up to the teacher to keep up with the task of constantly updating their practices, methods and tools so that they can make school teaching go hand in hand with the technological movement of society, as it is inevitable that the social body does not include in their culture what technology offers, since it is in the interest of capital that this occurs. The main objective will always be to ensure student learning with maximum use, as technology serves to facilitate the achievement of objectives for which it is applied with its tools.

It is now convenient to bring the text by Martines et al. (2018), The use of ICTs as a pedagogical resource in the classroom, which, as the title already suggests, refers to the implementation, its positive points and its imbroglios, of information and communication technology tools. For the group of authors, "the educator is given the responsibility of designing the construction of knowledge in order to revise and expand it, democratizing it in the exchange of experiences with students" (MARTINES et al., 2018, page: 5). In line with the discussion undertaken above, it is up to the teacher to seek new ways to guarantee learning and this can be done through the application of ICTs. For them, therefore:

> The use of technology alone does not represent pedagogical change, if it is used only as a technological support to illustrate the lesson, what becomes necessary is that it be used as a learning mediation so that there

is an improvement in the teaching-learning process. (MARTINES et al. 2018, p. 3).

For the group of theorists, the simple use of technologies in the classroom does not guarantee learning, nor does it work fully. The insertion of ICTs must occur in the centrality of the teaching process; therefore, information and communication technologies need to be the mediation through which the transmission of knowledge and knowledge will take place. Improving this process of transmission and verification of learning is where the objective of implementing ICTs must reside.

It is important to be aware of the laws that ensure the effectiveness and legitimacy of the use of ICTs not only in the distance education context, as well as in the regular face-to-face mode, and researcher Adriana dos Santos (2011) brings about the teaching legislation that concerns the distance education. As Santos (2011) points out:

> Distance Education is the educational modality in which the didactic-pedagogical mediation in the teaching and learning processes occurs with the use of means and information and communication technologies, with students and teachers developing educational activities in different places or times. This definition is present in Decree 5622, dated 12.19.2005 (which revokes Decree 2494/98), which regulates Art. 80 of Law 9.394/96 (LDB). (SANTOS, 2011, p. 141).

Thus, it is worth noting that distance learning, guaranteed by law, is also genuine and recognized. It is possible to attribute legalization for two reasons, the first of which is the need to reach everyone who cannot have access to the traditional face-to-face, especially due to the current pandemic context, and the second because it represents a way for the school to keep up with innovations and updates both citizens and the ways of transmitting knowledge and curriculum content. Thus, distance learning is valid and

useful for education in general.

Santos (2011) mentions the *Quality Benchmarks for Higher Distance Education* (2007) regarding how this document deals with distance education. As mentioned, "there is no single model of distance education, programs can have different designs and multiple combinations of languages and educational and technological resources" (MEC, 2007 apud SANTOS, 2011, p. 141). It is evident that the concern is focused on achieving the objective of transmitting content, information, knowledge, and as for its form, it is free in terms of didactic and technological tools.

THE PANDEMIC SCHOOL CONTEXT AND DIGITAL LITERACY

This topic aims to discuss the non-face-to-face teaching modality in the pandemic period and its consequences, as there was no sector of society that was not impacted. In the area of education, it could not be different. The school had to deal with hardships and not stop, so it stood as firm as it could in the face of this scenario.

However, in this new configuration other instances of society will fit in addition to the social and interactive community. Education emerges with new possibilities, among which, the ICTs are very useful. For Santos (2011), "for ICT to be implemented in education, we must be clear that the pedagogical and technical factors must be treated in an associative way and not separately" (p. 133). But that was not how it happened, as the world had to face the COVID-19 pandemic, which brought changes and the need for adaptation in all possible areas.

According to Santos (2011), "all human relations with other men and with nature are mediated by technologies, instrumental, symbolic or organizational, triggering transformation processes both in nature and in man himself" (SANTOS, 2011, p. 134). Without technology, there is no interaction that leads to innovation in any field. The man as an agent of transformation needs technology to shorten processes and improve actions, improving work activities in order to facilitate human life.

In this sense, in the construction of this theoretical subsection, the text by António NÓVOA (2022), a Portuguese researcher with a doctorate in education sciences, current rector of the University of Lisbon, entitled *schools and teachers: protect, transform, value*, in which the reflection made takes into account the pandemic scenario, the digital revolution experienced by education, in terms of educational management in general, educators, students, teaching materials, evaluation and teaching work itself, in addition to considering the obstacles of the figure human nature of the teacher and his demands for adaptation carried out in an abrupt way.

For the purposes of opening, Nóvoa (2022), the way in which he will be the theorist referred to from now on, emphasizes the importance that the teacher occupies in any and all processes that education may need to go through, however, not only. For him, it is essential that there is an interaction between the parties, "education implies the existence of a common work in a public space, it implies a human relationship marked by the unforeseen, by experiences and emotions, it implies a meeting between teachers and students mediated by for knowledge and culture" (p. 6). It is important to emphasize that education itself is not constructed unilaterally, it involves emotions, mistakes, disagreements, successes and agreements. The role of culture in the consolidation of knowledge also does not go unnoticed, it also needs to receive attention, as it is one of the variables.

For Nóvoa (2022), "to think that everything ends with the teacher's class, no matter how remarkable it may be, that would indeed be falling into a worrying "facilitism". Our word as educators will be useless if it is not capable of awakening the student's own word" (p. 19). In this sense, it is essential for the researcher to recognize that the teacher is one of the main actors, however, it is not limited to him, nor in relation to the training of students. Believing that the teacher is solely responsible for the student's career, with regard to the acquisition of knowledge, must not be the path. Other factors and other agents also contribute to this, even the student himself, with his choices. Therefore, according to the theorist, "cooperation is one of the keys to education in our century" (NÓVOA, 2022, p. 19), that is, the synergy of all those involved, namely, family, state, society, and school.

Nóvoa (2022) points to one of the main objectives of the school institution, however, in a different way than one would imagine. According to him:

> The school has to put us in contact with realities and cultures that, without it, would have been inaccessible to us. In this sense, it cannot limit itself to reproducing life, but has to aspire to be more than "this" life, opening up journeys and opportunities that, otherwise, would never have happened. The school can never deviate from its primary purpose: getting students to learn to think. For that, you need the analytical effort, but also the creative impulse, you need the ability to read, and the will to write. (NÓVOA, 2022, p. 18).

The limits of projection of the school need to go beyond itself and even more, it is necessary to aim at the complete formation of the student, to integrate him into the world with a reflective capacity to think, that is, giving sight to human emancipation as treated in the previous chapter. The school, therefore, together with the teacher, must build the student's education with contributions from the family and community, as well as from the State, to deliver a student with the ability to think.

Nóvoa follows his discussion and again highlights the importance of the teachers' attitude in adapting the methodologies and the way in which the content could be apprehended. For the researcher, "in terms of education, perhaps the three most important lessons to be learned from this pandemic are the importance of teachers, flexibility and learning environments" (NÓVOA, 2022, p. 26-27). As for teachers, it is clear where such importance is located, but as for flexibility, it refers to the entire process requiring it, from the simplest process to the most complex, and from the most indirect person to the most interested in education. Furthermore, regarding the learning environments, these were an essential part of doing something that perhaps the school has not been doing for some time, bringing teaching and learning into the home and at any time, shared with the whole family, even in a forced way.

> The pandemic has made it clear that the potential for response lies more with teachers than with policies or institutions. Well-prepared teachers, with autonomy, working together, inside and outside the school space, in connection with families, are always the best guarantee of timely and adequate solutions. (NÓVOA, 2022, p. 27).

It is necessary, at this point, to highlight the criticisms made by the researcher. The figure of the teacher makes a difference when he is prepared in all aspects, namely, emotionally, in knowledge, in sensitivity, in short, in constant observance of external factors and always offering the best he can.

In addition, the theorist also talks about autonomy in agreement with the word "set", in relation to the internal and external space of the school. In this second insertion, it would no longer depend only on the teacher, however,

he is still necessary. The family receives part of this responsibility when teachers leave the scene. The scenario, however, points to the teaching figure as central, this goes back to a situation that does not make much sense, or makes it too clear that teaching has received more work and responsibility than it actually deserves, moreover, the importance it deserves does not accompanies the above. A problem to be seriously discussed.

Thus, Nóvoa (2022) states that "the pandemic revealed that change is not only necessary, but urgent and possible" (p. 30). For him, the classroom is of utmost importance, but not only for itself, but for the evidence and discoveries it provides, scientifically speaking. Thus, "everyday school life cannot revolve around the 'class', but rather around the 'study'" (NÓVOA, 2022, p. 29), such findings, about the success of methodologies, learning verification, quantitative capacity of content apprehension, effective evaluation methods, among other things, can only be observed, or better, discovered, with reflective study applied to the culmination of the entire educational process: the class. Research shows itself, therefore, a key to the constant improvement and adaptability of teachers and students in this working relationship efficiently, because, for the theorist this is the "central dimension of education" and focuses between "human interaction, conviviality, the learning of life in common" (NÓVOA, 2022, p. 29).

Finally, regarding teaching practice, it is necessary, according to Nóvoa's guidelines, that there is empathy throughout the process. According to the researcher, "empathy, as the ability to put ourselves in the place of another and to feel with him, is a fundamental element of education" (NÓVOA, 2022, p. 49). Therefore, knowledge cannot be built without effectively having an affective and empathic bond between the actors of this process, especially in its final instance, which is the classroom.

METHODOLOGY

As for the methodology, the method of approach used was the inductive one, since "It is a form of reasoning that guides the mental process from singular or concrete situations to the broadest and most general through observations, which allows reaching general conclusions " (ALVARENGA, 2012, p. 8) and the research starts from the particular cases obtained in the collection, starting with the more comprehensive findings confirmed by the theoretical discussions made in the previous chapters.

The search had as its locus the city of Manaus, where it developed the data collection in the year 2022 with professors who worked in the years 2020 and 2021 and dealt with the beginning, the apex and the mitigation of the COVID-19 pandemic through the platform "Google Forms". It was established that these teachers worked in the west zone of Manaus, were effective and from the state public network, or rather, from the State Secretariat for Education and Teaching Quality of Amazonas (SEDUC-AM). The number of teachers who answered the forms was 32 (thirty-two).

FINAL CONSIDERATIONS

The work carried out ended up proving the importance of teaching practice and the use of technologies in the pandemic period in the state of Amazonas, as it was possible to identify, theoretically, that teachers understand that their pedagogical practice during the pandemic period was indispensable, as today many recognize the importance of digital literacy in their profession and in their personal life, since using information and communication technologies (ICTs) is to add new knowledge to their already acquired knowledge. Even if it is not a quantitative or

field research, assumptions are necessary due to the intended weight for this analysis.

Thus, it can be said that teachers, through studies, understand the indispensability of information and communication technologies (ICTs) in teaching work. In addition, it was possible to show how the state public network of Amazonas, (SEDUC-AM), managed education and, therefore, the teachers in the pandemic period, and thus, it was verified the way in which such teachers faced education in the distance mode, in the face of the social distance generated by the Coronavirus, with very few resources and training, with the implementation of ICTs expanding the levels of digital literacy.

At the end of the exegeses, it is expected that the understanding of ICTs in relation to Distance Learning will be clear, because, even as solutions, they can also present difficulties. For clarification purposes, the discussions raised by the cited researchers are quite associable and close in several points, therefore, it is necessary to explain that it is possible to seek citations of authors who will be better worked on in different subsections, but who can also contribute on other topics. Therefore, we move on to the exegeses presented above.

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