Atuação da gestão escolar em processos formativos que integram as tecnologias digitais da informação e comunicação às práticas pedagógicas: um relato de experiência com alunos de um mestrado em tecnologia educacional

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Resumo

O presente artigo tem como objetivo investigar de que maneira ocorre a participação dos Gestores Escolares na integração das Tecnologias Digitais da Informação e Comunicação às práticas pedagógicas. A pesquisa trata-se de um Relato de Experiência sobre a concepção de alunos de um mestrado que atuam como professores da educação básica. A metodologia partiu de um estudo bibliográfico e tem abordagem qualitativa, em que foi aplicado um questionário e um fórum de discussão para coleta de dados e análise de conteúdos. Como resultados, obteveram-se quatro categorias relacionadas à integração das tecnologias às práticas pedagógicas. A primeira demonstrou que nem todas as escolas citavam essa integração no Projeto Político Pedagógico. Na segunda, constatamos duas realidades sobre a atuação dos gestores na integração. A terceira apresentou, entre as problemáticas, a falta de incentivo da gestão para uso das tecnologias, enquanto que a quarta evidenciou uma carência de formação continuada para docentes e gestores.

Palavras-chave: Ferramentas Tecnológicas. Formação Continuada. Gestores Escolares.

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Acting of school management in training processes which integrate digital technologies of information and communication to the pedagogical practices: an experience report with students of a master degree in educational technology

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Abstract

This article aims to investigate how the participation of School Managers occurs in Digital Information and Communication Technologies integration to pedagogical practices. The research is about an Experience Report on the conception of master's students who act as teachers on basic education. The methodology started from a bibliographical study and it has a qualitative approach, in which, a questionnaire and a discussion forum were applied for data collection and analysis of contents. As results, four categories were obtained, related to the integration of technologies to the pedagogical practices. The first one demonstrated that not all schools have cited this integration in the Pedagogical Political Project. In the second one, we found two realities in the performance of the managers in the integration. In the third one presented, among the problems, a lack of encouragement from the management for the use of technologies, while the fourth one showed a shortage in the continuing training for teachers and managers.

Keywords: Technological Tools. Continuing Training. School Managers.

Desempeño de la dirección escolar en los procesos formativos que integran las tecnologías digitales de la información y la comunicación con las prácticas pedagógicas: relato de experiencia con estudiantes de maestría en tecnología educativa

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Resumen

El presente artículo tiene como objetivo investigar la participación de los Directores Escolares en la integración de las Tecnologías Digitales de Información y Comunicación a las prácticas pedagógicas. La investigación consiste en un Relato de Experiencia sobre la concepción de estudiantes de maestría que actúan como profesores de la educación básica. La metodología partió de un estudio bibliográfico y tiene un enfoque cualitativo, en el cual se aplicó un cuestionario y un foro de discusión para la recolección de datos y análisis de contenido. Como resultado se obtuvieron cuatro categorías relacionadas con la integración de tecnologías a las prácticas pedagógicas. El primero demostró que no todas las escuelas mencionaron esta integración en el Proyecto Político Pedagógico. En el segundo, encontramos dos realidades sobre el papel de la Dirección en este proceso. La tercera presentó, entre otros problemas, la falta de incentivo de la dirección para el uso de tecnologías, mientras que la cuarta mostró la falta de formación continua de docentes y miembros de la dirección.

Palabras clave: Herramientas tecnológicas. Formación Continua. Directores escolares.

Introduction

Currently, the dissemination of Digital Information and Communication Technologies (DICT) across various sectors of society has directly impacted communication channels and public and private organizational processes due to digital evolution, the breadth of connections, and the speed at which information is transmitted.

Among the various sectors impacted by these changes, education was one of the areas with the highest degree of adaptation, especially after the COVID-19 pandemic, which affected nearly all schools. These institutions had to create or adapt new teaching methods, utilizing DICT as pedagogical tools, both in communication processes and in the mode of instruction popularly known as remote learning. According to Souza (2021. p. 475), the "new management model proposes the construction of autonomous institutions capable of making decisions, involving the internal school community and education professionals, in order to meet the needs for achieving effective management."

For this reason, the teaching work, which was previously carried out in most schools in physical classrooms, also began to take place virtually, creating the need for digital competencies and prompting teachers and school administrators to seek continuous professional development through courses, training, capacity building, or in-service education. This idea aligns with Barbosa and Arruda (2019), who argue that one of the tools to mobilize new experiences is in-service training based on one's own reality, with the aim of bringing qualitative changes to the school's pedagogical practice

Nevertheless, the demand for new pedagogical approaches extends beyond the COVID-19 pandemic and continues to require, in addition to the partnership between school administrators and teachers, the pursuit of strategies that include DICT in pedagogical practices as methods that facilitate learning, enable new forms of interaction, keep pace with constant technological changes, and meet the needs of the school community, which has now also become a virtual community. Therefore, it is of fundamental importance that schools have a management team prepared to integrate students into the information society (BATISTA; GONZALEZ, 2016).

In light of this, the Connected Education Innovation Policy was established through Law No. 14.180 of July 1. 2021. which is one of the most current national policies. Its objective is to support and expand access to quality internet and to encourage the pedagogical use of DICT in all forms of basic education (BRASIL, 2021).

Thus, the interest in this topic emerged considering the relevance of the teaching profession both during the COVID-19 pandemic, when educators had to adapt in-person classes to a remote format, and in the present day, with the return to in-person classes now influenced by the strong presence of virtual teaching and learning culture. Therefore, this research aims to investigate how school administrators participate in integrating DICT into pedagogical practices, given that these management professionals are also responsible for students' learning outcomes. This study is justified by the fact that most public policies are focused on providing electronic equipment, improving internet access, and investing in teachers' continuous professional development, but are insufficient in monitoring the work of school administrators, often relegating their responsibilities solely to the administrative aspects of schools.

Therefore, this work is organized into five sections. The first section consists of this introduction, which contextualizes the research. The second section presents the theoretical foundation, based on concepts, policies, and documents related to the topic. The third section demonstrates the methodological procedures, the *lócus*, and the subjects participating in the research. The fourth section consists of discussions and results regarding the role of school management in integrating DICT into pedagogical practices. Finally, the fifth section presents the final considerations and the perspectives for future studies based on this research.

Theoretical framework

This section is composed of parameters that make up Brazilian educational legislation, focusing on the principles and duties of education and the training of education professionals. It also addresses the most current policy aimed at integrating technologies into pedagogical practice and improving internet access. Additionally, it explores concepts related to school management, particularly democratic management and the participation of the school community.

Brazilian Educational Legislation

Article 205 of the 1988 Federal Constitution of Brazil states that the objectives of education are based on the full development of individuals, the preparation for the exercise of citizenship, and their qualification for the labor market. Building on this principle and in light of the transformations that Brazilian education has undergone due to the inclusion of DICT in teaching systems and study methods, basic education schools need to present strategies that help overcome difficulties, obstacles,

and challenges to meet students' educational expectations in an effective, appropriate, and contemporary manner.

To this end, the Law of Guidelines and Bases of Education (Law No. 9.394/96), which regulates the entire educational system in Brazil, not only reaffirms the right to education, establishes its guiding principles, the duties of the State, and democratic management as the foundation for public education, but also presents the following concept in the sole paragraph of Article 61:

> The training of education professionals, in order to meet the specific requirements of their activities as well as the objectives of the different stages and modalities of basic education, shall be based on the following foundations:
> I – the presence of a solid basic education, which provides knowledge of the scientific and social foundations of their work competencies;
> II the association between theories and practices, through supervised internships and in-service training;
> III – the recognition of prior education and experiences, whether acquired in educational institutions or through other activities (BRASIL, 1996).

In this context, the National Education Plan, based on the LDB 9.394/96. also establishes, through goals, the guarantee of education professionals' training policies at a national level, in a collaborative regime between the Union, States, Federal District, and Municipalities. It presents a strategic plan, outlining the training needs, as well as how the provision and obligations among the participants will occur (BRASIL, 2014).

Thus, it becomes evident that initial training is crucial for carrying out pedagogical work in the school context. However, professionals can also draw on their accumulated knowledge and experiences throughout their careers and seek new training that meets emerging needs as societal demands evolve.

Connected Education

The Connected Education Innovation Policy is one of the federal government's educational technology policies that aims to foster partnerships between federal entities, schools, the private sector, and civil society to ensure the basic conditions for integrating DICT into the pedagogical practices of public basic education schools (BRASIL, 2021).

This policy focuses on the development of education through access to the internet, electronic equipment, and the training of education professionals. To this end, Article 3 defines the following principles:

> Article 3: The principles of the Connected Education Innovation Policy are as follows:
>
> I - Equity in conditions among public basic education schools for the pedagogical use of technology;
>
> II - Promotion of access to innovation and technology in schools located in regions of greater socioeconomic vulnerability and with low performance in educational indicators;
>
> III - Collaboration among federal entities;
>
> IV - Autonomy of teachers in adopting technology for education;
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> V - Encouragement of student leadership;
>
> VI - Access to the internet with quality and speed compatible with the pedagogical needs of teachers and students;
>
> VII - Broad access to quality digital educational resources; and
>
> VIII - Incentive for the training of teachers and administrators in pedagogical practices with technology and for the use of technology (BRASIL, 2021).

In this scenario, it becomes evident that Brazil's educational policies, at various points, emphasize the importance of both initial and continuous training for education professionals and highlight the relevance of using DICT within the context of public schools. Moreover, we can consider that continuous training is crucial for teachers and school administrators, particularly in identifying potential weaknesses in their field of work and proposing strategies for overcoming them.

Thus, Cardoso et al. (2021) suggest that the incorporation of activities and pedagogical practices that integrate the use of technologies becomes an ally in transforming traditional teaching and learning, fostering the construction of knowledge in a more conscious and reflective manner. According to these authors:

> In working with these technologies integrated into the school environment, students develop autonomy, critical thinking, and the ability to pursue their own achievements. As a result, we may encounter individuals who are more independent and self-assured. Combining technology with methodologies and practices in favor of building an innovative education would indeed mean embracing a teaching and learning vision with countless possibilities for knowledge production (CARDOSO et al. 2021. p. 98).

Given this, the inclusion of DICT within the school environment becomes essential and must involve school management through strategies that encourage the use of technologies. This also includes teachers in their pedagogical practices in the classroom and, most importantly, students in their research, practical activities, and assessments. Educational outcomes depend on the involvement of everyone, and technologies can facilitate the teaching and learning processes.

School Management and the Integration of DICT

School management is fundamentally important for the proper functioning of a school and for achieving satisfactory educational outcomes. According to Machado and Laurino (2017), school management, in addition to being responsible for the organization, mobilization, and coordination of the resources needed to effectively carry out the teaching and learning processes, can also participate in the training of teachers and the production of digital materials for technology-mediated teaching through DICT.

n support of this concept, Luck (2009) emphasizes that school management plays a crucial role in educational processes, as it is through management that potential problems within the school can be identified. This idea is also addressed by Libâneo (2004), who argues that school managers need to have the skills to work in complex environments, be adept at handling emerging technologies, and be aware of both opportunities and limitations.

However, according to Procasko and Giraffa (2021), there are situations where students present certain characteristics or needs that the teacher may not be able to address, possibly due to a lack of specific training for that situation. This is where the mediation of school managers becomes essential. Yet, in many cases, the management team, typically composed of a Principal, Vice-Principal, and Pedagogical Coordinators, does not receive continuous training from entities such as the Departments of Education, especially training related to the digital world.

Therefore, when discussing the relevance of continuous training within the framework of policies and, particularly, the importance of school managers' oversight of teaching work, our intention is not to prescribe a ready-made solution for overcoming potential limitations related to the use of DICT in pedagogical practices. Instead, this research aims to demonstrate the perceptions of master's students regarding school management practices according to their realities and in the context of this study's theme.

Methodological Approach

This study began with an exploratory bibliographic research based on the conceptions of Gil (2007), who identifies this type of research as a methodology that encompasses bibliographic and documentary review, interviews with individuals who have relevant experience with the topic, and case studies that lead to a better interpretation of the facts.

This study is a qualitative research project, as it is a systematic investigation supported by theoretical principles. According to Yin (2016. p. 22), "qualitative research differs in its ability to represent the views and perspectives of the participants in a study." For Chizzotti (2023. p. 52), qualitative research "is based on data collected from interpersonal interactions, in the co-participation of informants' situations, analyzed based on the meaning they attribute to their actions. The researcher participates, understands, and interprets".

However, since part of the data collection aimed to identify numerical information, a quantitative method was applied to assist in the analysis and discussion of the results. According to Leite (2015), research that extracts data with numbers and calculations to produce tables aims to describe how these data are distributed within the observed sample.

To this end, data collection relied on the application of a diagnostic questionnaire with structured questions using the Google Forms tool, with the aim of identifying the personal and professional profile of the research participants. In a subsequent phase, a discussion forum was created on the Classroom platform for the course "Management and Policies in Educational Technologies" in the Master's Program in Educational Technology at the Federal University of Ceará.

Given the nature of this research, we employed an Experience Report within an exploratory/investigative perspective, with the intent of surveying the conceptions of master's students most of whom are basic education teachers regarding the role/partnership of school management and teachers in the school context, with a focus on integrating DICT into pedagogical practices.

Therefore, for data analysis, we will use Bardin's Content Analysis method, focusing on categorical analysis, taking into account the entirety of the messages and classifying them according to the frequency of presence (or absence) of common items. (BARDIN, 2016).

Procedures, *lócus*, and research subjects

According to Severino (2007), the scientific method is characterized by actions that are carried out systematically with the aim of achieving a predetermined objective. Therefore, the procedures used in this research, the locus, and the basic profile of the subjects who participated in this study will be described below.

This research was based on the didactic proposal of the Teaching Internship course at the graduate level in the Master's Program in Educational Technology at a Federal University. One of the researchers of this study, a student in Cohort II, was enrolled in this course. As part of the course's

evaluative process, the student was required to execute a teaching practice (either virtual or in-person) and prepare an experience report.

To this end, a discussion forum was created on the Classroom platform for the course "Management and Policies in Educational Technologies," which was offered to Cohort III of the master's program. The following question was posed to the participants: "In the school where you currently work, does the School Management (Administration and Coordination) engage in formative processes regarding the integration of Digital Information and Communication Technologies (DICT) for pedagogical and/or administrative purposes?"

The forum aimed to encourage more active participation from students asynchronously, considering that Classroom was specifically created to discuss topics related to the course. The focus was on identifying, through the comments, the students' perceptions (most of whom are teachers or work in the educational field) regarding the role of school administrators in integrating DICT into their pedagogical practices. The discussion generated 30 comments, making it the most discussed topic on the platform, with participation from the professor, the forum moderator, and all 21 students.

Participation was voluntary, and in addition to the forum, Classroom was also used to administer a questionnaire via Google Forms to assess the profile of the students, who were classified according to Table 1.

Table 1 – Personal and Professional Profile of the Participants

State of Residence	Responses	Percentage
Ceará	19	90.5
Piauí	2	9.5
Subject Taught	**Responses**	**Percentage**
Portuguese Language;	1	4.8
Mathematics;	6	28.6
Geography;	1	4.8
Sciences (Chemistry and Physics);	2	9.5
Arts;	1	4.8
Polyvalent/Multidisciplinary	4	19
Outhers	2	9.5
Not applicable	4	19
Gender	**Responses**	**Percentage**
Male	9	42.9
Female	12	57.1
Age Group	**Responses**	**Percentage**
Up to 24 years old..	3	14.3
25 to 29 years old.	1	4.8
30 to 39 years old.	11	52.4
40 to 49 years old.	5	23.8
55 years old or older..	1	4.7
Education (Undergraduate Degree)	**Responses**	**Percentage**
Pedagogy	6	28.6
Other Teaching Degrees	12	57.1
Other Fields	3	14.3
Do You Have a Postgraduate Degree?	**Responses**	**Percentage**
I completed a Lato Sensu	15	71.4
I have not pursued a Postgraduate Degree	5	23.8
Not applicable	1	4.8
Do you have training in the technological field?	**Responses**	**Percentage**
I don't have	5	23.8
Improvement course	10	47.6
Postgraduate course	4	19.1
Not applicable	2	9.5
Does it have specialization in school management?	**Responses**	**Percentage**
Yes	6	28.6
No	15	71.4
Functional performance	**Responses**	**Percentage**
Elementary School Teacher (early and/or late years);	12	57.1
High School Teacher;	3	14.3
School Administrator (Principal or Coordinator);	2	9.5
Outhers	4	19.1
Lócus of Operation	**Responses**	**Percentage**
Public School	17	81
Public and Private School	1	4.8
Outhers	3	14.2

Source: Prepared by the authors (2022)

In this perspective, the aim of this diagnostic questionnaire is to categorize the responses and analyze them quantitatively, with the intention of understanding the main characteristics of the

research subjects and the basic composition of the master's cohort. This will provide a foundation for the qualitative data analysis that will be discussed in the next chapter.

Data Analysis and Discussion of Results

Currently, there are many discussions about the need to expand teacher training processes to enhance teaching practices in a way that is contextualized with technological development and in harmony with other sectors and agents within the school system (management, coordination, staff, students, and families).

However, in our view, ongoing training for school managers should also encompass this same perspective, given that these professionals are responsible for both teaching practices and the educational outcomes of students. Thus, Barbosa and Arruda (2019, p. 154) argue that:

> The demand for new pedagogical proposals leads to the conditions and experiences lived by managers, taking into account their own theoretical and practical references. On one hand, they must assume responsibility for student development within the inherent possibilities of school management. On the other hand, it is implied that they should manage the constantly evolving theoretical knowledge, while prioritizing their experience and its materialization within the school context.

In light of this, the following questions arise: Are school managers in basic education prepared and equipped to understand and support changes in education systems based on emerging developments such as remote learning and other technological concepts that impact the school community? What is the perception of teachers regarding the role of school managers in integrating Digital Technologies of Information and Communication (TDIC) into pedagogical practices?

Thus, we can consider that these questions initiate the investigation of this research. To this end, the analysis of the messages from the forum established for this study was conducted based on content analysis, as Bardin (2016, p. 135) states: "The aim of this method is to discover the cores of meaning that compose the communication and whose presence, or frequency of appearance, may signify something for the chosen analytical object."

Based on this principle, the analysis was performed by reading each comment posted in the discussion forum, reflecting on the messages, and observing the frequency with which terms were repeated or related. This approach aimed to identify and classify messages into categories related to pedagogical practices based on the items discussed. According to Portela and Mill (2018), discussion

forums are tools used to raise reflections and collectively contribute to the construction of knowledge related to a specific topic.

Thus, we were able to identify, through the experiences of the research participants, four categories related to the topic proposed in the discussion forum. These categories were classified within the dimensions of the Political-Pedagogical Project (PPP), the role of school managers, key issues, and the ongoing training of teachers and school managers in the context of integrating ICTs into pedagogical practices. These categories will be analyzed in the following subchapters.

1st Category: Integration of ICTs into Pedagogical Practices in the School's (PPP)

In relation to the PPP, Veiga (1998) points out that the school should develop a Political-Pedagogical Project in accordance with educational regulations, the needs of the school community, and the curriculum. Therefore, it is crucial to develop or adapt a PPP that addresses contemporary demands such as digital evolution, while still remaining aligned with the mission and objectives proposed by the school through this document.

However, the forum discussion messages revealed two distinct realities. The first mentions that the school's PPP addresses a data network directed at the school's projects and activities. This indicates that the school management was concerned with including this in the main document as a way to standardize and encourage the use of TDICs.

Figure 1 – Comment on the Forum about Integrating TDIC into the School's PPP

Fórum de Discussão

O PPP aponta a integração da escola a uma rede de dados que direcionam projetos e atividades escolares, levando alunos e professores a estabelecer uma relação direta com o mundo digital, plataformas de ensino e monitoramento de avaliação, frequência e planejamento.

Source: Prepared by the authors (2022)

However, the second reality found in the discussions shows that there is no clause in the school's PPP addressing the integration of TDICs into pedagogical practices, nor is there any mention of ongoing training for teachers to promote and encourage the use of TDICs in the classroom.

In this regard, Vosgerau and Rossari (2017) argue that, given the new demands of contemporary society affecting the school environment, it is essential to either construct a new PPP or revise the existing one with a focus on these changes and the needs of the school. The PPP needs to be a guiding document for the school's actions, developed with the participation of the school community, and implemented throughout the school year.

2nd Category: Role of School Managers in Integrating TDICs into Pedagogical Practices

In this category, the messages posted by the research participants also revealed two pertinent subcategories related to the partnership between school managers and teachers regarding pedagogical work mediated by TDICs (Technologies of Digital Information and Communication). One subcategory discusses the presence of management in pedagogical and administrative processes, while the other highlights the absence of the managerial team.

The first subcategory showed that school management promotes the exchange of experiences in partnership with teachers, proposes discussions and reflections on the use of ICTs as an active methodology that should be integrated into pedagogical practices. This view is supported by Oliveira and Vasques-Menezes (2018, p. 880), who state that:

> [...] The decision-making process is carried out collectively, allowing group members to discuss and deliberate together. Thus, the school manager, in the political dimension, exercises the principle of autonomy, which requires closer ties with the educational community, parents, and entities and organizations parallel to the school.

In addition to the partnership between managers and teachers for pedagogical work, the messages' discussions also revealed, as shown in Figure 2, the participants' perceptions of the use of ICTs by the school's management team in administrative processes such as: enrollment control, student and staff attendance, document issuance, communication processes, and student management through the Educational Management System (SGE), the Personnel Management System (SGP), and the filling out of the Resource Application Plan (PAR).

Figure 2 – Comment on the Role of School Management in Administrative Processes

Fórum de Discussão

Sim. A gestão se faz bem atuante junto aos processos formativos sobre a integração das tecnologias Digitais da Informação e comunicação (TDICs) tanto para fins de prática pedagógica como nos processos administrativos desencadeados dentro da unidade escolar.

Source: Prepared by the authors (2022)

In this first subcategory, based on the terms in the forum messages, the partnership between management and teaching in formative processes intensified during the COVID-19 pandemic. This was primarily due to the implementation of remote learning, for which many schools were unprepared and had to adapt their pedagogical and management practices to the use of ICTs as a means to

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continue activities and minimize the impact on students and the school community due to social isolation.

In the subsequent analysis, common terms found in the second subcategory of the forum discussions revealed that while school managers conducted teacher training, it was not focused on the integration of ICTs into pedagogical practices. According to Procasko and Giraffa (2021, p. 3), "[...] without the support of management with an integrated and innovative vision to ensure that the school ecosystem is effectively a space for actions that promote innovation, the objectives will not be achieved." This concept is evident in the comment depicted in Figure 3.

Figure 3 – Comment on the Lack of Participation of School Managers

Fórum de Discussão

Na escola onde eu trabalho, a direção e coordenação não realiza esse tipo de formação, que é a inclusão das tecnologias em sala de aula com objetivos pedagógicos. São realizadas formações com outras temáticas.

Source: Prepared by the authors (2022)

In addition, the discussions revealed that school managers did not recognize the importance of integrating Digital Information and Communication Technologies (DICT) into pedagogical practices. During the COVID-19 pandemic, when schools had to adapt to remote learning, it was the Department of Education that provided training related to the use of DICT. Many teachers did not use technology in the classroom due to a lack of knowledge in this area. According to Castro and Lemos (2014, p. 431), "It is not only about working with new technologies aiming at students' digital inclusion, but it is necessary for the school to integrate them into curricular activities, that is, to integrate them into the teaching and learning process." These issues will be discussed in more detail in the next subsection.

3rd Category: Main Problems Hindering the Integration of DICT into Pedagogical Practices

Regarding the problems identified in the forum messages, during the COVID-19 pandemic, the school community had to reinvent itself through the use of DICT in pedagogical, administrative, and communication aspects. However, with the return to in-person classes, participants reported a decline in the use of technologies in the classroom, primarily due to a lack of encouragement from school management or the local education department.

Figure 4 – Commentary on the Regression in the Use of DICT

Fórum de Discussão

Com o retorno das aulas presenciais, a utilização dos recursos tecnológicos voltou a ficar em segundo plano.

Source: Prepared by the authors (2022)

In addition, the reports demonstrated that there is still a centralization of the use of digital information and communication technologies (DICT) only within administrative processes. The internet quality is poor, resulting in an unstable connection. However, most of the comments regarding the issues were related to the lack of teacher training for the effective use of DICT, as many teachers did not even know the basics. When it was not a matter of lack of interest in using DICT, it was due to a lack of technical support during pedagogical activities. This situation is evident in the comment shown in Figure 5.

Figure 5 – Comment on the lack of ongoing training

Fórum de Discussão

A minha expectativa com a sala de inovação foi um pouco frustrante, não foi bem do jeito que pensei que seria. Essa sala não é utilizada pelos meus colegas professores, as vezes por falta de conhecimento tecnológico, outros casos por falta de interesse e na maioria das vezes por falta de ajuda de alguém dando suporte, pois já tentei algumas vezes realizar algumas aulas utilizando os recursos que a escola tem e na hora não funcionaram e gastei muito tempo tentando resolver e com isso comprometi demais o tempo pedagógico.

Source: Prepared by the authors (2022)

In this context, Pereira and Araújo (2020) point out that integrating ICTs into pedagogical practices is not just about using technology at any cost, but rather about promoting educational changes within teaching systems and the roles played by teachers and students in the classroom. Therefore, it is crucial to position technology as mediating and facilitating tools in the teaching and learning processes.

4th Category: Ongoing Professional Development of Teachers and School Managers for the Effective Use of ICT

To ensure effective work in pedagogical practices mediated by ICTs, it is necessary to have knowledge, training, and ongoing support for the work carried out within the school context.

According to Cardoso (2021, p. 99), "In the BNC-Continuing Education, as the document is known, teachers are increasingly encouraged to incorporate the use of ICTs into their various pedagogical practices." However, according to the terms highlighted in the forum messages, there was limited or no ongoing training in the technological area for both school managers and teachers.

Additionally, according to the messages, the importance of ongoing training became more explicit during the Covid-19 pandemic due to the need to adapt in-person teaching to remote learning through ICTs. However, this emphasis did not continue after the return to in-person classes.

Consequently, the research subjects mentioned that the lack of ongoing training forced teachers to seek technological training alternatives on their own to overcome difficulties related to using digital tools and correctly utilizing digital media during their pedagogical practices.

Figure 6 - Commentary on Self-Directed Training

Fórum de Discussão

Assisti muitas formações on-line, li muitos tutoriais com a finalidade de proporcionar aos meus alunos uma melhor assistência, diversificando meu trabalho. Ou seja, eu busquei saber mais, me atualizar.

Source: Prepared by the authors (2022)

Therefore, based on the data produced by the research instruments (diagnostic questionnaire and discussion forum), the complexity of the work of school managers is evident, especially given that we analyzed the perceptions of research subjects with diverse backgrounds in terms of training, professional activity, and school reality.

Therefore, the results of this study demonstrated that the discussion forum analyzed in this research revealed positive aspects regarding the partnership of school managers in teaching work mediated by ICTs, especially during the Covid-19 pandemic. However, it also highlighted negative characteristics and problems that hindered the effective use of ICTs in pedagogical practices.

Final considerations

The objective of this research was to investigate how the participation of school managers in the integration of ICTs into pedagogical practices occurred, based on the perceptions of master's students, since most of these students were basic education teachers who had experienced or were still facing the challenge of incorporating technologies into their teaching practices.

Therefore, after collecting data through a discussion forum and exploring the data using content analysis methods, the results of this study allowed for the organization of four categories cited by the master's students, with the following concepts regarding the integration of ICTs into pedagogical practices: documentation pointing to this integration, the role of school managers, major issues, and ongoing training for teachers and school managers.

In the first category, it became evident that some schools demonstrated in their PPP (Political-Pedagogical Project) some guidance on the use of technologies in pedagogical practices. However, this reality remains an exception, as the messages published in the discussion forum also pointed out that many schools did not have any document addressing the use of ICTs in school management and teaching practices.

Regarding the role of school managers in integrating ICTs into teachers' pedagogical practices, we observed two distinct realities: the first demonstrated a partnership between managers and teachers in sharing experiences, monitoring classroom work, and discussing and reflecting on pedagogical practices mediated by ICTs. The second reality highlighted the absence of managers in this type of involvement, especially with the return to in-person classes after the COVID-19 pandemic, as many did not recognize the importance of continuing to use ICTs in pedagogical and administrative processes.

When analyzing the category related to the main issues in integrating ICTs into pedagogical practices, several problems were identified: lack of expansion of technology use among school users, low-quality internet, lack of ongoing training for education professionals, and absence of technical support accompanying pedagogical work during classes.

Finally, it was evident that both school managers and teachers were not receiving the desired training for handling technological tools and effectively using ICTs in pedagogical and administrative practices. This often led to the responsibility of self-training without proper guidance from specialists or educational regulatory bodies.

In this context, it is important to emphasize the need for ongoing training for school managers and teachers, as these professionals need to understand the complexity of the digital world. Students are immersed in this technological culture and lack digital education that enhances pedagogical practices mediated by ICTs, focusing on improving teachers' learning and effectiveness.

Therefore, although the results of this research show satisfactory data, there are still gaps in the pedagogical work mediated by ICTs due to the complexity of the subject. As a suggestion for

future work, a deeper investigation into ongoing training for education professionals for the effective use of ICTs in the school context is recommended. Currently, most public policies focus on providing electronic equipment, digital media, and quality internet, but still lack effective ongoing training policies that integrate ICTs into pedagogical practices.

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