Teachers and digital culture: expectations and experiences in continuous professional development aligned to BNCC

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Abstract

This article analyzes the expectations and experiences of teachers regarding continuous professional development with a focus on promoting digital culture. Its objective is to examine the perceptions and expectations of a group of teachers concerning continuous professional development aimed at fostering digital competencies and integrating technologies into their pedagogical practices. This is a qualitative and descriptive research that used online questionnaires for data collection. The training included 65 Basic Education teachers from different regions of Brazil, working in the Final Years of Elementary Education. The responses were analyzed using the Thematization methodology and categorized into four main themes: enhancement of knowledge and skills; integration of technology into pedagogical practices; exchange of experiences and collaboration; and innovation and improvement of methodologies. The results indicate that teachers seek to develop technological competencies, adapt pedagogical practices, collaborate with colleagues, and innovate in their methodologies. It is concluded that continuous professional development should be comprehensive and dynamic, encompassing critical reflection, theory-practice integration, collaboration, and innovation, equipping teachers to promote digital culture in their practice.

Keywords

continuous professional development of teachers; digital technologies in education; digital culture; innovative pedagogical practices.

Professores e cultura digital: expectativas e vivências em formações continuadas alinhadas à BNCC

Resumo

Este artigo analisa as expectativas e vivências de professores em relação à formação continuada com enfoque na promoção da cultura digital. Seu objetivo é analisar as percepções e expectativas de um grupo de professores em relação a uma formação continuada com foco na promoção de competências digitais e na integração de tecnologias em suas práticas pedagógicas. Trata-se de uma pesquisa qualitativa e descritiva, que utilizou questionários *on-line* para a coleta de dados. A formação contou com 65 professores da Educação Básica, atuantes em diferentes regiões do Brasil, predominantemente nos Anos Finais do Ensino Fundamental. As respostas foram analisadas pela metodologia de Tematização e categorizadas em quatro temas principais: aprimoramento de conhecimentos e habilidades; integração de tecnologia nas práticas pedagógicas; troca de experiências e colaboração; e inovação e melhoria das metodologias. Os resultados indicam que os professores buscam desenvolver competências tecnológicas, adaptar práticas pedagógicas, colaborar com colegas e

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inovar em suas metodologias. Conclui-se que a formação continuada deve ser abrangente e dinâmica, contemplando a reflexão crítica, a integração teoria-prática, a colaboração e a inovação, qualificando os professores para promover a cultura digital em sua prática.

Palavras-chave
formação continuada de professores; tecnologias digitais na educação; cultura digital; práticas pedagógicas inovadoras.

Profesores y cultura digital: expectativas y vivencias
en la formación continua alineada a la BNCC

Resumen
Este artículo analiza las expectativas y experiencias de los profesores con respecto al desarrollo profesional continuo con un enfoque en la promoción de la cultura digital. Su objetivo es examinar las percepciones y expectativas de un grupo de docentes respecto a una formación continua centrada en el fomento de competencias digitales y la integración de tecnologías en sus prácticas pedagógicas. Esta es una investigación cualitativa y descriptiva que utilizó cuestionarios en línea para la recopilación de datos. La formación incluyó a 65 profesores de Educación Básica de diferentes regiones de Brasil, que actuaban predominantemente en los Años Finales de la Educación Primaria. Las respuestas fueron analizadas utilizando la metodología de tematización y categorizadas en cuatro temas principales: mejora del conocimiento y habilidades; integración de la tecnología en las prácticas pedagógicas; intercambio de experiencias y colaboración; e innovación y mejora de las metodologías. Los resultados indican que los profesores buscan desarrollar competencias tecnológicas, adaptar prácticas pedagógicas, colaborar con colegas e innovar en sus metodologías. Se concluye que el desarrollo profesional continuo debe ser integral y dinámico, abarcando la reflexión crítica, la integración teoría-práctica, la colaboración y la innovación, equipando a los profesores para promover la cultura digital en su práctica.

Palabras clave
desarrollo profesional continuo de los docentes; tecnologías digitales en la educación; cultura digital; prácticas pedagógicas inovadoras.

1 Introduction

The continuous professional development of teachers is a central theme in discussions about the quality of education, as it is essential to ensure that educators are prepared to address contemporary educational challenges. In Brazil, the National Common Curricular Base (*Base Nacional Comum Curricular* - BNCC) emphasizes the importance of digital culture in education, encouraging the integration of digital technologies into pedagogical practices (Brasil, 2018). This context demands that teachers stay updated and equipped to use these technologies meaningfully to foster

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learning that meets 21st-century demands (Favarin; Rocha, 2015; Pessoa; Santana, 2023). Continuous professional development thus emerges as a tool for teachers' professional growth, enabling them to innovate and adapt their teaching methodologies to new educational realities (Darling-Hammond, 2006; Fullan, 2007; Nóvoa, 2019).

The relevance of this research lies in the need to prepare teachers to act as active mediators in an educational environment permeated by technologies. Studies have shown that continuous professional development significantly contributes to the improvement of pedagogical practices, promoting critical reflection and the adaptation of teaching strategies (Dantas; Rufino; Nakamoto, 2022; Schön, 1983; Souza, 2023; Tardif, 2014). Moreover, promoting digital culture in schools is essential to prepare students for the demands of contemporary society, which requires technological skills and various soft skills such as critical thinking and collaboration (Kenski, 2012; Moran, 2015; Pessoa; Santana, 2023). The integration of digital technologies in the school environment not only enriches teaching and learning processes but also makes learning more dynamic and interactive, connecting academic content to students' realities (Gewehr; Strohschoen, 2017; Valente, 2014).

The justification for this research is based on the gap between initial teacher training and the practical demands of the school environment. Continuous professional development aims to update teachers and foster the continuous improvement of their practices (Darling-Hammond, 2006; Oliveira; Amaral, L.; Amaral, C., 2023; Souza, 2023). Implementing professional development programs that address digital culture is essential to ensure that teachers acquire the necessary skills to use technologies pedagogically and innovatively (Fullan, 2007; Souza, 2023).

The research problem guiding this study relates to teachers' expectations and perceptions regarding professional development programs focusing on the BNCC and the promotion of digital competencies. Initial training often fails to prepare teachers to effectively integrate digital technologies into their pedagogical practices, creating a significant gap that impacts the quality of education. Furthermore, the lack of continuous professional development specifically targeted at digital culture limits teachers' ability to adapt to new educational demands and fully incorporate technological resources into their practice.

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In this context, the objective of this study is to analyze the perceptions and expectations of participating teachers regarding professional development programs that focus on promoting digital competencies and integrating technologies into their pedagogical practices. The research seeks to understand teachers' views on the benefits and challenges encountered during professional development programs (Costa; Matos; Caetano, 2021; Pauli; Silva, 2023; Schön, 1983; Zeichner, 1993).

This study aims to provide an overview of teachers' needs and expectations regarding professional development, supporting the orientation of public policies and professional development programs (Gatti, 2008; Souza, 2023). Additionally, it seeks to identify challenges teachers face in integrating digital technologies, offering parameters for improving development programs (Hargreaves; Fullan, 2012; Mallmann, 2023). Finally, this research intends to contribute to the academic literature on professional development and digital culture, expanding understanding of how to prepare teachers for the educational challenges of the 21st century (Borko, 2004; Soares, 2020).

This article is structured into four main sections, in addition to this introduction. The second section addresses the theoretical framework, discussing the importance of professional development and its relationship to the promotion of digital competencies. The third section details the methodological approach, which employs a descriptive qualitative approach to investigate participants' perceptions. The fourth section presents and discusses the results, focusing on teachers' experiences and expectations regarding professional development and the potential integration of digital technologies into pedagogical practices. Finally, the fifth section provides the study's conclusions, highlighting the implications of the results and recommendations for future teacher development policies.

2 Teachers' continuous professional development: a dialogue among key authors

The continuous professional development of teachers is a central issue in discussions about improving the quality of education. Various scholars emphasize the importance of professional development that extends beyond initial training, proposing reflections on teaching practice, the integration of theories, and pedagogical innovation. This text aims to establish a dialogue among key authors who discuss the continuous

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professional development of teachers, analyzing their contributions and how they can be applied in the contemporary educational context.

The importance of reflection in teaching practice is highlighted by Schön (1983), who introduced the concept of the "reflective practitioner." According to the author, teachers must develop the ability to reflect on their actions both in real time (reflection-in-action) and after the fact (reflection-on-action). This continuous practice of reflection allows for the improvement of pedagogical strategies and adaptation to changes and challenges in the educational environment (Montero; Loyola, 2021; Oliveira; Amaral, L.; Amaral, C., 2023). Alarcão (2003, 2010) expands on this idea by emphasizing that training should include a strong reflective component based on real practical situations, enabling teachers to critically and innovatively face educational challenges.

For Tardif (2014), the disciplinary structure of teacher training courses presents a significant disconnect between the theories taught and educational practice, largely due to the lack of experience of university professors in basic education. This disconnect hinders the practical application of theoretical concepts by trainees, rendering the training less effective. Overcoming this gap requires an approach that integrates theory and practice dialectically, promoting critical and contextualized training. In this sense, continuous professional development courses should focus on reflective practice, enabling teachers to adapt to the demands of their school realities (Plácido, R.; Plácido, I.; Alberto, 2022; Souza, 2023).

Nóvoa (2019) highlights that teacher training should be profession-oriented, going beyond the transmission of knowledge to involve managing human relationships in the school environment. He advocates for training that promotes the professional autonomy of teachers, allowing them to critically reflect and adapt to changes. The author critiques the separation between theory and practice, suggesting an integration of these aspects for training which values both theoretical knowledge and practical skills, connecting with students' realities (Ferreira; Purificação, 2021).

Zeichner (1993), in turn, critiques Schön's individualistic approach and argues that reflection should occur within a collective of teachers. He proposes training that fosters collaborative learning, where teachers can share experiences, reflect on their practices, and develop innovative solutions to educational challenges. The author contends that collaborative training not only enriches teaching practice but also

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strengthens the school community. This collaborative approach is essential for creating a community of practice that supports the continuous professional development of teachers, promoting an environment of mutual support and joint growth (Ferreira; Purificação, 2021; Souza, 2023).

Pimenta (2002) highlights the importance of integrating theory and practice, asserting that teaching knowledge is not built solely through practice but also through the incorporation of educational theories that offer different analytical perspectives (Oliveira; Amaral, L.; Amaral, C., 2023). The author argues that continuous professional development should recognize teachers as knowledge agents, enabling them to take an active role in their own professional development in a critical and reflective manner, essential for consciously understanding and transforming their pedagogical practices. Furthermore, critical training empowers teachers to adapt to changes and actively influence the educational context, promoting innovations that benefit students (Costa; Santos; Martins, 2020; Souza, 2023).

In a similar vein, Contreras (2002) emphasizes the need for training that fosters teachers' professional autonomy. He argues that teacher professionalization must include the ability to deliberate and critically reflect on practice, which is essential to dealing with the unpredictability and complexity of the school environment. The author suggests that training should equip teachers to make informed and ethical pedagogical decisions, promoting relevant and meaningful education for students. Thus, continuous professional development should provide spaces for reflection and discussion, where teachers can collaboratively and critically question and enhance their practices (Costa; Santos; Martins, 2020; Ferreira; Purificação, 2021; Souza, 2023).

Gatti (2008) also contributes to this discussion by emphasizing the need for public policies on continuous professional development that are aligned with the real needs of teachers. The author argues that continuous professional development must be a systematic and sustained process that enables teachers to reflect on their practices, share experiences, and develop new competencies. She stresses that professional development should be seen as an essential investment in the quality of education, promoting teachers' constant updating and the continuous improvement of pedagogical practices (Souza, 2023; Vergutz; Pacífico; Sales, 2021).

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Aligned with this discussion, Darling-Hammond (2006) reflects on the importance of continuous professional development that is intrinsically linked to teachers' needs and the educational context in which they work. She argues that professional development must be ongoing, incorporating evidence-based practices that promote the improvement of teaching and learning. Furthermore, there is a need to emphasize educational policies that support professional development by providing teachers with time and resources to participate in development programs that are relevant and applicable to their practices (Ferreira; Purificação, 2021; Souza, 2023).

Complementing this perspective, Fullan (2007) addresses the continuous professional development of teachers in the context of educational reforms and systemic change. He argues that professional development must be an integral part of school improvement initiatives, fostering innovation and leadership among teachers. The author advocates for collaborative professional development that involves everyone within the school and educational community. For Fullan, professional development should focus on capacity building and creating a culture of continuous learning within schools (Ferreira; Purificação, 2021; Plácido, R.; Plácido, I.; Alberto, 2022).

Hargreaves and Fullan (2012), in turn, highlight the importance of a professional culture based on collaboration among teachers. In this model, teachers work together to critically reflect on their practices and continuously share knowledge and experiences, aiming to improve both their praxis and student learning. The authors argue that professional development must go beyond one-off approaches and be integrated into everyday school life, promoting regular spaces for teacher exchange (Costa; Santos; Martins, 2020; Vergutz; Pacífico; Sales, 2021).

Berliner (2001), on the other hand, approaches teachers' continuous professional development from the perspective of educational psychology. He emphasizes the importance of understanding teachers' cognitive and motivational processes as learners, arguing that professional development must consider these factors to be effective. The author discusses the need for professional development programs that are adaptive and responsive to individual teachers' needs, fostering a deeper understanding of the principles of effective learning and teaching (Oliveira; Amaral, L.; Amaral, C., 2023).

Borko (2004) complements this perspective by discussing the professional development of teachers, particularly in the areas of Mathematics and Science. The

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author argues that continuous professional development should be grounded in empirical investigations and reflective practices, providing teachers with a deeper understanding of the subjects they teach and the most effective pedagogical methodologies. Furthermore, such training should be collaborative, fostering the creation of communities of practice where teachers can share knowledge, reflect on their experiences, and develop new pedagogical strategies (Florentino, 2016; Sá-Pinto *et al.*, 2014; Vergutz; Pacífico; Sales, 2021).

The introduction of the BNCC has brought a new challenge to teachers' continuous professional development. By formalizing the relevance of promoting digital culture and integrating digital technologies into the educational process, the document reinforces the necessity of preparing students for the 21st century (Brasil, 2018). Professional development aimed at promoting digital culture should therefore address everything from basic technology use to advanced pedagogical strategies that leverage digital resources to enrich teaching and learning. This is because digital culture extends beyond the use of technological tools to include a critical understanding of their presence in society and the ability to integrate technologies in a pedagogically meaningful way (Favarin; Rocha, 2015; Kenski, 2012; Moran, 2015).

Moreover, the promotion of digital culture should involve building a digital ethic, enabling teachers to guide their students in the responsible and critical use of technology. Teacher training for digital culture should be ongoing, offering educators regular opportunities to update their knowledge and practices concerning new technologies and digital methodologies. This includes participating in communities of practice and professional learning networks where they can share experiences and learn from other educators (Almeida; Valente, 2011). Continuous professional development for digital culture should be dynamic and adaptive, preparing teachers to respond to rapid technological changes and the emerging needs of students (Herdina; Ningrum, 2023).

Valente (2014) emphasizes that training for digital culture should also address pedagogical innovation, encouraging teachers to explore new teaching methodologies that utilize digital technologies. Continuous professional development should promote experimentation and innovation, allowing teachers to explore new pedagogical approaches and integrate technologies in a meaningful and contextualized manner (Almeida; Valente, 2011; Brasil, 2018; Pessoa; Santana, 2023; Valente, 2014).

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The dialogue among the leading authors in the field thus reveals the necessity of training that fosters critical reflection, integrates theory and practice, and adapts to new educational demands, including digital culture. By recognizing teachers as protagonists of their professional development, continuous professional development can significantly contribute to transforming pedagogical practices and creating a more innovative and effective educational environment.

3 Methodological approach

This research is qualitative and descriptive in nature, focusing on the continuous professional development of teachers aimed at promoting digital culture as advocated by the BNCC (Brasil, 2018). The descriptive methodology employed strategies to observe and describe behaviors as well as identify factors related to the phenomenon under study, while the qualitative approach enabled an in-depth exploration of the participants' subjective perceptions. This methodological choice was based on the need to understand the nuances of teachers' experiences and perceptions regarding the use of Digital Information and Communication Technologies (DICT) in the educational context (Creswell, J.; Creswell, D., 2018).

The qualitative methodology facilitated a deep understanding of the participants' beliefs and values, enabling reflections on continuous professional development and the integration of digital culture in the educational context (Lüdke; André, 2013). This methodological approach does not merely describe the observed phenomena but also seeks to provide a contextualized interpretation of the teachers' experiences during training. The approach contributes to the development of more effective educational practices aligned with 21st-century demands, promoting digital culture in an integrated and critical manner in schools (Saunders; Lewis; Thornhill, 2016).

This excerpt is part of a doctoral research project within the Graduate Program in Teaching in Biosciences and Health at the Oswaldo Cruz Foundation (Fiocruz). The study aims to analyze teachers' perceptions and expectations regarding a continuous professional development program focused on developing digital competencies and integrating technologies into pedagogical practices, as outlined by the BNCC. The extension course, offered in a distance learning (DL) format in partnership with the

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Federal Institute of Rio de Janeiro, was designed to address gaps in teacher preparation, particularly during the Covid-19 pandemic. The study was approved by Fiocruz Research Ethics Committee (CAAE nº 58801622.9.0000.5248), adhering to all ethical standards and ensuring participants' informed consent (Brazelton, 2023).

For data collection, online questionnaires were distributed to participants during the first and final weeks of the training. Specifically, the questions discussed in this article are: 1) "Have you ever participated in any professional development training on the BNCC?"; 2) "Have you ever participated in any professional development training on the use of technologies in the educational context?"; 3) "Have you ever participated in any professional development training on the use of technologies in the educational context offered at a school where you worked?"; and 4) "What are your expectations for the professional development program you are starting?" These questions were designed to gather information about the participants' prior professional development experiences and their expectations for the new training.

The data analysis was conducted based on the Thematization methodology proposed by Fontoura (2011), which involves identifying central themes from the collected responses. This method aims to systematically organize and interpret the data, highlighting patterns and trends in the participants' perceptions. The steps of the process include analyzing the material, identifying recurring themes, defining units of context and meaning, and interpreting the data based on relevant theoretical references (Fontoura, 2011). Thematization was chosen for its effectiveness in capturing the essence of the data, providing a clear and concise view of the most relevant information.
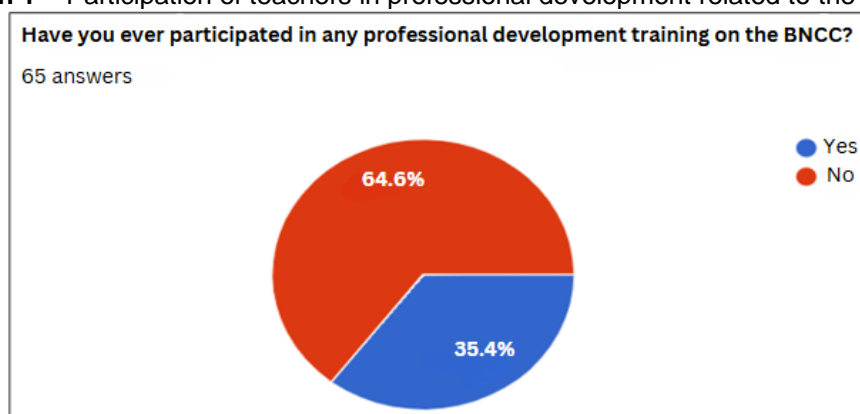
4 Results and discussion

A total of 65 responses were collected through the questionnaire. Most participants were between 31 and 40 years old, although ages ranged from 21 to 70 years. The Southeast region was the most represented, but there were participants from all regions of the country. In terms of academic background, 55 teachers had postgraduate qualifications. Among them, 30 were specialists, 22 held master's degrees, two were Ph.D. holders, and one had a postdoctoral qualification. Most

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participants worked in public schools at the final years of elementary education, with 33 of them having between 11 and 20 years of teaching experience.

The results below illustrate teachers' experiences with professional development, their engagement with educational technologies, and the availability of such training within the institutions where they work. Most teachers have not yet had adequate access to professional development specifically focused on either the BNCC or the use of technologies in the educational context. While there is a nearly balanced divide regarding participation in training on educational technologies, a significant portion of teachers have not received training provided by their schools. This highlights a considerable gap in the provision of professional development opportunities within educational institutions (Alarcão, 2003, 2010; Cartaxo; Mira; Gasparim, 2020; Mallmann, 2023; Schön, 1983; Tardif, 2014).

Figure 1 shows that 64.6% of teachers had not participated in specific professional development programs on the BNCC. This data underscores a significant gap, particularly considering the central role the BNCC assigns to promoting digital culture in pedagogical practices (Brasil, 2018). Authors such as Nóvoa (2019) and Tardif (2014) emphasize that the disconnect between initial teacher training and the practical demands of the school environment can hinder the implementation of new guidelines such as the BNCC. These findings suggest an urgent need for policies to strengthen the provision of professional development focused on the BNCC, ensuring that teachers are prepared to integrate new technologies into their practices.
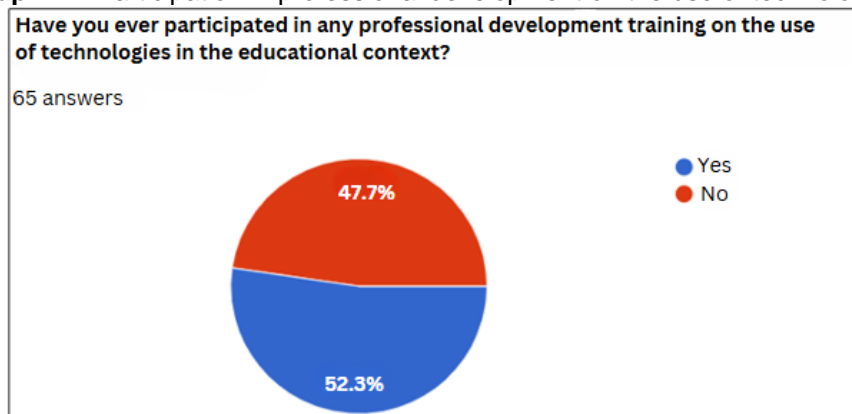
Graph 1 – Participation of teachers in professional development related to the BNCC

Source: Research data (2024).

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In addition to training on the BNCC, the study investigated teachers' participation in courses focused on the use of technologies. Graph 2 shows that 52.3% of teachers participated in some form of professional development on technologies, while 47.7% never had this opportunity, highlighting that despite efforts, many teachers still face challenges in accessing such training. These findings align with the studies of Kenski (2012) and Moran (2015), which emphasize the need to expand professional development programs to ensure the effective integration of technologies in teaching. Dantas, Rufino, and Nakamoto (2022), Souza (2023), and Tardif (2014) also highlight the disconnect between initial teacher training and the technological demands of school practice.
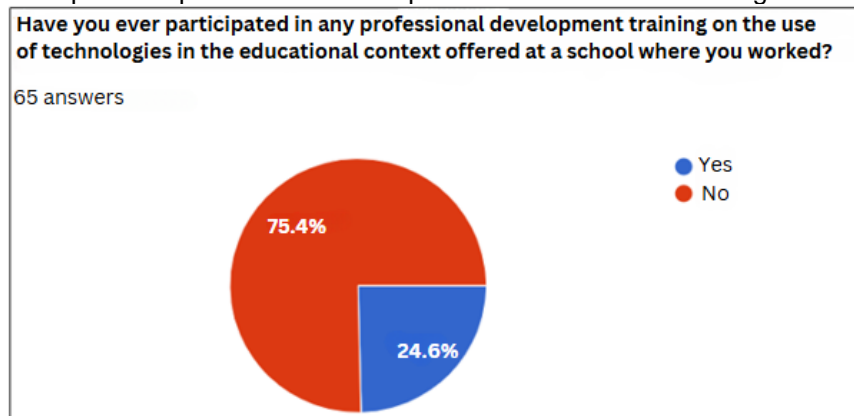
Graph 2 – Participation in professional development on the use of technologies

Have you ever participated in any professional development training on the use of technologies in the educational context?

65 answers

- Yes
- No

47.7%

52.3%

Source: Research data (2024).

Graph 3 reveals that 75.4% of teachers did not participate in professional development on the use of technologies offered by their schools, while only 24.6% had this opportunity, highlighting a deficiency in internal training provision, which exacerbates the disconnect between theory and pedagogical practice (Dantas; Rufino; Nakamoto, 2022; Souza, 2023; Tardif, 2014). As emphasized by Alarcão (2003, 2010), Cartaxo, Mira, and Gasparim (2020), Mallmann (2023), and Schön (1983), professional development based on practical situations is essential for teachers' critical reflection. Furthermore, the promotion of a digital culture in schools, as discussed by Kenski (2012), Moran (2015), and Pessoa and Santana (2023), depends on adequately preparing teachers to effectively integrate technologies.

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Graph 3 – Participation in professional development on the use of technologies in the workplace

Source: Research data (2024).

The results reinforce that the BNCC provides an important framework for developing digital competencies, preparing students for contemporary demands (Pessoa; Santana, 2023; Valente, 2014). However, the literature also highlights critical challenges that deserve attention. The main issue lies in implementing the BNCC's proposals in schools lacking technological infrastructure, as discussed by Souza (2023) and Tardif (2014). Moreover, initial teacher training often fails to adequately address digital culture, creating a disconnect between the theoretical framework proposed by the BNCC and pedagogical practice, as noted by Martini and Hobold (2024) and Nóvoa (2019).

The analysis of the fourth question, which reveals teachers' expectations regarding professional development, highlights the importance of several dimensions in teacher professional growth. The responses, presented in Chart 1, were categorized into four themes: (a) Enhancement of knowledge and skills; (b) Integration of technology into pedagogical practices; (c) Exchange of experiences and collaboration; and (d) Innovation and improvement of methodologies. To preserve participants' anonymity, each one of them was identified with an alphanumeric code beginning with the letter "P" followed by a number. This approach ensures that individual responses can be analyzed and discussed without revealing the identity of the respondents, maintaining the confidentiality of the information provided.

The category "Enhancement of knowledge and skills" reflects a desire to expand knowledge and abilities. This need aligns with the concept of the "reflective practitioner" (Schön, 1983), which emphasizes the importance of continuous reflection on teaching practice. When teachers express expectations such as, "I hope to enrich my knowledge on the subject and master tools to use in the classroom" (P2), it becomes evident that

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they are engaged in a self-improvement process that transcends initial training. Alarcão (2003, 2010) complements this perspective by suggesting that professional development should be grounded in real practical situations, which resonates with teachers' desire to acquire knowledge that is directly applicable to their classrooms (Cartaxo; Mira; Gasparim, 2020; Mallmann, 2023).

Chart 1 – Teachers' expectations regarding professional development

Categories	Units of context
Enhancement of knowledge and skills	• "Enhance my skills regarding the use of digital technology in the classroom." (P1) • "I hope to enrich my knowledge on the subject and master tools to use in the classroom." (P2) • "Acquire knowledge about technological processes and improve my teaching practice!" (P3) • "Broaden my knowledge and pedagogical practices." (P59)
Integration of technology into pedagogical practices	• "That the content can help me improve my pedagogical practice." (P4) • "Develop skills to work with technology in the classroom and enhance both my creativity and the students' creativity." (P5) • "Develop ideas for using technology in the classroom, adapting content, broadening horizons, and breaking paradigms." (P6) • "Use technology in the daily routine of classes." (P65)
Exchange of experiences and collaboration	• "I hope to learn and exchange knowledge with colleagues and, in addition to learning about technologies, also be able to encourage students in this process." (P12) • "Share experiences with other teachers." (P27) • "Learning and extensive exchange among peers aiming to improve my training and application in my daily practice." (P60) • "Share and develop knowledge and practices that foster the use of digital resources in education." (P62)
Innovation and improvement of methodologies	• "Expand my knowledge about new technologies in education to innovate and transform my methodologies." (P14) • "I hope it can open new horizons and allow me to reshape my teaching methods through new digital technologies." (P15) • "Understanding regarding the production of digital content. On how to better use technologies in the educational environment to improve the teaching-learning relationship [...]." (P16) • "Reflections and new methodologies." (P64)

Source: Research data (2024).

Furthermore, the expressed expectations demonstrate a commitment to the continuous improvement of pedagogical practice. Responses such as "[I hope to] Acquire knowledge about technological processes and improve my teaching practice" (P11) illustrate an understanding that integrating new knowledge and skills can lead to more

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effective and innovative pedagogical practices. This aligns with Tardif's (2014) critique of the disconnect between theory and practice in teacher training and his advocacy for an approach that contextualizes educational practice. In this sense, professional development is seen as an essential tool for teachers' professional growth, promoting not only the acquisition of new knowledge but also its practical application within the school context.

The "Integration of technology into pedagogical practices" is a central expectation for many teachers, reflecting the growing importance of digital technologies in contemporary education. Tardif (2014) notes that the gap between theory and practice can be bridged through training that contextualizes teaching practices, emphasizing the importance of technology to innovate and enhance teaching. Responses such as "[I hope to] Develop skills to work with technology in the classroom and enhance both my creativity and the students' creativity" (P5) highlight the need for training that not only introduces new technological tools but also qualifies teachers to use them effectively and creatively in their daily practices.

Nóvoa (2019) reinforces this need by arguing that teacher training should promote professional autonomy, enabling teachers to adapt their practices to the constantly changing demands of the educational context. Expectations such as "[I hope to] Develop ideas for using technology in the classroom, adapting content, broadening horizons, and breaking paradigms" (P6) reflect a desire to innovate and transform traditional pedagogy, using technology to enrich the teaching-learning process. Thus, professional development should focus on the practical and effective integration of digital technologies, preparing teachers to face challenges and seize opportunities offered by the digital age.

The "Exchange of experiences and collaboration" among teachers is a fundamental aspect of continuous professional development, as evidenced by the analyzed responses. Zeichner (1993) critiques the individualistic approach and advocates for collaborative training that fosters joint learning and the development of innovative solutions to educational challenges. Expectations such as "Learning and extensive exchange among peers aiming to improve my training and application in my daily practice" (P60) illustrate the importance of interaction and knowledge sharing among

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teachers, emphasizing that professional growth is enhanced when conducted in a collaborative environment (Souza, 2023).

Pimenta (2002) highlights the importance of critical and reflective training, allowing teachers to share experiences and develop a deeper understanding of pedagogical practices. The expectation to "Share and develop knowledge and practices that foster the use of digital resources in education" (P62) reflects a desire to build a community of practice where teachers can learn from one another and apply new ideas in their classrooms. Thus, professional development should provide spaces and opportunities for collaboration and experience exchange, promoting an environment of mutual support and collective growth, essential for the continuous improvement of education (Souza, 2023; Vergutz; Pacífico; Sales, 2021).

"Innovation and improvement of teaching methodologies" is a clearly expressed expectation among teachers, highlighting a desire to transform their pedagogical practices. Fullan (2007) discusses professional development in the context of educational reforms, arguing that it should be collaborative and focused on innovation. Responses such as "I hope it can open new horizons and allow me to reshape my teaching methods through new digital technologies" (P15) demonstrate the intention to use professional development to explore new pedagogical approaches and incorporate technologies that make teaching more dynamic and effective (Pessoa; Santana, 2023).

This pursuit of innovation is also linked to the need to adapt teaching methodologies to the needs and realities of contemporary students. The expectation to increase "Understanding regarding the production of digital content. On how to better use technologies in the educational environment to improve the teaching-learning relationship" (P16) reflects a commitment to modernizing pedagogical practices. This aligns with the ideas of Hargreaves and Fullan (2012) about the importance of promoting a culture of innovation and collaboration. Thus, professional development should be designed to support teachers in implementing innovative methodologies, effectively integrating digital technologies, and addressing the emerging demands of the current educational context (Dantas; Rufino; Nakamoto, 2022; Favarin; Rocha, 2015).

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5 Final considerations

Continuous professional development for teachers is an essential component for improving the quality of education. The analysis of the expectations of the teachers participating in this study highlights the importance of addressing multiple dimensions in teacher professional development. The enhancement of knowledge and skills, integration of technologies into pedagogical practices, exchange of experiences and collaboration, and the innovation and improvement of teaching methodologies are fundamental aspects that must be included in professional development programs. These elements are crucial for ensuring that teachers are prepared to face contemporary educational challenges and provide quality education that meets 21st-century demands.

The results of this study indicate that teachers are committed to continuous reflection on their practices, constantly seeking new ways to enrich their knowledge and skills. Moreover, the integration of technologies into pedagogical practices is seen as an urgent need, enabling teachers to adapt their methods to new educational demands. The exchange of experiences and collaboration among teachers is equally valued, fostering communities of practice where knowledge can be shared, and new strategies developed—an essential approach for professional growth and the continuous improvement of education. Professional development programs should, therefore, be designed to foster these interactions and promote a collaborative and innovative learning environment.

The pursuit of innovation and the improvement of teaching methodologies reflects a commitment to modernizing pedagogical practices. Teacher professional development should be conceived holistically, encompassing critical reflection, the integration of theory and practice, collaboration, and innovation. By recognizing teachers as protagonists of their professional growth, continuous professional development programs can contribute to the transformation of pedagogical practices and the creation of a more innovative and effective educational environment. The promotion of digital culture should be integrated into these programs, preparing teachers to actively mediate the use of technologies in education as well as discussions surrounding them, fostering meaningful and contextualized learning.

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Despite the contributions of this study, some limitations must be acknowledged. The research relied on a limited set of participants, which may not fully represent the breadth of experiences and expectations of teachers across different regions and educational contexts. Furthermore, the focus on teachers' perceptions may not capture the full complexities involved in the practical implementation of digital technologies in the school environment. Future research could expand the scope of the study by including a more comprehensive analysis of professional development practices in diverse contexts, as well as examining the perspectives of students and school administrators. Addressing these limitations could provide a more complete and detailed understanding of the effectiveness of professional development programs and their contribution to education.

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