


## COMPETENCIES AND SKILLS FOR THE FUTURE OF EDUCATION: WHAT TEACHERS THINK

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### ABSTRACT

This study investigated the changes in pedagogical practices in post-pandemic teaching, from the perspective of Basic Education teachers. The objective was to understand how teachers perceive the transformations in their pedagogical practices and which BNCC competencies they consider essential for teaching in line with the demands of the twenty-first century. For this, the research adopted a qualitative-quantitative approach. The results indicate that the pandemic has boosted the digitalization of education, consolidating the use of digital technologies and active methodologies. Also, the professors pointed out five competencies of the BNCC as essential for post-pandemic teaching: Knowledge; Scientific, critical and creative thinking; Digital culture; Argumentation; and Responsibility and citizenship. Persistent structural challenges were pointed out, such as inequality in access to digital technologies, lack of pedagogical support, and the need for teacher training. These factors impact the consolidation of changes and the recovery of student learning gaps. It is concluded that the integration of digital technologies and active methodologies has become essential for teaching practice, while the BNCC continues as a curricular guide, requiring adaptations that ensure its effective implementation in post-pandemic teaching.

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## GRAPHICAL ABSTRACT

### SKILLS AND ABILITIES

for the FUTURE OF EDUCATION:  
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#### Aim



Understand the transformations in post-pandemic pedagogical practices and identify the BNCC skills considered essential by teachers.

#### Methodology



#### Results



#### Conclusion



**Keywords:** Digital literacy. Pedagogical skills. Educational transformations.

## INTRODUCTION

The future of Teaching is a topic of great interest and relevance, especially in a context of rapid technological and social transformations. As the world evolves, the challenges for the training of students become increasingly complex, requiring the development of new skills and abilities so that they can act in a critical and participatory manner in society.

To understand which skills will be fundamental in the post-pandemic period, it is essential to consider teachers' views on the challenges faced in current pedagogical practice. In recent years, teaching has undergone a real seismic shock: the need for social distancing forced an emergency transition from face-to-face to remote, exposing inequalities and testing the adaptability of teachers and students (MORAIS, SILVA, and CABRAL, 2021). But did these changes really contribute to the construction of new skills? Or did they just highlight existing gaps?

The rapid digitalization of education has brought advantages, such as expanded access to technological resources, but it has also revealed structural and methodological difficulties (AUTOR, 2023; DAITX, MACHADO and DOS SANTOS, 2023). Some teachers adapted quickly, while others faced significant difficulties. In this context, Barbosa (2021) and Medeiros, Aires, and Nogaro (2024) highlight that this forced acceleration has generated profound impacts on the way of teaching and learning, requiring a reconfiguration of the teacher's role.

In the post-pandemic scenario, education faces a dilemma: how to consolidate the advances obtained without losing the essence of pedagogical practice? The search for a balance between digital resources, including Artificial Intelligence and traditional methodologies becomes essential to ensure that the innovations introduced during the health crisis are not just temporary solutions, but sustainable improvements for education in the long term.

At the same time, the National Common Curriculum Base (BNCC) establishes a set of essential competencies for the training of students (BRASIL, 2017). These competencies aim to prepare them to act critically, ethically, and autonomously in a world in constant transformation (DUARTE et., 2024). Studies indicate that problem-solving skills and critical thinking are fundamental skills for students (RAHMAWATI et al., 2020). In the context of health, knowledge and critical thinking are pointed out as priorities for the formation of the subject (HAHN and TRUMAN, 2015).

However, in the face of the rapid accelerated transformations and new demands of post-pandemic education, questions arise that need to be analyzed in more depth: have transitions in teaching really enabled the development of essential skills for students? Do teachers perceive these changes as opportunities or challenges? And, above all, which of these skills do they consider to be priorities for the future of education?

Based on these questions, this study seeks to understand, from the teachers' point of view, how changes in teaching have impacted their pedagogical practices and which competencies are evaluated as fundamental for teaching aligned with the demands of the twenty-first century.

## **METHODOLOGY**

This study adopted a mixed approach (qualitative and quantitative), allowing an integrated analysis of the data collected. The qualitative approach enabled an in-depth understanding of the educational context, helping to interpret the perceptions, challenges and experiences lived by the participants in relation to the phenomenon studied (MINAYO, 2001). This analysis favored the identification of emerging patterns and trends, contributing to the construction of a detailed panorama of the investigated theme.

The quantitative approach was used to measure perceptions in a structured way. For this, the Likert Scale was used, which allowed the organization of the answers in a standardized way and made the statistical analysis of the data feasible (MALHOTRA, 2001). The integration of these approaches provided a more comprehensive investigation, combining the interpretive depth of qualitative research with the precision and objectivity of quantitative analysis (CRESWELL and PLANO CLARK, 2011).

The research was carried out with elementary school teachers from a Basic Education school located in the municipality of Uruguaiana, Rio Grande do Sul. Teachers who agreed to participate in all phases of the study and who taught during the pandemic period and when returning to face-to-face activities were included. On the other hand, those who did not fully answer the questionnaire, who did not sign the Informed Consent Form (ICF) or who were away from their activities at the time of the research were excluded.

The data were collected through an *online* questionnaire, prepared on the *Google Forms* platform and initially sent to the school board, which later passed it on to the participants via *WhatsApp*. The use of online questionnaires has been consolidated as an

effective alternative in academic research, providing ease of use and efficient data collection (ANDRES et al., 2020). In addition, *WhatsApp* has also been widely used for the distribution of questionnaires, facilitating participants' access to surveys (FERREIRA, 2022).

Before being sent, the questionnaire went through a content validation process, conducted by three doctors, who evaluated the clarity, pertinence and coherence of the questions in relation to the objectives of the study. Based on the *feedback* received, adjustments were made to improve the accuracy of the questions and ensure greater alignment with the methodological approach.

The questionnaire consisted of 12 questions, including closed and open questions, allowing quantitative and qualitative analysis of the data. Its structure was organized into three sections, covering aspects about the profile of the participants, their perceptions in relation to the transformations in teaching and the importance of skills for the training of students in the post-pandemic.

In the last section, the participants evaluated the relevance of the BNCC's competencies for post-pandemic teaching, indicating which ones they consider most essential in the current educational context. For this, a Likert scale from 1 to 5 was used, as follows: 1 - Strongly disagree; 2 - I disagree; 3 - Neutral; 4 - I agree; 5 - I totally agree. This detail is presented in Chart 1.

**Chart 1:** Structure of the questionnaire addressed to teachers

Section	Question	Type of Question
Faculty profile	What grade level are you a teacher? How many years have you been working as a teacher?	Open
Perception of Post-Pandemic Education	Do you think the pandemic has made education more digital? What technologies and platforms were adopted to develop your classes during the pandemic period? Do you believe that the strategies adopted during the pandemic ensured the participation and learning of all students? With the return of school, do you continue to use the digital tools/technologies and methodologies you used during the pandemic? If so, name which ones. Were you able to develop your classes considering the skills pointed out by the BNCC during the pandemic? If not, why? And with the face-to-face return, are you able to develop your skills? If not, why? What positive changes caused by the pandemic do you believe will remain in teaching? What negative changes caused by the pandemic do you believe will remain in teaching? What do you think education will be like in the future?	Open

Assessment of BNCC Competencies	<p>1st Competence - Knowledge (Knowing and using knowledge about the physical, social, cultural and digital world)</p> <p>2nd Competence - Scientific, critical and creative thinking (Exercise intellectual curiosity and use science with criticality and creativity)</p> <p>3rd Competence - Cultural repertoire (Value the various artistic and cultural manifestations)</p> <p>4th Competence - Communication (Use different languages to express and interact)</p> <p>5th Competency - Digital Culture (Understand, use and create digital technologies in a critical, meaningful and ethical way)</p> <p>6th Competence - Work and life project (Valuing and appropriating knowledge and experiences)</p> <p>7th Competency - Argumentation (Argue based on facts, data and reliable information)</p> <p>8th Competence - Self-knowledge and self-care (Knowing oneself, understanding oneself in human diversity and appreciating oneself)</p> <p>9th Competence - Empathy and cooperation (Exercise empathy, dialogue, conflict resolution and cooperation)</p> <p>10th Competence - Responsibility and citizenship (Act personally and collectively with autonomy, responsibility, flexibility, resilience and determination)</p>	(Likert 1-5)
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**Source:** Authors.

## DATA ANALYSIS

For the analysis of qualitative data, the Content Analysis proposed by BARDIN (2011) was adopted, a method widely used in the interpretation of qualitative data, allowing the identification of patterns, categories and meanings in the participants' responses. This method enables the organization and systematization of information based on three main steps: pre-analysis, exploration of the material and treatment/interpretation of the results. Thus, the teachers' answers were categorized into emerging themes, following the steps described below:

- **Pre-analysis:** Initially, a floating reading of the answers collected in the questionnaire was performed, allowing familiarization with the material and the preliminary identification of the most relevant units of meaning. In this stage, recurring aspects in the teachers' perceptions of the transformations in post-pandemic teaching were analyzed.
- **Exploration of the material:** Coding and categorization of the answers, grouping them into central themes to facilitate analysis. After the initial reading, the answers were coded and categorized, organizing them into central themes based on the frequency and relevance of the participants' manifestations. The reports were grouped, ensuring that the emerging categories reflected the teachers' perceptions about the object of study.



- **Treatment and interpretation of the results:** With the categories defined, the interpretative analysis was carried out, seeking to identify patterns, recurrences and relationships between the emerging themes.

Quantitative data were analyzed using the Likert Scale, using the Mean Ranking (MR) method, as proposed by MALHOTRA (2001). The scale adopted ranged from "strongly disagree" (level 1) to "strongly agree" (level 5). This approach is based on the method's ability to provide objective data on the intensity of the respondents' opinions (DALMORO and VIEIRA, 2013). The method allows an objective assessment of the participants' attitudes, calculating a weighted average (WA) for each item of the Likert scale, followed by the calculation of the Average Ranking (RM), providing a quantitative understanding of teachers' perception of the essential competencies of the BNCC in post-pandemic teaching.

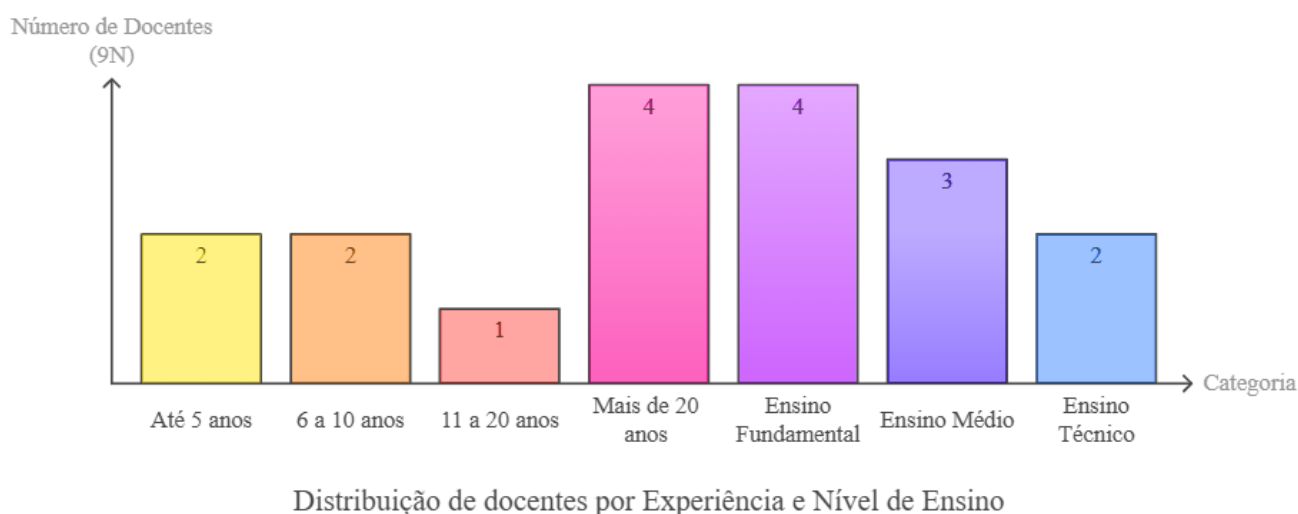
The results were presented through figures, graphs, tables and selected excerpts from the participants' descriptive narratives. To ensure anonymity, the professors were not identified. Finally, this study contributes to the understanding of teachers' perceptions in post-pandemic education, but some limitations must be considered. The research was conducted with a restricted group of teachers from a single school, which limits the generalization of the findings. However, as an exploratory study, its objective was not to provide generalizable results, but rather to seek to offer an in-depth view of the challenges faced and the impact of the digitalization of teaching and BNCC competencies in this context.

## RESULTS

- Faculty profile

The research had the participation of nine teachers from the basic network, covering different periods of professional experience and levels of education. Graph 1 illustrates this distribution, showing the diversity of the investigated group both in terms of length of experience, which varies from 1 to more than 30 years, and the level of education, with teachers from Elementary, High School and Technical Education.

**Graph 1:** Distribution of Teachers by Experience and Level of Education



**Source:** Authors (based on Napkin)

The diversity in the time of operation brings different perspectives on the changes in teaching over the years. While some teachers started their careers in the context of Remote and Hybrid Teaching, others followed structural and pedagogical transformations at different times. This variety contributes to a broader view of educational dynamics and the adaptations that have been necessary over time.

- Perception of Post-Pandemic Education

When asked whether the pandemic has boosted the digitalization of education, 8 of the 9 teachers answered affirmatively, indicating a significant evolution in the adoption of technologies in teaching. Words such as "for sure" and "we have evolved" appeared frequently in their answers, reinforcing the perception that Remote Learning has accelerated the incorporation of digital tools into pedagogical practices.

On the other hand, one of the professors disagreed, arguing that, in certain contexts, digitalization did not occur in a uniform or sustainable way. This data highlights persistent challenges, such as inadequate infrastructure, lack of teacher training for the use of technology, and inequality of access among students.

As for the strategies adopted to ensure student participation and learning, the teachers mentioned the use of platforms such as Moodle, Teams, Google Meet and Google Classroom. However, they reported that difficulties in accessing the internet and the lack of support from those responsible compromised the participation of many students during Remote Learning.



Although efforts have been made to adapt pedagogical practices, not all students have been able to follow the activities, either due to technological barriers or the difficulty of engaging in the new methodologies. As one of the participants reported:

Teacher X: *"The strategies were important, but they did not guarantee everyone's participation, as many students did not have the structure to follow the classes."*

Given this scenario, public policies aimed at the recovery of learning become essential to minimize the impacts of Remote Teaching. Some essential measures include strengthening pedagogical support, ensuring that students receive adequate follow-up in the post-pandemic period.

In addition, expanding access to the internet and technological devices is essential to reduce inequalities and allow the sustainable use of technology in times of public calamity. Another critical point is the implementation of diagnostic assessments and continuous monitoring of school progress, to identify gaps in learning and promote more equitable teaching.

With the return of face-to-face classes, our data revealed that some teachers maintained the use of digital tools as a complement to pedagogical practices. Among the resources indicated, the cell phone for research, online games, videos, Kahoot, Moodle and Google Classroom stand out, which continue to be used to enhance student learning.

The reports show that, despite the return to face-to-face teaching, technology is consolidated as an essential support, providing greater dynamism and interaction in classes. However, some teachers point out that the use of technologies still faces structural challenges, mainly due to the lack of adequate infrastructure in schools. As one of the participants pointed out:

Teacher Y: *"I try to continue using technologies in the classroom, but the lack of equipment and access make it difficult to continue these practices."*

When asked about the development of BNCC competencies during the pandemic and in post-pandemic teaching, it was observed that, while some professors were able to integrate these skills into the planning of remote classes, others reported difficulties due to the limitations imposed by the digital format.

During Remote Teaching, many teachers reported pedagogical adaptations to align their practices with the mandatory competencies of the BNCC. However, the effectiveness of these adaptations varies according to the context and available resources. As

exemplified in one of the answers: *"I did my best to align my classes with the competencies of the BNCC, but the lack of direct contact with the students made this process difficult."*

In addition, with face-to-face activities, teachers realize that the resumption of these skills occurs gradually. However, challenges such as the learning gap and the need for student re-engagement still represent barriers to the full application of these skills. As happened to one of the participants:

Professor X: *"Now, with the return, we are still focusing more on recovering the interest of students than on advancing in the development of BNCC competencies."*

Regarding the question: What positive changes caused by the pandemic do you believe will remain in teaching? Based on the answers, it was possible to identify three major categories of transformations that tend to persist in the educational process, as shown in Table 1.

**Table 1:** Categories of Positive Changes in Post-Pandemic Education

Category	Description
Integration of Technology into Teaching	Expansion of the use of digital tools and technological resources in teaching, contributing to new forms of interaction and learning.
Expanding the Use of Active Methodologies	Greater adoption of innovative strategies in teaching, promoting the active participation of students and making learning more dynamic.
Transformation in Learning Assessment and Monitoring	Changes in evaluation processes, incorporating more flexible and diversified approaches to accompany student development.

**Source:** Authors.

The presence of these categories reflects a resignification of pedagogical and evaluative practices, indicating that teachers have started to use new strategies to diversify teaching. The results reveal a significant impact on the integration of technology, the strengthening of active methodologies and the restructuring of evaluation processes. The changes reported for each category are exemplified below:

- **Integration of Technology into Teaching:** the professors highlighted that the pandemic boosted the adoption of digital technologies in pedagogical practice. Educational platforms and multimedia resources have become part of didactic strategies, favoring the diversification of teaching and the expansion of the accessibility of content.
- **Expanding the Use of Active Methodologies:** There has been a growth in interest in diversified and active approaches, such as Blended Learning, project-

based learning, and gamification. These methodologies make teaching more dynamic and participatory, promoting greater student engagement.

- **Transformation in Assessment and Learning Monitoring:** The pandemic has led teachers to reassess their assessment practices, expanding the use of formative and flexible assessments. Continuous monitoring of learning has become essential, making it possible to adopt more personalized strategies to meet the individual needs of students.

The perception of this change can be illustrated by the following narrative of one of the participating professors: *"The pandemic made professors better prepared for the use of ICTs in their practices. I hope this is a path of no return."*

Likewise, teachers were asked about what negative changes caused by the pandemic do they believe would remain in Teaching? Based on the analyses, three categories emerged, as shown in Table 2.

**Table 2:** Categories of Negative Changes in Teaching

Category	Description
Students' Disinterest	Reduction of student engagement in the educational process, making it difficult to motivate and continue studying.
Learning Gap	Negative impact on learning due to the interruption of face-to-face classes and the difficulty in adapting to Remote Teaching and, after, to return.
Inequality in Access to Technologies and Education	Lack of equitable access to technological and educational resources, aggravating inequalities in education.

**Source:** Authors

These categories highlight the continuous challenges faced by education in the post-pandemic scenario, reflecting impacts that may last in the teaching and learning processes from the teaching perspective. Below are examples of each of these categories:

- **Student Disinterest:** Teachers reported a significant drop in student engagement, who show less interest in school activities. Many teachers highlighted that students seem to have lost the habit of studying and dedicating themselves to tasks, making teaching even more challenging.

An example of this reality is presented below:

Teacher X: *"The negative changes are precisely in the lack of interest of the students, they seem to have unlearned how to study and how to be in school."*

- **Learning Gap:** The interruption of face-to-face classes and the need to adapt to Remote Learning resulted in significant gaps in learning. Many students returned to face-to-face teaching with outdated knowledge, requiring continuous recovery strategies to minimize these educational losses.
- **Inequality in Access to Technologies and Education:** The pandemic has deepened social inequalities and access to education, as not all students had access to adequate technological resources during remote education. This lack of equity in digital access continues to directly impact academic performance and student participation, becoming a persistent obstacle in teaching and learning processes.

When asked about how they imagine education in the coming years, considering the effects of the pandemic, based on the analysis of teachers' answers, three main categories emerged about the future of Education, presented in Figure 1.

**Figure 1:** Future Perspectives for Teaching



**Source:** Authors (based on Napkin)

The teachers' reports demonstrate that their perceptions about the future of Teaching are divided between the expectation of a more innovative teaching and the structural challenges that still need to be overcome. Each of these categories is detailed below:

- **Fragile Teaching and Recovery Challenges:** Some teachers expressed concern about the lasting impact of the pandemic on learning, highlighting that recovery will be a slow and continuous process. The educational gap and the lack of interest of students are pointed out as barriers that may affect academic development in the coming years, as reported by the professor:

**Teacher Y:** *"Education will take time to be recovered, because the gap was very large."*

- **Incorporation of Technologies and New Methods:** Another group of teachers sees the future of education with optimism, considering that the pandemic has accelerated the use of innovative technologies and methodologies. Some faculty believe that the adoption of ICTs will be increasingly common, making learning more dynamic and accessible.

**Teacher X:** *"The pandemic has opened up countless possibilities for access and use of ICTs in teaching. I hope this has been a practice ever since. I hope to see students' lives more digital."*

- **Impact of Educational Policies:** Many highlight that the future of Education will depend on political decisions and government investment, influencing the permanence or setback of the innovations brought by the pandemic.

Figure 2 complements this analysis, illustrating teachers' perceptions about the future of Teaching through a word cloud generated from the collected responses. The most prominent words, such as "teaching", "technology", "innovation" and "challenges", reflect the main points raised by the participants and reinforce the findings obtained in the categorization of the results.



In short, the analysis of the answers revealed that teachers consider the ten competencies of the BNCC as essential for Teaching in the twenty-first century. The data reveal that the skills most valued by teachers were Knowledge, Scientific, critical and creative thinking, Digital culture, Argumentation, and Empathy and cooperation. These competencies reflect the need for teaching that promotes analytical, digital, and socio-emotional skills aligned with contemporary challenges.

## **DISCUSSION**

The analysis of the results reveals a scenario of major transformations in post-pandemic education. As noted, the pandemic has accelerated the adoption of digitalization in pedagogical practices, leading many teachers to face initial difficulties in adapting to new technologies. This rapid transition highlighted structural and methodological challenges, requiring significant changes in the organization of education. According to Sousa et al. (2024), this period highlighted the need for urgent adjustments in the time and spatial organization of educational institutions.

In this context, it is important to recognize that not all teachers had the same facility in this adaptation. Many faced Remote Learning without adequate pedagogical support and without the necessary basic resources, such as stable internet or appropriate technological devices. These difficulties were not restricted to the pandemic period – their effects are still felt today. However, even with challenges, learning and valuing digital tools as pedagogical support were aspects that were highly emphasized by the research participants.

During the investigation, the teachers pointed out not only the challenges, but also the advances that the pandemic brought to teaching. The greater integration of technology into pedagogical practices, the expanded use of active methodologies and the change in the way students are evaluated were the three most mentioned aspects. These elements indicate a gradual shift from traditional teaching to a more dynamic and participatory model.

This movement is consistent with what Moran (2018) and Bacich and Trevisani (2018) had already pointed out. According to Moran (2018), the digitalization of educational institutions can make learning more collaborative and engaging. Bacich and Trevisani (2019) complement this, stating that active methodologies promote student-centered teaching, focused on stimulating critical thinking and problem-solving in a practical and interactive way, which prepares students for the challenges of the twenty-first century.



In addition, Ferreira et al. (2024) point out that active methodologies, such as project-based learning and gamification, can increase academic performance and student engagement. However, the authors warn that the implementation of these strategies still faces challenges, such as the need for teacher training and adaptations to the reality of each school. In this context, there is also a need for teacher training on these pedagogical strategies.

On the other hand, the professors also highlighted significant difficulties in post-pandemic teaching. The most mentioned barriers were the lack of interest of students, the gap in learning and the inequality in access to educational technologies. These challenges are direct effects of the pandemic and continue to impact the educational process.

The lack of student engagement was associated with technological difficulties and social isolation during Remote Learning. As many students spent long periods away from the traditional school routine, the resumption of face-to-face teaching required additional efforts to rebuild study habits and active participation. The learning gap was another factor identified by the teachers, reflecting gaps in knowledge accumulated during the suspension of face-to-face classes. To overcome this problem, it becomes essential to implement effective recovery and re-engagement strategies.

This scenario is even more worrying when considering the inequality in access to educational technologies. As pointed out by Valente and Almeida (2020), Brazilian initiatives to insert technologies in basic education do not always guarantee an equitable distribution of the necessary resources. This means that, even with public policies aimed at digital inclusion, many schools and students still face difficulties in accessing educational platforms and quality technological devices.

In addition, Valente and Almeida (2020) highlight that the continued training of teachers is still a significant challenge, making it difficult to adopt new technology-based pedagogical practices. Sousa et al. (2024) also highlight the need for interventions to mitigate the educational gaps left by Remote Teaching, since the impact of these gaps is still noticeable in face-to-face teaching.

Another relevant aspect identified by the teachers was the role of digital platforms in maintaining the bond between teachers and students. Tools such as Google Meet, Teams and Moodle were essential to ensure the continuity of teaching during the pandemic. However, it was highlighted that, despite the usefulness of these platforms, the difficulties

in accessing the internet and the lack of family support compromised the participation of many students.

This scenario reinforces the urgent need for public policies for digital inclusion, not only to guarantee access to technologies, but also to ensure continuous monitoring of learning. During Remote Learning, many students were left without adequate assistance, accumulating gaps that now need to be remedied. Studies such as those by Albuquerque et al. (2021) and Soares et al. (2024) point out that the transition to face-to-face teaching requires effective strategies to monitor students' progress, ensuring that everyone can achieve the learning objectives, regardless of their socioeconomic conditions.

However, the continued use of technologies in face-to-face teaching, as demonstrated in the teachers' reports, suggests that digital tools were not seen as passing fads, but as valuable resources that can complement traditional teaching. Technology has consolidated itself as an essential support, because, in addition to facilitating teaching, it promotes greater dynamism and interaction in classes, which is corroborated by several studies on the impact of technology on face-to-face teaching.

Sá (2024) and Hernández-Suárez et al. (2024) show that technological adaptation has been a priority in post-pandemic educational strategies, since the world is increasingly digital. A study by Barros (2022) shows that the use of digital tools in face-to-face and distance learning environments improves teaching practices and student learning, as well as promising resources that can complement traditional teaching.

However, it should be noted that some teachers still face challenges with inadequate infrastructure in schools and adaptation to digital tools, making it difficult to continue these practices. Thus, the need for teacher training is highlighted (SOARES et al., 2024), since pedagogical training in new technologies has proven to be essential for the effective use of digital tools in the educational context. In addition, it is essential for teachers to adapt to new educational demands, as proposed by Latsch (2024), adjusting to emerging needs and the profile of students in the twenty-first century.

As for the competencies of the BNCC, the data reveal that teachers consider Knowledge, Scientific Thinking, Digital Culture, Argumentation and Responsibility and citizenship as the most relevant for the training of students. These skills are seen as fundamental to prepare students for contemporary challenges, especially in an increasingly digital world.

This perspective is in line with the findings of Pinho and Carneiro (2024), who highlight these same competencies as essential for the academic and citizen development of students. Digital Culture, in particular, was frequently mentioned by teachers, both as a need for current teaching and as a fundamental skill for the professional and social life of students.

In addition, Duarte and Garcia (2024) reinforce that the integration of these skills is essential for a more complete teaching and in line with the demands of the twenty-first century. According to these authors, the development of cognitive and socio-emotional skills should be at the center of pedagogical practices, preparing students for ethical, critical, and responsible action in society.

The survey data indicate that teachers not only recognize the importance of BNCC competencies, but also see their application as a means of forming citizens prepared to deal with the challenges of the contemporary world. As Pinho and Carneiro (2024) and Duarte and Garcia (2024) point out, teaching needs to go beyond traditional learning and include the development of socio-emotional skills, promoting comprehensive education.

## **CONCLUSION**

The pandemic brought profound changes to Teaching, and the results of this research demonstrate that, for the participating teachers, the digitalization of pedagogical practices was one of the greatest legacies of this period. The use of digital technologies and active methodologies is no longer a temporary necessity and has come to be recognized as an essential strategy for the educational future.

In addition, the BNCC also played a central role in this process. The professors highlighted that skills such as Knowledge, Scientific Thinking, Digital Culture, Argumentation and Responsibility and Citizenship are fundamental to prepare students for contemporary challenges. These competencies not only strengthen academic learning, but also help develop critical and socio-emotional skills that are indispensable for the twenty-first century.

On the other hand, although the positive changes have been widely recognized, with teachers valuing the integration of technologies and the strengthening of active methodologies, challenges have also emerged that cannot be ignored. The learning gap and inequality in access to technologies were pointed out as persistent obstacles that require attention.

The impact of these educational gaps is still felt, especially among students who were left unassisted during Remote Learning. This highlights the urgent need for Public Policies that not only ensure equal access to technologies, but also provide ongoing support in monitoring student learning.

Even in the face of these difficulties, many teachers demonstrate an optimistic view of the future of Education. The use of technologies in face-to-face teaching is no longer seen as a passing fad, but as a complementary resource capable of making learning more dynamic and accessible.

As we move towards a post-pandemic scenario, it is clear that the digitalization of education cannot be treated as an emergency solution, but rather as a continuous process of pedagogical transformation. For this change to be effective and inclusive, it is essential to invest in teacher training, the improvement of school infrastructure, and the development of public policies aimed at educational equity.

In addition, the recent debate on the prohibition of the use of cell phones in schools raises important questions about the direction of digitalization in education. Although the official argument is to combat distractions in the classroom, this restriction may end up limiting the use of active methodologies and digital tools essential for learning. Thus, future educational policies will need to balance the regulation of the use of technology with the encouragement of pedagogical innovation.

Finally, the findings of this research not only reveal the challenges and achievements faced by teachers during and after the pandemic, but also point to the need for more inclusive, accessible, and connected education with the demands of contemporary society. The integration between technology and pedagogy should not be seen as a threat to traditional teaching, but as an opportunity to create richer and more engaging learning experiences.

In this sense, this study opens space for future research that investigates the impact of educational policies aimed at digital inclusion, the effectiveness of active methodologies in recovering learning gaps, and monitoring student performance in the post-pandemic scenario. Only through a continuous and reflective look at the teaching and learning process will it be possible to ensure that all students have access to quality education, regardless of their social and economic conditions.

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## REFERENCES

1. Albuquerque, L. C. de, Diniz, E. L., Araújo, E. J. M. de, & Baptista, M. das G. de A. (2021). Frequência escolar e ensino remoto: Desafios à educação em tempos de pandemia. *\*Tear: Revista de Educação, Ciência e Tecnologia, 10\*(2)*. <https://doi.org/10.35819/tear.v10.n2.a5236>
2. Andres, F. da C., Andres, S. C., Moreschi, C., Rodrigues, S. O., & Ferst, M. F. (2020). A utilização da plataforma Google Forms em pesquisas acadêmicas: Relato de experiência. *\*Pesquisa, Sociedade e Desenvolvimento, 9\**, e284997174. <https://doi.org/10.33448/rsd-v9i9.7174>
3. Babbar, M., & Gupta, T. (2022). Response of educational institutions to COVID-19 pandemic: An inter-country comparison. *\*Policy Futures in Education, 20\*(4)*, 469–491. <https://doi.org/10.1177/14782103211021937>
4. Bacich, L., Tanzi Neto, J. M., & Trevisani, F. de M. (2015). *\*Ensino híbrido: Personalização e tecnologia na educação\**. Porto Alegre: Penso.
5. Barbosa, F. (2021). Alternativas utilizando tecnologias digitais da informação e comunicação para aulas de Ciências no contexto de pandemia. *\*Revista Interdisciplinar em Ensino de Ciências e Matemática, 1\*(1)*, 31–40. <https://doi.org/10.20873/riecim.v1i1.11832>
6. Bardin, L. (2011). *\*Análise de conteúdo\** (3rd ed.). Lisboa: Edições 70.
7. Barros, R. (2022). O uso da tecnologia no ensino presencial e à distância: Contribuições para a prática docente e a aprendizagem. *\*Revista Ibero-Americana de Humanidades, Ciências e Educação, 8\*(8)*, 80–102. <https://doi.org/10.51891/rease.v8i8.6621>
8. Brasil, Ministério da Educação. (2017). *\*Base Nacional Comum Curricular\**. Brasília: MEC. <https://www.gov.br/mec/pt-br>
9. Creswell, J. W., & Plano Clark, V. L. (2011). *\*Designing and conducting mixed methods research\** (2nd ed.). Los Angeles: SAGE Publications.
10. Daitx, T. R., Machado, G. C., & dos Santos, A. M. (2023). Tecnologias digitais e a inovação pedagógica diante do ensino remoto emergencial. *\*Brazilian Journal of Development, 9\*(5)*, 15423–15429. <https://doi.org/10.34117/bjdv9n5-064>
11. Dalmoro, M., & Vieira, K. M. (2013). Dilemas na construção de escalas tipo Likert: O número de itens e a disposição influenciam nos resultados? *\*RGO - Revista Gestão Organizacional, 6\*(Edição Especial)*, 162–173. <https://doi.org/10.22277/rgo.v6i3.1386>
12. Duarte, F. F., Silva, J. V., & Garcia, S. de F. (2024). As competências gerais da BNCC: Valores, habilidades e atitudes para a vida e para o mundo. *\*Revista Científica, 23\*(161)*. <https://doi.org/10.29327/218457.23.161-15>

13. Ferreira, E. T., de Oliveira, Z. M., Damião, J. D. dos S., Gondim, F. J., & Bezerra, T. P. de S. (2024). A eficácia das metodologias ativas na melhoria do desempenho acadêmico. *\*Aracê*, 4\*, 19257–19270. <https://doi.org/10.56238/arev6n4-484>
14. Ferreira, J. G. B. (2022). WhatsApp como recurso didático na educação superior nas licenciaturas de Letras e Pedagogia. *\*Periferia*, 14\*(3), 193–212. <https://doi.org/10.12957/periferia.2022.69067>
15. Hernandez-Suarez, C. A., Hernández-Albarracín, J. D., & Rodríguez-Moreno, J. (2024). Preparación tecnológica, adaptación a la enseñanza remota y uso de TIC en la postpandemia: Un modelo de regresión logística para docentes colombianos. *\*Eco Matemático*, 15\*(1), 71–85. <https://doi.org/10.22463/17948231.4575>
16. Latsch, E. S. (2024). Desenvolvendo competências necessárias para suplantar a defasagem no ensino pós-pandemia. *\*Revista Multidisciplinar de Ciências Gerais em FOCUS\**. <https://doi.org/10.70853/urdz9329>
17. Medeiros, E. L. B. de, Aires, M., & Nogaro, A. (2024). Prática pedagógica do professor e a pandemia da COVID-19: Desafios, resignificação e aprendizado. *\*Revista de Ciências Humanas*, 25\*(1), 224–245. <https://doi.org/10.31512/19819250.2024>
18. Morais de Souza, S. C., Soares da Silva, J. D., & de Araújo Cabral, M. (2021). A transição do ensino presencial para o ensino remoto à distância em meio ao COVID-19. *\*RevistAleph*, (35)\*. <https://doi.org/10.22409/revistaleph.vi35.43413>
19. Moran, J. (2017). Metodologias ativas e modelos híbridos na educação. In S. F. R. Yaegashi, et al. (Eds.), *\*Novas tecnologias digitais: Reflexões sobre mediação, aprendizagem e desenvolvimento\** (pp. 23–35). Curitiba: CRV.
20. Pinho, A. M., & Carneiro, T. M. de A. (2024). Competências gerais da BNCC: Desenvolvimento na educação básica. *\*Revista Ibero-Americana de Humanidades, Ciências e Educação*, 10\*(11), 7159–7169. <https://doi.org/10.51891/rease.v10i11.17>
21. Rahmawati, Y., Amalia, R., & Budi, S. (2020). Challenging students' critical thinking skills: Integrating socio-critical and problem-oriented approach in nanoscience and nanotechnology learning. *\*Universal Journal of Educational Research*, 8\*(1), 98–104. <https://doi.org/10.13189/ujer.2020.080111>
22. Sá, A. E. de. (2024). Educação tecnológica: Uma via sem retorno. *\*Revista Científica FESA*, 3\*(18), 35–47. <https://doi.org/10.56069/2676-0428.2024.446>
23. Soares, G. B., da Silva, L. S. F., de Almeida, M. da L. F., Marques, J. da S., & do Nascimento, V. S. (2024). O impacto da pandemia no ensino-aprendizagem dos alunos da rede básica de ensino: Uma revisão bibliográfica. *\*Revista Multidisciplinar do Nordeste Mineiro*, 12\*(2). <https://doi.org/10.61164/rnm.v12i2.3211>
24. Sousa, A. C., Pereira, A. L. do N., de Mello, C. T. P., de Carvalho, E. T. G., Montenegro, F. S., & Cabral, F. M. (2024). Desafios docentes no contexto (pós)



pandêmico: O Colégio de Aplicação de Educação Básica da UFPB como organização aprendente. \*Aracê, 6\*(4), 11012–11030. <https://doi.org/10.56238/arev6n4-007>

25. Tomás, M. P., & Murga Menoyo, M. Á. (2020). El marco curricular de la Educación Secundaria Obligatoria: Posibilidades para la formación de competencias en sostenibilidad. \*Revista Internacional de Comunicación y Desarrollo (RICD), 3\*(13), 90–109. <https://doi.org/10.15304/ricd.3.13.7180>
26. Valente, J. A., & Almeida, M. E. B. de. (2020). Políticas de tecnologia na educação no Brasil: Visão histórica e lições aprendidas. \*Archivos Analíticos de Políticas Educativas, 28\*(1).