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TEACHER TRAINING: STRATEGIES FOR AUTHORING INTERACTIVE DIGITAL NARRATIVES

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ABSTRACT

Interactive digital storytelling (NDI) emerges as an innovative methodology in education, combining multimodality, interactivity, and digital authorship to promote creativity, computational thinking, and textual skills. This study investigated the impact of NDI authorship on the training of elementary school teachers, analyzing how this practice contributes to the development of teaching skills. The research is based on the concepts of computational thinking (Wing, 2006), content analysis (Bardin, 2021) and narrative construction, with a focus on textual cohesion (Koch, 2020) and narrative coherence (Wood, 2017). A qualitative approach was adopted with a case study design. An online course of 18 modules was applied to 54 teachers, of which 17 completed all activities. During the course, participants created interactive digital fables in Scratch, analyzed based on five criteria: computational thinking, textual cohesion, narrative coherence, interactivity, pedagogical relevance and originality. The results indicate that NDI authorship favors computational thinking and broadens the understanding of digital textual construction, although challenges have been identified, such as difficulties in algorithmic structuring and in ensuring coherence in interactive stories. Some productions stood out for their creativity and innovative use of interactivity, highlighting the potential of NDI in education. It is concluded that teacher training should balance the development of narrative and computational skills, ensuring adequate pedagogical and technological support for the effective application of NDI in teaching. It is suggested that future research explore the impact of this approach on student learning and its applicability in different educational contexts.

Keywords: Interactive Digital Narratives. Computational Thinking. Teacher Training. Elementary School. Textual Cohesion. Narrative coherence. Interactivity.

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INTRODUCTION

The growing insertion of digital technologies in education has led researchers and educators to explore innovative methodologies that promote the development of essential skills in the twenty-first century. In this context, interactive digital narratives (NDI) emerge as a pedagogical tool capable of integrating different dimensions of learning, stimulating creativity, computational thinking, and textual cohesion. By combining traditional narrative elements with the interactivity provided by digital environments, NDI have the potential to transform the teaching-learning process, making it more dynamic for teachers and students.

Interactive digital narratives can be defined as narrative constructions that use multimedia resources and interactivity to create more immersive and engaging learning experiences. They combine text, image, sound, animations, and interactive elements to allow users to actively participate in the construction of the story, whether by making decisions, exploring different narrative paths, or interacting with the elements of the virtual environment. In the present study, the concept of NDI is delimited as fables adapted to Scratch[3], created by elementary school teachers during a teacher training course.

The literature has shown that the use of NDI can expand students' immersion and favor meaningful learning (NASCIMENTO et al., 2018). In addition, they enable the integration of different forms of language, such as text, image, sound, and interactivity, creating a learning environment that stimulates engagement and experimentation (ALEXANDER, 2017). However, the implementation of these narratives requires specific teacher training, so that teachers can understand the potential of this tool and use it effectively in the classroom.

One of the main challenges for the insertion of NDI in education is related to the need to develop specific skills, such as computational thinking. Wing (2006) defines computational thinking as a set of skills that involve abstraction, decomposition and formulation of algorithms, essential elements for the creation of interactive narratives. The inclusion of this type of thinking in the teacher training process can contribute to the more structured insertion of NDI in elementary education.

[3] Scratch is a visual programming platform developed by the MIT Media Lab that allows the creation of interactive stories, games and animations in an intuitive way. It uses a system of nestable blocks, making it easy to learn programming concepts and computational thinking, especially for children and beginners. Available at: https://scratch.mit.edu/.

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Given this scenario, this article investigates the impact of NDI authorship on the training of elementary school teachers, exploring how this process can contribute to the development of essential skills, such as computational thinking, textual cohesion and creativity.

To achieve this goal, the article is structured as follows: the next section presents the theoretical foundation, discussing the concepts of interactive digital narratives, computational thinking and their pedagogical implications. Then, the methodology section details the design of the research, including the online course offered to teachers, the structure of the modules, and the criteria for analyzing the narratives produced. The results and discussion section analyzes the challenges and advances observed in the participating teachers, based on the productions carried out during the course. Finally, the conclusion summarizes the main findings of the research and points out recommendations for future investigations and applications of NDI in teacher training.

THEORETICAL FOUNDATION

The theoretical foundation of this study presents the essential concepts for understanding the research and establishes a solid foundation for the analysis of the results. Initially, the definition and characteristics of interactive digital narratives (NDI) are discussed, with emphasis on their use in the educational context. Then, the relationship between computational thinking and narrative creation is explored, highlighting skills such as abstraction, decomposition, and algorithmization. In addition, the aspects of cohesion, coherence and narrative development are analyzed, which ensure the construction of effective narratives. Finally, the integration of game mechanics in the narratives created by the teachers is addressed, investigating how interactive challenges were incorporated into digital fables, whether in the introduction of playful elements or in the definition of multiple outcomes.

INTERACTIVE DIGITAL NARRATIVES: DEFINITION AND CHARACTERISTICS

Interactive digital storytelling (NDI) combines the tradition of storytelling with the possibilities of digital technology, allowing for the creation of non-linear and interactive stories. This approach expands the possibilities of narrative construction, enabling the audience to actively participate in the construction and development of the plot. Girmen, Özkanal, and Dayan (2019) highlight the potential of this integration to create more

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engaging and meaningful learning experiences by exploring technology's ability to connect people, ideas, and cultures.

Beyond the mere presentation of information, interactive digital narratives allow the audience to immerse themselves in different realities, explore different perspectives, and experience immersive experiences. Interactivity allows the user to influence the course of the narrative, make decisions, and experiment with different outcomes. This active participation contributes to the development of valuable skills, such as critical thinking, problem-solving, and creativity.

The importance of interactive digital narratives as a pedagogical tool lies in their ability to transform the way people learn and share knowledge. By creating a more dynamic and engaging learning environment, interactive digital narratives allow students to become protagonists in the construction of knowledge, exploring different paths and experimenting with new possibilities. Other authors, such as Alexander (2017), also highlight the potential of digital narratives in education. Alexander (2017) highlights the ability of these narratives to integrate different media, such as images, videos, and sounds, creating a multisensory experience that contributes to meaningful learning. Thus, for the author, digital storytelling represents a convergence of different media — text, image, sound, and video — that together create a multisensory and immersive experience, strengthening engagement and the significance of learning. This integration between narrative and interactivity was observed in the production of the teachers participating in this study, who highlighted the satisfaction in creating engaging stories, but also pointed out challenges in adapting the interactive mechanics to the pedagogical context.

Lourenço (2012) emphasizes the potential of digital narratives for the development of language skills, highlighting the ability of narrative to stimulate creativity and personal expression.

COMPUTATIONAL THINKING AND THE CONSTRUCTION OF NARRATIVES

The development of interactive digital narratives requires a set of cognitive skills that allow authors to transform their ideas into engaging and functional stories. In this context, Wing's (2006) theory of Computational Thinking stands out as a set of essential skills for the creation of digital narratives. Wing (2006) defines Computational Thinking as a fundamental skill for everyone, which should be integrated into education at all levels. The

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author highlights the importance of going beyond mere programming, emphasizing problem-solving skills and logical reasoning as central elements of Computational Thinking.

Abstraction, decomposition, and algorithmic elaboration are essential cognitive skills in this process, allowing authors to construct digital narratives efficiently and creatively. Abstraction refers to the ability to simplify complex problems by extracting relevant information and ignoring irrelevant details. In the creation of interactive digital narratives, abstraction allows authors to identify the essential elements of the story, such as characters, settings, and events, and represent them clearly and concisely.

Decomposition, in turn, involves breaking down a complex problem into smaller, more manageable pieces. In the construction of digital narratives, decomposition allows authors to divide the story into scenes, sequences, and actions, facilitating the organization and development of the narrative.

The elaboration of algorithms, finally, refers to the ability to create logical sequences of instructions to solve problems. In the creation of digital narratives, algorithms are used to define the interactions between characters, the events that occur in the story, and the different possibilities for progression of the narrative.

This perspective was applied in the course offered to teachers, in which the integration of Computational Thinking in the creation of narratives was one of the biggest challenges. Many participants were able to utilize concepts of abstraction and decomposition, but reported difficulties in structuring algorithmic sequences to define dynamic interactions in the story.

COHESION, COHERENCE AND NARRATIVE DEVELOPMENT

In the context of natural language, which precedes the creation of interactive digital narratives, textual cohesion, narrative coherence, and narrative development are essential elements to ensure the reader's understanding and immersive experience. Koch (2020) and Wood (2017) offer valuable contributions on how these aspects intertwine and play a key role in building effective narratives.

TEXTUAL COHESION AND NARRATIVE COHERENCE

According to Koch (2020), textual cohesion is an essential element for the construction of meaning in narratives. It manifests itself through linguistic mechanisms,

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such as connectors, pronouns, repetitions, and substitutions, which establish relationships between different parts of the text and ensure fluidity and continuity.

Wood (2017), on the other hand, expands this discussion by addressing narrative coherence, a concept that goes beyond the simple connection between sentences and paragraphs. For the author, coherence is related to the ability of the narrative to create a plausible and engaging fictional universe, in which events and characters follow an understandable internal logic. In this way, coherence is what enables the reader to accept the narrated events as believable within the rules established by the story itself.

According to Wood (2017), Aristotle, in *Poetics*, makes an essential distinction between historical narrative and fictional narrative when he states that:

> If we re-examine Aristotle's original formulation of mimesis in the *Poetics*, we will see that he does not deal with reference. History, Aristotle says, shows us 'what Alcibiades did'; poetry — that is, fictional narrative — shows us 'the kind of thing that could happen' to Alcibiades (WOOD, 2017, p. 203).

This distinction highlights the difference between historical facts and narrative possibilities. While the story is based on concrete and verifiable events, the fictional narrative builds hypothetical realities that, even without having occurred, need to maintain internal coherence to preserve the reader's immersion.

This characteristic is even more relevant in interactive digital narratives, where multiple paths and outcomes coexist, requiring that the overall coherence of the plot be preserved regardless of the user's choices. A well-structured interactive narrative therefore depends on the careful articulation between the events narrated and the decisions of the users, ensuring that each choice leads to logical and consistent consequences within the fictional universe.

NARRATIVE DEVELOPMENT AND STRUCTURING ELEMENTS

Narrative development is not limited to the succession of events, but involves a complex structure that encompasses the construction of characters, the creation of a fictional space and the choice of narrative focus. According to Gérard Genette (1995), the analysis of the narrative must consider the different levels of narration and focus, as these are the elements that determine how the reader perceives and interprets the story.

The fictional space, as discussed by Mieke Bal (2009), is not only a backdrop, but a structuring element of the narrative. It contributes to the development of the characters and

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influences the plot, being decisive for the setting of the story. This concept gains even more relevance in interactive digital narratives, where space can be enriched with visual, sound, and interactive elements, making the user experience more dynamic and engaging.

Character building is also an essential aspect of narrative development. Seymour Chatman (1990) points out that well-constructed characters are key to creating an engaging and meaningful narrative, as they are the ones who bring the story to life and promote audience identification. To be believable, characters must have clear motivations, conflicts and well-defined characteristics (CHATMAN, 1990). This principle applies to both traditional literature and interactive storytelling, where user choices can impact character development and plot evolution.

THE ROLE OF FICTIONAL SPACE AND NARRATIVE FOCUS

The fictional space contextualizes the events and plays a fundamental role in the reader's immersion. In digital narratives, the setting can be dynamically changed, depending on the choices made by the user. Interactive and responsive environments contribute to a deeper and more personalized experience, allowing each reader to build their own journey within the story.

In addition, the choice of narrative focus directly influences the reader's perception of events. The narrator can be omniscient, limited to a single character, or multiple, affecting the way information is presented and the degree of emotional engagement of the audience with the narrative. In digital experiences, this variation becomes even more evident, as some stories allow you to switch between different narrative perspectives based on the user's decisions.

INTERACTION BETWEEN COHESION, COHERENCE AND NARRATIVE DEVELOPMENT

The interaction between textual cohesion, narrative coherence and narrative development is fundamental for the construction of effective narratives. These three elements work together to create stories that flow in a logical and structured way, while also providing an engaging and meaningful experience for the reader. That is:

a) Textual cohesion ensures the fluidity of the narrative, connecting ideas in a logical and structured way.

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b) Narrative coherence ensures that events follow an understandable chain within the rules established by the story, allowing the reader to become emotionally involved with the plot.
c) Narrative development integrates these aspects, ensuring that characters, scenarios, and events are articulated in an organic and impactful way.

In interactive digital storytelling, these elements become even more challenging. Active user participation requires multiple paths and outcomes to be constructed without compromising the consistency of the story. Good narrative design should balance freedom of choice and structural coherence, ensuring that every user interaction contributes to a cohesive and meaningful narrative experience.

GAMES AND INTERACTIVITY IN INTERACTIVE DIGITAL NARRATIVES

In the process of creating the interactive digital narratives developed by the teachers, the incorporation of interactive elements inspired by game mechanics was observed. Some participants structured their fables sequentially, using the initial narrative as a contextual introduction to the game, while others inserted challenges and interactions throughout the plot, allowing users' choices to influence the direction of the story.

Interactivity is one of the main aspects that differentiate interactive digital narratives from traditional narratives, enabling greater engagement and active participation of users. According to Moran (2018), the combination of narrative and interactive elements can make learning more dynamic, encouraging the exploration of different scenarios and alternatives within a knowledge-building environment. By integrating this approach, the teachers sought to create experiences that stimulated reading and writing, as well as problem-solving and strategic thinking.

Although gamification in the strict sense of the concept – which involves scoring systems, rankings and structured rewards – was not applied, the narratives developed incorporated interactive challenges and decision-making that reflected game elements. This mechanic provided a differentiated experience, in which participants could explore different outcomes and experience the construction of stories in a dynamic way.

Thus, the introduction of game strategies in interactive digital narratives proved to be effective in increasing student participation and favoring more engaging learning. The experience of the participating teachers reinforces the need to deepen research on the

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impact of these interactions on the construction of knowledge and on the motivation of students.

METHODOLOGY

This study adopts a participatory qualitative approach, configuring itself as a case study, as defined by Lakatos and Marconi (2017). This approach is justified by the interest in understanding in depth the impact of the authorship of interactive digital narratives (NDI) in the training of elementary school teachers, considering their experiences and perceptions throughout the creation process.

For data generation and collection, an online course was applied, structured in eighteen modules (https://cursoscratchufrgs.blogspot.com), lasting six months, aimed at elementary school teachers from public schools in a city in Rio Grande do Sul. The course, entitled *Development of Computational Thinking and Natural Language with Creativity through Interactive Digital Narratives*, aimed to train participants in the creation of NDI using the Scratch (https://scratch.mit.edu/) software.

There were 54 teachers enrolled, all of whom declared that they had no previous knowledge about the construction of interactive digital narratives in Scratch. However, due to external factors, such as the floods that hit the region during the course period, only 17 participants completed all the proposed activities.

Data collection involved two main procedures:

1. **Observation of the authorship process:** The interactions of the teachers during the stages of creation of the interactive digital narratives were monitored, recording the challenges faced and the strategies adopted.
2. **Analysis of the final products:** The interactive digital narratives produced were analyzed according to previously established criteria, allowing the evaluation of the development of computational thinking, textual cohesion, interactivity, pedagogical relevance and originality.

The Content Analysis technique, according to Bardin (2021), was used to interpret the meanings present in the narratives, seeking to understand how teachers integrated the elements of written natural language, computational thinking, and creativity in the construction of interactive digital fables. To better understand the authorship process, Figure 1 presents the stages of authorship of the interactive digital narratives developed by

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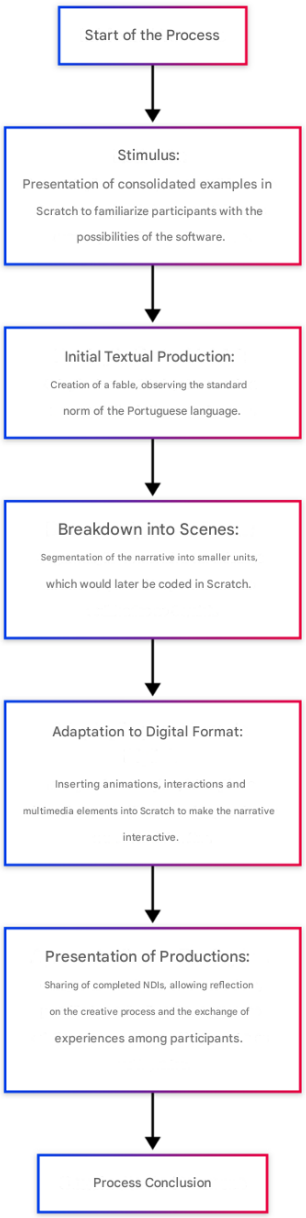
the teachers, highlighting from the initial stimulus to the presentation of the final productions.

Figure 01: Stages of NDI authorship



Source: Authors (2025).

ANALYSIS CATEGORIES

The evaluation of interactive digital narratives was conducted based on a rubric composed of five main criteria, designed to measure different skills and competencies developed throughout the course:

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1. **Development of computational thinking** – The ability of teachers to decompose problems, recognize patterns, abstract concepts, create algorithms and develop dynamic interactions was considered. The analysis focused on the use of programming logic to structure the narrative.
2. **Textual cohesion** – The organization of ideas, the use of connectives, grammatical and spelling correction, vocabulary richness and the adequacy of the language to the target audience were evaluated. The logical progression of the narrative was an essential criterion.
3. **Interactivity** – The variety and quality of the interactive elements, the presence of game mechanics and the possibility of the user making decisions that influenced the unfolding of the story were analyzed.
4. **Pedagogical relevance** – The alignment of the narrative with the learning objectives was verified, as well as the relevance of the content to the teaching practice.
5. **Originality** – The creativity of the participants in the construction of the story was investigated, including the presence of innovative ideas and the creative use of Scratch tools.

To ensure a systematic evaluation process, the narratives were organized in an analysis table, where each criterion represented a column and each production, a line. This structure made it possible to map the characteristics of each narrative in detail and allowed comparisons between the different productions.

The rubric used in the NDI evaluation allowed to provide individualized feedback to the participants, highlighting their strengths and indicating aspects to be improved. In addition, the analysis made it possible to follow the evolution of the teachers throughout the course, evidencing the progression in the development of the competencies worked.

In this way, the methodology adopted ensured coherence with the objectives of the research, providing subsidies for the in-depth analysis of the contributions of interactive digital narratives in teacher training.

RESULTS AND DISCUSSIONS

The course was structured in eighteen sequential modules, each consisting of theoretical materials and practical examples of programming in Scratch. During this process, the participants began the development of authorial projects, creating interactive

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digital fables and games. The initial fifteen modules provided a solid foundation in programming, allowing teachers to develop, through practical activities, skills related to the authorship of interactive digital narratives. The reports indicate that the methodology used facilitated the understanding of the contents and the realization of the projects, since the steps were presented in a clear and gradual way.

In order to deepen the analysis of the data from the final material – the authorship of an interactive digital narrative individually produced by the seventeen participants who completed the course – a table was prepared that systematizes the results obtained. This organization tool proved to be effective for identifying patterns, comparing the different narratives and later discussing the results.

Table 01: Final Digital Narratives

Digital Storytelling	Textual Cohesion	Computational Thinking	Interactivity	Pedagogical Relevance	Originality
Narrative 1	Discharge	Average	Average	Average	Low
Narrative 2	Discharge	Average	Average	Low	Average
Narrative 3	Discharge	Average	Average	Low	Low
Narrative 4	Average	Discharge	Discharge	Discharge	Discharge
Narrative 5	Average	Average	Low	Low	Average
Narrative 6	Discharge	Average	Discharge	Average	Average
Narrative 7	Average	Discharge	Discharge	Average	Discharge
Narrative 8	Average	Average	Low	Low	Average
Narrative 9	Average	Average	Low	Average	Discharge
Narrative 10	Average	Average	Average	Average	Low
Narrative 11	Average	Average	Low	Low	Low
Narrative 12	Discharge	Discharge	Discharge	Average	Discharge
Narrative 13	Discharge	Average	Discharge	Average	Discharge
Narrative 14	Average	Discharge	Average	Average	Average
Narrative 15	Discharge	Average	Average	Average	Biaxa
Narrative 16	Average	Average	Low	Average	Average
Narrative 17	Average	Discharge	Discharge	Average	Average

Source: Authors (2024).

From Table 01, it is possible to identify patterns and trends in the development of interactive digital narratives. The narratives that presented **high textual cohesion** demonstrated a significant mastery of written language, with organization of ideas, appropriate use of connectives and grammatical correction. The development of **computational thinking** varied among the participants, with some narratives presenting more elaborate programming logic, while others remained at a basic level of application of computational concepts.

Interactivity, an essential criterion in the construction of interactive digital narratives, also showed variations. Some narratives offered the reader multiple paths, personalized

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feedback, and challenges, while others presented a more linear structure. Pedagogical **relevance** was a determining factor in the analysis, since narratives with greater alignment with educational objectives demonstrated greater potential for application in the classroom. Finally, **originality** was an aspect that differentiated some narratives, reflecting the creativity of the participants in the conception of the story, characters and interactions.

The challenges identified throughout the course indicate that the integration of computational thinking in the construction of narratives was one of the most complex aspects for the participants. In several productions, the use of variables, conditionals and loops was limited, being restricted to basic functions and without significant influence on the unfolding of the story. This difficulty may be related to the lack of previous experience with programming and the need for a more structured support for the application of computational concepts in narrative contexts.

Another aspect identified was the variation in the **quality of textual cohesion**. While some narratives demonstrated a well-structured and coherent text, others presented difficulties in the organization of ideas and in the proper use of linguistic elements. Interactivity, in turn, was an element successfully explored by some participants, resulting in narratives that offered the reader multiple outcomes and dynamic challenges.

The **pedagogical relevance** of the narratives also varied considerably. Some stories addressed curricular content in an innovative and engaging way, while others had less connection with the learning objectives. The lack of a more structured alignment between the elements of the narrative and the educational purposes can represent a challenge in the implementation of these tools in the classroom.

Despite the difficulties, some narratives stood out for their originality and efficient integration of the elements of computational thinking, interactivity and textual cohesion. Narrative **4**, for example, managed to bring together all the criteria analyzed in a balanced way, being a model of successful application of the course methodology. Other narratives, such as **narrative 12**, have utilized animations and sound effects to create immersive experiences, illustrating the potential of digital narratives to transform learning into a more dynamic and interactive process.

The analysis of the results shows that, although teachers have faced challenges in the integration of technical and narrative elements, there have been significant advances in the development of their skills. The adaptation to the digital environment and the

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application of computational concepts were points of difficulty, but, at the same time, the teachers demonstrated creativity and capacity for innovation in the creation of stories.

Thus, the findings of this research reinforce the need for teacher training that contemplates both the technical aspects of computational thinking and narrative structuring. The improvement of textual cohesion and interactivity in final productions indicates that, with adequate support, teachers can expand their skills and use interactive digital narratives as effective pedagogical tools in elementary school.

CONCLUSION

Based on the results of the research and the analysis of the 17 final interactive digital narratives produced by the teachers who managed to finish the course, it is concluded that the inclusion of interactive digital narratives as a pedagogical tool in the training of elementary school teachers has a significant potential for the development of computational thinking, textual cohesion and creativity. By improving these skills in teachers, the impact extends to students, contributing to the development of these essential competencies provided for in the BNCC (2017).

Analysis of the narratives revealed both promising trends and challenges in creating interactive digital narratives. One of the main challenges identified was the difficulty of effectively integrating computational thinking in the construction of narratives, reflecting the need for a more structured support for the application of this concept in pedagogical practice.

In addition, variation was observed in the quality of textual cohesion, demonstrating that the transposition of the text to the digital environment requires a greater mastery of the narrative structure. However, the ability of teachers to use multimedia resources to create immersive experiences, explore different perspectives and consequences of user choices, and incorporate gamification elements to increase student engagement was also evidenced.

The pedagogical implications of the research reinforce the need for teacher training to contemplate the development of computational thinking skills, textual cohesion and creativity. In addition, technical and didactic support in the creation and use of interactive digital narratives is essential to ensure the quality of these productions and their applicability in the classroom. The authorship of interactive digital narratives, when

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strategically planned, can be a valuable pedagogical tool to stimulate critical thinking, problem-solving, and creativity in students, making learning more dynamic and meaningful.

In addition to the impacts on teaching practice, the findings of this study have direct implications for teachers and school managers. For teachers, the results indicate that the creation of interactive digital narratives can be an effective strategy to integrate computational thinking and textual skills in pedagogical practice. Experimentation with this resource in continuing education courses can stimulate greater autonomy in the incorporation of educational technologies in the classroom.

For school managers, the study points to the need to offer institutional support for the adoption of these methodologies. This can include the provision of specific training, access to technological infrastructure, and encouragement of pedagogical innovation. The positive impact observed in teacher training suggests that the implementation of similar initiatives on a larger scale can contribute to a more dynamic teaching that is aligned with the contemporary demands of education.

It is suggested that future research investigate the impact of students' authorship of interactive digital narratives on their learning, especially with regard to the appropriation of computational thinking in the construction of narratives. In addition, studies with a larger number of participants and long-term follow-up may provide more robust evidence on the effectiveness of this approach.

Despite the potential identified, some limitations must be considered. The reduced number of participants in the final phase of the survey, as a result of external factors such as the floods that affected the region, restricted the breadth of the results. In addition, many teachers had no previous experience with programming tools or the construction of interactive digital narratives, which impacted the speed of learning and the application of computational thinking concepts. The time required to complete the course may also have represented a challenge for some participants, considering their multiple responsibilities as teachers.

In view of these considerations, the importance of offering continuous support so that teachers can effectively integrate interactive digital narratives into their pedagogical practice is reinforced. With adequate training and structured planning, these narratives can be consolidated as an innovative and effective methodology in elementary education, promoting more interactive learning and aligned with the contemporary demands of education.

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REFERENCES

1. Alexander, B. (2017). The new digital storytelling: Creating narratives with new media (2nd ed.). Praeger.

2. Bal, M. (2009). Teoria da narrativa. WMF Martins Fontes.

3. Bardin, L. (2020). Análise de conteúdo. Edições 70.

4. Brasil. Ministério da Educação. (2017). Base Nacional Comum Curricular. MEC.

5. Chatman, S. (1990). Story and discourse: Narrative structure in fiction and film. Cornell University Press.

6. Genette, G. (1995). Discurso da narrativa. Vega.

7. Girmen, P., Özkanal, Ü., & Dayan, G. (2019). Digital storytelling in the language arts classroom. Universal Journal of Educational Research, 7(1), 55–65. https://doi.org/10.13189/ujer.2019.070108

8. Koch, I. V. (2020). Introdução à linguística textual. Contexto.

9. Lakatos, E. M., & Marconi, M. de A. (2017). Fundamentos de metodologia científica (8th ed.). Atlas.

10. Moran, J. M. (2018). Metodologias ativas para uma educação inovadora. Penso.

11. Nascimento, E. R. do, Anjos, F. L. M. R. dos, Menezes, K. K. O., & Oliveira, G. B. L. (2018). Narrativas digitais para uma aprendizagem significativa no Ensino Superior: Qual a percepção dos estudantes? Educação Por Escrito, 9(2), 251–269. https://doi.org/10.15448/2179-8435.2018.2.31354

12. Scratch. (n.d.). Scratch – Imagine, programe, compartilhe. Massachusetts Institute of Technology. https://scratch.mit.edu/

13. Wing, J. M. (2006). Computational thinking. Communications of the ACM, 49(3), 33–35. https://doi.org/10.1145/1118178.1118215

14. Wood, J. (2017). Como funciona a ficção. Companhia das Letras.