

Lulu and the Brontosaurus: An Escape Room Adventure for Learning in the 1st Cycle of Basic Education

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Resumo: Os Escape Rooms, jogos de fuga imersivos que exigem trabalho em equipa e resolução de problemas, promovem o pensamento crítico e a colaboração, sendo uma opção atraente e eficaz para o desenvolvimento de aprendizagens. Este estudo visa analisar as perceções das crianças sobre o uso de um Escape Room no 1.º Ciclo do Ensino Básico (1.º CEB), avaliando os seus impactos na motivação, envolvimento e desempenho académico. Neste estudo participaram 48 crianças que se envolveram no Escape Room “Lulu e o Brontossauro”, criado para promover a leitura e desenvolver a sensibilidade para questões cívicas. A recolha de dados foi efetuada através da observação participante e da gravação de sessões coletivas de exploração das perspetivas e experiências em relação ao jogo com os participantes. Os dados recolhidos foram analisados de forma interpretativa, procurando identificar padrões de comportamento e significados. Este estudo demonstra o potencial dos Escape Rooms como ferramenta educativa no 1.º CEB.

Palavras-chave: Escape Room; 1.º Ciclo do Ensino Básico; gamificação; aprendizagem ativa.

Lulu e o Brontossauro: Uma Aventura de Escape Room para a Aprendizagem no 1.º Ciclo do Ensino Básico

Abstract: Escape Rooms are immersive escape games that require teamwork and problem-solving, promote critical thinking and collaboration, and are attractive and practical possibilities for learning development. This study analyzes children’s beliefs about using an Escape Room in the 1st Cycle of Basic Education (1st CEB), assessing its impact on motivation, engagement, and academic performance. This study involved 48 children in the Escape Room “Lulu and the Brontosaurus,” created to promote reading and develop sensitivity to civic issues. Data was collected through participant observation and the recording of collective sessions to explore the participants’ perspectives and experiences of the game. The data collected was

analyzed interpretively to find patterns of behavior and meanings. This study shows the potential of Escape Rooms as an educational tool in the 1st CEB.

Keywords: Escape Room; 1st Cycle of Basic Education; gamification; active learning.

1. Introduction

Learning in the 1st Cycle of Basic Education is crucial for the holistic development of children, both in terms of basic skills and socio-emotional development. During this phase, the foundations for future educational success and the formation of critical, creative, and participative citizens in society are laid.

The quest for innovative and effective teaching methodologies is constant in the contemporary educational landscape. In this sense, using playful methods and interactive activities has gained prominence, especially to promote meaningful learning and children's engagement. One of these emerging approaches is using Escape Rooms, conceived initially as entertainment games, as an educational tool, particularly in higher education programs (Taraldsen et al., 2020).

The choice of the Escape Room as the object of study is justified by the need to explore innovative methodologies that can enhance the learning process in the 1st Cycle of Basic Education. Although studies are addressing the use of Escape Rooms in educational contexts (Cleophas & Bedin, 2023; Costa et al., 2020; Čujdíková & Vankúš, 2023; Fotaris & Mastoras, 2022; Nicholson, 2018; Pina et al., 2022; Taraldsen et al., 2020, among others), there is still a significant gap about their specific application at this level of education. This research aims to bridge that gap by providing insights into the impacts and benefits of using Escape Rooms as a learning strategy for school-aged children.

The main objectives that guided the research and provided a framework for investigating the role of the Escape Room as a learning strategy in the specific context of primary education were as follows: (i) To investigate how the Escape Room can be implemented as a learning strategy in the 1st Cycle of Basic Education; (ii) To analyze children's perceptions of the use of the Escape Room as an educational tool; (iii) To evaluate the effects of the Escape Room on the motivation, engagement, and academic performance of a group of children in the 1st Cycle of Basic Education; and (iv) To identify challenges and opportunities associated with integrating the Escape Room into the school context of the 1st Cycle of Basic Education.

2. Escape Room: An educational journey through puzzles and challenges

An Escape Room is an immersive entertainment activity in which participants are challenged to solve puzzles and riddles within a themed environment, usually within a limited time frame. This form of entertainment initially appeared as a physical adventure game, where participants are "locked" in a room and must find clues, decipher codes, and solve puzzles to "escape" before time runs out. Escape Rooms have been widely adopted as entertainment worldwide, with thousands of themed rooms available in various locations, such as leisure centers, theme parks, and commercial establishments.

More recently, Escape Rooms have also been explored as an educational tool, providing a unique and engaging way to promote active learning and critical thinking in educational contexts.

García-Tudela et al. (2019) explored the use of educational Escape Rooms to improve inclusion in the classroom. Their study analyzed the pedagogical benefits of this approach, especially when combined with cooperative learning techniques. Moura (2022) explored how the Escape Room can be used as an innovative method for teaching and learning, discussing how it can enhance the educational environment and generate more satisfactory academic outcomes. The author argues that when children are involved “in the process of achievements that cause them a feeling of satisfaction, for example, finding the code to unlock a level or move on to a new task, it leads to a state of emotional well-being, a state of flow” (p.43) while learning. Salvador-Gómez et al. (2022) suggest that for school activities to be enjoyable, they should integrate the following elements: 1. Clear and achievable tasks; 2. Progress and immediate feedback; 3. Autonomy and control of the activity; and 4. Immersion in the task.

According to several authors (Elumir & Whitney, 2016; Nicholson, 2018; Thomas et al., 2018), the typical structure of an Escape Room involves the following elements:

- **Narrative:** The Escape Room is planned within a specific setting, featuring an engaging narrative that serves as the foundation for the experience. Participants are immersed in the game world and assume fictional roles as they try to complete their missions.
- **Puzzles and Challenges:** Throughout the Escape Room experience, participants meet a variety of puzzles, riddles, and challenges that need to be solved to progress in the story and achieve the final aim. These challenges can vary in complexity and may require different cognitive skills such as logical reasoning, creative thinking, and teamwork.
- **Time:** A fundamental feature of Escape Rooms is the element of time. Participants have a limited period, usually between 60 and 90 minutes, to complete all the challenges and “escape” from the room. This time pressure adds a sense of tension and excitement to the experience, encouraging participants to work together efficiently and collaboratively.
- **Feedback:** During the game, participants receive immediate feedback on their progress through visual, auditory, or tactile clues. This helps keep players engaged and motivated, providing subtle hints to guide them in solving the puzzles.

The growing interest in integrating games into the educational environment has been driven by the understanding that playfulness can be a valuable and effective tool for promoting learning, as games provide an immersive learning environment in which children actively engage in challenging and meaningful activities (Cleophas & Bedin, 2023; Costa et al., 2020; Čujdíková & Vankúš, 2023; Fotaris & Mastoras, 2022; García-Tudela et al., 2019; Moura, 2022; Nicholson, 2018; Pina et al., 2022; Salvador-Gómez et al., 2022; Taraldsen et al., 2020, among others). We highlight some pioneering examples in the research of Escape Rooms in Education. Cleophas and Bedin (2023) conducted a study exploring the use of escape rooms as an educational tool in higher education, with positive results regarding motivation and learning. Costa et al. (2020) investigated

the impact of Escape Rooms on learning history and geography content in education, proving an increase in children's engagement and the retention of more sustained knowledge. Čujdíková and Vankúš (2023) analyzed the potential of Escape Rooms for the development of problem-solving skills and teamwork of children, obtaining encouraging results about their learning. Fotaris and Mastoras (2022) proposed a design model for educational Escape Rooms in higher education, focusing on promoting active and collaborative learning, and Nicholson (2018) presented a case study on the implementation of an Escape Room in a mathematics class, highlighting the increase in motivation and interest of the children.

In the readings conducted, we have come to understand that one of the main advantages of games as a learning strategy is their potential to increase children's engagement and motivation. By transforming the learning process into a fun and interactive experience, games can capture children's attention in a way that traditional methods often cannot. This is especially relevant in educational contexts where demotivation and lack of interest are common challenges. Furthermore, games promote an approach to active and experiential learning, where children are encouraged to explore, experiment, and solve problems collaboratively. This approach places children at the center of the teaching-learning process, allowing them to develop cognitive, social, and emotional skills in a natural and contextualized manner. We also saw that besides easing the assimilation of specific content, games can also effectively promote the development of cross-cutting skills such as critical thinking, problem-solving, communication, teamwork, and leadership. By facing challenges and making decisions within the game context, children can develop and practice a wide range of abilities essential for personal and professional success.

Several studies (Cleophas & Bedin, 2023; Costa et al., 2020; Čujdíková & Vankúš, 2023; Elumir & Whitney, 2016; Fotaris & Mastoras, 2022; García-Tudela et al., 2019; Moura, 2022; Nicholson, 2018; Pina et al., 2022; Salvador-Gómez et al., 2022; Taraldsen et al., 2020; Thomas et al., 2018) have consistently demonstrated that the use of Escape Rooms in the classroom can significantly increase children's engagement and motivation, and in particular studies, that of adults as well. By transforming learning into an immersive and enjoyable experience, Escape Rooms can capture children's attention and keep them focused on educational tasks. This is especially relevant for children with difficulty engaging with more traditional teaching methods. All the authors we have referenced offer valuable insights in their studies on how Escape Rooms can be applied, both in the context of entertainment and as an educational tool, promoting active learning, critical thinking, and collaboration.

We also highlight some authors who have recognized the potential of Escape Rooms, notably Taraldsen et al. (2020), who conducted a systematic literature review on Escape Rooms in education, concluding that this method holds great potential for teaching and learning. Additionally, Pina, Guimarães, and Guedes (2022) presented a study on using Escape Rooms in different areas of knowledge, including education, highlighting their benefits for developing various skills. Finally, we refer to the study titled "Escape Education: A Systematic Review on Escape Rooms in Education," conducted by Alice Veldkamp, Liesbeth van de Grint, Marie-Christine Knippels, and Wouter van Joolingen

and published in 2020. The study investigated the use of Escape Rooms as an educational tool. It reminded us that successful implementation in education requires a careful approach tailored to the specific needs of children and learning aims.

3. Methodological options

This study adopted a qualitative research approach to understand the experiences and feelings of 48 children from two classes of the 2nd grade of primary education about using Escape Rooms as a learning strategy. The qualitative approach allowed for exploring the nuances and complexities of the study in question, enabling a more comprehensive understanding of the underlying processes.

The participants in this study were children aged 7 and 8 years old from a school in the Northeast of Trás-os-Montes in mainland Portugal. Participants were selected based on ease of access, using a non-probabilistic and convenience sample,

Moreover, informed consent was obtained from parents or guardians before the study began.

From the children's perspective, giving voice to their experiences and views, we aimed to seek a deep understanding of the meanings they attributed to the experiences they had. In this sense, data were collected as follows:

During the Escape Room activity, researchers directly saw the children's behavior, paying attention to engagement indicators, such as facial expression, levels of enthusiasm, interactions with peers, and persistence in solving challenges. They recorded their active participation, peer collaboration, initiative in seeking solutions, and emotional reactions to different parts of the game. Researchers documented the children's interactions, reactions, comments, and contributions to solving challenges.

After implementing the Escape Room, the children took part in a collective reflection panel, where they were invited to share their experiences and feelings. Reflections focused on the following questions: Did you have fun? Were you challenged to take part? Did you work well in teams? What went well, and what went wrong? What did you learn from the game? Reflections were recorded in audio and later transcribed.

Combining these observation and documentation methods helped obtain a more comprehensive understanding of the children's engagement and motivation during the Escape Room activity, providing valuable data for the analysis and discussion of results.

The data were analyzed using the content analysis technique, which allowed for the identification of 6 emerging categories related to the children's experiences with the Escape Room: Motivation and engagement; Teamwork/collaboration; Resilience and creativity; Development of multidisciplinary skills and self-discipline; Development of values, social, and emotional skills; Impact of the experience. The analysis of the children's discourse allowed for a deeper understanding of their experiences with the Escape Room. It offered valuable insights into the impacts of this learning strategy in the context of the first cycle of primary education.

4. Unveiling knowledge: Exploring the Escape Room as a learning tool

The Escape Room was implemented as an integral part of the curricular activities promoting reading in two classes of the 2nd grade of primary education in the 1st Cycle of Basic Education in a School found in the Northeast of mainland Portugal during the academic year 2023/2024.

The Escape Room was carefully planned and constructed (Figure 1) using the children’s literature work “Lulu and the Brontosaurus” by Judith Viorst (2011), which served as the basis for the challenges and puzzles presented to the children. This consideration aligns with Moura’s proposal (2022) when she states that “the script of an Escape Room should stem, among other aspects, from a narrative that “will tell the story related to the educational contents and objectives and also links the riddles and tests” (p.48) and, for its content, one should consider the information that is expected for the children to learn from the experience. The author also adds that the visual/theme configuration design should be as close to the narrative as possible.

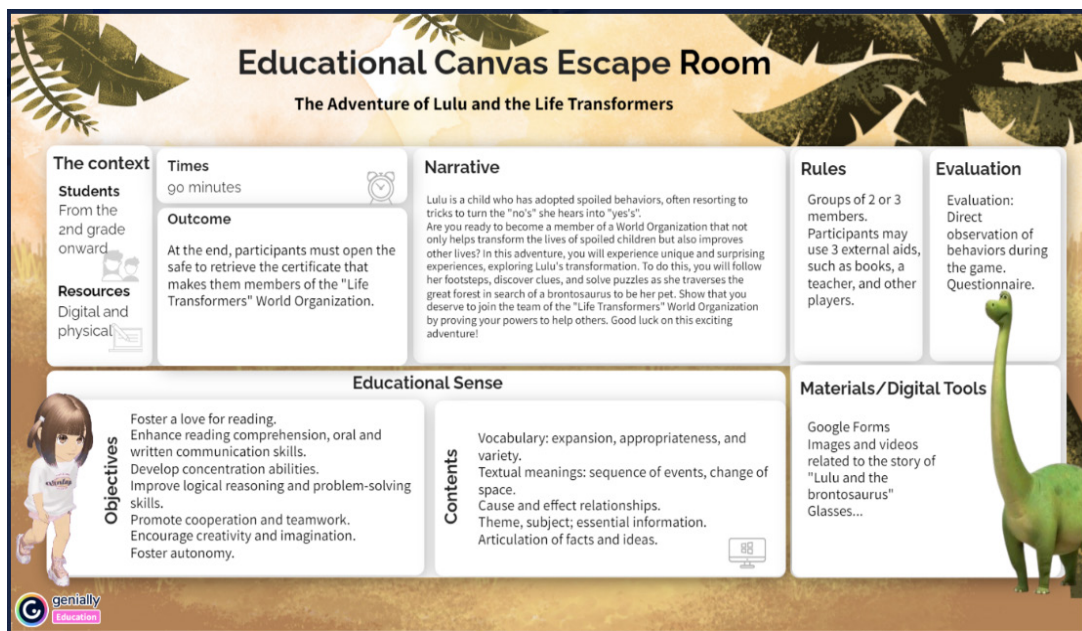


Figure 1 – Escape Room Planning (<https://bit.ly/3vFbqCh>).

The children’s literature work “Lulu and the Brontosaurus” inspired the themes and missions of the Escape Room, allowing children to explore imaginary worlds and characters in this story. As seen in Figure 2, in terms of the design of levels/challenges, as well as all the mechanics of the games, devices, and resources used, we also followed the guidelines of Moura (2022), who says that an Escape Room script should include: narrative; content; visual/theme configuration; level/challenge design; game mechanics; devices, and resources.

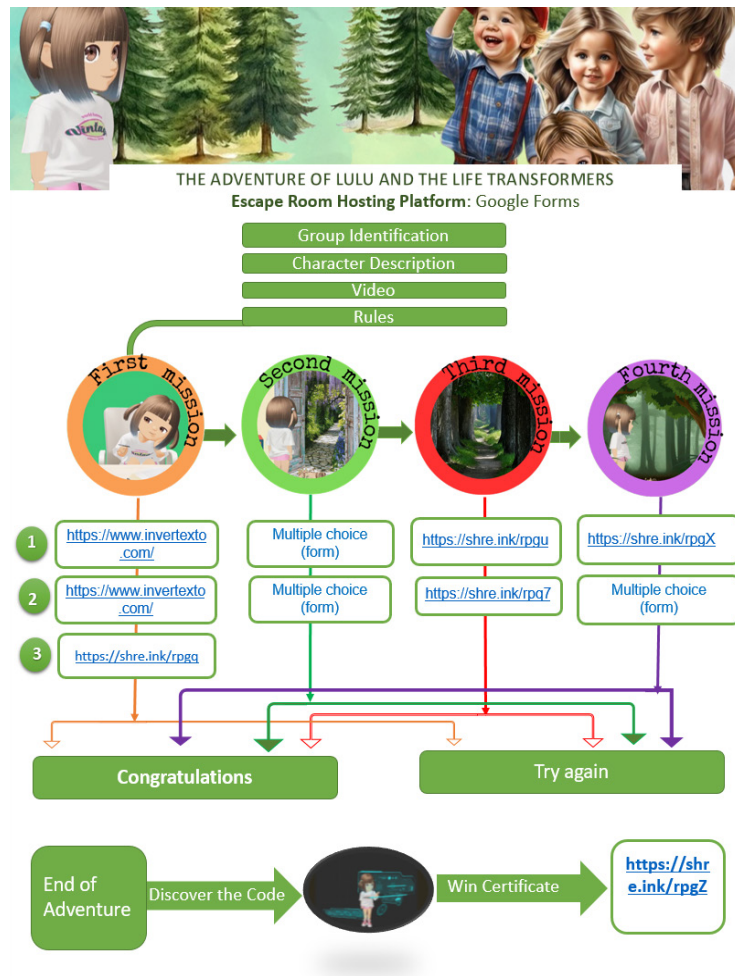


Figure 2 – Scheme of challenges and missions of the Escape Room (<https://bit.ly/4aNoKAY>).

As seen in Figure 2, visual, dynamic, auditory, and tactile elements were incorporated into the Escape Room environment to create an immersive experience that complemented the narrative of the literary work. The presented game tells the story of Lulu, a child who showed spoiled behaviors, often using tricks to turn adults’ “NOs” into “YESes.” Before its implementation, the concept of the Escape Room was introduced, explaining the game’s rules and providing guidance on how to work as a team to solve challenges. The children also watched a promotional video and confirmed their intention to participate. During the game, they were encouraged to interact, solve puzzles related to the characters and events of the story, and explore themes from various curriculum areas and underlying messages through practical and collaborative activities, thus going with Lulu’s transformation. This approach allowed the children to actively engage in the story while developing reading comprehension, textual interpretation, and creative expression skills. By integrating the promotion of reading and children’s literature into the Escape Room, the researchers looked not only to reinforce the children’s reading abilities but also to cultivate a love for reading and storytelling, encouraging them to

become avid and critical readers. The challenges were carefully designed to be proper for the student’s level of cognitive development, emphasizing skills such as problem-solving, critical thinking, and collaboration. In the end, as a reward for completing all the missions, the children received a certificate (Figure 3) that qualified them to belong to the World Organization “Life Transformers,” which helps transform the lives of spoiled children but also helps improve other lives.

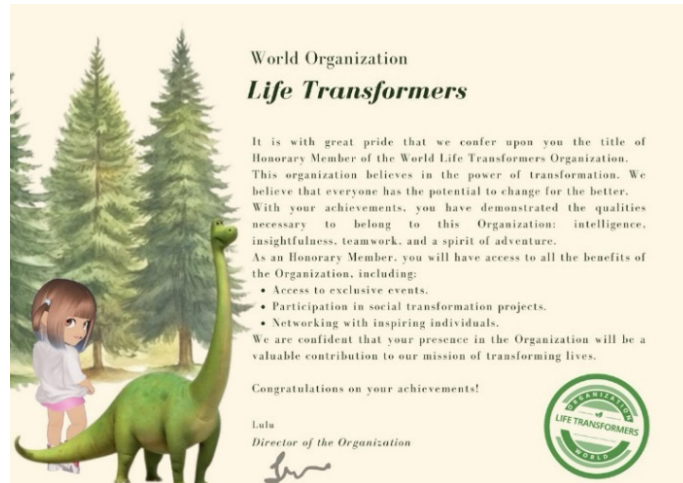


Figure 3 – Certificate awarded to children who completed the Escape Room (<https://bit.ly/4apCcO6>).

5. Analysis of the experience and beliefs of the children

The children’s experiences with the Escape Room varied, reflecting various reactions and emotions. Based on the comments and reflections of the children after taking part in the immersive experience provided by the Escape Room, we proceeded to the content analysis of the comments obtained during the game and in the significant group discussion/reflection. The emerging categories, perceptible in the children’s discourse from the two classes involved, are as follows in the table below, which also writes down the number of occurrences:

Categories	Σ occurrences
Motivation and engagement	48
Teamwork/collaboration	48
Resilience and creativity	35
Development of multidisciplinary skills and self-discipline	30
Development of values, social, and emotional skills	46
Impact of the experience	48

Table 1 – Emerging categories and respective occurrences (n=48).

5.1. Motivation and engagement

During the Escape Room activity, the children showed contagious enthusiasm and genuine joy as they engaged with the narrative and interactive challenges. Comments such as, “This game is so much fun!”, “It is amazing!” and “Wow, look...! Lulu is fantastic!” echoed within the classroom walls, revealing the children’s excitement in the face of the immersive experience provided by the game. Their faces lit up with radiant smiles, and their eyes sparkled with excitement as they explored each puzzle and unraveled the mysteries of Lulu’s story. The positive energy and enthusiasm of the children created a competitive yet healthy atmosphere, turning content learning into an exciting and unforgettable adventure. The Escape Room captured the children’s imagination and sparked curiosity and creativity, nurturing a love for learning that will endure far beyond the classroom walls.

5.2. Teamwork/collaboration

During the implementation of the Escape Room, the children not only faced challenges and puzzles but also discovered the power of collaboration and teamwork. Amid the atmosphere of mystery and adventure, they formed cohesive groups, relying on each other to achieve the goal. With confidence and determination, one child, during the considerable group reflection, said: “We did not ask the teacher or the other groups for help because I trusted my classmates to answer, and they trusted me to do the same.” This statement shows the essence of collaboration, highlighting the importance of trusting others and taking on shared responsibilities.

Furthermore, another child emphasized: “Working in a group was good because each one had the answer to some questions, and we made an effort to work together.” This observation illustrates the value of diversity of skills and knowledge within the group, with each child contributing their unique perspective to collective success. The children showed unwavering commitment to teamwork and a solid determination to overcome challenges by carefully reading each clue and repeating some questions to ensure accuracy. This experience strengthened bonds among classmates and provided a collaborative learning environment in which each child felt valued and an essential part of the group.

5.3. Resilience and Creativity

The children faced surprising challenges that tested their ability to think creatively and resiliently. With cunning and determination, they showed remarkable resilience in the face of unexpected obstacles met throughout the game. One child shared an enriching experience by saying: “We also made mistakes sometimes. However, it was funny because sometimes, when we made mistakes, funny pictures appeared, and then we could read more carefully and try again.” This observation reveals the children’s ability to turn mistakes into learning opportunities, creatively adapting to the adversities met during the game. In sharing their experiences, the children also emphasized the importance of paying attention to details and valuing every game element. One participant expressed: “We had to read everything very carefully and repeat some questions because we also made mistakes.” This reflection highlights the children’s commitment to precision

and attention to detail, both crucial for success in solving challenges. A child also commented: “We had to ask for help... in that one with the letters upside down... but it was really cool!” This account highlights the children’s willingness to seek help and their ability to collaborate and learn from others, even when faced with seemingly complex challenges. Although some parts of the game were more accessible than others, the children acknowledged: “That one was not difficult for us, but sometimes we did not answer the questions well!” This reflection underscores the importance of self-assessment and perseverance, encouraging children to learn from their experiences and enhance their skills throughout the game. The children showed an incredible ability to face challenges with resilience, creativity, and teamwork. These experiences in the Escape Room strengthened their cognitive abilities and developed important character attributes, preparing them to face future challenges with confidence and determination.

5.4. Development of multidisciplinary skills and self-discipline

Through the Escape Room, the children embarked on an adventure filled with mysteries and challenges, exploring various curriculum-based learning topics, including citizenship, the environment, mathematics, linguistic awareness, and a more active engagement with reading and written language. By interacting with written texts, images, and puzzles during the Escape Room activity, the children applied knowledge of reading, writing, and communication in a practical and contextualized manner. As one child mentioned, “The game had rhymes and texts that required much attention,” imposing the need to “listen carefully to the videos and read the texts accurately to answer well.” The experience also gave them a closer look at the characteristics of wild animals; as one participant mentioned, “By solving puzzles and situations about the animals in the story, we could learn more about the diversity and natural behaviors of animals.” One child said, “We also had to find the numbers in those pictures of Lulu dancing, very fun... in our group, we forgot a number, and then the operation did not work, we had to go back...”. Integrating the discovery of numbers in the images to obtain the code that granted them access to the escape and the certificate added an interdisciplinary dimension to the activity. It also allowed children to apply mathematical knowledge practically and enjoyably.

The Escape Room transcended the boundaries of entertainment, providing an educational experience rich in curriculum-based learning. From exploring wildlife to developing interpretation and critical analysis skills, every aspect of the game contributed to discoveries and personal growth. The children also recognized the need for concentration to solve the challenges presented during the Escape Room activity; as one mentioned, “We had to concentrate on solving the questions. We had to read well...”. This comment reflects on the importance of attention to detail and the dedication needed to achieve the proposed objectives, contributing to developing problem-solving skills and self-discipline.

5.5. Development of values, social, and emotional skills

Beyond the practical skills developed, the children also proved a deeper understanding of essential values and attitudes for life. From the importance of listening and helping others to value the simple things in life, the children’s reflections revealed admirable

maturity and sensitivity. One participant said, “We have to know how to value things!”. This valuable lesson extends beyond the context of the Escape Room, providing meaningful teachings for the children’s daily lives.

Thus, the Escape Room experience stimulated critical thinking and problem-solving and promoted deep reflection on values and attitudes, enriching personal and social development uniquely and unforgettably.

An exciting aspect of the narrative is the character of Lulu, who initially surprises them with her rude behavior. However, they saw her transformation throughout the story, learning to behave more appropriately. This narrative provided valuable learnings and reflections on the importance of respect and self-improvement. One child’s discourse encapsulates these aspects when they say, “I liked everything. Lulu was rude and did not respect others, but she learned to respect because she met the brontosaurus who contradicted her.” Another child added, “Yeah. She grew up and realized she was not acting right”. The Escape Room experience also developed leadership skills for the children to help others, as we can see from one child’s comment: “By helping each other solve the challenges, we learned that it is important to explain and listen to explanations to understand things.” The interactions saw during the activity also highlighted the importance of collaboration and mutual respect among team members. The children expressed the need to trust each other and strive to achieve the common goal. This aspect of the activity promoted essential citizenship values such as cooperation, solidarity, and shared responsibility.

In the group reflection session, one child said, “I learned that sometimes you must hear a ‘no’! My mom and dad do not always do everything I want, either. Sometimes I get upset, but I love them!” This child’s reflection on the need to hear a “no” and the fact that their parents do not always fulfill their wishes is profoundly significant. It reveals an understanding of family dynamics and surprising emotional maturity for their age. By recognizing that they cannot always have everything they want, the child learns to deal with frustration and accept limits. This ability is crucial for healthy interpersonal relationships and lasting emotional resilience. This child expresses their love and appreciation for their parents despite getting upset when their desires are unmet. This acknowledgment of the importance of parents in their lives shows their ability to show gratitude and empathy, which are fundamental values for personal and social well-being. This reflection goes beyond traditional teaching, highlighting the child’s personal and social development. It shows a growing awareness of the complexities of human relationships and a willingness to learn and grow from these experiences. By promoting a deeper understanding of emotions and interpersonal relationships, this reflection contributes to the child’s holistic development, preparing them to face life’s challenges with compassion, respect, and gratitude.

5.6. Impact of the experience

The feedback from both groups reflects the positive impact of the experience, highlighting joy, learning, and the desire to continue exploring immersive stories. The qualitative analysis of the children’s comments after the Escape Room experience emphasizes not only the success of the activity in promoting specific skills and its broader impact on the development of socio-emotional skills and the promotion of civic and ethical values.

The results reinforce the importance of active and innovative methodologies beyond traditional classroom teaching, providing meaningful and transformative experiences for children. Even in the face of success, the children expressed a desire for more challenges and learning opportunities. One shared: “We were working together to finish, but I wish the game had more questions. I wanted more.” This desire for more knowledge reflects children’s inherent curiosity and their enjoyment of new educational experiences. They expressed a desire to repeat the experience and explore more questions and challenges, showing a genuine interest in the Escape Room.

6. Final considerations

The results of this study corroborate existing literature that highlights the benefits of using Escape Rooms as a learning strategy in the educational context. Specifically, we found consistent evidence of high engagement from children, as well as the development of cognitive skills and collaboration and teamwork, aligning with previous research (Cleophas & Bedin, 2023; Costa et al., 2020; Čujdíková & Vankúš, 2023; Elumir & Whitney, 2016; Fotaris & Mastoras, 2022; García-Tudela et al., 2019; Moura, 2022; Nicholson, 2018; Pina et al., 2022; Salvador-Gómez et al., 2022; Taraldsen et al., 2020; Thomas et al., 2018, among others). Furthermore, by integrating children’s literature into the design of Escape Room games, this study contributes to an innovative method that promotes reading and appreciation of children’s literature. This connection between Escape Rooms and promoting reading significantly contributes to existing literature on strategies to encourage reading through narratives (Moura, 2022).

The qualitative analysis of children’s comments and reflections after taking part in the immersive experience of the Escape Room revealed a series of significant learnings and reflections, both in terms of specific development and broader concepts. Through their speeches, children revealed that they had the opportunity to explore various concepts related to the natural, cultural, and social environment. These reflections gave them a greater awareness of the world and a renewed interest in understanding it more deeply. The analysis also revealed the interest and motivation of the children in the game. There was seen an effort to read, interpret, and understand texts, as well as a willingness to solve problems, highlighting the potential of the Escape Room as a creative approach to teaching fundamental skills. Through contextualized and collaborative challenges, children could apply what they learned in practice, stimulating critical thinking and creativity. This study highlights the importance of exploring diversified methodologies to promote more meaningful and stimulating learning, preparing children for academic challenges and active and conscious participation in society. Through play and collaboration, the Escape Room contributed to developing essential skills for the 21st century, such as creativity, teamwork, and problem-solving. These skills are fundamental for success in the contemporary world. Although some challenges were identified as more complicated, requiring the need to provide other support for more distracted children or those with reading difficulties, even for them, the results point to the potential benefits of the Escape Room as a learning strategy in the context of primary education, as García-Tudela et al. (2019) also ensure. It is also essential to recognize some limitations of this study. Firstly, the sample was limited to two 2nd-grade classes in a single school, hence a tiny sample size with only 48 children. Additionally, the

observation period was relatively short, preventing a longitudinal analysis of the effects of the Escape Room on children's learning.

In summary, the analysis of children's feedback highlights that the Escape Room "Lulu's Adventure and the Life Transformers" was successful in various aspects. In addition to providing an immersive and enjoyable experience, it stimulated the development of essential cognitive, social, and emotional skills, leaving a positive and lasting impact on the participating children.

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