

Innovative Pedagogy Unveiled: Navigating the Future of Education through Escape Rooms

¹Ana Luísa Mateus Oliveira Chança Torres and ²Ana da Silva

¹Professor at the Polytechnic University of Santarém, Portugal

²Professor at the Polytechnic University of Santarém, Portugal

¹ana.Torres@Ese.Ipsantarem.Pt ²ana.Silva@Ese.Ipsantarem.Pt

10000-0003-2778-3415 0000-0001-6576-5803

Corresponding Author*: Ana Luísa Mateus Oliveira Chança Torres

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ABSTRACT

The study aimed to explore the impact of an "Escape Rooms Applied to Education" course on Turkish educators' perceptions and experiences. The methodology involved administering two questionnaires, one before and one after the course, to assess participants' familiarity with escape rooms, expectations, and perceptions of their educational potential. The course covered topics like game-based learning, instructional design, and strategies for creating and facilitating escape room experiences. The analysis revealed that most participants initially had limited knowledge about escape rooms, but their perceptions became increasingly positive after the course. Participants recognized the potential of escape rooms to stimulate various student competencies, such as problem-solving, self-confidence, and technological skills. The course received an extremely positive evaluation, with an overall average of 4.625 out of 5. The study highlights the positive reception of escape rooms' educational potential among educators, emphasizing their motivational and engaging qualities. Participants' definitions of escape rooms evolved, recognizing their playful, enigmatic, and challenging aspects. Overall, the study contributes valuable insights into harnessing innovative pedagogies like escape rooms to navigate the future of education effectively.

Index Terms— Escape Rooms, Education, Innovative Teaching, Learning Potential, Student Engagement

I. INTRODUCTION

The motivation behind this study is the search for innovative and engaging teaching methodologies. As educators face the challenges of capturing students' attention and promoting meaningful learning experiences, unconventional approaches are gaining prominence. There is a growing interest among educators in exploring alternative teaching methodologies that can enhance student engagement and learning outcomes. Our objective is to investigate the impact of integrating escape rooms into educational practices, specifically focusing on Turkish educators. By understanding their perceptions, experiences, and challenges, we aim to contribute to the literature on innovative teaching strategies.

Escape rooms, traditionally associated with recreational activities, have begun to emerge as a potential tool for educators to create immersive and interactive learning environments. Recognizing this potential, our study focuses on a group of Turkish educators, with limited previous exposure to escape rooms, to explore their evolving reactions, expectations, and perceptions as they attend the "Escape Rooms Applied to Education" course.

The field of education has witnessed a significant shift towards innovative teaching methodologies aimed at enhancing student engagement and learning outcomes. Among these methodologies, game-based learning (GBL) has emerged as a prominent approach, leveraging the motivational and immersive aspects of games to facilitate educational experiences. Research indicates that incorporating game elements into educational settings can improve motivation, enhance critical thinking skills, and increase retention of course content [1]. Games provide a context for learners to apply theoretical knowledge in practical scenarios, fostering deeper understanding and skill acquisition.

Escape rooms, a subset of GBL, have recently garnered attention for their potential to create interactive and challenging learning environments. These rooms typically involve a series of puzzles and challenges that participants must solve within a set time frame, promoting teamwork, problem-solving, and critical thinking [2]. The educational adaptation of escape rooms has shown promise in engaging students and providing a hands-on, experiential learning opportunity [3].

Several studies have documented the pedagogical benefits of escape rooms in educational contexts. For instance, one study found that escape rooms could significantly increase student engagement and collaboration in higher education [3]. Similarly, other research reported that escape rooms helped students develop critical thinking and teamwork skills in a medical education setting [4]. These findings suggest that escape rooms can create an active learning environment that supports various educational objectives.

Despite the benefits, there are challenges associated with implementing escape rooms in education. Designing an effective educational escape room requires careful consideration of learning objectives, appropriate puzzle complexity, and alignment with curriculum standards [4]. Additionally, logistical issues such as time constraints and resource availability can impact the feasibility of incorporating escape rooms into regular classroom activities [5].

While the existing literature provides valuable insights into the benefits and challenges of using escape rooms in education, several gaps remain. Most studies have focused on higher education settings, with limited research on their application in K-12 education or among educators themselves [5]. Furthermore, there is a lack of comprehensive studies exploring the long-term impact of escape rooms on teaching practices and student outcomes.

This study aims to address these gaps by examining the impact of an "Escape Rooms Applied to Education" course on Turkish educators. By focusing on educators from diverse educational backgrounds, this research provides a broader perspective on the applicability and effectiveness of escape rooms in various educational settings. Additionally, the study explores the evolving perceptions and experiences of educators as they engage with this innovative teaching methodology, offering insights into the potential for educational transformation [6].

The introduction of escape rooms into educational settings presents an intriguing prospect, offering a departure from conventional teaching methods and infusing an element of excitement and challenge into the learning process [6]. This study aims to contribute valuable information on the effectiveness of this new approach, highlighting its impact on educators' motivation, engagement, and overall satisfaction. Despite the relatively modest sample size of our study, consistent trends are expected to provide significant information about the reception and adaptability of escape rooms in an educational context. Exploring the expectations and perceptions of educators will shed light on the potential of escape rooms not only to captivate the interest of educators but also to enhance the learning experiences of their students [7].

By embarking on this exploration, the article aims to uncover the nuances of escape rooms' educational potential, establishing them as more than just recreational activities [7]. In doing so, both educators and researchers can learn valuable lessons about how to integrate innovative approaches into their pedagogical practices, ultimately enriching the educational landscape.

II. METHODOLOGY

The methodology employed in this study aimed to comprehensively explore the impact of the "Escape Rooms Applied to Education" course on Turkish educators. The course, designed specifically for educators, focused on integrating escape rooms into educational settings to enhance student engagement and learning outcomes. The methodology consisted of two main components: the implementation of the course itself and the administration of pre- and post-training questionnaires to assess participants' perceptions and experiences.

The "Escape Rooms Applied to Education" course was conducted from 20 to 24 February 2023, during which participants engaged in theoretical discussions, practical exercises, and hands-on activities related to the design and implementation of escape rooms in educational contexts [5]. The course curriculum covered various topics, including the principles of game-based learning, instructional design theories, and practical strategies for creating and facilitating escape room experiences [6].

Participants, consisting of Turkish educators from diverse educational backgrounds and institutions, were actively involved in the course activities. Facilitators provided guidance, support, and feedback throughout the training process, fostering a collaborative and interactive learning environment. Participants had the opportunity to explore different aspects of escape room design, including thematic development, puzzle creation, narrative construction, and assessment strategies [7].

To assess the impact of the course on participants' perceptions and experiences, two questionnaires were administered: one at the beginning of the training and the other upon its completion. The initial questionnaire

aimed to gather baseline data on participants' familiarity with escape rooms, their expectations for the course, and their perceived pedagogical potential of escape rooms in education.

The second questionnaire, administered at the conclusion of the training, sought to evaluate changes in participants' perceptions and experiences after completing the course. It included questions related to participants' experiences during the training, their reflections on the course content and activities, and their intentions to incorporate escape rooms into their educational practices.

Both questionnaires utilized a five-point odd scale to assess participants' responses, allowing for a nuanced understanding of their perceptions and experiences. Additionally, open-ended questions were included to provide participants with the opportunity to elaborate on their responses and provide qualitative insights into their experiences with escape rooms and the course.

The participants in the study consisted primarily of Turkish educators, with a diverse range of backgrounds and experiences in education. A significant proportion of participants fell within the age bracket of forty, indicating a mix of experienced and mid-career educators.

Overall, the methodology employed in this study provided a comprehensive framework for assessing the impact of the "Escape Rooms Applied to Education" course on Turkish educators. By combining course implementation with questionnaire administration, the study was able to gather both quantitative and qualitative data to explore participants' perceptions, experiences, and intentions regarding the integration of escape rooms into educational practices.

III. Analysis of results

The analysis of the results obtained from the questionnaires administered to the participants of the "Escape Rooms Applied to Education" course reveals several significant insights into Turkish educators' experience with this innovative approach in the educational context.

Initially, it is observed that the majority of participants had limited knowledge about escape rooms. Many demonstrated only a superficial understanding of the concept, indicating the need for broader education and exposure to this approach. However, throughout the course, there was a significant shift in participants' perceptions. Increased knowledge and exposure to the concept of escape rooms seemed to generate growing interest among teachers, reflected in their positive assessment of the pedagogical potential of this methodology.

Responses to the questionnaires revealed a high level of enthusiasm among participants regarding the use of escape rooms in education. Most respondents expressed positive expectations regarding the pedagogical benefits of this approach, highlighting student motivation, engagement, and satisfaction as significant advantages.

An interesting aspect of the analysis was the evolution in participants' definitions of escape rooms. The introduction of new definitions in the second questionnaire resulted in positive responses, indicating an expansion in the understanding of the concept as demonstrated in figure 1. Participants not only recognized the playful and enigmatic aspects of escape rooms but also began to consider them as personal challenges and opportunities for skill development.

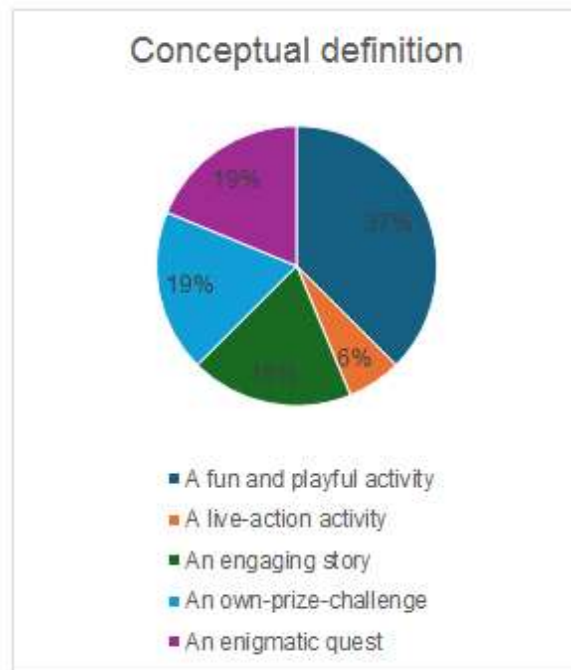


Figure 1 - Conceptual Definition

This extremely positive valuation of the course, see figure 2, no longer reduced to the first impression, emerges from the first content question inserted in the second questionnaire, which asked to evaluate the significance of this course in *escape rooms*: the overall average of 4.625 out of 5.

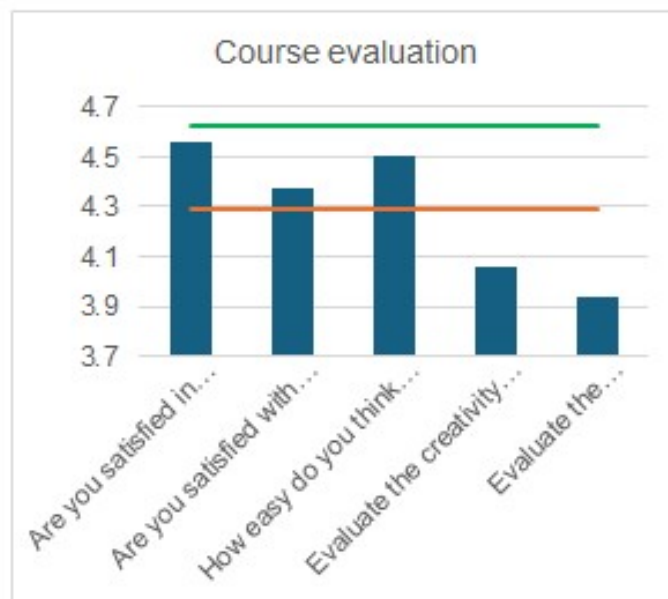


Figure 2 - Course Evaluation

In the second questionnaire, we intend to deepen the questions, trying to better understand the perceptions of teachers, because of their experience in the field. The evaluation of these perspectives regarding the motivational advantages of using *escape rooms* in a pedagogical context is generally quite positive, with an average of almost 4 out of 5. Looking at the results of the previous question, it seemed surprising that the terminology "Fun and playful" was relegated to second place *ex-aequo* with the visually appealing character as demonstrated in figure 3. It is interesting that the offer of "ease" to students has surpassed this, which seems to us to deserve to be highlighted.

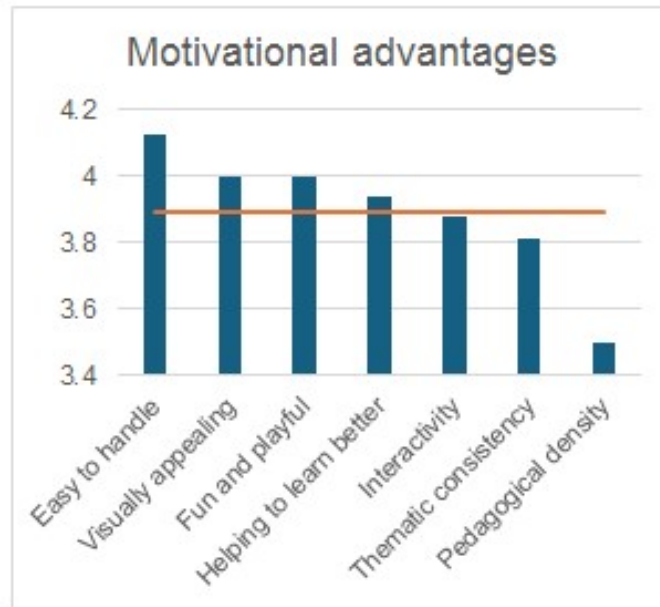


Figure 3 - Motivational Advantages

The trainee teachers were also asked to estimate the extent to which this pedagogical proposal has the capacity to stimulate the development of various types of students' skills. A battery of 15 variables was built, with the intention of achieving great coverage, even at the risk of incurring a certain redundancy.

In the first graph of skills developed, see figure 4, the ability to guide and solve problems stands out, above the global average, followed by self-confidence.

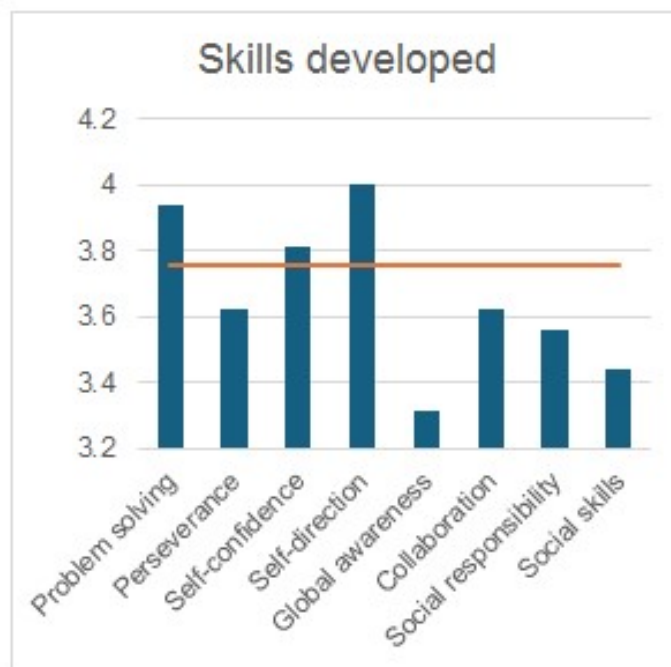


Figure 4 - Skills Developed (first graph)

In the second graph, see figure 5, technological and digital skills, the ability to think and innovate, as well as computer literacy, stand out above the global average.

Below average are social skills and various types of literacy, in addition to computer literacy.

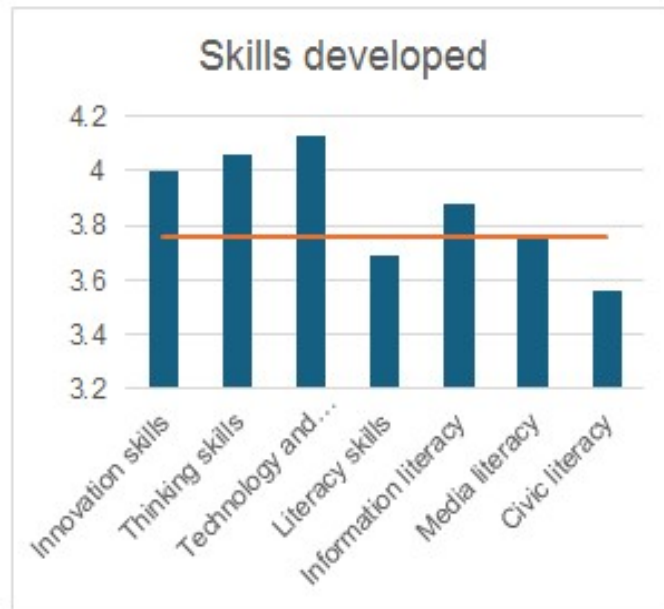


Figure 5 - Skills Developed (second graph)

While all participants expressed interest in applying what they learned about escape rooms in the future, there were variations in implementation intentions, see figure 6. Some participants showed a strong intention to incorporate this methodology into their teaching practices, while others expressed reservations, especially regarding the age groups of students. However, most participants recognized the potential of escape rooms to stimulate the development of various student competencies.

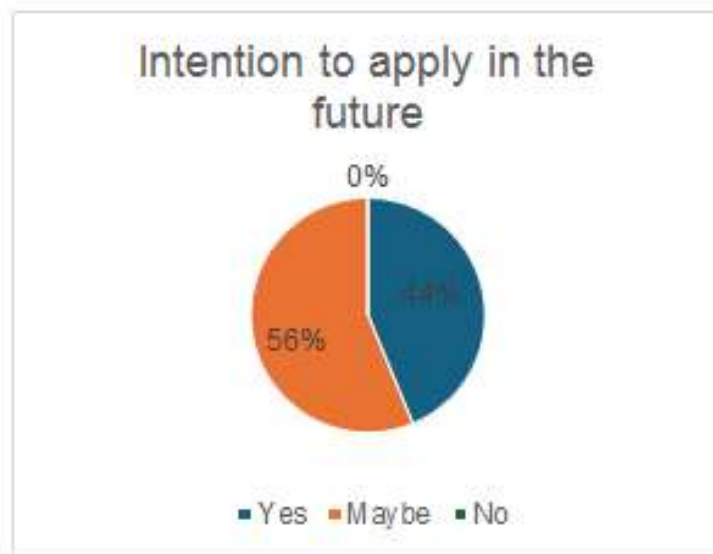


Figure 6 - Intention to Apply in the Future

The results also suggest a positive impact of the course on participants' pedagogical practice. The evaluation of the course and its significance in escape rooms was highly positive, indicating an overall perception of value and relevance.

The responses to open-ended questions highlighted areas for improvement, underscoring the importance of providing ongoing support and additional resources to educators interested in exploring this innovative approach in their classrooms.

IV. RESULTS AND DISCUSSION

The results from the questionnaires administered to educators before and after the "Escape Rooms Applied to Education" course provide comprehensive insights into the efficacy and impact of using escape rooms in educational settings.

Participants consistently highlighted the positive impact of escape rooms on various aspects of student learning and engagement. Specifically, educators noted that escape rooms significantly boosted student motivation. The interactive and immersive nature of escape rooms captivated students' attention, making learning more engaging and enjoyable. Furthermore, the collaborative nature of escape room activities was found to enhance teamwork skills among students. Working together to solve puzzles and complete tasks fostered a sense of camaraderie and collective problem-solving, essential skills for both academic and real-world success.

Educators also observed that the use of escape rooms contributed to better retention of course content. The hands-on, experiential learning approach allowed students to apply theoretical knowledge in practical scenarios, reinforcing their understanding and recall of the material. This active learning process contrasted with traditional lecture-based methods, which often rely heavily on passive absorption of information.

An interesting aspect of the study was the demographic variation within the sample group, which revealed nuanced preferences for specific aspects of escape room design and implementation across different age groups and subject areas. Younger educators and those teaching more technology-oriented subjects tended to prefer more complex, tech-integrated escape room setups. In contrast, older educators and those teaching humanities showed a preference for simpler, more narrative-driven escape rooms. These findings underscore the versatility of escape rooms in catering to diverse learning needs and preferences. They highlight the potential of escape rooms to transcend traditional classroom boundaries and foster a dynamic educational environment that can be tailored to various educational contexts and demographic groups.

The post-training questionnaire revealed an evolution in participants' definitions and perceptions of escape rooms. Initially viewed primarily as recreational activities, escape rooms, as demonstrated in figure 1, were increasingly recognized for their pedagogical potential. Participants began to see them as valuable tools for developing critical thinking, problem-solving skills, and creativity. This shift in perception was evident in the positive responses to new definitions of escape rooms introduced during the course, which emphasized their role in fostering personal challenges and skill development.

The course received highly positive evaluations from participants, with an overall rating of 4.625 out of 5 as demonstrated in Figure 2. This high level of satisfaction reflected the educators' appreciation for the course content and its relevance to their teaching practices. Participants expressed strong intentions to incorporate escape rooms into their educational practices, although some expressed reservations regarding the age appropriateness of this methodology. The majority, however, recognized the potential of escape rooms to stimulate various student competencies, including problem-solving, self-confidence, technological and digital skills, innovative thinking, and computer literacy as demonstrated in Figure 5.

Responses to open-ended questions highlighted areas for improvement, such as the need for ongoing support and additional resources for educators interested in implementing escape rooms. Participants suggested that future courses could benefit from more extended training periods and more detailed guidance on integrating escape rooms into different curricular areas. These suggestions underscore the importance of providing continuous professional development opportunities to help educators overcome practical challenges and fully leverage the benefits of escape rooms in their teaching.

V. CONCLUSIONS

This study underscores the promising potential of escape rooms as an innovative educational tool within the Turkish education system. The "Escape Rooms Applied to Education" course has had a significant positive impact on educators' perceptions, highlighting the multifaceted benefits of using escape rooms to enhance student motivation, engagement, and skill development. This innovative approach has demonstrated the ability to make learning more dynamic and interactive, fostering an educational environment that goes beyond traditional teaching methods.

The enthusiasm exhibited by participants throughout the course indicates a strong interest in integrating escape rooms into their teaching practices. Despite varied intentions regarding the specific implementation, the overall positive reception suggests that educators recognize the value of this methodology in creating more engaging and effective learning experiences. The course not only provided theoretical knowledge but also practical skills, enabling educators to design and facilitate escape rooms tailored to their specific educational contexts.

The findings of this research have several implications for educational practice. Firstly, they highlight the need for continuous professional development opportunities for educators. Ongoing training and support are essential to help teachers effectively integrate escape rooms into their curricula and address any challenges that may arise during implementation. Providing educators with resources, such as detailed guides, sample escape room scenarios, and access to a community of practice, can enhance their confidence and capability to use this innovative tool.

The study reveals the potential of escape rooms to cater to diverse learning needs and preferences. Demographic variations within the sample group showed that different age groups and subject areas may have unique preferences for escape room design and implementation. This versatility makes escape rooms a valuable addition to a wide range of educational settings, from primary schools to higher education institutions. By accommodating different learning styles and fostering a collaborative learning environment, escape rooms can help bridge the gap between traditional and modern educational approaches.

The course also demonstrated that escape rooms could stimulate the development of various student competencies. These include critical thinking, problem-solving, teamwork, creativity, and digital literacy. Such skills are essential for students to succeed in the 21st century, where the ability to think critically and work collaboratively is highly valued. The positive feedback from educators regarding the development of these skills indicates that escape rooms can play a crucial role in preparing students for future challenges.

While this study provides valuable insights, it also opens up avenues for future research. Further studies could explore the long-term impact of using escape rooms in education, examining how sustained use affects student outcomes and educator practices. Additionally, research could investigate the effectiveness of escape rooms across different cultural contexts and educational systems, providing a more comprehensive understanding of their global applicability.

This study contributes significantly to the body of knowledge on innovative pedagogies, demonstrating that escape rooms can be a powerful tool for educational transformation. By fostering a more engaging and interactive learning environment, escape rooms have the potential to revolutionize traditional teaching methods and improve student outcomes. To fully leverage this potential, it is crucial to provide educators with the necessary support and resources, ensuring they can confidently and effectively incorporate escape rooms into their teaching practices. The insights gained from this research can inform future educational strategies and professional development programs, ultimately enhancing the quality of education and fostering a more dynamic and effective learning experience for students. In conclusion, this study underscores the promising potential of escape rooms as an innovative educational tool within the Turkish education system. The course on "Escape Rooms Applied to Education" has positively influenced educators' perceptions, emphasizing the benefits of increased student motivation, engagement, and skill development. Despite varied intentions regarding implementation, the enthusiasm showcased by participants signals a significant opportunity for educational transformation. To fully leverage this potential, continued support and resources for educators are essential. The findings of this research contribute valuable insights into the efficacy of escape rooms in fostering dynamic and interactive learning environments.

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