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LEARN, PLAY, AND EXPLORE: DISCOVERING EDUTECHMENT AT TAMAN PINTAR YOGYAKARTA

BELAJAR, BERMAIN, DAN JELAJAHI: TEMUKAN PENDIDIKAN DI TAMAN PINTAR YOGYAKARTA

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Abstract

The changing characteristics of children's learning in the digital era have created a need for learning environments that are more interactive, visual, and experience-based. Conventional learning is increasingly considered less effective in maintaining children's engagement due to limited opportunities for exploration and direct interaction during the learning process. In response to this condition, the concept of edutechment has emerged as an approach that integrates educational and entertainment elements to create more enjoyable and meaningful learning experiences. This study aims to analyze the implementation of edutechment at Taman Pintar Yogyakarta as a nonformal educational tourism space. This study employed a qualitative approach using a descriptive observational research design. Data were collected through direct observation, semi-structured interviews, documentation, and field notes involving child visitors, guides, and employees of Taman Pintar. The data were analyzed descriptively through the stages of data reduction, data presentation, and conclusion drawing. The findings revealed that Taman Pintar Yogyakarta has implemented the concept of edutechment through the integration of technology, multimedia, simulations, and educational play activities within various interactive attractions. Children were actively involved in exploration, experimentation, and direct interaction with learning media, creating more concrete and enjoyable learning experiences. However, the study also found that some children tended to focus more on entertainment aspects than on understanding educational concepts. Therefore, stronger facilitation and reflective learning strategies are needed to optimize the implementation of edutechment.

Keywords : Edutechment, Interactive Learning, Experiential Learning.

Abstrak

Perubahan karakteristik belajar anak di era digital mendorong kebutuhan terhadap lingkungan belajar yang lebih interaktif, visual, dan berbasis pengalaman. Pembelajaran konvensional mulai dianggap kurang mampu mempertahankan keterlibatan anak karena terbatasnya ruang eksplorasi dan interaksi langsung dalam proses pembelajaran. Sebagai respons terhadap kondisi tersebut, konsep *edutechment* hadir sebagai pendekatan yang mengintegrasikan unsur pendidikan dan hiburan untuk menciptakan pengalaman belajar yang lebih menyenangkan dan bermakna. Penelitian ini bertujuan untuk menganalisis implementasi *edutechment* di Taman Pintar Yogyakarta sebagai ruang wisata edukasi nonformal. Penelitian ini menggunakan pendekatan kualitatif dengan jenis penelitian deskriptif observatif. Penelitian dilakukan melalui observasi langsung, wawancara semi terstruktur, dokumentasi, dan catatan lapangan yang melibatkan pengunjung anak, pemandu, dan pegawai Taman

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Pintar. Data dianalisis secara deskriptif melalui tahapan reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa Taman Pintar Yogyakarta telah menerapkan konsep *edutechment* melalui integrasi teknologi, multimedia, simulasi, dan aktivitas bermain edukatif dalam berbagai wahana interaktif. Anak terlibat aktif dalam kegiatan eksplorasi, percobaan, dan interaksi langsung dengan media pembelajaran sehingga menciptakan pengalaman belajar yang lebih konkret dan menyenangkan. Namun demikian, penelitian ini juga menemukan bahwa sebagian anak masih lebih fokus pada aspek hiburan dibandingkan pemahaman konsep pembelajaran sehingga diperlukan penguatan pendampingan dan strategi pembelajaran reflektif agar implementasi *edutechment* menjadi lebih optimal.

Kata Kunci : *Edutechment*, Pembelajaran Interaktif, *Experiential Learning.*

1. INTRODUCTION

The development of digital technology has transformed the way children learn and interact with their surroundings. Today's children grow up with digital devices, visual media, the internet, and interactive technology, which have become part of their daily lives, creating a different learning experience than previous generations (Undheim, 2021). The presence of digital technology in children's lives encourages the emergence of more visual, exploratory, and participatory learning patterns, as children become accustomed to acquiring information through videos, simulations, digital games, and interactive media (Vedechkina & Borgonovi, 2021). Research also shows that the interactivity of digital media influences children's attention, engagement, and cognitive control during the learning process (Kirkorian et al., 2021).

These changes have led to children being more attracted to learning that involves hands-on experiences and interactive activities compared to passive learning methods. Interactive learning technology enables children to actively participate in the learning process through exploration, object manipulation, and digital game-based experiences (Mowafi & Abumuhfouz, 2021). Furthermore, the use of physical-digital play technology has been shown to enhance children's exploratory behavior, problem-solving skills, collaboration, and engagement in learning activities (Torres et al., 2021). Digital interaction in the learning process also helps children build more contextual and meaningful learning experiences through emotional engagement and technology-integrated play activities (Disney & Geng, 2021).

Changing learning characteristics in the digital era have caused conventional learning to face various challenges in maintaining student engagement. Teacher-centered learning models, dominated by lectures and memorization, often cause children to lose focus quickly due to insufficient space for direct interaction and exploration (Chiu et al., 2023; Bond et al., 2021). Today's children tend to require more active, visual, and participatory learning experiences to maintain attention and motivation throughout the learning process (Zhao & Watterston, 2021; Kucirkova & Flewitt, 2022). This condition shows that traditional learning approaches are not always able to accommodate the learning needs of the digital generation which are more interactive and exploratory (Vedechkina & Borgonovi, 2021; Haleem et al., 2022).

In response to these changes, modern learning approaches have begun to emphasize the importance of active and experiential learning in children's education. Learning is no longer solely oriented toward one-way knowledge transfer, but also toward children's active involvement in experimenting, exploring, and building understanding through direct experience (David Kolb & Kolb, 2022; Kukulska-Hulme et al., 2021). Research shows that experiential learning can increase children's emotional engagement, curiosity, creativity, and critical thinking skills compared to passive learning (Kay & King, 2022; Hachey et al., 2022). Furthermore, interactive and exploration-based learning environments also help children build more meaningful and contextual learning experiences (Marouli et al., 2023; Fleer, 2021).

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Interactive learning approaches are also considered more relevant to the characteristics of today's children, who are accustomed to digital technology and visual media. The use of educational games, simulations, multimedia, and exploratory activities has been shown to increase children's participation and motivation in learning by providing a more engaging and enjoyable learning experience (Hassan et al., 2021; Papadakis, 2021). Other research shows that interactivity and game-based learning can help improve children's focus, engagement, and conceptual understanding through more dynamic learning activities (Relvas et al., 2024; Sailer & Homner, 2020). Therefore, learning innovations that position children as active subjects are becoming increasingly important in creating learning experiences that meet the needs of the digital generation.

The emergence of the edutechment concept is one response to the changing learning characteristics of children in the digital era. Edutechment is a combination of education and entertainment, integrating elements of learning with entertainment to create a more engaging, interactive, and enjoyable learning experience (Anikina & Yakimenko, 2021). This approach positions children as active participants in the learning process through games, simulations, exploration, and the use of interactive media, so that learning focuses not only on delivering material but also on meaningful learning experiences (Marouli et al., 2023). In practice, edutechment has evolved through the use of digital technology, multimedia, educational games, and interactive learning spaces that can increase children's engagement during the learning process (Hassan et al., 2021).

The edutechment approach is considered relevant to the characteristics of today's children, who are more responsive to visual and participatory learning. Research shows that entertainment-based and interactivity-based learning can increase children's learning motivation, curiosity, and emotional engagement compared to conventional learning (Relvas et al., 2024). Furthermore, the use of educational games and interactive simulations can help children understand abstract concepts more concretely through hands-on experience and active exploration (Calderón et al., 2021). Learning that combines elements of play and hands-on experience has also been shown to help create a more flexible and enjoyable learning environment for children (Kay & King, 2022).

The development of edutechment has also encouraged the emergence of various alternative learning spaces that integrate education with recreational experiences. Interactive museums, science centers, educational tours, and children's exploration spaces are examples of learning environments that implement the edutechment concept through experience-based activities and direct interaction (Marouli et al., 2023). These learning environments enable children to acquire knowledge through play, trying out tools, conducting experiments, and interacting directly with learning media. Therefore, edutechment is not only understood as a learning method, but also as an approach capable of providing a more contextual learning experience tailored to children's needs in the digital age.

The development of the edutechment concept has also encouraged the emergence of educational tourism as an alternative learning space that integrates elements of education, entertainment, and hands-on experience within a single learning environment. Unlike formal classroom learning, educational tourism provides a more flexible, interactive, and contextual learning environment, enabling children to acquire knowledge through exploration and real-life experiences (Marouli et al., 2023). Learning spaces such as interactive museums, science centers, and educational parks enable children to learn through observation, experimentation, play, and direct interaction with learning media (Kay & King, 2022). Research shows that experiential learning environments can increase children's curiosity, emotional engagement, and motivation to learn by providing a more enjoyable and participatory learning process (Relvas et al., 2024).

One example of an edutechment-based learning space in Indonesia is Taman Pintar Yogyakarta, which combines elements of education, technology, and entertainment in various interactive spaces. Facilities such as a science zone, interactive demonstration equipment, technological simulations, and educational games enable children to learn through hands-on play and exploration. This concept makes Taman Pintar not only a recreational destination but also an alternative learning space that supports experiential learning. Therefore, observing edutechment practices at Taman Pintar Yogyakarta is

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important to understand how interactivity, technology, and play can shape children's learning experiences in the digital age.

Although the concept of edutechment has been widely discussed in educational studies, research on its implementation in non-formal learning spaces in Indonesia remains relatively limited. Most previous studies have focused on the use of digital media and educational games in formal school settings (Hassan et al., 2021; Calderón et al., 2021). However, edutechment practices can also be formed through children's direct interactions with exploratory and experiential learning environments.

Based on these conditions, this study was conducted to analyze how edutechment practices are implemented through play, exploration, technology use, and child interaction within educational tourism spaces. This study also aims to provide an overview of the role of alternative learning spaces in supporting more interactive, contextual, and child-centered learning in the digital era.

2. RESEARCH METHOD

This study used a qualitative approach with a descriptive observational approach to describe the implementation of edutechment in non-formal learning spaces at Taman Pintar Yogyakarta. This approach was used to understand children's learning experiences, interactions, and exploratory activities that occur naturally in the field without any manipulation of the research subjects (Sugiyono, 2022).

The study was conducted in April 2026 at Taman Pintar Yogyakarta, chosen because it integrates elements of education, technology, and entertainment through various interactive attractions. The research subjects included children's interactions, the use of learning technology, exploratory activities, and visitor responses during their use of the educational attractions. The research subjects consisted of child visitors, guides, and Taman Pintar staff directly involved in learning activities and visitor support.

Data collection techniques included observation, interviews, documentation, and field notes. Direct observations were conducted at various educational attractions to observe children's engagement and learning experiences. Semi-structured interviews were conducted with staff and guides to obtain information about educational activities and the implementation of the edutechment concept. Documentation and field notes were used as supporting data throughout the research process. The data were analyzed descriptively using source triangulation techniques, which included data reduction, data presentation, and conclusion drawing (Matthew B. Miles et al., 2018). The analysis focused on the forms of children's interactivity, the use of technology as a learning medium, exploration-based learning experiences, and the relationship between play activities and the learning process at Taman Pintar Yogyakarta, as described below.

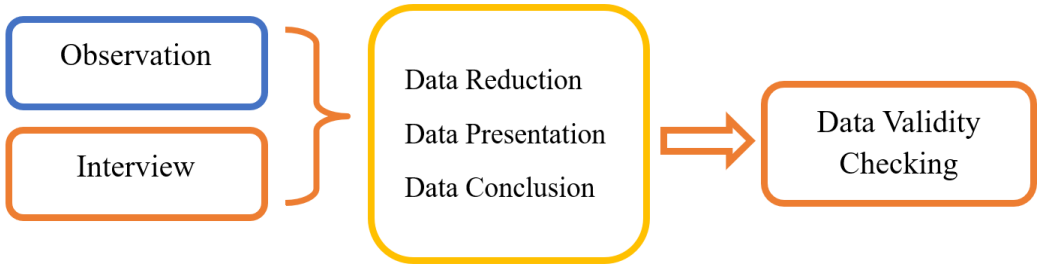

Figure 1. Source Triangulation Technique

3. RESULT AND DISCCUSSION

Taman Pintar as an Edutechment Space

Observations show that Taman Pintar Yogyakarta offers a learning environment distinct from formal classroom learning. The learning environment is designed as an exploratory space with various interactive facilities that enable children to learn through play, experimenting with tools, and conducting hands-on experiments. This is evident in the Oval and Box Buildings, which are filled with

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interactive science demonstrations, technology simulations, logic games, and visual media that visitors can touch and operate. This informal learning environment allows children to move freely, ask questions, and be interested in trying out various facilities without the academic pressures of a classroom.

These findings indicate that Taman Pintar implements the concept of "learning by doing," a key characteristic of edutech. Children do not simply receive information passively but instead construct learning experiences through direct interaction with learning media. This aligns with the concept of experiential learning, which emphasizes that knowledge is formed through direct experience and active student involvement (David Kolb & Kolb, 2022). The interactive learning environment also helps foster children's curiosity and motivation because the learning process is presented in a fun and exploratory manner (Marouli et al., 2023).

In addition to educational elements, Taman Pintar also integrates entertainment elements through visually appealing spatial designs and recreational learning experiences. Attractions such as the Planetarium, 4D Theater, and interactive simulators demonstrate how science and technology concepts are packaged in educational entertainment, allowing children to feel like they are playing while actually learning. This demonstrates that the boundaries between learning and play are becoming increasingly flexible in edutech practices. Learning is no longer understood as a rigid and formal activity, but as an experience that can occur through recreational and exploratory activities.

Interviews and observations also showed that the interaction between the guides and children was communicative and supportive. The guides helped explain how to use the equipment, directed the children's activities, and stimulated simple questions during the activities. These findings demonstrate that the presence of guides plays a crucial role in helping children understand the learning experiences gained from each attraction. However, observations revealed that learning activities at Taman Pintar still tend to be educational recreation with short durations and lack systematic learning reinforcement (recall) stages. This situation indicates that although the edutechment concept has been strongly implemented through interactivity and direct learning experiences, pedagogical aspects of learning can still be developed to make children's learning experiences more in-depth and meaningful.

Interactivity and Children's Learning Experience

Observations show that interactivity is one of the most dominant characteristics of the learning process at Taman Pintar Yogyakarta. Children not only look at the teaching aids but also actively try, touch, operate, and conduct simple experiments on various educational facilities. In the Oval Building and Box Building areas, for example, children were enthusiastic when trying out electrical simulation devices, optical illusion games, and simple experiments based on scientific principles. These activities demonstrate that the learning process occurs through children's direct engagement with the learning media, making them active participants in their learning experiences.

This active engagement demonstrates that learning at Taman Pintar is not centered on a one-way delivery of information, but rather on exploratory experiences that allow children to construct their own understanding. Children were seen learning through the curiosity that arises spontaneously when trying out tools or observing certain phenomena. In some facilities, children were even seen repeating the same experiments multiple times to understand how the tools work. This demonstrates that interactivity can encourage independent exploration and increase children's emotional engagement throughout the learning process. These findings align with the concept of active learning, which places students at the center of learning activities through direct experience and active exploration (Kay & King, 2022).

In addition to enhancing learning activities, interactivity also helps create a more enjoyable and less stressful learning experience. Children appear more willing to experiment, ask questions, and interact with the learning environment compared to formal classroom learning situations. In the West Early Childhood Education (PAUD Barat) area, for example, children engage in sensory play and exploratory activities that allow them to learn through movement, touch, and simple games. These activities demonstrate that learning occurs naturally through play and interaction with the surrounding

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environment. This type of experiential learning is considered to increase children's motivation, self-confidence, and engagement in the learning process (Marouli et al., 2023).

However, observations also indicate that not all children experience the same depth of learning experiences. Some children appear more focused on the entertainment and gameplay aspects than on understanding the educational concepts of the rides. This is particularly evident in rides with high visual appeal and interactive gameplay, where children tend to enjoy the play without reflecting on the learning concepts being introduced.

Therefore, the presence of guides and companions plays a crucial role in helping children connect play activities with more meaningful learning experiences. Communicative and interactive guidance can help children understand the simple concepts of each activity so that the edutechment process does not stop at mere entertainment, but also produces contextual and meaningful learning experiences.

Technology as a Learning Media

The use of technology is a crucial element in edutech practices at Taman Pintar Yogyakarta. Observations show that various attractions at Taman Pintar utilize digital media, simulations, audiovisuals, and technology-based tools to help children understand learning concepts more concretely. The use of technology is evident in the Planetarium, 4D Theater, earthquake simulator, and various multimedia-based demonstrations in the Oval Building and the Kotak Building. The presence of visual media and interactive simulations makes it easier for children to understand phenomena that are difficult to explain abstractly through traditional lecture methods.

In the Planetarium, for example, concepts of the solar system and astronomy are presented through digital projections of space, creating an immersive experience for visitors. Children not only listen to explanations about the planets and the solar system but also see visual simulations of the movement of celestial bodies. This helps children develop their imagination and a more concrete understanding of previously abstract scientific concepts. These findings demonstrate that technology can function as a means of concretizing concepts in children's learning.

Furthermore, the use of simulators and interactive tools also helps create a more contextual learning experience. In the earthquake simulator, children can experience vibrations and situations that mimic earthquake conditions, so learning is not only theoretical but also based on direct experience. These activities demonstrate that technology in Taman Pintar is used not only as a visual entertainment medium but also as a means of building understanding through sensory and simulated experiences. This type of simulation-based learning is considered capable of increasing children's engagement and retention because concepts are learned through direct experience.

The use of technology in learning also helps create a more engaging learning environment for digital generation children who are accustomed to visual and interactive media. Children appear more focused and enthusiastic when interacting with multimedia-based tools than when receiving only verbal explanations. These findings demonstrate that technology can bridge the learning needs of today's children with a more adaptive and participatory educational process. However, observations indicate that the effectiveness of technology use is still influenced by guidance and explanations from the guide. Without guidance and conceptual reinforcement, children can potentially focus more on the entertainment aspect than on the educational value of the activities.

Learning through Play and Exploration

Observations show that the learning process at Taman Pintar Yogyakarta takes place through play and exploration activities directly undertaken by children. Various attractions are designed not only as entertainment but also as a means to encourage children to discover learning experiences through enjoyable activities. In the West Early Childhood Education (PAUD) area, for example, children are seen engaging in sensory play, motor activities, and exploratory play, allowing them to learn through movement, touch, and interaction with their surroundings. This demonstrates that learning can occur naturally when children feel comfortable and enjoy the activities they undertake.

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Furthermore, spontaneous exploration is a key part of the children's learning experience at Taman Pintar. Children are seen freely moving from one attraction to another, guided by their curiosity. Some children are seen trying out equipment independently before seeking assistance from a guide, while others engage in discussions with peers when they discover interesting phenomena on certain props. These activities demonstrate that learning at Taman Pintar is not rigid and structured like in a formal classroom, but rather develops through a flexible, hands-on, experience-based exploration process.

This type of play-based learning aligns with the characteristics of early childhood, who tend to learn more effectively through concrete activities and direct experiences rather than abstract learning. Play serves not only as a recreational activity but also as a medium for developing children's curiosity, thinking skills, social interaction, and problem-solving skills. In the context of edutechment, play serves as a means of connecting entertainment with the learning process, allowing children to experience learning without feeling "forced." These findings demonstrate that a fun learning environment can increase children's engagement and participation more naturally.

However, observations also show that learning experiences through play still depend heavily on how children interpret the activities. In some situations, children appear more interested in pursuing the game aspect than understanding the educational purpose of the tools used. This situation indicates that exploration-based learning still requires guidance so that play experiences can develop into more reflective and meaningful learning experiences. Thus, the success of the edutechment concept lies not only in the presence of interactive tools, but also in the learning environment's ability to direct play activities into contextual learning processes.

Challenges and Critical Notes in Edutechment Practice

Although Taman Pintar Yogyakarta has provided an interactive and enjoyable learning experience, observations indicate that the practice of edutechment in the field still faces several challenges. One key finding is the tendency of some children to focus more on the entertainment aspect than on understanding the learning concepts of the rides. Their fascination with visuals, games, and interactive activities often leads children to enjoy the play experience without reflecting on the knowledge gained. This situation suggests that interactivity does not always automatically result in in-depth learning understanding if it is not accompanied by pedagogical conceptual reinforcement.

Furthermore, observations indicate that educational activities at Taman Pintar are generally relatively short in duration and lack systematic recall or reinforcement stages. Children gain experience trying and exploring various rides, but their reflection on what they have learned is still limited. As a result, the learning experience can potentially stop at exploratory activities without being followed by deeper conceptual understanding. This situation suggests that the entertainment element in edutechment needs to be balanced with strategies for mentoring and learning reinforcement to more optimally achieve educational goals.

The role of guides is also a crucial factor in determining the quality of children's learning experiences. Observations revealed that guides at Taman Pintar demonstrated friendly, communicative, and supportive interactions with child visitors. However, it was found that there was no structured pedagogical training system for guides, and there was no differentiation of activities based on the child's age. This is despite the fact that the characteristics and learning needs of early childhood differ from those of elementary school-aged children and adolescents. This situation suggests that developing the quality of edutechment depends not only on the availability of interactive facilities but also on the readiness of human resources to appropriately support children's learning processes.

Another finding was the limitations in the professionalism and career development of guides. The outsourcing system has resulted in guide positions being more technical-operational in nature without a clear career development path. This situation has the potential to impact the sustainability of guide competency development in supporting children's learning practices. Therefore, strengthening the edutechment concept at Taman Pintar requires not only innovation in facilities and

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technology, but also strengthening the mentoring system, pedagogical training, and professional development of the guides to ensure optimal and meaningful learning experiences for children.

4. CONCLUSION

Based on the result of data analysis and the discussion of the result in the previous chapter, the researcher concludes that Taman Pintar Yogyakarta has implemented the edutechment concept through the integration of learning, technology, and entertainment in various interactive facilities. The informal learning environment encourages children to actively experiment, explore, and interact directly with learning media, making the learning process more enjoyable and less monotonous.

The use of interactive teaching aids, simulations, multimedia, and exploratory activities helps children gain more concrete and contextual learning experiences. Children do not simply receive information passively but are directly involved in the learning process through play, experimentation, and interaction with the learning environment. This demonstrates that exploration-based learning experiences can foster children's curiosity and engagement throughout the learning process.

However, this study also found that edutechment practices at Taman Pintar still face several challenges, particularly in strengthening pedagogical aspects and supporting children's learning. Some children still focus more on the entertainment aspect than on understanding the educational objectives of the facilities used. Therefore, strengthening support, differentiating activities based on children's age, and developing more reflective learning strategies are needed to make the learning experience more meaningful.

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