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Identification of Discovery Learning Method Based on Edutainment (Zenius) to Increase Student Motivation on Business and Energy Materials

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ABSTRACT

Purpose of the study: This research aims to identify the effectiveness of discovery learning methods based on edutainment, specifically using the Zenius application, to enhance student motivation in learning business and energy concepts.

Methodology: This qualitative research employs a literature study approach, with sources obtained from books, journals, and other relevant materials. Data analysis was conducted using the Miles and Huberman model.

Main Findings: The literature study revealed that the edutainment-based discovery learning method, exemplified by the Zenius application, significantly enhances students' understanding of business and energy topics. This research aims to provide readers with valuable insights into the benefits of edutainment-based discovery learning methods like Zenius.

Novelty/Originality of this study: This study contributes new knowledge by demonstrating the potential of edutainment-based discovery learning methods to improve student engagement and comprehension in business and energy subjects. It advances existing knowledge by highlighting the practical application of the Zenius platform in educational settings, offering a novel approach to integrating technology and learning.

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1. INTRODUCTION

Learning is a process that leads to relatively permanent changes in a student's behavior, resulting from their interaction with the environment. Achieving effective learning outcomes requires a conducive environment that supports this process [1]-[4]. Learning is characterized by the development of new abilities, the permanence of these changes, the fact that these changes result from deliberate effort, and that they are not solely due to physical growth, fatigue, illness, or the influence of substances [5]-[8]. The discovery learning method is an instructional approach that encourages students to actively engage in the learning process by discovering and investigating information independently, leading to deeper understanding and retention of the material. This method can be divided into two types: Free discovery learning, where students explore without specific guidance, and guided discovery learning, where educators act as facilitators, providing direction and support throughout the learning process [9]-[11].

Traditional teaching methods, such as lectures, often result in student disengagement, as these methods tend to be passive and can lead to boredom and reduced student participation [12]-[16]. Consequently, there is a growing need to adopt more interactive and effective teaching methods, such as discovery learning, which

actively engages students and enhances their cognitive abilities in problem-solving. By using the discovery learning method, students are more likely to grasp material concepts effectively, as they are actively involved in the learning process rather than passively receiving information [17]-[21].

Research Gap on this study while the discovery learning method has been recognized for its effectiveness in fostering deeper understanding and cognitive engagement, there is limited research on its practical application across diverse educational contexts and subjects. Much of the existing literature focuses on its benefits in controlled environments or specific subjects, with less attention given to its adaptability and effectiveness in broader classroom settings. Additionally, the comparative effectiveness of free versus guided discovery learning remains underexplored, particularly in relation to different types of learners and educational outcomes.

This study aims to evaluate the effectiveness of the discovery learning method in enhancing student engagement and learning outcomes compared to traditional lecture-based approaches. The research will investigate the impact of both free and guided discovery learning on students' understanding of key concepts, retention of knowledge, and problem-solving skills. By addressing these aspects, the study seeks to contribute to the ongoing discourse on innovative teaching strategies, offering insights into the practical implementation of discovery learning in diverse educational settings.

2. RESEARCH METHOD

This study employs a qualitative research design, focusing on how students experience and interact with specific phenomena within certain contexts and time frames. Understanding these experiences is crucial for researchers who aim to gain insights from the students' perspectives [22]. The research adopts a non-interactive approach, specifically through document analysis, where data sources include journals, books, documents, and other relevant materials.

The primary data collection technique used in this research is documentation analysis, which involves examining and interpreting various forms of recorded information. This method is particularly valuable for historical and biographical research. The documentation analyzed in this study includes written documents, sound recordings, photographs, electronic files, and videos [23].

The research instruments include a variety of documentation forms, such as: 1) Written Documents, Articles, reports, and research papers; 2) Sound Recordings, Audio files related to educational activities or interviews; 3) Photographs, Visual documentation of educational environments or student activities; 4) Electronic Files and Videos, Digital materials that provide additional context or evidence for the phenomena being studied.

The research procedure is visually represented in the chart below:

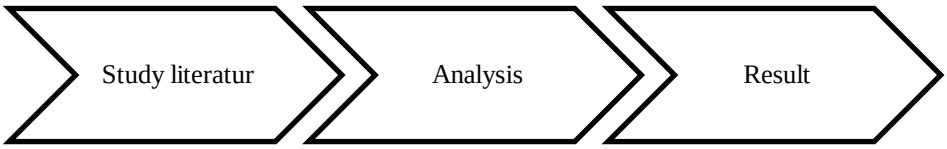

Figure 1. Research procedures

Data analysis is conducted using the Miles and Huberman model, which emphasizes the presentation of structured information in a way that facilitates drawing conclusions. According to Miles and Huberman, data analysis involves three main steps: 1). Data Reduction, This involves selecting, focusing, simplifying, abstracting, and transforming the data that appear in written-up field notes or transcriptions.; 2). Data Display, Data display refers to organized, compressed assembly of information that permits conclusion drawing and action. In this step, data is presented in a structured manner that allows for easy interpretation.; 3). Conclusion Drawing and Verification, The final step involves drawing conclusions from the data and verifying the findings. This process is ongoing throughout the analysis, with conclusions drawn continuously and revisited as more data is processed. This methodology ensures a comprehensive exploration of how students experience and interact with educational phenomena, providing in-depth insights into their perspectives and the broader educational context.

3. RESULTS AND DICUSSION

The 2013 curriculum emphasizes learning models such as Discovery Learning, Problem-Based Learning, and Project-Based Learning. Among these, Discovery Learning stands out as it aligns closely with the curriculum’s goals. According to Sumianingrum [24], Discovery Learning involves engaging students in mental processes that help them discover knowledge, concepts, and principles through the assimilation of previously acquired information. In this model, students are encouraged to learn actively by exploring concepts and

principles, with teachers facilitating experiences that lead to self-discovery [25]. The Discovery Learning model follows a structured process with six stages: stimulation, problem identification, data collection, data processing, verification, and drawing conclusions.

The application of Discovery Learning offers several advantages, particularly in enhancing students' cognitive skills and fostering inquiry-based learning. This model encourages active participation, develops an inquiry attitude, promotes interaction among students and teachers, and hones cognitive abilities to solve problems independently [26]-[28]. In science education, Discovery Learning can significantly improve students' conceptual understanding and scientific attitudes, directing them toward self-acquired knowledge. However, despite these advantages, the model has its limitations. Ardyansyah & Fitriani [29] note that potential drawbacks include challenges in problem detection, misunderstandings between teachers and students, and the fact that not all students are equally capable of making discoveries. Additionally, the model may not be applicable to all lesson topics.

Edutainment is another approach that merges educational content with entertainment, making learning more enjoyable [30]. The concept of Edutainment is based on three key principles: positive emotions accelerate learning, effective use of reasoning and emotional potential can lead to unexpected leaps in achievement, and appropriate motivation and teaching methods tailored to learning styles and modalities can significantly enhance learning outcomes. Motivation plays a crucial role in driving students to achieve, as it fuels their efforts and persistence in the learning process. Khadijah et al [31] asserts that the intensity of a student's motivation is a strong determinant of their learning achievements. The Edutainment method can increase student engagement in group activities and assignments, thereby improving learning outcomes. Unlike traditional methods, Edutainment does not follow a rigid structure but instead uses strategies to make learning easier and more enjoyable, potentially altering negative attitudes toward learning. This approach creates a harmonious learning process, helping to achieve desired educational objectives [32].

Learning media are tools specifically designed to stimulate students' thoughts, emotions, attention, and will, facilitating the learning process. Learning media can be in the form of knowledge, reading materials, or interactive activities that students engage in to acquire skills or change attitudes [33]-[35]. In the context of online learning, especially during the pandemic, digital platforms like the Zenius website have become increasingly important. Zenius offers interactive animations and multimedia content that enhance the learning experience, making it easier for students to grasp complex concepts like physics.

Zenius is an e-learning platform that offers a comprehensive range of educational resources, including learning videos, practice questions, and exam preparation materials, covering all levels from elementary to high school. The platform's content aligns with various Indonesian curricula, including KTSP, Curriculum 13, and Curriculum 13 Revision. Zenius provides three main products: 1). Zenius Website, Contains free downloadable learning videos and practice question packages; 2). Zenius App, An Android-based application that includes interactive practice questions and learning videos; 3) Zenius Achievement, A product designed for schools and teachers to facilitate the exam process, offering tools for creating questions, conducting CBT exams, and providing automated evaluations.

The novelty of this research introduces the innovative use of Edutainment and e-learning platforms like Zenius as complementary strategies to traditional learning models. By integrating these approaches, the discussion highlights the potential for combining structured learning models with interactive and engaging digital tools to enhance student motivation and achievement. The implication findings suggest that incorporating Discovery Learning with Edutainment and interactive learning media like Zenius can significantly improve student engagement, motivation, and learning outcomes. Schools and educators should consider blending these methods to create a more dynamic and inclusive learning environment that caters to diverse learning styles and needs. The Limitation study primarily focuses on theoretical and qualitative analysis, which may not fully capture the practical challenges of implementing these learning models in diverse educational settings. Additionally, the effectiveness of these approaches may vary depending on factors such as student demographics, teacher expertise, and available resources. Further empirical research is needed to explore the scalability and adaptability of these methods in different contexts. The recommendation in this research is Blended Learning Models, Schools should explore combining traditional learning models with Edutainment and interactive digital platforms to create a more engaging and effective learning experience. Teacher Training, Provide professional development opportunities for teachers to become proficient in using Edutainment and e-learning tools, ensuring they can integrate these methods effectively into their teaching practices. Curriculum Integration, Incorporate Edutainment principles and interactive learning media into the curriculum, ensuring that these tools complement and enhance existing teaching models like Discovery Learning. Continuous Evaluation, Implement regular assessments to monitor the impact of these methods on student learning outcomes, allowing for ongoing adjustments and improvements. Resource Allocation, Ensure that schools have access to the necessary digital tools and resources to implement these innovative learning methods, including reliable internet access and appropriate devices for all students. By following these recommendations, educators can create a more adaptive and engaging learning environment that better meets the needs of today's students.

4. CONCLUSION

Based on the discussion of the literature review, it can be concluded that the edutainment-based discovery learning method, exemplified by the Zenius application, is highly effective in enhancing students' understanding of business and energy concepts in physics. The Zenius application facilitates students' engagement with physics lessons on work and energy by providing free access to educational resources. Through the app, students can explore features such as instructional videos that align with the learning material they need to study. Watching these videos helps students grasp complex concepts, such as the application of formulas in work and energy, more easily and effectively.

The success of the Zenius application in improving students' comprehension of challenging physics topics suggests that incorporating edutainment-based discovery learning methods can significantly enhance educational outcomes. This approach not only makes learning more accessible but also more engaging, particularly in subjects that students often find difficult. The use of multimedia tools like instructional videos allows students to visualize complex concepts, which can lead to a deeper understanding and retention of the material. As such, educators should consider integrating similar edutainment-based resources into their teaching strategies to support diverse learning styles and improve student performance. Moreover, the availability of free educational resources through platforms like Zenius can reduce barriers to learning, making quality education more equitable. To capitalize on these benefits, schools and educational institutions should encourage the use of such applications and provide the necessary support for their effective implementation. Additionally, ongoing evaluation of these tools' effectiveness will be crucial in adapting and refining their use to meet students' evolving needs.

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