

## DEVELOPMENT OF A DISCOVERY LEARNING-BASED E-BOOK OF ENGLISH LEARNING ACTIVITIES TO ENHANCE JUNIOR HIGH SCHOOL STUDENTS' LEARNING ENGAGEMENT

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### ABSTRACT

*This study aims to develop an e-book containing a guide to English learning activities based on the Discovery Learning approach, designed to enhance the learning engagement of eighth-grade junior high school students. The background of this development stems from initial findings indicating low levels of student engagement in learning, both cognitively, emotionally, and behaviorally. The study employs the ADDE development model (Analysis, Design, Development, Evaluation), which consists of four main stages. Initial data were collected through classroom observations, teacher interviews, and document analysis to understand the current learning conditions and the needs of teachers. The resulting product is an e-book that includes learning activities along with teacher instructions, student activities, engagement focus, assessment, and teacher reflection. Expert validation results indicate that the e-book is feasible to use in terms of content, design, and alignment with the principles of Discovery Learning. These findings suggest that the e-book has the potential to serve as an effective learning medium that actively promotes student engagement.*

*Keywords: Discovery Learning, E-book, English Language Learning, Learning Engagement*

### INTRODUCTION

Students' learning engagement is a crucial aspect to consider in education. According to Nelson (2018), one of the vital components of the learning process is student engagement itself, which is why it has recently gained significant attention. Learning

engagement not only reflects how actively students participate in the learning process, but also indicates their attention, interest, and enthusiasm toward the subject matter, as well as their interactions within the classroom (Nelson, 2018). Bai Fenglei (2024) emphasizes that the higher the level of student engagement in learning, the greater the impact on their learning outcomes. Therefore, student engagement should become a primary focus in the learning process. According to Gunuc and Kuzu (2014), student engagement in the learning process is important because it is directly related to the effectiveness of teaching and students' academic success. One of the key indicators of instructional quality that can enhance motivation, self-confidence, and critical thinking skills is student engagement. This is supported by Barnacle & Dall'Alba (2017), Kahu & Nelson (2018), and Koranteng et al. (2019), who state that students' engagement in the classroom is closely linked to optimal learning outcomes.

In general, students' learning engagement consists of three main dimensions: emotional, behavioral, and cognitive engagement. Emotional engagement refers to how students feel about school, teachers, peers, and their overall learning environment (Ali et al., 2021; Gul et al., 2022). Students who feel comfortable and enjoy the learning process are considered to have emotional attachment. Behavioral engagement can be observed through attendance, active participation in discussions, and compliance with classroom rules (Nguyen, 2016). Meanwhile, cognitive engagement is seen in how students ask questions, develop learning strategies, and make efforts to deeply understand the material (Maru & Pajow, 2019). However, in classroom learning processes, many teachers still face challenges in fostering student engagement. This can be caused by several factors, such as teacher-centered instruction and the lack of meaningful interaction between teachers and students, which leads to passive learning and student boredom (Aero, 2022; Wahyuli & Ifdil, 2020). This issue is also reinforced by teachers' limited understanding of how to design learning activities that stimulate students' emotional, cognitive, and behavioral engagement. As a result, students tend to become mere listeners, simply following the teacher's instructions without opportunities for exploration and interaction.

Based on the results of the initial observation, it was found that the learning engagement of eighth-grade students was still relatively low. Many students were unfocused, lacked active participation, and showed little enthusiasm during the learning process. This issue was mainly caused by teacher-centered learning, which relied heavily on lectures and lacked varied activities that actively involved students. One learning approach that can be used to address this problem is the Discovery Learning method. The Discovery Learning model allows students to become active participants who independently seek, discover, and construct their own understanding of the learning material (Hosnan, 2016; Alvira et al., 2022). Discovery Learning encourages students to

learn through exploration and inquiry, rather than simply receiving information from the teacher, thereby promoting greater student involvement in the learning process. This approach aligns with the 21st-century learning paradigm, which emphasizes the development of critical thinking, creativity, communication, and collaboration skills (Anugerahwati, 2019). Therefore, this study aims to develop English learning activities based on the Discovery Learning model to enhance the learning engagement of eighth-grade students at SMP Negeri 5 Singaraja across the three dimensions of engagement: cognitive, emotional, and behavioral. Additionally, these learning activities are expected to make students more active and motivated in their learning, thereby improving their academic performance.

## RESEARCH METHOD

This study is a development research that adopts the ADDE model (Analysis, Design, Development, Evaluation). This model was chosen because it provides systematic and structured stages. The aim of this study is to develop English learning activities based on the Discovery Learning model to enhance the learning engagement of eighth-grade students at SMP Negeri 5 Singaraja. In the Analysis stage, the researcher analyzed the classroom learning process, including the level of student engagement and the teaching methods used by the teacher. Data were collected through classroom observations, interviews with the English teacher, and document analysis (Learning Objectives Flow). These data were used to identify learning issues, particularly the low level of student engagement and the teacher-centered instructional approach. In the Design stage, the researcher developed a blueprint for the learning activities based on the analysis results. The blueprint was also aligned with the syntax of Discovery Learning, which includes stimulation, problem identification, data collection, data processing, verification, and generalization. In the Development stage, the prototype of the product was created and then revised by experts. This stage involved compiling the prototype of the e-book, which serves as a teacher's guide containing learning activities complete with teacher instructions, teacher expressions, student engagement focus, and teacher reflection. The prototype was then revised based on feedback from expert validators. In the Evaluation stage, the prototype was assessed through expert judgment and user judgment to determine the quality and feasibility of the product. The subjects of this study were the 30 students of class VIII B at SMP Negeri 5 Singaraja. This class was selected based on initial observations showing that the students exhibited a low level of learning engagement. The research site was SMP Negeri 5 Singaraja, located at Jl. Pulau Irian, Penglatan, Buleleng District, Buleleng Regency, Bali. The data collection techniques used in this study included, Observation conducted to observe students' behavior during the learning process and to record their engagement in class using a rating scale observation

sheet. Interviews conducted with the English teacher to gather information related to teaching strategies, challenges, and classroom needs. Document study carried out to analyze instructional documents such as teaching modules, curriculum, and textbooks used by the teacher.

## **FINDING**

This study aims to develop Discovery Learning-based English learning activities in the form of an e-book containing a teacher's guide to enhance the learning engagement of eighth-grade students at SMP Negeri 5 Singaraja. The development model used is ADDE, which consists of four stages: Analysis, Design, Development, and Evaluation.

- **Analysis Stage**

In the initial development stage, the researcher collected data on the English learning process in the eighth-grade class at SMP Negeri 5 Singaraja. Data collection was carried out through classroom observations, interviews with the English teacher, and a review of instructional documents. The observation results indicated that most students appeared to be less engaged during the learning process. Behaviorally, only a small number of students actively answered questions or took notes. Most students simply listened to the teacher's explanations and did not show active participation. Emotionally, students also seemed less enthusiastic and were easily distracted, especially during the final periods of the day, when many students continued chatting while the teacher was delivering the lesson. Cognitively, students rarely asked questions, showed limited curiosity, and were not actively involved in discussions. In addition, an interview was conducted with the English teacher. The teacher stated that students' engagement was still relatively low due to several factors, including low learning motivation, lack of self-confidence in speaking English, and an uncondusive classroom environment particularly since English lessons were often scheduled during the last period. The teacher also mentioned that the lessons mostly relied on lectures and workbook exercises. The use of learning media was limited, which caused students to become easily bored. According to the teacher, students need more engaging learning activities that allow them to actively participate throughout the learning process.

The teacher also explained that efforts had been made to build rapport with the students, motivate them, and create a comfortable classroom atmosphere so that students would not feel afraid when learning English. However, the teacher admitted to still facing challenges in designing learning activities that could truly enhance students' cognitive, emotional, and behavioral engagement. The researcher also analyzed the instructional document Learning Objectives Flow used by the teacher. The results showed that the teaching materials were still largely text-based. As a result, active learning approaches

had not been fully implemented, and there were no systematically designed activity guides aimed at fostering student engagement. Based on this analysis, the researcher concluded that there is still a need to develop instructional media that can address these challenges. These findings indicate that students' learning engagement remains low in terms of cognitive, emotional, and behavioral dimensions. This aligns with Aero's (2022) view that lecture-based learning tends to make students passive. A lack of variety in learning activities and media also contributes to students becoming less active and disengaged in the learning process (Wahyuli & Ifdil, 2020). One solution is to design learning activities based on the Discovery Learning model, which can enhance student engagement behaviorally, emotionally, and cognitively.

- Design Stage

After conducting the needs analysis, the researcher began designing learning activities to be developed in the form of an e-book that serves as a guide for teachers. The design was based on the results of classroom observations, teacher interviews, document analysis of the Learning Objectives Flow, and consideration of the principles of the Discovery Learning model. The activities were structured to encourage students to actively engage in the learning process. Each learning activity was designed following the six stages of the Discovery Learning syntax: Stimulation, Problem Identification, Data Collection, Data Processing, Verification, and Generalization. The researcher also developed detailed lesson steps, implementation instructions, learning objectives, student engagement focus (cognitive, emotional, and behavioral), and teacher reflection after implementation. In addition, during the design stage, the researcher began preparing other supporting components such as teacher expressions, illustrations, and visual elements to make the e-book more engaging. The writing of the e-book also took into account the suitability for junior high school students' level. With this e-book, teachers will have ready-to-use learning activity guides for classroom implementation.

- Development Stage

After the blueprint for the learning activities was completed, the next stage was development. The researcher began creating the e-book based on the blueprint and organized it into an attractive format using Canva. The layout was designed to be neat, visually appealing, and easy for teachers to understand. Various visual elements such as icons, colors, images, and tables were used to help explain the content and clarify instructions. The e-book underwent several rounds of revisions. After the first version was completed, the researcher sought feedback from the academic advisor. Based on the suggestions provided, several revisions were made, including: clarifying teacher instructions, adjusting the language level, adding teacher expressions, refining the page

layout, and including a student engagement assessment rubric for each activity. Revisions were also made to the assessment sections and the worksheets attached at the end of each activity. Additionally, the researcher added a “Teacher Reflection” section to encourage teachers to independently evaluate the implementation process. With all of these improvements, the developed e-book is not merely a collection of activities, but a comprehensive guide for teachers to implement English language learning using the Discovery Learning approach. This e-book was specifically designed following the principles of Discovery Learning, which consists of six stages. Each activity in the e-book is also aimed at promoting student engagement across emotional, behavioral, and cognitive aspects. This aligns with Anugerahwati’s (2019) assertion that Discovery Learning is well-suited to developing 21st-century skills such as critical thinking, creativity, collaboration, and communication. Moreover, the inclusion of a reflection section for teachers in each activity helps support continuous improvement in teaching practices.

- Evaluation Stage

The evaluation stage was conducted to determine the feasibility level of the developed e-book. The assessment was carried out using two approaches, expert judgment and user judgment. The expert validation was conducted by the academic advisor, who has expertise in the field of English language teaching. The expert provided feedback on the content, clarity of instructions, language use, visual appearance, and alignment with the Discovery Learning syntax. Based on the validation results, the e-book was deemed suitable for use, with several improvements already implemented. The user evaluation was carried out by the English teacher who represents the target user of the e-book. This is in line with Hosnan’s (2016) statement that exploration-based learning media can enhance student engagement.

## DISCUSSION

The results of this study indicate that the learning engagement of Class VIIIB students at SMP Negeri 5 Singaraja is still relatively low, particularly in the cognitive, emotional, and behavioral aspects. This study aimed to develop Discovery Learning-based English learning activities in the form of an e-book that can improve students' learning engagement. The main findings of this study show that student engagement remains low across all three dimensions cognitive, emotional, and behavioral. This low level of engagement is evident from the lack of student participation in discussions, minimal initiative to ask questions, and a general lack of enthusiasm during the learning process. This supports the views of Aero (2022) and Wahyuli & Ifdil (2020), who argue

that teacher-centered learning and a lack of variation in classroom activities can cause students to become bored and disengaged. In addition, Gunuc & Kuzu (2014) also emphasize that student engagement is significantly influenced by the teaching strategies used. These findings are in line with the principles of 21st-century learning, which emphasize the development of the 4Cs: Critical Thinking, Communication, Collaboration, and Creativity. Anugerahwati (2019) states that Discovery Learning can enhance students' conceptual understanding because it gives them the opportunity to discover knowledge on their own. This forms a strong foundation for the development of the Discovery Learning-based e-book. The e-book was designed to provide learning activities that require students to be actively involved. Each activity is structured according to the Discovery Learning syntax, allowing students to experience independent thinking from responding to a stimulus, identifying problems, collecting and processing data, to drawing conclusions independently. As a result, students are actively engaged behaviorally, emotionally, and cognitively. According to Hosnan (2016) and Anugerahwati (2019), Discovery Learning is an approach that encourages students to discover knowledge independently, while also fostering self-confidence and a strong sense of curiosity. The learning activities developed in this e-book also consider the needs of junior high school students, including the use of appropriate language and supportive visuals. The evaluation of the e-book through expert judgment and user judgment is still planned as part of the final evaluation stage. However, based on the design that has been developed, this e-book was created with careful consideration of active learning principles and alignment with the Discovery Learning syntax. Although it has not yet been tested directly in the classroom, the e-book is expected to serve as a practical guide for teachers in designing more varied and engaging lessons. The activities included are not only intended to deliver content but also to encourage students to actively participate and think independently. Furthermore, the e-book does not merely offer ready-to-use activities; it is also equipped with a teacher reflection section. Through this feature, teachers are encouraged to evaluate the learning process they have conducted and to consider adjusting their teaching strategies to better meet the needs of their students. Therefore, this e-book is expected to serve as a valuable tool that supports teachers in creating active and engaging classroom learning experiences.

## CONCLUSION

This study was conducted in response to the low level of learning engagement among eighth grade students in English classes. This was evident from the students' limited participation in discussions, low curiosity, and lack of enthusiasm during the learning process. Observation and interview results revealed that the use of lecture-dominated methods and the lack of varied activities caused students to become passive.

This condition negatively affects learning outcomes and decreases student motivation. To address this issue, the researcher developed an e-book containing Discovery Learning-based learning activities. The e-book was developed using the ADDE model (Analysis, Design, Development, Evaluation). Each activity in the e-book is not only based on the Discovery Learning syntax but is also specifically designed to enhance student engagement in three key areas: cognitive, emotional, and behavioral. The activities aim to encourage students to learn more actively thinking independently, expressing opinions, participating in discussions, and being directly involved in the learning process. This aligns with 21st-century learning principles, which emphasize the importance of critical thinking, collaboration, creativity, and communication.

Overall, the results of this study indicate that the development of an e-book containing Discovery Learning-based learning activity guides has the potential to serve as a useful learning medium for English education in junior high schools. The e-book was designed to address the issue of low student engagement often faced by teachers, covering cognitive, emotional, and behavioral aspects. This product offers a variety of learning activities based on the Discovery Learning syntax and is equipped with supporting components such as teacher instructions, verbal expressions, student engagement focus, and teacher reflection. Each activity is designed to be directly applicable in the classroom and tailored to student needs. Although it has not yet been tested in actual classroom implementation, this e-book shows potential to contribute to improving student engagement. It is hoped that the e-book will assist teachers in creating a more comfortable learning environment, encouraging students to become more confident, express

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