Environmental Education in Grammar Learning Process for Junior High School students by using Multifunctional English Learning Media (MELDe)

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Abstract. The teaching and learning process is no longer what it used to be. If the learning process is not adapted to the times, students will not be interested and the learning process will be ineffective, likewise with learning English in Indonesia, especially in grammar learning process. The inadequacy of learning media has decreased student enthusiasm and motivation in learning grammar. Previous researchers have relied primarily on one learning model without combining it with other models. This situation can actually lead the students’ tedium because there is no combination of several learning models. Therefore, this paper presents MELDe (Multifunctional English Learning Devices) as a smart solution to overcoming this problem. This research used Research and Development Methodology with 20 Islamic junior high school students randomly in Pekanbaru as the samples. The research has distributed the questionnaire and MELDe learning media demo video via Google Form and Youtube to obtain the data needed. The data analysis technique used qualitative data in a descriptive form that described the practicality of MELDe. The practicality observation for MELDe, which used the ADDIE model, aimed to observe the practicality of this learning media as an English learning tool, especially on grammar material. All scores in the assessment aspect have been calculated and got an average score of 77.2% in the ‘practical’ category. Therefore, MELDe is stated to be ‘practical’ for junior high school students in learning English grammar and can be boosted up the enthusiasm of students in learning process.

1. Introduction
English has become an international language which is a prerequisite for many academic, career, and social needs. In view of this situation, English ability of students in Indonesia should improve from year to year as a provision for soft skills in the future. But unfortunately, the quality of English in Indonesia actually decreases from year to year, which can be proven from the average national English exam results of all junior high schools in Indonesia from 2015 to 2019. The reason behind why it has to be reviewed through the junior high school national exam is because junior high school education is the first formal level of education for learning English in Indonesia. The score for the grammar category only reaches 50.56. Meanwhile, in social functions and text structures categories, the numbers are above the grammar, specifically 54.59 and 53.43 [1]. The national exam average score of the grammar category is certainly not included in the satisfactory category. Though in fact, grammar is a very important foundation in English. If the English foundation in the form of grammar is not solid, then other English language skills will be disrupted [2].

Low students' understanding of grammar material results in a lower national exam score for the grammar category. The reason why English grammar is challenging to be understood by the junior
high school level is that; (1) English is a foreign language in Indonesia thereupon it is rarely used in everyday conversation. (2) The educational support system for English is inadequate, both in terms of teaching staff and the media and supporting facilities in learning. This will affect ineffective learning and shallowness of student understanding in learning English. (3) Most teachers still only use conventional teaching and learning systems such as monotonous one-way lecture methods. In addition, teachers also do not add variety to modern teaching systems using technology or games. (4) Some internal factors of students precisely lack of enthusiasm, motivation, and earnestness in learning English. Therefore, it can be ascertained that the lack of grammar understanding in Indonesian junior high school students is caused by the insufficiency of students' enthusiasm and motivation in learning English due to the shortage of interactive learning media facilities and the monotonous conventional teaching system [3], [4], [5].

In consequence, learning innovations are needed to increase the enthusiasm and understanding of grammar in junior high school students. The innovation is in the form of supporting media in the implementation of the English learning process by combining conventional and modern learning methods. This media also consider geographical conditions around the school and the students' emotions as the plot. Therefore, the authors propose the concept of MELDe (Multifunctional English Learning Devices) as a smart solution to increase the enthusiasm of junior high school students in learning English grammar.

2. Methodology

2.1. Literature of Learning Media
Learning media can be used to stimulate the thoughts, feelings, and abilities or skills of students so as to facilitate the learning process [6]. All forms of media can be interpreted quite broadly and include a deep understanding of humans, nature, environment, and methods used for learning or training purposes. And also, good learning media can convey messages, feelings, stimulate students' thoughts, and wishes so that the learning process can be created. In this study, the learning media that has been established is animation and game.

Animation is an image structure that is manipulated in such a way that it can move and sound. Various animation media were used by researchers in various fields of science in learning, such as interactive animation as a learning medium in English (Figure 1), three-dimensional interactive animations for planting media simulations and animation media for Mathematics learning of flat-build material. All of these studies report that media that has been created can attract students' interest in learning [7], [8], [9].

**Figure 1. Animation of learning English**

While, game for learning media is also being considered lately due to the modern era. There are many things that are used to make games as a learning tool. The process starts with an accurate analysis of needs and ends with an evaluation of the game that has been made. Even before the design began, the education team, curriculum, and game experts decided on the lessons to be taught to students. Figure 2 is one example of game as learning media [10].
Figure 2. Learning media snakes and ladders game

2.2. Characteristics of Student Enthusiasm in Learning

Students need to have enthusiasm and enthusiasm in learning to improve their mastery of subject matter [11]. Likewise with learning English, students must have enthusiasm and high enthusiasm in learning it so that learning outcomes are more optimal. Some of the characteristics of students who have enthusiasm in learning, precisely: (1) students do not realize and question learning time, (2) students show responsive attitudes and curiosity towards learning such as asking questions about learning material, (3) students are focused and always pay attention to the explanation from the teacher, (4) and enjoy doing the work of the teacher [12].

2.3. Types of Research

This research used ‘Research and Development Methodology’ or commonly known as R&D Method (research and development). This research method is used to update previous ideas, produce innovative products, and test the effectiveness of these products. The development model in this study used the ADDIE (Analysis-Design-Development-Implementation-Evaluation) model. This research was conducted to produce a learning media product to support English grammar learning, namely MELDe, which is a combination of video animation and game.

2.4. Instructional Model of ADDIE

ADDIE's instructional model was developed in the 1970s and became the first choice used for learning design [13]. In this model, there are five sequential stages and related to each other: Analysis, Design, Development, Implementation, and Evaluation. This model provides an effective approach and focuses on feedback for continuous improvement (Figure 3).

1. Analysis is the first step in the ADDIE model. The process that occurs at this stage is to analyze and identify the problems that are the object of research. The analysis phase can be done by discussing directly with the teacher or making direct observations on school students. In this paper, the problem analyzed was the obstacles of junior high school students participating in learning English. Students were not enthusiastic about learning English because the teaching system was still only focused on the lecture system and the existing learning media were no longer relevant to student needs.

2. Design is the design of media that will be used to overcome these problems. The design phase is the stage that consists of the process of designing concepts, frameworks, and forms of media. Media design must pay attention to the relationship of the media to the issues raised. This study raised the problem of lack of student enthusiasm in the process of learning English. Thus, media design targeted to increase the enthusiasm of students in learning English.
3. Development is the process of realizing product design. MELDe development was based on a predetermined design. There are a number of processes for developing MELDe, including developing conceptual designs, framework designs and also learning media design.
4. Implementation is the stage of implementing media that has been developed. The developed media can be tested first on a limited sample before being used in learning.
5. Evaluation can be done anytime and in any phase. Evaluation can be done at the time of design or at the time of manufacture. The results of this evaluation will be input into the ongoing process.

![ADDIE Model](image)

**Figure 3.** The flow of making learning media with ADDIE

2.5. **Data Collection Instruments**
The data collection instrument in this study used practicality questionnaire. This sheet had been distributed to 20 students of Islamic Junior High School randomly in Pekanbaru via Google Form. Students had to watch a demo video of MELDe on Youtube before filling out the form. Several aspects of this practicality test were related to attractiveness, usability, and reliability of MELDe as the learning media.

2.6. **Data Analysis Technique**
This research used qualitative data in a descriptive form as data analysis technique to describe the practicality of MELDe. Analysis of the practicality of MELDe learning media was carried out in the following steps:

a. Making a questionnaire containing 3 aspects of assessment (attractiveness, usability, and reliability of MELDe) where each aspect has 4 questions.
b. Provides answer scores with criteria in table 1 [14]:

| No | Category       | Score |
|----|----------------|-------|
| 1  | Strongly agree | 5     |
| 2  | Agree          | 4     |
| 3  | Neutral        | 3     |
| 4  | Disagree       | 2     |
| 5  | Strongly disagree | 1     |

c. Distributing the questionnaire and MELDe learning media demo video to 20 junior high school students randomly in Pekanbaru via Google Form and Youtube.
d. Students observed the aspects of attractiveness, usability, and reliability MELDe and gave the score in the questionnaire.
e. Determining the percentage value of practicality for each assessment category with the formula:

$$NP = \frac{R}{SM} \times 100\%$$
PV = Practicality value
S = Total score on one aspect
SM = Maximum score of the test
100% = Percentage

f. Providing practicality assessment with criteria in table 2[15]:

| No | Percentage of Practicality | Category        |
|----|-----------------------------|-----------------|
| 1  | 86-100                      | Very Practical  |
| 2  | 76-85                       | Practical       |
| 3  | 60-75                       | Quite Practical |
| 4  | 55-59                       | Less Practical  |
| 5  | 54                          | Impractical     |

3. Results and Discussion

3.1. Multifunctional English Learning Media
As a form of technology utilization and learning media innovation, this paper offers two learning media with two functions at once. This learning media is a combination which contains two sets of media. The first media is a collection of animated grammar learning videos which are used during the learning process (figure 4). Those videos are adapted to the geographical conditions around the school and the students' emotions. Meanwhile, the second media is a "Spinning Numbers" game tool which is used after the learning process takes place (figure 5). The combination of these two media is called MELDe (Multifunctional English Learning Devices).

Figure 4. The animation of MELDe

Figure 5. Game in MELDe
3.2. Results
The practicality observation for Multifunctional English Learning Devices (MELDe), which used ADDIE model, aims to see the practicality of this learning media as an English learning tool, especially on grammar material. This practicality test started on 15 June 2020 with 20 random students of Islamic Junior High School in Pekanbaru as the sample of this research. The samples watched a demo video of MELDe on Youtube then filling in the observation sheet, which had been distributed via Google Form. Several aspects of this practicality test were related to attractiveness, usability, and reliability of MELDe. The following are the results of the student observation sheets on the demo video using MELDe.

| No. | Practical Aspects of MELDe | Percentage of Practicality | Category |
|-----|-----------------------------|-----------------------------|----------|
| 1.  | The attractiveness of MELDe (quality of animations, colors, movement, sound) | 78% | Practical |
| 2.  | The usability (the usage of media) | 77.2% | Practical |
| 3.  | The reliability (quality of learning material) | 76.4% | Practical |
|     | Average Score               | 77.2% | Practical |

Based on the results of practicality observation analysis, it can be seen that the first category, 'The attractiveness of MELDe', have achieved a score of 78%. This shows that students were interested in the animations, colors, movement, sound, and properties contained in MELDe. The second category is 'The usability' which have gotten a score of 77.2%. This indicates that students were able to operate MELDe easily. And the last category is 'The reliability' which gets a score of 76.4%. This shows that students were able to understand the grammar learning material delivered through MELDe. All scores in the assessment aspect were calculated and got an average score of 77.2% in the 'practical' category. Therefore, MELDe (Multifunctional English Learning Devices) learning media was stated to be very practical for junior high school students in learning English grammar.

4. Conclusion
The results of this study indicated that MELDe (Multifunctional English Learning Devices) learning media was in the practical category as English grammar learning media. Students were interested in the appearance, usability, and understanding of the material available on MELDe. Consequently, it is hoped that MELDe can increase the enthusiasm and motivation of junior high school students in the learning process of English grammar.

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