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The Effectiveness of LR-DOMBL as VCDLN Model to Increase the Students' Reading Comprehension on Junior High School

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Abstract: This study examines the role of Learning Resources-Digital Mobile Blended Learning (LR-DOMBL) as a VCDLN Model, which can be used for subjects at school, one of which is English. One of the implications of LR-DOMBL is in the form of mobile learning, which is assumed to improve reading comprehension skills for 8th-grade junior high school students. Mobile learning is a new learning technology facilitating the optimal learning process and learning results for the teachers and students. This study was conducted to investigate the effectiveness of mobile learning to increase the students' reading comprehension in one Islamic junior high school in Garut, West Java, Indonesia. The researchers applied a quantitative pre-experimental research design in this study. Its participants were 30 students of Class 8. The researchers used pre-test and post-test data collection techniques to gain the research data. The result of this study showed that mobile learning effectively increases the students' reading comprehension. Therefore, the researchers concluded that mobile learning is appropriate for the optimal learning process and learning results.

Keywords: mobile learning, reading comprehension, junior high school.

1. Introduction

In this electronic revolutionary era, information and communication technology (ICT) gives many benefits for people as its' users almost in every aspect, especially in learning [1]. One of the information and communication technologies used in the learning activities is mobile learning. Mobile learning is the new form of e-learning that enables users to create and access the learning material by smartphone anywhere and anytime [2].

Since March 2020, mobile learning has become increasingly important in educational environments in Indonesia because of how the Covid-19 pandemic has limited activities related to education. All students, from elementary schools to universities, now do school-learning activities at home. These students learn many subjects, complete their schoolwork, and take exams at home [21].

A required subject in junior high school is English, which includes listening comprehension, reading comprehension, speaking skills, and writing skills. Reading comprehension is an activity entailing the comprehension of all aspects of a text and must be

mastered by students in Indonesia, especially students in junior high schools, senior high schools, and universities. Reading comprehension is a complex cognitive process through which readers obtain detailed information from a text by connecting to both generalizations and their previous knowledge [3, 20]. Therefore, this study examines the effectiveness of mobile learning on increasing students' reading comprehension.

Several studies have addressed reading comprehension in relation to mobile learning. A study by [4] examined the effectiveness of peer assisted learning strategies (PALS) on improving students' reading comprehension. The study utilized a quantitative pre-experimental research design in an Islamic senior high school in Garut, Indonesia. Both pre- and post-test research instruments were used with 30 student participants. The results showed that PALS was effective at improving students' reading skills. In the pre-test data, the lowest score was 60, the highest score was 90, and the average score was 80. However, in the post-test data, the lowest score was 75, the highest score was 100, and the average score was 85.

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The results of the Wilcoxon test gave a Sig score of 0.000 ($0.000 < \alpha = 0.05$), thus the hypothesis alternative was accepted. The normalized gain score was 0.292, which showed low improvement in the students' reading skills after using PALS.

In another study, Dewi [5] sought to determine the relationship between students' interest in reading and their reading comprehension. Using a simple random sampling technique, 38 students taking a second semester reading class were selected for the study.

Regression analysis and correlation were used to analyze the data. The results showed a positive correlation between reading interest and reading comprehension. The level of students' reading comprehension was determined by their high or low reading interest. Based on the findings, reading interest categorized as "very high" was found in creative reading comprehension group. This finding showed that the more students read, the easier they comprehended the meaning of what they read, both explicitly and implicitly. These results could be a consideration for education practitioners and students seeking to improve students' reading comprehension.

Third, research by [6] sought to develop mobile learning using the jigsaw technique while teaching physics. The research followed the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) model [7]. The mobile learning application was validated by experts for technical aspects and by seventh- and eighth-grade students for application acceptance. The results for both aspects were positive. This means that this mobile learning application could be used to increase students' interest in learning.

Another study by [8] analyzed the application of Android-based mobile learning media in physical education, sports, and health (PJOK). The results showed that the overall percentage of material expert validation was 73.61% with feasible criteria, while the overall percentage of media expert validation was 68.75% with feasible criteria. The overall percentage of practitioner expert validation was 90% with very feasible criteria, and the percentage of students' assessment through small group tests for all aspects was 81.60% with very feasible criteria. The percentage of students' assessment through large group tests for all aspects was 83.92% with very feasible criteria. The results show that the mean score of the experimental class was 82.97, while that of the control class was 78.11. The study concluded that the development of an Android-based mobile learning media product is feasible for use in the PJOK learning process. Android-based mobile learning media are also effective in improving students' learning outcomes.

Finally, research by [9] investigated the effect of mobile learning on the development of students' academic achievements and conversational skills at Najran University. This study applied a quasi-

experimental research design. The participants of this study were 50 students divided into two groups: 25 students as the control group and 25 as the experimental group. The results of this study revealed that mobile learning as variant of LR-DOMBL in virtual community digital learning nusantara (VCDLN) model had a significant effect on the academic achievements and conversational skills of students, and the researchers who suggested the use of mobile learning to teach learning activities.

2. Literature Review

2.1. Mobile Learning

Mobile learning is a new strategy to learn technology that implements mobile devices to improve learning achievement among students [10]. Furthermore, mobile learning can be an alternative that solves educational problems and facilitates easier learning for students anytime and anywhere, which is not limited by place and time. Therefore, it can be concluded that mobile learning is a new interactive method to learn multimedia that uses mobile phone as an accessible and cheap learning resource that is not limited by place and time.

In addition to this, there are several benefits to utilization of mobile learning to teach learning: they help students increase their learning ability, facilitate students to learn both individually and in group, motivate them to explore learning materials in-depth, help them focus on learning material, and raise their confidence in learning [11].

2.2. Reading Comprehension

Reading comprehension is a complex process that detects culturally specific references and interprets them in a context of appropriate cultural schemata, to develop and use several many reading strategies, recognize the communicative purpose of text, infer context of the text and links and connections between events, ideas, etc. [12]. Furthermore, reading comprehension is considered as a part of literacy to comprehend and get all the required information from the text [8].

In this case, there are several steps involved in reading comprehension, including having previous knowledge based on the topic, decoding alphabetic symbols on the text by using effective reading strategies, and connecting the information from the text to the reader's previous knowledge [13]. Therefore, it can be concluded that reading comprehension is a complex activity to comprehend a text in detail by decoding all the writing systems from the text.

2.3. The Effectiveness of Mobile Learning as LR-DOMBL as VCDLN Model in Reading Comprehension

The researchers implemented mobile learning as an interactive multimedia learning technology in the reading comprehension subject. Mobile learning is in the form of an application that can be installed by both teachers and students as users of mobile learning. In addition, the application is an Android package used to save an application or program in an Android-based mobile phone [14]. This mobile learning application is an interactive multimedia tutorial consisting of the following:

- a. Title page with "Recount text" as the learning material.
- b. Application menus with core and basic competencies of learning recount text, goals of learning recount text, materials of recount text, and quizzes of recount text.
- c. Core and basic competencies of the learning recount text menu is based on the syllabus of the English subject.
- d. Goals of the learning recount text menu refers to the main objectives of learning recount text, which should be reached by the students after learning the recount text materials in the mobile learning application.
- e. Materials of the recount text menu consists of the definitions of recount text, the structure of recount text, the language features of recount text, and the examples of recount text.
- f. Quizzes of the recount text menu consists of several quizzes related to students' understanding of all materials about recount text.

3. Methodology

The research question is "How effective is mobile learning in increasing students' reading comprehension?" This research question is evaluated through these hypotheses:

H_0 : The use of mobile learning to increase students' reading comprehension is not effective.

H_1 : The use of mobile learning to increase students' reading comprehension is effective.

The researchers applied a quantitative method in this study because this study had several criteria, they were:

- a) This research had a problem in the form of research variables.
- b) This research had a literature review.
- c) This research had a research question.
- d) This research had an objective of the study.
- e) This research had hypotheses.
- f) This research involved 30 students as participants.
- g) This research had numeric data.
- h) This research had a general character.

The above characteristics of this research were in line with the criteria of quantitative research by [15], they are:

- 1) It deals with numbers to assess the information.
- 2) It has hypotheses.
- 3) Data can be measured and quantified.
- 4) It aims to be objective.
- 5) Findings can be evaluated using statistical analysis.
- 6) It represents complex problems through variables.
- 7) Results can be summarized, compared, and generalized.

Then, the researchers applied a pre-experimental research design in this study because there was only one group involved in this study with 30 students of Class 8 from one Islamic junior high school in Garut, West Java, Indonesia, as the research participants. The pre-experimental research design involves one group of participants to do the pre-test, have the training, and do the post-test in the research [16]. In addition, the minimum number of participants in quantitative research is 30 [17]. Therefore, this research is categorized as a quantitative pre-experimental research design.

The numerical data for this research was gained from the pre-test and post-test results of the research participants. The data was analyzed using the SPSS application. The results of the research were as follows.

4. Results and Discussion

The use of mobile learning to increase students' reading comprehension was effective. This statement was successfully demonstrated by this research. First, the pre-test and post-test results: of the pre-test results, the lowest score was 60, the highest score was 90, and the average score was 76; of the post-test results, the lowest score was 70, the highest score was 100, and the average score was 83. This finding is in accordance with the research described in [18].

Second, the Wilcoxon test gave a significance score of 0.000. If the significance score is less than α , this means that the alternative hypothesis can be accepted. In this case, the significance score of 0.000 is less than α of 0.05. Thus the alternative hypothesis was accepted. In conclusion, the use of mobile learning to increase the students' reading comprehension was effective. This finding also reflects previous research [19]. Third, the normalized gain test gave a normalized gain score of 0.292. This finding reflects the research described in [19]. In the present research, the post-test score showed a slight improvement over the pre-test score. Thus, it can be concluded that the use of mobile learning to increase students' reading comprehension was effective.

This study's main findings indicate that the

application of mobile learning as a variant of LR-DOMBL has provided an opportunity to improve reading comprehension skills more effectively in eighth-grade junior-high-school students. This finding can be used as an encouragement for English teachers in Indonesia to monitor and believe in the mobile-learning model and the LR-DOMBL concept.

The research participants were familiar with English. They had a great interest in English. Thus, they did not have any difficulty in completing all the research tasks, including the pre-test, the training, and the post-test. For this reason, there was only a slight improvement in the students' reading comprehension after applying mobile learning in the reading comprehension subject.

We can conclude from this that the use of mobile learning was effective in increasing students' reading comprehension.

5. Conclusion

Based on this study's results, it can be concluded that: (a) the application of mobile learning as a variant of LR-DOMBL in the VCDLN model has an impact on improving the reading comprehension abilities of eighth-grade junior-high-school students with a significant range of scores, and (b) learning with the mobile-learning application as a variant of LR-DOMBL in the VCDLN model is effective in improving the reading comprehension skills of eighth-grade junior-high-school students; (c) In the normalization analysis, the distribution of improvement in reading comprehension ability of Grade 8 students is even.

This research recommends that every innovation in learning English is directed effectively to improve students' competence. In particular, this competency will improve through a varied learning model generated through the LR-DOMBL concept. Mobile learning as one of its variants can be presented through television media, as developed by research within Virtual Community Digital Learning Nusantara (VCDLN) research framework.

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