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## The Implementation of Improve Method Using LCD Media and Its Effect on Student's Learning Outcome

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**Abstract.** Improve method is a method that has a high level of meaningfulness of students' activeness. This research was conducted to find out the effect of the improve method by using LCD media on student's learning outcomes. Participants in this study were 120 students. This experimental research was conducted in SMA YLPI Pekanbaru. The results showed a significant effect between the Improve method and LCD media on learning outcomes. There were significant differences between learning outcomes of the experimental class who got treatment by using the improve method.

**Keywords:** Improve Method, LCD Media, Learning Outcomes

### 1. Introduction

Learning is a process of teaching and learning activities that play a role in determining student's learning outcomes. According [1], learning is a process in which there are interactions between the teacher and students and reciprocal communication that takes place in educational situations to achieve learning goals. To make learning easier for students to understand, methods and media are needed as intermediaries for the delivery of subject matter.

Learning method is a procedure to assist students in receiving and obtaining information in order to achieve learning objectives [2]. The importance of using methods in a learning process will influence learning outcomes. Learning outcomes as an indicator of the achievement of learning objectives cannot be separated from the factors that influence learning outcomes themselves. Factors are internal factors and external factors [3]. Internal factors are factors that exist in individuals who are learning. Internal factors include: physical factors and psychological factors. External factors are factors that exist outside the individual. External factors include: family factors, school factors, and community factors.

The learning process using media is a tool to deliver the subject matter. Learning media can change conventional learning into non-conventional learning. The use of media aims to provide results and motivation to students. In addition, it must stimulate students to remember what they have learned besides providing new learning stimuli. Good media will also enable students to respond, give feedback and also encourage students to practice well.



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Based on the observation in SMA YLPI Pekanbaru, the teacher doesn't use varied methods and rarely utilize learning media. Because of that, it sometimes leads to a low result of student's learning outcome. It was seen by students' lack of attention in receiving the subject which caused boredom in these students. Their boredom means that it is necessary to present the materials in various ways.

The improve method is one method that has a high level of meaningfulness on student's activity. In this method, students are introduced to a new concept, give metacognitive questions and then practice solving several problems related to the material. Teacher sees the difficulties that students encounter, and students can evaluate what they have learned in order to enrich and expand insight knowledge.

One of the activities in the improve method is metacognitive activity. Flavel, Gardner and Slavin stated that metacognitive is "knowledge of his own learning, about how he learns and how he monitors the way he learns". But the teacher is the key to achieving the mission of perfecting the learning process. Understanding the teacher's view of teaching methods will affect the role and activity of students in learning. In improving learning outcomes in the learning process can be done with a variety of media, one of which uses LCD (Liquid Crystal Display). The proper and varied use of educational media can overcome students' passive attitudes [4].

In regards to learning outcomes, the researchers attempted to apply the improve method using the learning media LCD (Liquid Crystal Display) to be developed for Accounting subject. Many consider that accounting is difficult. Therefore the use of media and this method can provide solutions to their difficulties.

## 2. Research Methods

The design of this research is an experimental research method. Experiments are always carried out with a view to seeing the effects of a treatment. The trick is to compare one or more comparison groups that did not receive treatment. This study was conducted in class X SMA YLPI Pekanbaru Academic Year of 2018/2019 in March. The population in this study includes students of class X 1 with a total of 42 students, X 2 with a total of 41 students and X 3 with a total of 42 students.

Based on the test result of normality, the *pretest* data of three classes obtained that data from the *pretest* had normal distribution and homogeneity of the test results obtained from the data *pre-test* data were homogeneous variance, so the third class had an equal opportunity to be the sample class. The elements of the implementation of this research consisted of: Preparation phase, and implementation phase. The research instruments include: Learning Tools (syllabus, lesson plans, *Pre-Test* and *Post-Test* Questions, Documentation Studies).

Data Analysis Techniques include; Instrument Test, Item Validity using the *Product Moment* formula, Item Reliability, Distractor Distinguishing Power, Difficulty Level. As for the Prerequisite Test the analysis consists of; Normality Test, Homogeneity Test, Hypothesis Test with One Way Anova analyst test.

## 3. Research Finding

### 3.1. The Result of *pretest* and *posttest* experimental class and control class

The initial score (*pretest*) of the experimental class 1 X 1 from the number of students 41 got an average score of 64.57, the experimental class 2 X 3 from the number of students 42 received an average value of 67.50 while for the control class X 2 out of 41 students got an average of 61.58.

The final score (*post-test*), the experimental class 1 X1 using improve method got an average 71.90, experimental class 2 X3 using improve method and LCD media with 42 students got the average value of 78.69 while for the control class X 2 out of 41 students got an average of 69.87.

### 3.2. Test Validity and Reliability

Validity testing is done by correlating the scores of the instrument items with all total scores. In determining whether an item is appropriate or not, a significance coefficient in correlation test is used at a significance level of 0.05. In the tryout conducted 30 questions, after being tested using SPSS v16 of the 30 questions, there were several items that were valid and invalid. These include 20 valid questions and 10 invalid questions. Valid questions were *pretest* and *posttest* questions, while for non-closed question were discarded because they are not used in data collection. The result of statistical reliability data obtained Alpha value of 0.883 with 20 items. It can be concluded that the items are reliable.

### 3.3. Distinguishing Feature

For more details about the results of the analysis of distinguishing feature can be seen in the following table:

**Table 1.** Percentage of Distinguishing Items

Criteria	Total	Persentase
Very good	2	6%
Good	5	17%
Moderate	18	60%
Poor	5	17%

In the table above it can be concluded that the results of the analysis of the distinguishing feature of each item are able to carry out their functions properly. However, distinguishing items included in 5 questions shouldn't be issued on the future tests because those items are of poor quality.

### 3.4. The level of difficulty of the items

The results of the analysis of the level of difficulty for each item, there are 12 questions in the Very Easy category. The number of items in the easy category is 16 questions and 2 questions in the Medium category.

**Table 2.** Percentage level of item difficulty

Criteria	Total	Persentase (%)
Very easy	12	40%
Easy	16	53%
Moderate	2	7%

From the percentage table of the difficulty level of the questions above, it can be seen that the percentage between questions included in the easy criteria is higher than the very easy and moderate criteria.

### 3.5. Prerequisite Test

#### 3.5.1. Normality test

The normality test in this study uses the *Kolmogorov-Smirnov test*. Based on the test results of the pretest, a probability value of  $\text{sig } 0.017 < \text{sig } 0.05$  for experimental class 1 using the improve method, while the sig probability value  $0.04 < \text{sig } 0.05$  experimental class 2 using the improve method and LCD media, and for the class control the probability value of  $\text{sig } 0.046 < \text{sig } 0.05$ .

In conclusion, the two classes are not normally distributed because the probability of sig is greater than sig 0.05.

The posttest result obtained the probability sig value 0,015 <sig 0.05 for experimental class 1 that use the Improve method, the value probability sig 0.034 <0.05 for the experimental class using the method of improve and LCD media. For the control class the probability value is 0.026 sig <sig 0.05. Based on the data above, it can be concluded that the three classes are not normally distributed because the probability of sig is smaller than sig 0.05.

### 3.5.2. Homogeneity Test

Homogeneity test aims to see whether all three populations have homogeneous variance or not. Homogeneous test was analyzed by using the largest variance compared to the smallest one. The criteria used is if significant <0.05 then the research population is said to be not homogeneous, and if it is significant > 0.05 then the research population is said to be homogeneous. For homogeneity test data processing researchers used the *spss for window* 16. The results of data analysis can be seen in the three classes namely classes X1, X2, and X3; the population has a homogeneous distribution. It can be seen from the table above that the three significant classes reach 0.099 > 0.05, so it can be said that the initial data (pretest) is homogeneous, this means that all three classes have the same opportunity to be sampled.

From the table above it can be seen that the three classes, namely classes X1, X2, and X3, are obtained that the population is homogeneous in distribution. It can be seen from the table above that the three significant classes reach 0.736 > 0.05, so it can be said that the final data (posttest) is homogeneous, this means that all three classes have the same opportunity to be sampled.

### 3.6. Hypothesis testing

Hypothesis testing in this study, then the analysis used is the *Kruskal-Wallis test*. By using the final score test (posttest). The results of the hypothesis can be explained as follows:

	Nilai
Chi-Square	21.558
Df	2
Asymp. Sig.	.000

The table above shows that Asymp sig. 0,000 <0.05, then  $H_a$  is accepted, meaning that there is a significant difference between the learning outcomes of the experimental class 1 which get treatment using the Improve Method class X 1, the experimental class 2 using the Improve Method and LCD Media class X 3, and the control class using the use the X2 class lecture method at YLPI Pekanbaru . It can be concluded that between the use of the Improve Method and LCD Media affect student learning outcomes.

## 4. Discussion

When doing a posttest with 20 items in class X 1 as an experimental class 1, class X 3 as an experimental class 2 and class X 2 as a control class, it was obtained an average value where the experimental class is higher than the value of the control class. On the results of the experimental class posttest, where class X 1 employed the Improve method in learning about Deposits got an average value of 72. The highest value is 85 and the lowest value is 60. The experimental class 2 is class X 3 with the Improve method treatment and LCD media in learning about Deposits, it got an average value of 79. Where the highest value is 95 and the lowest value is 65.

During the learning process in class, experimental class 1 and experiment 2 students were formed in 5 groups which consisted of 7-8 people each. The subject matter was Deposits. They were distributed each of these materials. After finishing the students are told to present the results in front of the class, in experiment 1 using the Improve method where the teacher guided students to find new concepts and ideas from the presented material, after which the teacher gave metacognitive questions. When the percentage is complete the teacher reviewed or discussed the difficulties experienced by students while understanding the material and the teacher increased mastery of student material, as well as identifying students who have understood or mastered the material and students who have not mastered the material. The experimental class 2 used the Improve method and LCD media, in this class students present the results of the discussion in front of the class using LCD / infocus as a reference that is more conducive and can be explained without complicated explanation. In the presentation the treatment is the same as the experimental class 1 in the Improve method. However the experiment 2 teachers put more emphasis on LCD / infocus.

The learning process in the control class, the teacher wrote the topic of the lesson and conveyed the competencies to be achieved, explained the material, explained the subject matter, provided an opportunity for students to ask questions about the material that is not yet understood, instructed students to make a summary of the material they had learned. The core activities of students are to interpret deposits and calculate deposit rates.

There are several benefits of improve method and LCD Media on learning outcomes, namely:

- a. The students are more active, as there are exercises so that each students are free to exploit their ideas, this can be proved when providing treatment in the experimental class that uses the methods Improve and medium LCD, teachers are easier to guide the students to discover concepts independently and they can easily convey material without having to write it in front of the class by using LCD / infocus.
- b. Learning is not boring because of the many stages that students can do with the Improve method. It can increase participation, interest, curiosity, thinking patterns and ways of learning for students. Teachers are more free to interact with students
- c. Metacognitive questions. Improve methods and media to the LCD may cause metacognitive processes in students who will affect their behavior and students openly express their ideas so interesting and interactive learning concept can be created in this process.
- d. Enhancing students' understanding of the task, their awareness and regularity in applying strategies and connecting prior knowledge with new ones and teachers can easily evaluate all forms of learning activities in their classrooms so that the process of improving the quality of education can be carried out.

Improve method and LCD from the aspect of teaching can be said to be superior because it is a sophisticated media and method in developing students' ability to learn about facts and be able to explore concepts and ideas by using a relational argument. From the aspect of quality, the delivery of messages in learning means being able to explain words, numbers, musical notation, two-dimensional drawings, and diagrams with a very fast process.

The results of this study are in line with a study by [5] which concluded that the learning activities of students in the classroom are more active, the classroom atmosphere is conducive, the students' absorption of the material delivered by the teacher is higher, and students are more active in learning "Tarikh" subject completely. Furthermore, [6] conducted a research titled the Application of Improve Learning Methods to Improve Student Learning Outcomes in Learning Information and Communication Technology (ICT). The results of this study concluded that the increase in student learning outcomes was in the medium criteria, in other words there was a significant increase in student learning outcomes in ICT learning using the Improve method, and made students more active and more enthusiastic in

learning. From the results above, it can be concluded that there is a significant effect of the Improve method and LCD media on learning outcomes in Class X Accounting SMK Muhammadiyah 2 Pekanbaru.

## 5. Conclusions

Based on the results of this study, it can be concluded that there is a significant effect of the Improve method and LCD media on student learning outcomes in the Basics of Banking subject in class X Accounting SMK Muhammadiyah 2 Pekanbaru.

In carrying out this research, various hindrances were found in this study, so researchers offer the following suggestions: It is recommended to teachers to be able to use the Improve method and LCD media in the teaching and learning process because it is proven that the use of the Improve method and LCD media provide different learning outcomes from classes that do not use the Improve method and LCD media. It is recommended that students should be more focused, not play too much so that they can understand properly in order to achieve expected results. It is recommended to the school to upgrade the facilities that are available at school, so that the learning process can be created properly, and learning objectives can also be achieved as expected. It is recommended to further researchers to explore the effectiveness of the Improve method in the learning process related to the varied use of the media. In addition, it is also important to notice the application of the Improve method by looking at the characteristics of students as examples of learning styles, *locus os control*, *self-efficacy* and *gender*.

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