

**THE INFLUENCE OF PROBLEM BASED LEARNING AND MIND MAPPING MODELS ON  
LEARNING OUTCOMES INDONESIAN LANGUAGE STUDENTS OF CLASS X AT SMAN  
PAKUSARI**

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**Abstract:**

Learning needs to be emphasized on process and quality to realize maximum learning outcomes. Learning Indonesian in class X is still not getting optimal results, so there is a need for a new model to be implemented, namely by using a problem based learning model and a mind mapping model. Learning with this observation report material is appropriate to use the problem based learning model because students are directly involved with what they see. Meanwhile, the concept map model makes it easier for students to design texts. This quantitative research method is experimental. Due to the large population, the sub- population of the study was taken as many as 35 students. The school is SMA Negeri Pakusari class X 1 which uses 2 models, namely the Problem Basic Learning Model (PBL) and the Mind Mapping Model (MM). The data analysis technique in this study is to use two-way analysis. Based on the hypothesis test, it is proven that: (1) there is an effect of the Problem Based Learning model on the Indonesian Language Learning Outcomes of Class X Students on the LHO learning outcomes in the comparison of learning outcomes before and after treatment, the tcount value is 33.4356 with a significance value of 0.110. Because the value of tcount > ttable or the significance value is smaller than the 5% significance level. (2) There is an effect of the Mind Mapping model on Indonesian Language Learning Outcomes of Class X Students on learning outcomes in the comparison of Learning Outcomes before and after treatment, the tcount value is 32.569 with a significance value of .000 Because the tcount > ttable or the significance value is more smaller than the 5% level of significance. (3) There is an Influence of Problem Based Learning Model and Mind Mapping Model Together on Learning Outcomes for class X LHO in comparison of learning outcomes before and after treatment, the tcount value is 6.377 with a significance value of 0.206. Because the value of tcount > ttable or the significance value is smaller than the 5% significance level

Keywords: Problem Based Learning, Mind Mapping, Learning Outcomes

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**INTRODUCTION**

National education has the objectives set forth in Law number 20 of 2003 concerning the National Education System, namely due to the development of the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. This suggests that students have conversations in the form of intellectuals with superior personalities as a representation of the character of the Indonesian people. Educators are required to innovate in developing teaching that attracts the learning interest of students who are being educated enabling students who are being educated to achieve through real activities that are fun and can awaken the potential of students who are being educated optimally (Prasetyo, 2018: 83-93).

Fun learning for students for all subjects including language. Language has a central role in intellectual, social and emotional development. Indonesian is the language of instruction in all types and levels of education, from elementary, secondary to tertiary education. Learning Indonesian in SMA/SMK/MA is oriented towards improving students' ability to communicate using good and correct Indonesian, orally and in writing, as well as creating respect for the creations of Indonesian people.

Indonesian language learning activities carried out by a teacher. Learning can take place in the classroom or outside the classroom consisting of initial activities, core activities to closing activities. During learning, the teacher will know the results of student learning. Learning outcomes are levels of success in learning subject matter at school which are expressed in the form of scores obtained from test results. (Emelia, 2021: 1-2). Language has a central role in intellectual, social and emotional development. Indonesian is the language of instruction in all types and levels of education, from elementary, secondary to tertiary education. Learning Indonesian in SMA/SMK/MA is oriented towards improving students' ability to communicate using good and correct Indonesian, orally and in writing, as well as creating respect for the creations of Indonesian people. Indonesian is a subject that is contained in the Indonesian education curriculum, Indonesian language subjects are given at every level of education starting from basic education, even to the level of tertiary education there is still Indonesian language education (Rohmanurmeta, 2017).

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Indonesian language learning activities carried out by a teacher. Learning can take place in the classroom or outside the classroom consisting of initial activities, core activities to closing activities. During learning, the teacher will know the results of student learning. Student learning outcomes can be interpreted as achievements obtained because of the learning activities that have been carried out. Learning outcomes are things that cannot be separated from the learning activities that are followed by students because learning activities are a process while achievement is the result of the teaching

and learning process. Learning outcomes are levels of success in learning subject matter at school which are expressed in the form of scores obtained from test results. (Emelia, 2021: 1- 2).

According to Hamalik (Jihad and Haris, 2013: 15) says that "Learning outcomes are patterns of behavior, values, notions and attitudes, as well as apperceptions and abilities". Learning outcomes are changes in student behavior in real terms after the teaching and learning process is carried out in accordance with the teaching objectives. To achieve the learning outcomes that have been achieved by a person, a measuring instrument is needed, namely evaluation. According to Sudjana (Dimiyati and Mudjiono 2013: 191) say that "Evaluation in general can be interpreted as a systematic process for determining the value of something (goals, activities, decisions, performance, processes, people, objects, and others) based on certain criteria through assessment".

Indicators of Student Cognitive Learning Outcomes within the scope of learning evaluation will be reviewed from various perspectives, namely the domain of learning outcomes, learning systems, learning processes and outcomes, and competencies. According to Usman (in Jihad and Haris, 2013: 16) states that, "The learning outcomes achieved by students are very closely related to the formulation of instructional objectives planned by the teacher before which are grouped into three categories, namely cognitive, affective, and psychomotor domains". Teachers can innovate learning by using several learning models so that student learning outcomes achieve good grades. One problem-based learning model is a learning model based on constructivism learning theory.

Based on the results of researchers' observations of learning Indonesian in class X in the 2022/2023 academic year, the results achieved by students have not yet reached optimal abilities. In writing the text of the observation report of class X students, there are still many who get scores below the KKM. Therefore the role of the teacher is very important because the teacher is an introduction, giver and transfer of knowledge to students. The teacher's ability to make students achieve good learning outcomes in Indonesian subjects is the teacher's ability or professionalism in guiding, directing and guiding students to be able to speak Indonesian properly and correctly. One of the efforts to increase teacher professionalism can be done by innovating in learning.

Teachers can innovate learning by using several learning models so that student learning outcomes achieve good grades. One problem-based learning model is a learning model based on constructivism learning theory. In the Problem Based Learning model the teacher's role guides students through step by step in learning activities, the teacher also plays a role in using the strategies and skills needed to solve a problem. The teacher also creates a flexible classroom atmosphere and is oriented towards student inquiry efforts.

Viewed from the psychological aspect that Problem-Based Learning relies on cognitive psychology which departs from the assumption that learning is a process of changing behavior thanks to experience (Wina Sanjaya, 2010: 213). In the Problem Based Learning model the teacher's role guides students through step by step in learning activities, the teacher also plays a role in using the strategies and skills needed to solve a problem. The teacher also creates a flexible classroom atmosphere and is oriented towards student inquiry efforts.

The application of the Problem Based Learning model in learning Indonesian subjects is expected to increase the potential and abilities of students so that student

learning outcomes can be seen. The learning outcomes related to skills and ability to act are called the psychomotor domain. According to Jihad and Haris (2013:18), the psychomotor domain is related to the learning outcomes of skills and ability to act. There are 5 (five) psychomotor domains, i.e. imitating, manipulation, precision, articulation, and naturalization. The process skills for discussing Indonesian language subjects that are developed are using skills; observing, that is, students are given an example of an overview of the material to be discussed, asking means that students are given the opportunity to ask the teacher about a description of the material or difficult things related to the material being discussed, exploring means that students are invited to do research to seek new knowledge of the material to be discussed, communicating means that in this case students convey the results of research to their friends so that there is interaction between students and others or students and teachers.

Definition of Problem-Based Learning (Problem Based Learning) or hereinafter often referred to as PBL is a learning model that is centered on students by confronting these students with various problems faced in their lives. With this learning model, students from the start have been faced with various life problems that they might encounter later after graduating from school. The learning model Problem Based Learning (PBL) model is According to Arends (2008) Problem Based Learning (PBL) is a learning model in which students work on authentic and meaningful problems with the intention of compiling their own knowledge, developing investigative and investigative processes (inquiry processes). ). Problem Based Learning (PBL) is a way of presenting learning material by making the problem a starting point for discussing problems to be analyzed and synthesized in an effort to find solutions or answers by students. Problems can be submitted or given by the teacher to students, from students with the teacher, or from the students themselves, which are then used as discussions and solutions are sought as student learning activities. Problem Based Learning (PBL) is a learning model that focuses on tracking the root of the problem and solving the problem (Abbudin, 2011: 243)

Researchers also use other models because it is an interesting lesson and allows students to learn more actively. The other model used is the mind mapping model. The Mind Mapping model was introduced by Salvin who stated that this learning model is a simple model because this model forms student teams or groups (Zainal Aqib, 2013). Mind mapping is an effort that can optimize the function of the right and left brain which then in its application is very helpful for understanding problems quickly because they have been mapped.

Mind mapping can also be used to help write student assignments related to mastery of concepts in the form of writing paragraphs. Therefore, the mind mapping model will also affect students' conceptual understanding abilities. According to Tony Buzan (2009: 6) indicators in mind mapping consist of planning, communicating, being more creative, solving problems, focusing attention, compiling and explaining thoughts, remembering better, learning faster and more efficiently and practicing the "overall picture". Related to the potential of the two learning models, researchers have a strong interest in applying them in learning. The hope of this application is to reveal the potential of each model so that it can provide a reference for education practitioners/teachers so they don't just use conventional models. Therefore the author intends to conduct research with the title "The Effect of the Problem Based Learning Model and the Mind Mapping Model on the Indonesian Language Learning Outcomes of

Class X Students at SMAN Pakusari in 2022/2023".

## **METODE PENELITIAN**

The type of research used in this research is quantitative research. The quantitative research method is a type of research whose specifications are systematic, planned and clearly structured from the start to the creation of the research design.

The determination of the research area was carried out using a purposive sampling area technique, namely the technique of taking samples of data sources with certain considerations (Sugiono, 2015). This technique is usually carried out for several reasons, for example due to limited time, manpower and funds, so that it cannot take up a large or far place. Based on this opinion, the determination of the research area was carried out deliberately on class X students of Pakusari State Senior High School for the 2022/2023 academic year. This research was conducted in class X of Pakusari High School in the odd semester of 2022/2023. The method of determining research respondents is using a research population. The population is a generalized area consisting of objects or subjects that become certain quantities and characteristics set by researchers to study and then draw conclusions (Sugiono, 2014). In this study, the subjects or respondents of this study were students of class X.

When viewed from the source of the data, data collection can use primary sources, and secondary sources. Primary sources are data sources that directly provide data to data collectors, and secondary sources are sources that do not directly provide data to data collectors, for example through other people or through documents. Furthermore, when viewed in terms of methods or techniques of data collection, collection techniques can be carried out by observation (observation), interviews (interviews), questionnaires (questionnaire), documentation or a combination of the four (Sugiono, 2015: 308). The method of data analysis in this case includes the entire test both pre- and post-research. The pre-research includes trials of research instruments both validity, reliability, difficulty level and discriminating power. While post-research is a test conducted to find out the results of the research that will determine whether a research hypothesis is accepted or rejected.

## **RESULTS AND DISCUSSION**

In the description of the results of the study, a general description of the data on student learning outcomes is described. In the posttest data analysis section, it is described whether there are significant differences in student learning outcomes. The grouping of students in this study is based on the learning model used. As for the hypothesis testing section, it is described regarding the results of the analysis of variance according to the predetermined learning model and draw conclusions from the results of the analysis as research findings and then the findings are summarized as research results

### **Instrument Validity Test**

The validity test is carried out to find out whether an instrument is legal or valid for measuring a variable, for example a questionnaire is declared valid if the variable to be measured can be disclosed through the questionnaire. So it can be said that the variable can be measured precisely by the instrument. The validity of the research instrument shows the degree of accuracy of the instrument as a measuring tool for the content or

what is being measured.

Validitas *Problem Based Learning* (X1)

| No | r hitung | sig   | r tabel | Ket   |
|----|----------|-------|---------|-------|
| 1  | .660**   | 0,000 | 0,334   | Valid |
| 2  | .410*    | 0,014 | 0,334   | Valid |
| 3  | .501**   | 0,002 | 0,334   | Valid |
| 4  | .580**   | 0,000 | 0,334   | Valid |
| 5  | .617**   | 0,000 | 0,334   | Valid |
| 6  | .636**   | 0,000 | 0,334   | Valid |
| 7  | .675**   | 0,000 | 0,334   | Valid |
| 8  | -.525**  | 0,001 | 0,334   | Valid |
| 9  | .579**   | 0,000 | 0,334   | Valid |
| 10 | .528**   | 0,001 | 0,334   | Valid |
| 11 | .449**   | 0,007 | 0,334   | Valid |
| 12 | .670**   | 0,000 | 0,334   | Valid |
| 13 | .527**   | 0,001 | 0,334   | Valid |

Based on the results of the Problem Based Learning validity test, it shows that all items are valid, so they can be used for research.

Tabel Validitas *Mind Mapping* (Variabel X2)

| No | r hitung | sig  | r tabel | Ke    |
|----|----------|------|---------|-------|
| 1  | .411*    | ,000 | 0,334   | Valid |
| 2  | .532**   | ,000 | 0,334   | Valid |
| 3  | .437**   | ,000 | 0,334   | Valid |
| 4  | .638**   | ,025 | 0,334   | Valid |
| 5  | .635**   | ,008 | 0,334   | Valid |
| 6  | .398*    | ,000 | 0,334   | Valid |
| 7  | .574**   | ,008 | 0,334   | Valid |
| 8  | .415*    | ,002 | 0,334   | Valid |
| 9  | .713**   | ,000 | 0,334   | Valid |
| 10 | .601**   | ,000 | 0,334   | Valid |

Based on the results of the Mind Mapping validity test, it shows that all item items are valid, so they can be used for further research.

The results of the validity test of Problem Based Learning have shown that all items are valid, so they can be used for research and the results of the Mind Mapping validity test have also shown that all item questions are valid, so they can be used for further research.

Data Validity Test Results Variable Learning Outcomes (Y)

| No | r hitung | sig  | r tabel | Ket   |
|----|----------|------|---------|-------|
| 1  | .740**   | ,000 | 0,334   | Valid |
| 2  | .740**   | ,000 | 0,334   | Valid |
| 3  | .564**   | ,000 | 0,334   | Valid |
| 4  | .378*    | ,025 | 0,334   | Valid |
| 5  | .443**   | ,008 | 0,334   | Valid |
| 6  | .740**   | ,000 | 0,334   | Valid |
| 7  | .516**   | ,008 | 0,334   | Valid |
| 8  | .444**   | ,002 | 0,334   | Valid |
| 9  | .679**   | ,000 | 0,334   | Valid |
| 10 | .679**   | ,000 | 0,334   | Valid |
| 11 | .564**   | ,000 | 0,334   | Valid |
| 12 | .444**   | ,008 | 0,334   | Valid |
| 13 | .516**   | ,002 | 0,334   | Valid |
| 14 | .679**   | ,000 | 0,334   | Valid |
| 15 | .547**   | ,001 | 0,334   | Valid |

The results of the Problem Based Learning validity test show that all items are valid, so they can be used for research. The results of the Mind Mapping validity test also show that all item questions are valid, so they can be used for further research. While the results of the SPSS validity test on Indonesian Language Learning Outcomes on valid items are no 1,2,3,4,5,6,7,8,9,10 ,11,12,13,14,15,16,17, while the invalid item items are question numbers 18,19,20. Valid data will be used for further research, while invalid data will not be used for research.

### Reliabilitas Instrumen

Tabel 4.4 Uji Reliabilitas *Problem Based Learning* (X1)

|   |                       |    |       |
|---|-----------------------|----|-------|
| <b>Reliability</b>  |                       |    |       |
| <b>Scale: ALL VARIABLES</b>                                   |                       |    |       |
| <b>Case Processing Summary</b>                                |                       |    |       |
|   |                       | N  | %     |
| Cases   | Valid                 | 35 | 100,0 |
|   | Excluded <sup>a</sup> | 0  | 0,0   |
|   | Total                 | 35 | 100,0 |
| a. Listwise deletion based on all variables in the procedure. |                       |    |       |
| <b>Reliability Statistics</b>                                 |                       |    |       |
| Cronbach's Alpha  | N of Items            |    |       |
| 0,728   | 13                    |    |       |

Tabel 4.5 Uji Reliabilitas *Mind Mapping* (Variabel X2)

|   |                       |    |       |
|---|-----------------------|----|-------|
| <b>Reliability</b>  |                       |    |       |
| <b>Scale: ALL VARIABLES</b>                                   |                       |    |       |
| <b>Case Processing Summary</b>                                |                       |    |       |
|   |                       | N  | %     |
| Cases   | Valid                 | 35 | 100,0 |
|   | Excluded <sup>a</sup> | 0  | 0,0   |
|   | Total                 | 35 | 100,0 |
| a. Listwise deletion based on all variables in the procedure. |                       |    |       |
| <b>Reliability Statistics</b>                                 |                       |    |       |
| Cronbach's Alpha  | N of Items            |    |       |
| 0,714   | 10                    |    |       |

Tabel 4.6 Uji Reliabilitas (Variabel Y)

**Reliability**

**Scale: ALL VARIABLES**

**Case Processing Summary**

|       |                       |    |       |
|-------|-----------------------|----|-------|
|       |                       | N  | %     |
| Cases | Valid                 | 35 | 100,0 |
|       | Excluded <sup>a</sup> | 0  | 0,0   |
|       | Total                 | 35 | 100,0 |

a. Listwise deletion based on all variables in the procedure.



### Reliability Statistics

|                  |            |
|------------------|------------|
| Cronbach's Alpha | N of Items |
| ,876             | 17         |

### Item-Total Statistics

|     | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|-----|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| Y01 | 57,00                      | 412,059                        | ,651                             | ,863                             |
| Y02 | 57,00                      | 412,059                        | ,651                             | ,863                             |
| Y03 | 55,57                      | 439,370                        | ,526                             | ,869                             |
| Y04 | 57,14                      | 446,008                        | ,306                             | ,879                             |
| Y05 | 57,29                      | 446,092                        | ,305                             | ,879                             |
| Y06 | 57,00                      | 412,059                        | ,651                             | ,863                             |
| Y07 | 56,00                      | 443,824                        | ,390                             | ,874                             |
| Y08 | 55,43                      | 449,076                        | ,438                             | ,872                             |
| Y09 | 56,00                      | 421,765                        | ,643                             | ,864                             |
| Y10 | 56,00                      | 421,765                        | ,643                             | ,864                             |
| Y11 | 55,57                      | 439,370                        | ,526                             | ,869                             |
| Y12 | 56,00                      | 443,824                        | ,390                             | ,874                             |
| Y13 | 55,43                      | 449,076                        | ,438                             | ,872                             |
| Y14 | 56,00                      | 421,765                        | ,643                             | ,864                             |
| Y15 | 56,00                      | 430,588                        | ,540                             | ,868                             |
| Y16 | 56,00                      | 443,824                        | ,390                             | ,874                             |
| Y17 | 56,00                      | 430,588                        | ,540                             | ,868                             |

Reliability comes from the word reliability. The definition of reliability (reliability) is the constancy of measurement (Walizer, 1987). Sugiharto and Situnjak (2006) state that reliability refers to an understanding that the instruments used in research to obtain information used can be trusted as a data collection tool and are able to reveal actual information in the field. If a measuring device is used twice - to measure the same symptoms and the measurement results obtained are relatively consistent, then the measuring device is reliable. In other words, reliability shows the consistency of a measuring device in measuring the same symptoms. According to Wiratna Sujarweni (2014), the questionnaire is said to be reliable if the Cronbach's Alpha value is  $> 0.6$ . From the results of the SPSS output above, the test instrument used is reliable. This can be seen from the Cronbach's Alpha value of the X1 variable of 0.728, the X2 variable of 0.876, and the Y variable of 0.859  $> 0.6$  which indicates that the test item instrument is very reliable.

### Data Normality Test

Normality test is a test that is carried out with the aim of assessing the distribution of data in a group of data or variables, whether the data distribution is

normally distributed or not. The Normality Test is useful for determining the data that has been collected is normally distributed or taken from the normal population. The classic method of testing the normality of data is not that complicated. Based on the empirical experience of several statisticians, data with more than 30 digits ( $n > 30$ ) can be assumed to be normally distributed. Usually said to be a large sample.

|                        | Kolmogorov-Smirnova |    |       | Shapiro-Wilk |    |      |
|------------------------|---------------------|----|-------|--------------|----|------|
|                        | Statistic           | df | Sig.  | Statistic    | df | Sig. |
| Problem Based Learning | 107                 | 35 | .200* | .971         | 35 | .461 |
| Mind Mapping           | 163                 | 35 | .020  | .946         | 35 | .084 |
| Hasil Belajar          | .173                | 35 | .009  | .925         | 35 | .019 |

The Kolmogorav Smirnov normality test is part of the classic assumption test. The normality test aims to find out whether the sequential values are normally distributed or not. A good regression model is to have residual values that are normally distributed. 05 it can be concluded that the residual values are normally distributed

### Homogeneity Test

Homogeneity test is a statistical test procedure that aims to show that two or more groups of sample data that have been taken come from populations that have the same variance. In simple terms, the main purpose of a homogeneity test is to ensure that the number of populations to be measured is homogeneous. In other words, not much difference in diversity. Homogeneity test is a requirement before carrying out other tests such as the T Test and Anova. Homogeneity test is a test of whether the variations of two or more distributions are similar. The homogeneity test is used for independent sample T-test analysis, based on the results of the top homogeneity table decision-making, it can be concluded that the sig value in the table above is  $0.756 > 0.05$ , so the data distribution is homogeneous.

### Uji Regresi Linier Berganda

| Coefficients <sup>a</sup> |            |                             |            |                           |        |       |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|-------|
| Model                     |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig.  |
|                           |            | B                           | Std. Error | Beta                      |        |       |
| 1                         | (Constant) | 91,020                      | 55,336     |                           | 1,645  | 0,110 |
|                           | PBL        | -0,145                      | 0,588      | -0,044                    | -0,247 | 0,806 |
|                           | MM         | -0,440                      | 1,402      | -0,056                    | -0,314 | 0,756 |

a. Dependent Variable: HB

Based on the results of the analysis, the comparison of learning outcomes before

treatment and after treatment obtained a tcount value of 33.4356 with a significance value of 0.110. between before treatment and after treatment. Because the average learning outcomes after treatment (post test) are higher than before treatment, it can be said that learning methods using alphabet media are better because they are able to improve learning outcomes. Problem Based Learning learning model is a learning model based on many problems that require investigation. authentic, namely investigations that require real solutions (Fitri et al., 2020; Herzon et al., 2018; Ramlawati et al., 2017). This model has the advantage of being able to make students learn with inspiration, using various information related to solving problems, besides that students are trained to synthesize knowledge and skills before applying them to problems, so that the material provided is easy for students to remember (Abdurrozak & Jayadinata, 2016 ; Christiana et al., 2014; Defiyanti & Sumarni, 2019).

Problem Based Learning is able to encourage students to study harder and more actively because students are directly involved in developing their understanding and assignments in solving a problem (Putri & Zuryanty, 2020). Problem-based learning is an educational approach where the problem is the starting point of the learning process (Sari & Sugiyarto, 2015). Through Problem Based Learning students gain experience in dealing with realistic problems, are able to formulate ideas and develop reasoning skills (Lestari et al., 2017). Teachers can provide interesting facilities, specifically in Indonesian language content presenting texts, so that students carry out observation activities and are able to find important information from the text. Problem Based Learning is able to encourage students to study harder and more actively because students are directly involved in developing their understanding and assignments in solving a problem. Problems based on real life problems are selected to meet educational goals and criteria (Arwanda et al., 2020; Fitrah, 2017; Ladimiyanto, 2014). Teachers can provide interesting facilities, specifically in Indonesian language content presenting texts, so that students carry out observation activities and are able to find important information from the text. Increasing thematic learning outcomes (Indonesian language content) through the application of the Problem Based Learning model is supported by the results of expert research, namely research by (Sumardi, 2020) in his research stating that learning using the Problem Based Learning model can increase the activity and learning outcomes of Indonesian students. Then the results of research by (Putri & Zuryanty, 2020) which state that using the Problem Based Learning model can improve student learning outcomes in integrated thematic learning. The Problem Based Learning learning model in Indonesian subjects can effectively improve student learning outcomes in LHO text writing material.

### **One-Sample Test**

Test Value = 0

|                  | t          | Df | Sig.<br>(2-<br>tailed<br>) | Mean<br>Differ<br>ence | 95%<br>Confidence<br>Interval of the<br>Difference |             |
|------------------|------------|----|----------------------------|------------------------|--|-------------|
|                  |            |    |                            |                        | Lower  | Upper       |
| pre<br>test      | 32,<br>569 | 34 | ,000                       | 59,02<br>857           | 55,34<br>53  | 62,71<br>18 |
| pos<br>t<br>test | 50,<br>385 | 34 | ,000                       | 73,31<br>429           | 70,35<br>72  | 76,27<br>14 |

Based on the results of the analysis, the comparison of learning outcomes before treatment and after treatment obtained a tcount value of 33.4356 with a significance value of 0.110. between before treatment and after treatment. Because the average learning outcomes after treatment (post test) are higher than before treatment, it is said that learning methods using alphabet media are better because they can improve learning outcomes.

Based on the results of the analysis, the comparison of learning outcomes before treatment and after treatment obtained a tcount value of 32.569 with a significance value of .000. seen from the average score obtained at the posttest for each intelligence is higher than the pretest, where the average score of the initial observation (pretest) where the pretest t value is 32.569 and the post test t value is 50.385 Learning Outcomes between before treatment and after treatment. Because the average learning outcomes after treatment (post test) are higher than before treatment, it can be said that the learning method using the Mind Mapping method is better because it can improve learning outcomes. By comparing the two average scores, it can be concluded that there was an increase in students' Indonesian learning outcomes after the mind mapping model was applied in Indonesian language learning. Referring to the average score obtained after applying the mind mapping model is greater than before applying the mind mapping model. This indicates that there has been a significant increase in linguistic verbal intelligence after the mind mapping model was applied. It was concluded that the mind mapping model in learning Indonesian is an alternative that can be chosen by teachers to improve students' learning outcomes in Indonesian and so that students are able to know Indonesian material easily.

#### Uji F

| ANOVA <sup>a</sup>                 |            |                |    |             |       |                   |
|------------------------------------|------------|----------------|----|-------------|-------|-------------------|
| Model                              |            | Sum of Squares | Df | Mean Square | F     | Sig.              |
| 1                                  | Regression | 78,028         | 2  | 39,014      | 0,072 | .931 <sup>b</sup> |
|                                    | Residual   | 17296,258      | 32 | 540,508     |       |                   |
|                                    | Total      | 17374,286      | 34 |             |       |                   |
| a. Dependent Variable: HB          |            |                |    |             |       |                   |
| b. Predictors: (Constant), MM, PBL |            |                |    |             |       |                   |

Based on the results of the analysis, the comparison of learning outcomes before treatment and after treatment obtained a tcount of 6.377 with a significance value of

0.206. Because the  $t_{count} > t_{table}$  or the significance value is less than the 5% significance level, it can be concluded that there is a significant difference in learning outcomes between PBL and the mind mapping model. Because the average PBL learning outcomes are higher than the mind mapping model, it can be said that the learning method using the PBL model is better because it is able to improve student learning outcomes which are higher than the mind mapping model. This problem-based learning model emphasizes the active participation of students. It also encourages students to identify their own knowledge and skills. PBL uses a learning atmosphere that is directed by a problem in everyday life. These problems can be submitted or given by the teacher to the students, from the students together with the teacher, or from the students themselves, which are then used as discussions and solutions are sought as student learning activities. In the Problem Based Learning learning process students will easily solve existing problems and make students more active.

In the Problem Based Learning learning process students will find it easier to solve existing problems and make students more active. .

#### **orientation**

In problem orientation activities the teacher invites students to determine the object of observation. Students are directed to choose objects of observation in school.

#### **Student Organization**

In organizational activities students make detailed plans for things to be observed from the object of observation.

#### **Guiding research**

Students are given time to make observations around the school environment. Direct the students to document the activities and objects of observation carried out if they have documentation tools. Students use concept maps (mind mapping) in learning activities. The mind mapping model is a learning model that utilizes the brain's working system which can increase students' memorization and students' strong understanding of concepts, students can also improve their thinking power. In addition, mind mapping is also a way of recording that is effective, efficient, creative, interesting, and efficient because it is done by mapping the results of thoughts, so that students can develop their own ideas and thoughts. With a concept map students will find it easier to make LHO texts. Students develop the information obtained during the observation into a text report on the results of observations.

#### **Develop and present**

Students are also directed to compare information obtained in the field with information from other relevant sources. Students assess their own writing by using the instruments contained in the student textbook. Furthermore, the teacher provides input related to the content and writing techniques to students. After that students revise their writing according to the input given by the teacher.

#### **Analyze and evaluate**

In analyzing and evaluating activities, students display the results of their writing on the table so that other students can provide input or comments. Students are given appreciation by the teacher regarding the exercises that have been done. The teacher gives the opportunity for students to ask questions or express opinions.

Problem Based Learning (problem-based learning), commonly abbreviated as PBL, is an innovative learning model that can provide active learning conditions for

students. The Problem Based Learning model and the Mind Mapping model in Indonesian language learning for class X regarding the material for writing text Observation reports are very useful. Students can write texts based on problems that are solved independently by students. Meanwhile, the Mind Mapping model can make it easier for students to write texts because Mind Mapping is a summary in the form of material links.

## **CONCLUSIONS AND SUGGESTIONS**

### **Conclusion**

Based on the results of the analysis and discussion that has been done, the conclusions in this study include:

1. There is an Influence of the Problem Based Learning Model on Indonesian Language Learning Outcomes of Class X Students at Pakusari High School in 2022/2023
2. There is an Influence of the Mind Mapping Model on Indonesian Language Learning Outcomes of Class X Students at SMAN Pakusari in 2022/2023
3. There Are Differences in the Effect of the Problem Based Learning Model and the Mind Mapping Model Together on the Indonesian Language Learning Outcomes of Class X Students at SMAN Pakusari in 2022/2023

### **Suggestion**

Based on the results of the study, there are suggestions for observers and further researchers. In this study, different results were found from the application of learning using the PBL model in terms of improving Indonesian language learning outcomes for high school students to better use them in learning Indonesian. Through the application of learning using the PBL Model, attention can be paid to allocating time for students to be better at completing assignments to recognize understanding of Indonesian because the activities have been scheduled and involve students cooperatively to solve learning problems. Prepare all lesson plans more carefully. Increasingly creative using various technological media in various classes for learning activities as a support for the process and learning outcomes of students.

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