

## **The Influence of Cultural Values and Met cognitive towards Learning Outcomes of Senior High School Students in Wawo Bima, Indonesia**

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**Abstract :** *The purpose of this research is to know whether the application of cultural value Bima (Maja Labo Dahu) can improve student learning outcomes in Senior High School in Wawo Bima. It is also to determine whether metacognitive can improve student learning outcomes Senior High School in Wawo Bima. This research was a quasi-experimental design. The data were collected through observation, questionnaire, test, and student response. The population in this study were class X SMA Negeri in Wawo Bima. The samples were taken randomly by making paper rolls in accordance with the number of groups. Two groups were chosen namely class X-4 as control class consisting of 32 students and class X-2 as experimental class comprising of 32 students. Therefore, the total was 64 students. In addition, the samples were also taken from SMA Negeri 2 Wawo Milky with the same technique and same number. Therefore, the number of the samples were 128 from two senior high schools. The results show that there is a significant improvement of the dependent, moderator, and independent variable. The improvement is from 65.7% to 72.9%. Therefore, it can be concluded that the presence of the metacognitive variable, the learning outcomes are increased which is 72.9%.*

**Key words:** *Cultural Value, Metacognitive, learning outcomes.*

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### **I. Introduction**

In the Act of the Republic Indonesia Number 20 of 2003, education is a conscious and deliberate effort to create an atmosphere of learning and learning process so that learners are actively developing their potential to have spiritual powers, religious, self-control, personality, intelligence, character, and skills which are needed in society, nation, and state. Education is strongly associated with the local wisdom including the culture of Bima "Maja Labo dahu" Therefore, the area has a motto that became the philosophy of life and living in Bima. The life motto also characterizes the society of Bima when interacting and communicating with people. In addition, it becomes a regional characteristic for the society.

Maja Labo Dahu is the foundation of life. In any language and any culture, as well as any religion shy and fear are still existing. These two words are the key determinants in giving the color of life. Are there people just a sense of shame without fear? If people have a sense of shame without fear, there is no balance in the human self. Therefore, the implementation of learning should familiarize students to recognize the cultural value, and it should not only train a quick thought to the brief meaning but also metacognitive awareness. Bima cultural value approach and metacognitive awareness are the approaches which can be specified in the process of learning in which students know the different styles of learning and use them effectively in the learning situation.

In understanding human behaviour, the cross-cultural psychology book applies four approaches, namely evolution approach, sociological approach, eco-cultural approach, the cultural mixture (Shirev & Levi, 2010 in Sarlito W. Sarwono 2014). By applying these four approaches, we can optimize education in accordance with the capabilities and needs either in the family, in the community, or at school to realize the value of ethics and morality. Efforts to improve the quality of education in schools continues to do ranging from procurement of textbooks, curriculum improvement, upgrading of teachers, the addition of facilities and infrastructure for teaching and learning activities as well as to strengthening the teaching and learning the process. In strengthening the teaching-learning process, the teacher is one of the resources that has an important role in improving the quality of education.

According to Sudiarta (2010), poor quality of learning is caused by several external and internal factors. The external factors may include teachers, materials, patterns of interaction, media, and technology, learning situation, and learning systems. In fact, there are still teachers who did not master the learning

materials. They are not optimally paying attention to the character of learners. They are not optimally providing the opportunity for students to think and act creatively, productively, and divergently. They are still fixated on the development of basic skills, and they are not optimally providing a space for exploration to develop a higher order competence. Based on the above description, there are two objectives of this research. First, to know whether the application of cultural value Bima (*Maja Labo Dahu*) can improve student learning outcomes in Senior High School in Wawo Bima. It is also to determine whether metacognitive can improve student learning outcomes Senior High School in Wawo Bima.

## II. Research Methods

### Research Design

This research was a quasi-experimental design which aims to determine the effect of Bima Cultural Values and Metacognitive toward student learning. The research design which was used in this study was a pre-test and post-test control group design that can be seen in Table 1 below:

**Table 1.** Research Design

Groups	Pre-test		Treatment		Post-tests
A	O <sub>1</sub>		X		O <sub>2</sub>
B	O <sub>3</sub>	- X		O <sub>4</sub>	

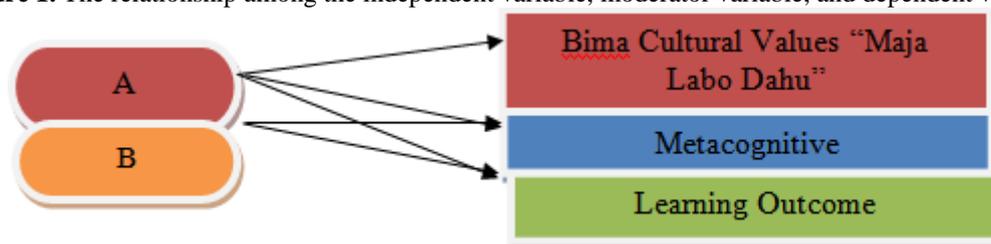
(Source: Sugiyono, 2012).

Notes:

- A : Experimental Group of Bima Cultural Values “*Maja Labo Dahu*”
- : Metacognitive
- B : Control Group of Learning
- X : Cultural Value “*Maja Labo Dahu*”
- : Metacognitive
- X : Control
- O<sub>1</sub> & O<sub>3</sub> : pre-test for Standard Group Learning with Metacognitive and Cultural Values
- O<sub>2</sub> O<sub>4</sub> : pre-test for Standard Group Learning with Cultural Values and Metacognitive

The relationship among the independent variable, moderator variable, and dependent variable can be seen in Figure 1.

**Figure 1.** The relationship among the independent variable, moderator variable, and dependent variable

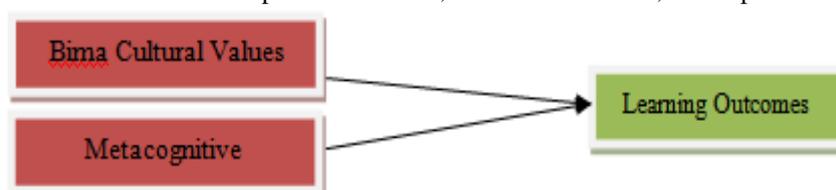


Notes:

- A : Experimental Group
- B : Control Group

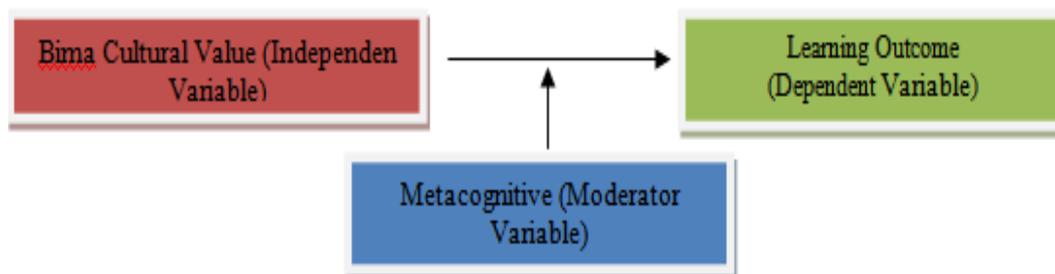
The effect of the independent variable, moderator variable, and dependent variable can be seen in Figure 2.

**Figure 2.** The effect of the independent variable, moderator variable, and dependent variable



**Research variable:** The study consists of three variables, namely the independent variable, moderator variable, and dependent variable. The independent variable is Bima Cultural Value “Maja. The moderator variable is metacognitive. The dependent variable is learning outcome.

**Figure 3.** The Description of Independent Variable, Moderator Variable, and Dependent Variables



### Population and Sample

The populations of this study were the second-grade students of Senior High School in Wawo Bima, and the samples were taken randomly by making paper rolls in accordance with the number of groups. Therefore, two classes (X-4 and X-2) were chosen in which 32 students in the control class and 32 students in the experimental class. Therefore, the total of the samples was 64 students. Besides, the samples were also taken from SMA Negeri 2 Wawo Bima with the same technique and same number. Therefore, the number of the samples were 128 from two senior high schools.

### Procedures and Instruments Research

The procedures consist of preparation, implementation, and evaluation. The instruments of the research consist of tests, questionnaires, observation sheet for the practicality of the learning tool.

### Data collection technique

Data collection in Pre-test which was conducted consist of learning outcome integrated with the cultural value *Maja Labo Dahu* and the test for metacognitive skills of students using *MAI (metacognitive Awareness Inventory)*. Post-test activities consisted of learning outcome tests after learning process was conducted and after conventional method, learning cultural values "*maja labo dahu*", and metacognitive using *MAI* were applied. Data about students' Responses on the Feasibility of the Learning Tool were collected through the implementation of the lesson plan.

### Data analysis technique

The data analysis intended were data analysis of cultural values, metacognitive, and learning outcomes. The ability of students can be grouped in five-point scale based on the technical standards set by the categorization as proposed by Purwanto (2008), namely:  
The ability of 85% -100% or 85-100 is categorized as very high  
The ability of 65% -84% or 65-84 is categorized as high  
The ability of 55% -64% or 55-64 is categorized as fair  
The ability of 35% -44% or 35-44 is categorized as poor  
The ability 0% -34% or 0-34 is categorized as very poor  
The statistics which is used are inferential statistics to determine the influence of the cultural value of Bima "*Maja Labo Dahu*" and it is compared to conventional method (lecturing).

## III. Results and Discussion

### Construct Validity

Based on the data analysis, it was found that the average of all the aspects which are assessed indicates that the lesson plan, student activity sheets, test instrument, observation sheet for the feasibility of learning tools, and observation sheet for the teachers' capability which have been used meet very valid criteria for the construct category since it is on the scale of " $4.5 \leq x \leq 5.0$ ". Therefore, regarding all aspects, it is stated that they meet Very Valid criteria and according to the validators, they can be used with a minor revision. The results were then compared with the minimum criteria of reliability, and they can be seen in the table below:

**Table 2.** The Results of the Analysis for the Agreement of Experts as Validators

The Relationships among the Validity Levels		Level of confidence 95%		The value of F test 0			
		Low	High	Nilai	Df 1	Df 2	Sig.
Validators/Raters	0,18	0,01	0,37	0,64	48	96	0,62
Average	0,89	0,02	0,64	0,64	48	96	0,62

Based on the results of inter-rater reliability analysis, the results which are obtained are  $K = 0.89$ . The coefficient value of reliability of the instrument is categorized as excellent agreement so that the instrument meets the reliable criteria.

**Validity**

Based on the analysis on all items, the metacognitive instrument can be categorized as valid since the value of sig. Listed in the SPSS output analysis results is smaller than a predetermined significance level that is alpha (0.05). If the correlation between each item is compared with r table with the number of data (n) = 32 or degree of freedom = n-2 = 30, the r table which is obtained is 0.35. Therefore, it can be concluded that all items of the instruments are in the valid category since no item has a correlation value which is less than 0.35. In addition, the value of reliability for all the items of the instrument was 0.76 categorized as reliable.

**Descriptive Analysis of Pretest for Control Class by using Conventional Method at SMA Negeri 1 Wawo Bima**

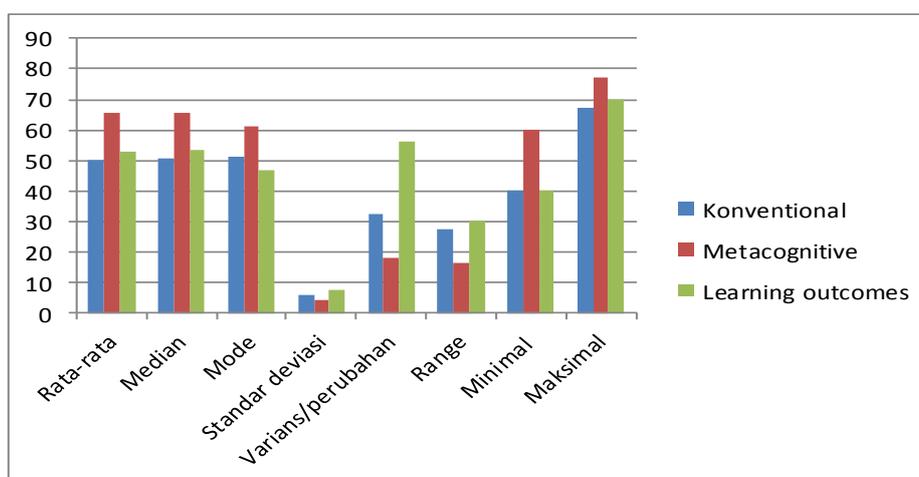
Based on the descriptive analysis of pre-test in control class using conventional method, it shows that the average value with 32 respondents can be seen in the following table.

**Table 3.** Descriptive Analysis of Pre-test in Control Class Using Conventional Method in Senior High School Wawo Bima

Statistics Description	Conventional Method	Metacognitive	Learning Outcome
	Control Class		
Valid	32	32	32
Missing	0	0	0
Average	49,84	65,69	53,02
Median	50,63	65,38	53,33
Mode	51,25	60,90	46,67
Standard Deviation	5,69	4,27	7,49
Variance	32,33	18,26	56,16
Range	27,50	16,66	30,00
Minimal	40,00	60,26	40,00
Maximal	67,50	76,92	70,00

In addition to the information presented in the above table, the data can also be described in diagrammatic form. For more details, it can be seen as the following figure.

**Figure 4.** Descriptive Analysis of Pre-test in Control Class Using Conventional Method in Senior High School Wawo Bima



**Descriptive Analysis of Pretest for Control Class by using Conventional Method at SMA Negeri 2 Wawo Bima**

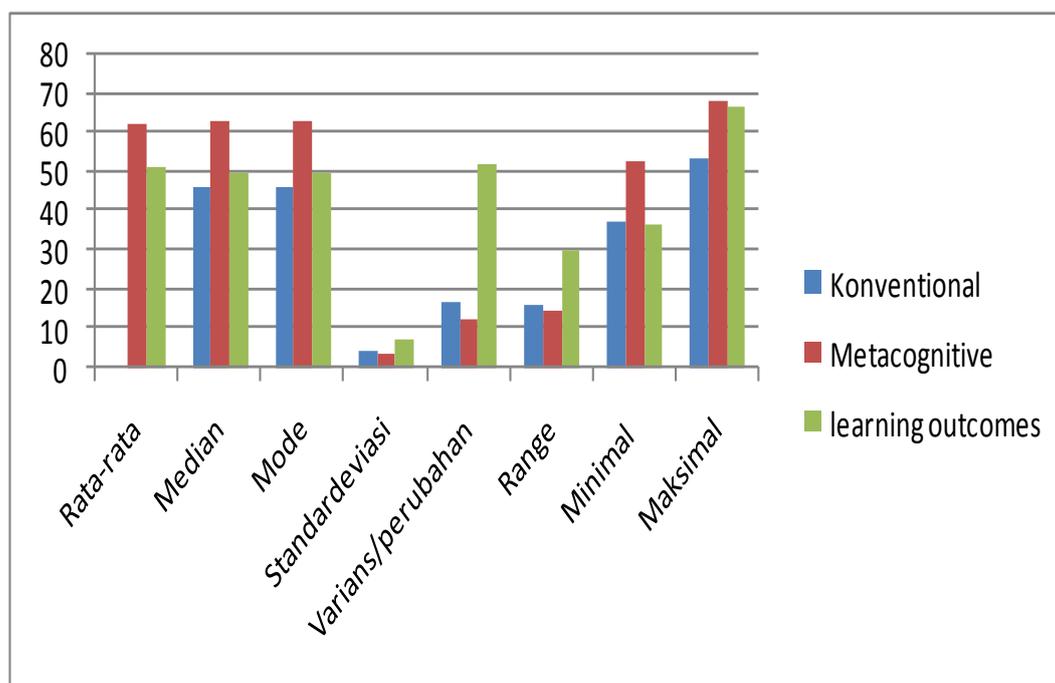
Based on the descriptive analysis of pre-test in control class by using conventional method, it shows that the average value in which the number of students are 32 can be seen in the following table.

**Table 4.** Descriptive Analysis of Pretest for Control Class by using Conventional Method at SMA Negeri 2 Wawo Bima

Statistics Description	Conventional Method	Metacognitive	Learning Outcome
	Control Class		
Valid	32	32	32
Missing	0	0	0
Average	45,47	62,44	51,67
Median	46,25	63,46	50,00
Mode	46,25	63,46	50,00
Standard Deviation	4,15	3,50	7,23
Variance	17,21	12,27	52,33
Range	16,25	14,74	30,00
Minimal	37,50	53,21	36,67
Maximal	53,75	67,95	66,67

In addition to the information presented in the above table, the data can also be described in diagrammatic form. For more details, it can be seen as the following figure.

**Figure 5.** Descriptive Analysis of Pretest for Control Class by using Conventional Method at SMA Negeri 2 Wawo Bima



**Descriptive Analysis of Post-test for Control Class by using Conventional Method at SMA Negeri 1 Wawo Bima**

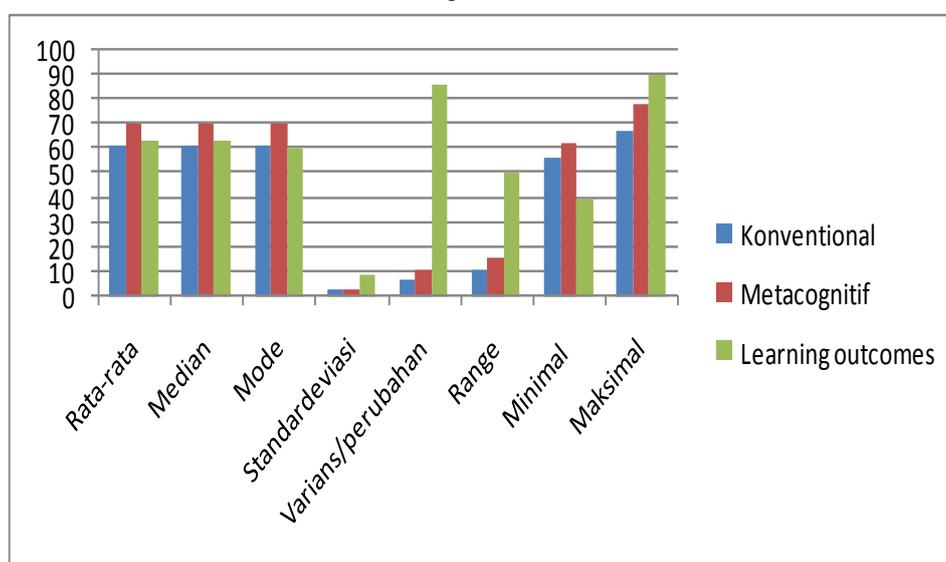
Based on the descriptive analysis of pre-test in control class by using conventional method, it shows that the average value in which the number of students are 32 can be seen in the following table.

**Table 5.** Descriptive Analysis of Post-test for Control Class by using Conventional Method at SMA Negeri 1 Wawo Bima

Statistics Description	Conventional Method	Metacognitive	Learning Outcome
	Control Class		
Valid	32	32	32
Missing	0	0	0
Average	61,48	69,99	63,44
Median	61,25	70,51	63,33
Mode	61,25	70,51	60,00
Standard Deviation	2,68	3,23	9,25
Variance	7,20	10,40	85,65
Range	11,25	15,39	50,00
Minimal	56,25	62,82	40,00
Maximal	67,50	78,21	90,00

In addition to the information presented in the above table, the data can also be described in diagrammatic form. For more details, it can be seen as the following figure.

**Figure 6.** Descriptive Analysis of Post-test for Control Class by using Conventional Method at SMA Negeri 1 Wawo Bima



**Descriptive Analysis of Pre-test for Control Class by using Conventional Method at SMA Negeri 2 Wawo Bima**

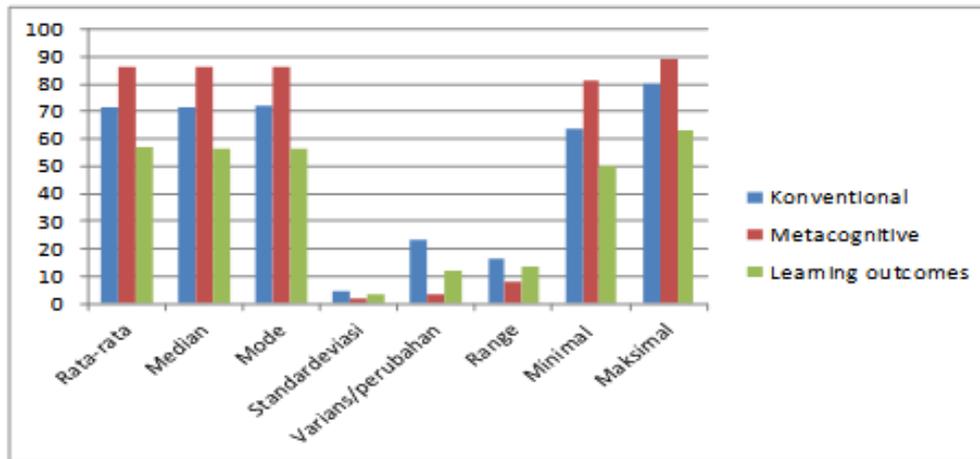
Based on the descriptive analysis of pre-test in control class by using conventional method, it shows that the average value in which the number of students are 32 can be seen in the following table.

**Table 6.** Descriptive Analysis of Pre-test for Control Class by using Conventional Method at SMA Negeri 2 Wawo Bima

Statistics Description	Conventional Method	Metacognitive	Learning Outcome
	Control Class		
Valid	32	32	32
Missing	0	0	0
Average	71,80	86,44	56,98
Median	71,88	86,54	56,67
Mode	72,50	86,54	56,67
Standard Deviation	4,81	1,78	3,42
Variance	23,18	3,16	11,73
Range	16,25	7,69	13,33
Minimal	63,75	81,41	50,00
Maximal	80,00	89,10	63,33

In addition to the information presented in the above table, the data can also be described in diagrammatic form. For more details, it can be seen as the following figure.

**Figure 7.** Descriptive Analysis of Pre-test for Control Class by using Conventional Method at SMA Negeri 2 Wawo Bima



**The Results of Descriptive Analysis for Experimental Class by Using with Bima Cultural Value Approach "Maja labo Dahu" at SMA Wawo Bima**

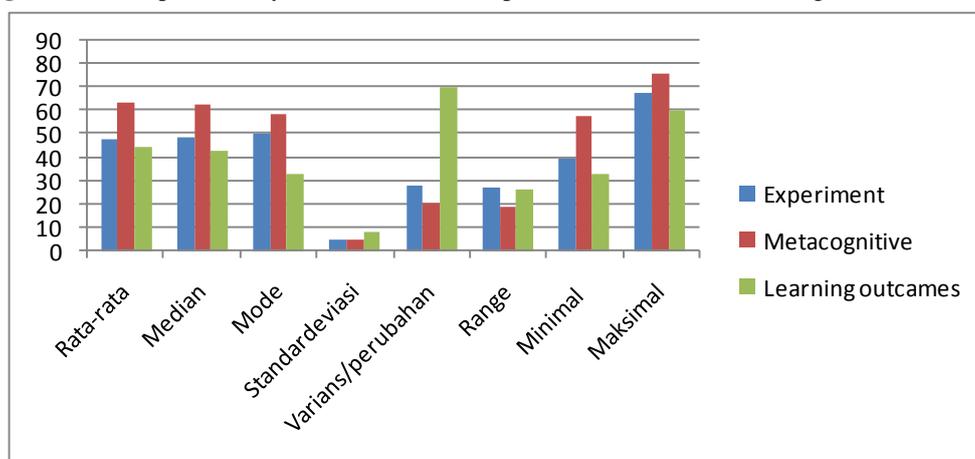
Based on the descriptive analysis of pre-test in experimental class in SMA Negeri 1 Wawo Bima, it shows that the average value in an experimental class 32 respondents can be seen in the following table.

**Table 7.** Descriptive Analysis of Pre-Test in Experimental Class in SMA Negeri 1 Wawo Bima

Statistics Description	Experimental Class	Metacognitive	Learning Outcome
Valid	32	32	32
Missing	0	0	0
Average	48,16	63,40	44,37
Median	48,75	62,82	43,33
Mode	50,00	58,97	33,33
Standard Deviation	5,32	4,56	8,40
Variance	28,32	20,82	70,58
Range	27,50	18,59	26,67
Minimal	40,00	57,69	33,33
Maximal	67,50	76,28	60,00

In addition to the information presented in the above table, the data can also be described in diagrammatic form. For more details, it can be seen as the following figure.

**Figure 8.** Descriptive Analysis of Pre-Test in Experimental Class in SMA Negeri 1 Wawo Bima



**Descriptive Analysis of pre-test in Experiment Class at SMAN 2 Wawo Bima**

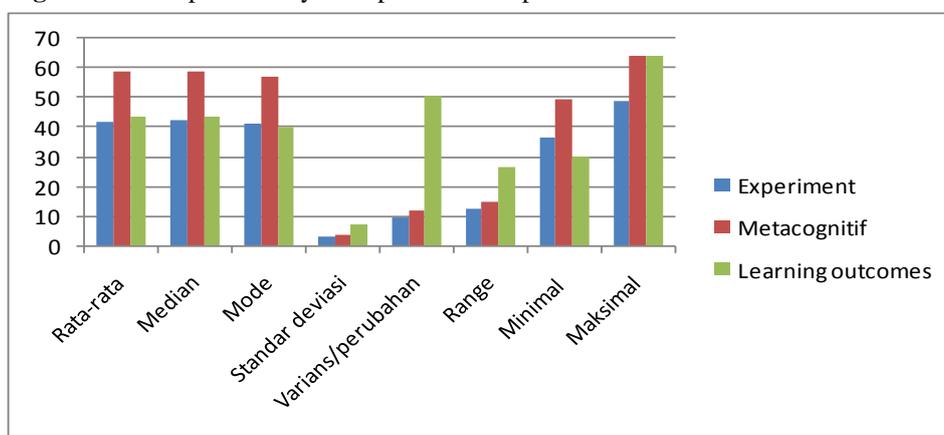
Based on the descriptive analysis of pre-test in experimental class in SMA Negeri 1 Wawo Bima, it shows that the average value in an experimental class 32 respondents can be seen in the following table.

**Table 8.** Descriptive Analysis of pre-test in Experiment Class at SMAN 2 Wawo Bima

Statistics Description	Experimental Class	Metacognitive	Learning Outcome
Valid	32	32	32
Missing	-	-	-
Average	41,84	58,95	43,44
Median	42,50	58,97	43,33
Mode	41,25	57,05	40,00
Standard Deviation	3,09	3,43	7,11
Variance	9,58	11,78	50,53
Range	12,50	14,74	26,67
Minimal	36,25	49,36	30,00
Maximal	48,75	64,10	64,10

In addition to the information presented in the above table, the data can also be described in diagrammatic form. For more details, it can be seen as the following figure.

**Figure 9.** Descriptive Analysis of pre-test in Experiment Class at SMAN 2 Wawo Bima



**Descriptive Analysis of Post-test for Experimental class by Using Bima Cultural values Approach "Maja Labo Dahu" at SMA Negeri 1 Wawo Bima**

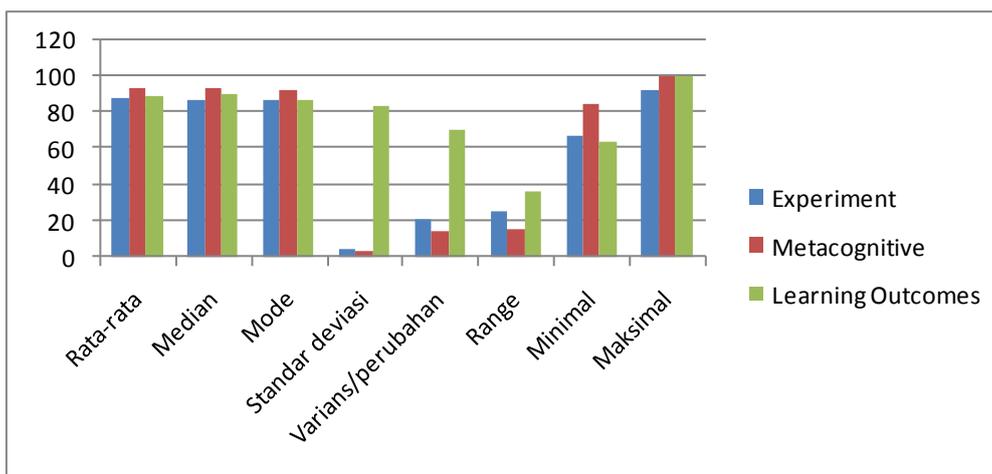
Based on the descriptive analysis of pre-test in experimental class in SMA Negeri 1 Wawo Bima, it shows that the average value in an experimental class 32 respondents can be seen in the following table.

**Table 9.** Descriptive Analysis of Post-test for Experimental class by Using Cultural values Approach at SMA Negeri 1 Wawo Bima

Statistics Description	Experimental Class	Metacognitive	Learning Outcome
Valid	32	32	32
Missing	0	0	0
Average	87,54	93,75	88,96
Median	87,50	93,59	90,00
Mode	87,50	92,31	86,67
Standard deviation	4,63	3,72	84,01
Variance	21,42	13,84	70,58
Range	25,00	15,38	36,67
Minimal	67,50	84,62	63,33
Maximal	92,50	100	100

In addition to the information presented in the above table, the data can also be described in diagrammatic form. For more details, it can be seen as the following figure.

**Figure 10.** Descriptive Analysis of Post-test for Experimental class by Using Cultural values Approach at SMA Negeri 1 Wawo Bima



**Descriptive Analysis of Post-test for Experimental class by Using Bima Cultural values Approach "Maja Labo Dahu" at SMA Negeri 2 Wawo Bima**

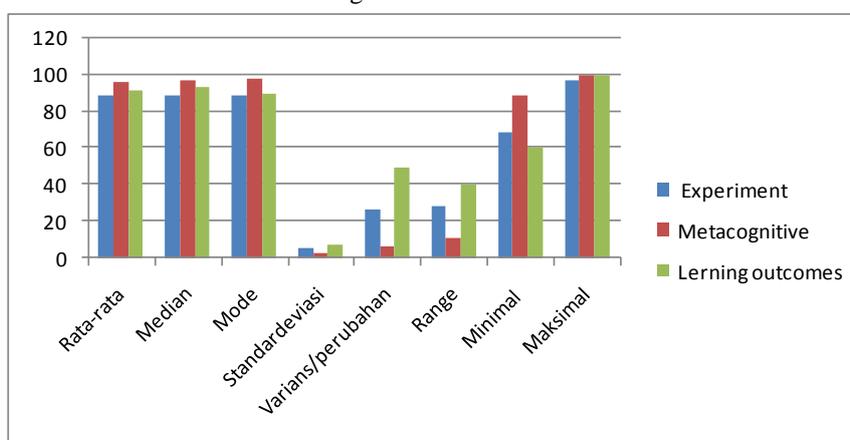
Based on the descriptive analysis of pre-test in experimental class in SMA Negeri 1 Wawo Bima, it shows that the average value in an experimental class 32 respondents can be seen in the following table.

**Table 10.** Descriptive Analysis of Post-test for Experimental class by Using Cultural values Approach at SMA Negeri 2 Wawo Bima

Statistics Description	Experimental Class	Metacognitive	Learning Outcome
Valid	32	32	32
Missing	0	0	0
Average	89,22	96,62	91,67
Median	88,75	97,44	93,33
Mode	88,75	98,08	90,00
Standard Deviation	5,15	2,48	7,03
Variance	26,49	6,16	49,47
Range	28,75	10,90	40,00
Minimal	68,75	89,00	60,00
Maximal	97,50	100	100

In addition to the information presented in the above table, the data can also be described in diagrammatic form. For more details, it can be seen as the following figure.

**Figure 11.** Descriptive Analysis of Post-test for Experimental class by Using Cultural values Approach at SMA Negeri 2 Wawo Bima



**Analysis the Bima Cultural Value "Maja Labo Dahu", Metacognitive, and learning outcomes**

The study consists of three variables, namely independent variable, moderator variable, and dependent variable. The independent variable is Bima Cultural Values "Maja Labo dahu." The moderator variable is

metacognitive. The dependent variable is learning outcomes. The contribution of cultural value is 65.7% (see R - Square). F value is 5.73 ( $p = 0.040$ ;  $p < 0.05$ ). It means that there is a significant improvement from 65.7% to 72.9%. By looking at the results of the analysis, it can be concluded that with the presence of the metacognitive variable, the learning outcomes are increased that is 72.9%. It means that learning with cultural approach can influence and predict the learning outcomes significantly.

#### **IV. Discussion**

Validity is related to the accuracy of measuring devices toward the concept being measured so that it truly measured what should be measured. The instrument can be said to be valid if the measuring devices can indicate the level of validity in measuring something. One example is the test instrument. Tests have high validity if the result is in accordance with the criteria, in the sense of alignment between tests and criteria.

Based on the results of the previous analysis, using conventional methods can improve learning outcomes but it is much more significant when the teachers use an experimental method. The results show that the cultural approach can significantly influence learning outcomes since it can be proven by the value of  $t > t$  table ( $3,855 > 2,000$ ), and then  $H_1$  is accepted. It means that culture (X1) partially affect the study results (Y). It is in line with the results of the study conducted by Muliani, et al (2015). They found that the variables of motivation, commitment, and culture learning environment positively and significantly affect learning achievement both partially and simultaneously.

In addition, Saliman (2007) also pointed out that the utilization of the local culture as a learning approach can increase student participation during the process of teaching and learning in the classroom. It is supported by data on the activeness of the students in asking and discussing. They are also serious in finishing the, and it is seen that they are on time in submitting their task.

Suharrianta Gd, et al. (2014) also describes that the learning method based on simulation local culture affect the results of social studies at class V Elementary School in Kampung Baru District of Buleleng, Buleleng regency in the academic year 2013/2014. Therefore, it needs to be known that culture-based learning is the creation of learning environments. It is learning design that integrates culture as part of the learning process.

Furthermore, the results of research on metacognitive variable indicate that this variable can significantly influence learning outcomes. It can be proven by the value of  $t > t$  table ( $4.125 > 2.000$ ), then  $H_1$  is accepted. It means that the metacognitive (X1) partially affects the study results (Y). This is consistent with the opinion of Nuryana & Sugiarto (2012). They state that there is a significant relationship between students' metacognition skills and student learning outcomes.

Based on research conducted by Sumarno (Nuryana & Sugiarto, 2012, p.85-86), metacognitive strategies can significantly improve student learning outcomes. It is proven by the results which showed that before the students are taught by using metacognitive strategies the average score of students is 54.85. After the metacognitive strategies are applied in the first cycle, the average score increases up to 64.89.

Furthermore, Sudiarta (2006) explains that the student's ability to assess learning processes can boost motivation and improve the student learning outcomes. Purwandari (2009) states that the students' motivation increases with high metacognitive skills as the ability to set goals of learning. Students will learn to strive to achieve that goal if the goal is formulated by himself (Anni 2007). Sulistiyo (2008) added a high mental processes such as thinking, memory, and reasoning are part of the metacognitive to optimize student learning outcomes.

After doing thinking process, students will be encouraged to think about how good learning is conducted. Therefore, students are accustomed to thinking more about learning time. Flavell (1979), explains that metacognition consists of metacognitive knowledge and metacognitive experiences. Metacognitive knowledge consists of three categories namely self-knowledge, knowledge in learning tasks, and knowledge in strategy. In improving student achievement, strategies and methods are required to develop reasoning and students' motivation in learning activities. It is in line with the opinion of Romli (2012) who also explains that metacognition is an awareness and knowledge of the person's self-cognition or the process in which a person thinks about thinking to develop strategies to solve the problem.

Thus, metacognition skills can help students to understand how to do a good job. They can also help the management of learning in planning. They can monitor cognitive activities and evaluate the results. In finding the concept of students in observing, classifying, making allegations, explaining, they can draw conclusions to find some concepts or principles. This experimental method trains the students' cognitive skills to find and solve problems as well as to train students to learn independently in accordance with the cultural values *maja labo dahu* which is applied in SMA Wawo Bima.

#### **V. Conclusion**

The students taught by using cultural value approach (*Maja Labo Dahu*) in high schools in Bima Wawo have higher learning outcomes than the students taught using conventional methods of learning. The students who have a basic metacognitive knowledge have higher learning outcomes than the students who have low metacognitive. There is a significant effect between learning using cultural values (*Maja Labo Dahu*) and metacognitive toward students' learning outcomes.

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