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THE EFFECT OF METACOGNITION STRATEGY AND PRIOR KNOWLEDGE ON THE ABILITY TO DEVELOP WRITING SKILLS ASSESSMENT INSTRUMENTS

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The purpose of this study was to determine the effect of metacognition strategies and prior knowledge on the ability to develop students' writing skills assessment instruments. The research method used experimental research with the ANOVA technique of two-way analysis (2x2). The sample consisted of 46 students, class 3 PB1 as the experimental class and Class 3 PB2 as the control class. After testing, it was found that (1) metacognition strategy affected the ability to develop writing skills assessment instruments. The learning outcomes of students' abilities to use metacognition strategies got higher scores than students who were treated with other strategies, (2) there was an influence of the interaction between metacognition strategies and initial knowledge (high and low) on the ability to develop instruments for writing assessment skills. The learning outcomes of the ability to develop students' writing assessment skills instruments are influenced by metacognition strategies and initial knowledge.

Keywords: metacognition strategy, initial knowledge, ability to develop writing skills assessment instruments.

Introduction

One component of the learning system is assessment. Assessment is an inseparable part of the implementation of learning (Djiwandono, 2011: 2). Then Nurgiyantoro (2013: 5) explains that the assessment of learning outcomes is an integral part of the whole process of teaching and learning activities. All components of the learning system influence each other and determine to show maximum learning outcomes. Nurmasiyah & Hudiayatman, (2016) added that to

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produce good assessments, a teacher must formulate instruments that are in accordance with the realm of learning.

The use of appropriate assessment instruments according to Kusnadar (2013) will result in the achievement of valid and accurate student competencies. Arikunto (2013) also informs that an evaluation tool is said to be good if it can evaluate something with results like the actual situation. The writing skills assessment instrument used will show the learning outcomes skills of students. The existence of writing skills instruments is expected to be a measure of achievement in learning writing skills accurately and completely.

Assessment of Indonesian language learning is varies. Ariyana (2019) explains that assessment in Indonesian Language and Literature learning is a process of gathering information during learning activities. The emphasis of assessment is focused on four aspects of language skills, namely listening, reading, speaking and writing. These four aspects of language skills become a consideration in developing an assessment instrument. In this study, the focus of the preparation of the instrument was only on the assessment of writing skills.

The writing skills assessment instrument as a performance-based measurement tool can be a product. Performance appraisal instruments in writing skills need to pay attention to several elements, namely the grading grid, performance assignment instructions and assessment rubrics. In the preparation of the written assessment instrument, it is necessary to pay attention to the formulation of competency achievement indicators, assessment objectives, and standard

performance criteria that will be used, making performance tasks, instructions or instructions, and assessment rubrics as assessment guidelines.

In the practice of assessment, teachers still experience many difficulties. Hajaroh, Islam, & Mataram (2018) explained that the problem faced by teachers in assessment is the difficulty of changing the teacher's paradigm regarding the assessment that should be carried out. The teacher only recognizes assessment instruments such as tests and considers that the assessment only needs to be done after the students have done the learning process. Bisri & Ischsan (2017) found that 50% of teachers in Bogor Regency experienced difficulties in making context-based instruments. In conducting the test, the teacher has not paid attention to whether the results of the students' abilities are in accordance with the set standards or not. Ansari (2018) explained that the form of exam questions to measure the achievement of learning outcomes for Indonesian language and literature was not proportional, both in form and number of questions. Even if there are items that test language and literature material, it is more on mastery of cognitive aspects.

Regarding the development of writing skills assessment instruments, it turns out that Indonesian language teachers and students as prospective teachers, especially the Indonesian Language and Literature Education Study Program, the Language and Arts Faculty, Jakarta State University are still experiencing difficulties. In particular for students, it is difficult to prepare a question grid, formulate question indicators, determine assessment techniques and forms, make question and item instructions, compile an assessment rubric and make assessment guidelines. This difficulty occurs because educators do not choose the right learning

strategy. Therefore, to overcome this problem it is necessary to use effective learning strategies. An appropriate and relevant strategy is a metacognition strategy.

Dawud (2008: 82) argued that metacognition strategy is an effort to use cognitive knowledge and organize learning. This is done through planning, monitoring, and self-assessment of learning. Murtadho (2013) added that the process consists of planning activities, cognitive monitoring and evaluation of what has been done. So, this strategy is based on how learning is presented so that students understand the concept of the subject matter by organizing their knowledge in the planning, monitoring, and evaluation stages.

Werdingasih's (2015) research showed that the use of strategies is metacognition effective in improving language skills. In all, elementary students can focus on learning, study planning, and evaluate the progress and results of learning Indonesian. The effectiveness of using metacognition strategies is shown by Alshammari (2015). The results of the study prove that metacognitive strategies can help individual students to understand the mastery of learning skills. With metacognitive strategies, students can develop better learning skills in secondary schools in Saudi Arabia.

Learning to develop writing skills assessment instruments will be achieved well if students have prior knowledge. Pamungkas, Setiani, & Pujiastuti (2017) explain the initial knowledge or knowledge that students have before learning begins. Initial ability is a prerequisite that is used before following further learning.

The purpose of this study was to determine (1) the effect of metacognition strategies on the ability to develop student writing assessment instruments (2) the

effect of the interaction of metacognition strategies and initial knowledge on the ability to develop instruments for assessing students' writing skills.

Research Methods

This study was designed to test hypotheses and prove a causal relationship between two or more variables. In experimental research, a treatment (independent variable) is tested whether the treatment has an influence on other variables (dependent variable). This hypothesis test uses two-way ANOVA calculation (2x2). The sampling technique was *purposive sampling*. The samples of this research were students of class 3 PB 1 as the experimental class and class 3 PB 2 as the control class. The two classes are further divided into two, namely the high and low initial knowledge class. The data collection technique used a test instrument, namely a test of the ability to develop writing skills assessment instruments and a test of initial knowledge.

Results and Discussion

There were three variables in this study, namely the ability to develop writing assessment instruments as the dependent variable, metacognition strategies as independent variables, and students' prior knowledge (high and low) as variables. The following is a brief description of the data from statistical calculations.

Table 1 Data Description Hypothesis Testing for

Capabilities	Description	Learning Strategies		Total
		Class Treatment (A1)	Class Control (A2)	
Early				

	n	8	7	15
	ΣX	706	573	1279
Height (B1)	Average	88.30	81.85	72.571
	SD	5,175492	3,412163	8.5
	Var	26.8	11.6	38.4
	ΣX^2	498436	328329	826765
	N	8	7	15
	ΣX	618	508	1126
Low (B2)	Average	77.30	72.60	149.8
	SD	1.8	5.02	6.8
	Var	3.5	25.3	28.762
	ΣX^2	381924	258064	639988
	N	16	14	30
	ΣX	1324	1081	2405
Total	Average	165.5	154.4286	319.929
	SD	7.03	8.4	15.481
	Var	30.3	36.9	67.2
	ΣX^2	880 360	586 393	146675
				3

Based on these data, the results of the test of the ability to develop an assessment instrument for students' writing skills in the experimental class who had high knowledge obtained an average value of 88.3 and in the group of students who

had low initial knowledge obtained an average value of 77.3. Meanwhile, the ability to develop a writing skill assessment instrument of students in the control class who had high initial knowledge obtained an average score of 81.85 and in the group of students who had low-level knowledge obtained an average score of 72.6.

Summary description of the frequency and percentage of data ability to develop an instrument of assessment of writing skills at experimental class who have no prior knowledge of high and low can be seen in Table 2 below:

Table 2 Distribution Frequency capabilities Develop Instrument writing skills Student class experiment

Class Interval	Frequency Absolute	Frequency Cumulative	Frequency Relative (%)
73.0 to 76.9	3	3	18.8%
77.0 to 80.9	5	8	31.3 %
81.0-84.9	2	10	12.5%
85.0-88.9	1	11	6.3%
89.0-92.9	3	14	18.8%
93.0-96.9	2	10	12 , 5%
	16		100%

From table 2, the calculation of the results of the test of the ability to develop writing skills assessment instruments in the experimental class the metacognition strategy of the two groups with the initial knowledge level (high and low) has a

range of scores of 1-100; the number of students is 16 students; the lowest score is 73 and the highest is 94; and an average score of 82.75. Class ranges of 21; the number of interval classes is 6 classes; and the length of the interval

Furthermore, a summary description of the frequency and percentage of data on the ability to develop an instrument for assessing students' writing skills in the control class who has high and low initial knowledge ² can be seen in Table 3 below:

Table 3: Frequency Distribution of Ability to Develop Class Student Writing Skills Assessment Instruments Control

Class Interval	Absolute	Frequency Cumulative	Frequency Relative(%)
65.0-69.9	2	2	14.3%
70.0-74.9	3	5	21, 4%
75.0-79.9	2	7	14.3%
80.0-84.9	7	14	50.0%
	14		100%

From the calculation of the results of the ability test to develop a writing skill assessment instrument, the control class student group from both groups of high and low initial knowledge levels has a range of scores of 1-100; the number of students is 14 students; the lowest score is 65 and the highest is 84; and an average score of 77.2. The class range is 19; the number of interval classes is 4 classes, and the length of the interval

Next, a statistical test was conducted to see the ¹ effect of the interaction between learning strategies and the level of initial knowledge on the ability to develop writing assessment instruments. This hypothesis testing uses the two-way analysis of variance (ANOVA) technique. This technique is used to test the effect (*interaction effect*) of the independent variables, namely the metacognition strategy ² on the dependent variable, namely the ability to develop writing skills assessment instruments.

² The results of the calculation of the two-way ANOVA test can be briefly seen in the following table.

Table 4 Summary of Two-Path ANOVA Calculation Results of

Variance Source	JK	db	RJK	F _o	F _(0.05; 26)
Between A1 and					
A2	228,809	1	228,809	6,008	4,200
Interaction AB	77.12	1	5,485	5,486	4,200
Within	441,571	26	16,983		
Total	1527,800	29			

Criteria F-count to test the difference between A1 and A2 and the interaction of AB

If $F_{\text{count}} > F_{\text{table}}$, then H_0 is rejected, H_1 is accepted

If $F_{\text{counts}} \leq F_{\text{table}}$, then H_0 is accepted, H_1 is rejected.

Based on the results of the calculations in table 4 above, each hypothesis will be described.

1. There is an effect of metacognition strategies on the ability to develop writing assessment instruments

In the table above the ANOVA 2 X 2 calculation above, between A1 and A2 $f_{\text{count}} = 6.008 > f_{\text{table}} = 4.200$ at $\alpha = 0.05$, then H_1 is accepted and H_0 is rejected . That is, there are differences in the ability to develop writing skills assessment instruments between students in the experimental class and the control class. The results of the calculation prove that the metacognition strategy has an effect on student learning outcomes in developing writing skills assessment instruments.

From the acquisition of an average score, students studying in the experimental class are 82.8 and students studying in the control class are 77.25. Based on the value of learning outcomes, the ability to develop an instrument for assessing students' writing skills through the treatment of metacognition strategies (experimental class) obtained higher scores than students who were not treated (control class).

When compared with the initial test scores in the group of students who were treated with the metacognition strategy, the mean score of the final test in this group showed a significant improvement. The pre-test mean score of this group was 61.2, while the post-test mean score increased by 82.8. This increase was due to the effect of the metacognition strategy applied to the class.

The initial test was given to determine the initial ability to develop writing skills assessment instruments that students had before being given treatment. At the end of the lesson, students are given a test to find out the final learning result. The result of this final score is an indicator of the influence of the metacognition strategy. The strategy used can affect the ability to develop writing skills assessment instruments. Metacognition strategies are more effective than other strategies in increasing the ability to develop students' writing skills assessment instruments.

2. There is an influence of the interaction between learning strategies and prior knowledge (high and low) on the ability to develop student writing assessment instruments.

In the ANOVA 2 X 2 calculation table above, the interaction of AB $F_{\text{counts}} = 5.486 > F_{\text{table}} = 4.200$ at the level $\alpha = 0.05$, then H_1 is accepted and H_0 is rejected. That is, there is an interaction effect between learning strategies and initial knowledge (high and low) on the ability to develop instruments for writing assessment skills.

The results of the calculation of the average value of the ability to develop writing skills assessment instruments of experimental class students who have high initial knowledge ($A_1 B_1$) is 82.25 and in the group of students who have low initial knowledge ($A_1 B_2$) is 77.3. Meanwhile, the average value of the ability to develop a writing skill assessment instrument of students in the control class who had high initial knowledge ($A_2 B_1$) was 81.9 and in the group of students who had low initial knowledge ($A_2 B_2$) was 72.6. This interaction can be illustrated in the following graph.

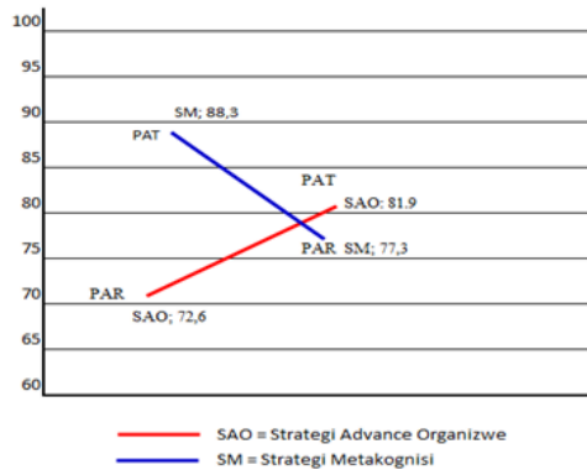


Figure 1. The interaction between learning strategies and initial knowledge on the ability to develop instruments for assessing students' writing skills.

Based on the ANOVA calculation, there is an interaction between learning strategies and initial knowledge on the ability to develop writing skills assessment instruments. The application of strategies and students' initial knowledge level interacts and affects their ability to develop writing skills assessment instruments. This means that the metacognition strategy and other strategies used by the lecturer affect the ability of students to develop writing skills assessment instruments if they match the level of initial knowledge (high and low) possessed by students.

Each student has differences in mastering the material in developing writing skills assessment instruments. These differences are influenced by internal and external factors. The internal factor referred to in this study is the level of initial

knowledge, while the external factor is the learning strategy, namely the metacognition strategy.

In the experimental class students, there was an interaction between metacognition strategies and two groups of students with high and low levels of initial knowledge. This interaction affects the ability to develop writing skills assessment instruments as abilities resulting from this process. Likewise in the control class, another strategy used also occurs in interactions with two groups of students, namely students who have high initial knowledge and those who have low initial knowledge. Initial knowledge affects learning outcomes in developing writing skills assessment instruments. This is consistent with the research of Muammar, Harjono & Gunawan (2017) that the diversity of students' backgrounds and experiences causes their initial knowledge is not the same. Students who have high initial knowledge can learn better than their peers who have average and low abilities.

Conclusion

Based on the calculation of the results of hypothesis testing, it has been stated that (1) metacognition strategy affects the ability to develop students' writing skills assessment instruments. The learning outcomes of the ability to develop writing skills assessment instruments for students who were treated with metacognition strategies were higher than students who were treated with other strategies. (2) Metacognition strategies and students' prior knowledge interact and influence the ability to develop students' writing skills assessment instruments. That

is, the learning strategy, especially the metacognition strategy used by the lecturer, affects the ability to develop writing skills assessment instruments ¹ if it matches the level of initial knowledge (high and low) possessed by students.

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