

The Effect Of Arias Learning Model And Student's Creativities To The Learning Outcomes On Continental Food Processing And Presenting Subject At State Vocational Senior High School 3 Bogor

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Abstract. This study was conducted to determine the effect of ARIAS learning model and student creativities to the learning outcomes on continental food processing and presenting subject at State Vocational Senior High School 3 Bogor. This study aims to: (1) obtain information on the differences in learning outcomes between students taught using ARIAS learning model and students taught using direct learning; (2) obtain information on the differences in learning outcomes between high creativity students and low creativity students; (3) obtain information on the relationship between learning model and creativities and the students' learning outcomes on continental food processing and presenting school's subject. This experimental study applied 2 x 2 factorial design, using moderator variable of student creativity. In the experiment, separating level on students' creativities was not significantly performed between high creativity students and low creativity students. Students considered as high creativity students, if they had scored better than or equal to the median (\geq median) group, while students considered as low creativity students if they had scored less than or below the median ($<$ median) group. The study was performed into two classes, Class XI Hospitality 1 implementing ARIAS learning model, and class XI Hospitality 2 implementing direct learning model. The study found that learning outcomes in cognitive, affective and psychomotor domains which indicate significantly better than students taught using direct learning (2) high creativity students indicate significantly better.

Keywords: ARIAS learning Model, Creativity, and Learning Outcomes.

I. INTRODUCTION

A. Background of the Study

Schools as formal education implementing are responsible for learning activities both intra and extracurricular. Teachers practice classroom teaching authority is obliged to create an active, innovative, creative, and fun learning environment. To support the learning process, teachers need to apply specific learning strategies, so that students can learn effectively, and achieve optimum learning. Based on the results of surveys carried out that during the learning process of processing and presentation of continental food at SMK Negeri 3 Bogor, presented in a way teachers deliver definition, mentioning the tools and materials used in the technique of processing, through the use of models of conventional learning, so that students' activity in learning less than optimal, resulting in low yields of their learning. To overcome these problems, we need appropriate learning models so that students can learn intensively so that the results of their study reached the optimum point is expected. Thus the question arises: what is

the proper learning model to teach subjects continental food processing and presentation? Is learning model Assurance, Relevance, Interest, Assessment, Satisfaction (ARIAS) or direct instructional model? The main characteristic learning model ARIAS is a learning model that spurs students to have the confidence and attitude of confidence to succeed in learning (Assurance), learning must relate to real life students either present experience or future (Relevance), success in learning for their interest in the study (interest), in studying the need for the evaluation process, either during the learning process or at the end of the study (Assessment), during the learning students must have a sense of pride in the success achieved (Satisfaction).

Since the processing and presentation continental food subject takes some creativity in terms of processing and presentation, the development of skills learning takes place among students. On learning ARIAS instilling confidence that must be shared by all the students, so it is expected that ARIAS learning model can improve students' creativity. Creativity is a talent that is potentially owned by any person who can be identified and developed through proper

education. In connection with the scope of the research conducted at the vocational school, where every student is required to experts in a particular field, then the creativity of students need to be developed in the study, so it can be seen the influence of creativity on student learning outcomes. Students who have the creativity, tend to have a goal to become the educated, knowledgeable, and an expert in a particular field. Creativity is a condition, attitude, ability, and the process of changing a person's behavior to produce products or ideas, find solutions to problems that are more efficient and unique in the learning process.

Based on some of the reasons as described above, it is necessary to research on: Effects of learning model ARIAS and creativity towards a student of SMK Negeri 3 Bogor learning outcomes on continental food processing and presentation subjects.

B. Research Question

Based on the background of the research that has been described above, the researcher made the formulation of the problem as follows: (1) Are there any differences in learning outcomes between students learning by using ARIAS model and by using directly model on the subjects of processing and presentation of continental food SMK Negeri 3 Bogor?; (2) Are there any differences between the learning outcomes of students who have high creativity and students who have low creativity on the subjects of processing and presentation of continental food at SMK Negeri 3 Bogor?; (3) Is there an interaction between the use of models of learning and creativity toward student learning outcomes in subjects continental food processing and presentation at SMK Negeri 3 Bogor?

C. Limitation of the Study

The scope of research on Effect of ARIAS Model of Learning and Creativity against Learning Outcomes at Continental Food Processing and Presenting Subject at SMK Negeri 3 Bogor, are as follows: (1) subjects were students of XI grade of Food Program SMK Negeri 3 Bogor; and (2) research conducted only on subjects continental food processing and presentation.

D. Hypothesis

Based on the study of theory and relevant research results proposed hypothesis as follows: (1) there are differences in learning outcomes between students learning by using model ARIAS and students learn by using directly model on the processing and presentation of continental food Subject at SMK Negeri 3 Bogor; (2) there are differences in learning outcomes between students who have high creativity and students who have low creativity on the

subjects of processing and presentation of continental food at SMK Negeri 3 Bogor; and (3) there is an interaction between the use of models of learning and creativity toward student learning outcomes in subjects continental food processing and presentation at SMK Negeri 3 Bogor.

II. METHODS

The study design used in this study is a 2x2 factorial design with creativity moderator variables. The research was conducted on the first semester students on the subjects of processing and presentation of continental food at SMK Negeri 3 Bogor, As research subjects is a class XI student of Catering and Hospitality 1 & 2. In the course of research, the separation of the level of creativity of students is false, that is to say in the activities of the experiment, the students are not separated in reality, between students who have a high degree of creativity and students who have low creativity. Based on the draft factorial analysis, the study subjects took two classes, namely: (1) class XI Hospitality 1 taught using learning model ARIAS; and (2) class XI Hospitality 2 taught using direct learning model.

III. RESULTS AND DISCUSSION

A. First Hypothesis Testing

There are differences in learning outcomes (cognitive, affective and psychomotor) among students who studied using ARIAS learning model and student learning by using direct learning model in the subject of processing and presentation of continental food at SMK Negeri 3 Bogor.

Table 1. Test Results in Anava 2 Paths to Learning Outcome Domains Cognitive upon impact learning model

Tests of Between-Subjects Effects					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2260.169 ^a	3	753.390	13.719	.000
Intercept	386140.898	1	386140.898	7.032E3	.000
Kelas	320.208	1	320.208	5.831	.019
Kreativitas	1444.898	1	1444.898	26.312	.000
Kelas * Kreativitas	444.708	1	444.708	8.098	.006
Error	3294.831	60	54.914		
Total	396180.000	64			
Corrected Total	5555.000	63			

a. R Squared = .407 (Adjusted R Squared = .377)

In Table 1 it appears that Fsum for cognitive learning results on the effect of learning models amounted to 5,831 with the level of significance is 0019. Because significance level of <0.05, then H₀ is rejected and H_a is accepted. Thus, it can be concluded that there are significant differences on the use ARIAS learning model and learning model directly against cognitive learning outcomes of the students on the subjects

of processing and presentation of continental food. Furthermore, as shown in Table 2, that Fsum for learning outcomes on the influence of the affective learning model amounted to 11 889 with significant level of 0001. Because of the extent significant < 0.05, then H₀ rejected and H_a accepted. It can be concluded that there is a significant influence on the use of the learning model ARIAS and direct instructional model to affective learning outcomes of the students on the subjects of processing and presentation of continental food.

Table 2. Test result 2 Path Anava to Affective Learning Outcome towards the effect of learning models

Tests of Between-Subjects Effects					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	599.828 ^a	3	199.943	23.901	.000
Intercept	409721.813	1	409721.813	4.898E4	.000
Kelas	99.453	1	99.453	11.889	.001
Kreativitas	337.813	1	337.813	40.382	.000
Kelas * Kreativitas	146.453	1	146.453	17.507	.000
Error	501.922	60	8.365		
Corrected Total	1101.750	63			

a. R Squared = .544 (Adjusted R Squared = .522)

In Table 3 it appears that Fsum for psychomotor learning outcomes on the influence of the learning model is of 6497 with a significance level of 0.013. Because of the significance extent <0.05, then H₀ rejected and H_a accepted. It can be concluded that there is significant influence over the use ARIAS learning model and learning model directly against psychomotor learning outcomes of the students on the subjects of processing and presentation of continental food.

Table 3. Test result 2 Path Anava to psychomotor Learning Outcome towards the effect of learning models

Tests of Between-Subjects Effects					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	570.898 ^a	3	190.299	19.820	.000
Intercept	406311.7	1	406311.750	4.232E	.000
Kelas	62.382	1	62.382	6.47	.013
Kreativitas	367.500	1	367.500	38.276	.000
Kelas * Kreativitas	129.0	1	129.007	13.436	.001
Error	576.086	60	9.601		
Total	410587.000	64			
Corrected Total	1146.984	63			

a. R Squared = .498 (Adjusted R Squared = .473)

B. Second Hypothesis Testing

There are differences in learning outcomes (cognitive, affective and psychomotor) among students who have high creativity and students who have low creativity on the subjects of processing and presentation of continental food at SMK Negeri 3 Bogor. Statistical tests performed using ANOVA 2 lines as shown in Table 4, Table 5 and Table 6 below.

Table 4. Results Anava 2 Paths to Learning Outcomes Cognitive realm on Effect of Creativity

Tests of Between-Subjects Effects					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2260.169 ^a	3	753.390	13.719	.000
Intercept	386140.898	1	386140.898	7.032E3	.000
Kreativitas	1444.898	1	1444.898	26.312	.000
Kelas	320.208	1	320.208	5.831	.019
Kreativitas * Kelas	444.708	1	444.708	8.098	.006
Error	3294.831	60	54.914		
Total	396180.000	64			
Corrected Total	5555.000	63			

a. R Squared = .407 (Adjusted R Squared = .377)

In Table 4 it appears that Fsum for cognitive learning outcomes influence of creativity amounted to 26 312 by 0000 significant level, which means that H₀ rejected and H_a accepted. It can be concluded that there is a significant relationship between low high creativity and creativity on the results of cognitive learning on the subjects of processing and presentation of continental food.

Table 5. Test Results in Anava 2 Paths to Learning Outcomes Affective domain on Effect of Creativity

Tests of Between-Subjects Effects					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	599.828 ^a	3	199.943	23.901	.000
Intercept	409721.813	1	409721.813	4.898E	.000
Kreativitas	337.813	1	337.813	40.382	.000
Kelas	99.453	1	99.453	11.889	.001
Kreativitas * Kelas	146.453	1	146.453	17.507	.000
Error	501.922	60	8.365		
Total	413908.000	64			
Corrected Total	1101.750	63			

a. R Squared = .544 (Adjusted R Squared = .522)

In Table 5 it appears that Fsum for affective learning outcomes on the influence of creativity amounted to 40.382 with the significant level of 0000, which means that H_0 rejected and H_a accepted. It can be concluded there is significant influence between high creativity and creativity lower against the affective learning outcomes in subjects continental food processing and presentation.

Furthermore, in Table 6 appears that Fsum for psychomotor learning outcomes to the effects of creativity amounted to 38 276 with a significant level of 0000, which means that H_0 rejected and H_a accepted. It can be concluded there is significant influence between low high creativity and creativity to the learning outcomes on subjects psychomotor processing and presentation of continental food.

Table 6. Test Results Anava 2 Overpass Effect of Creativity Against the Psychomotor Domain Learning Outcomes

Tests of Between-Subjects Effects					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	570.898 ^a	3	190.299	19.820	.000
Intercept	406311.750	1	406311.750	4.232E4	.000
Kreativitas	367.500	1	367.500	38.276	.000
Kelas	62.382	1	62.382	6.497	.013
Kreativitas * Kelas	129.007	1	129.007	13.436	.001
Error	576.086	60	9.601		
Total	410587.000	64			
Corrected Total	1146.984	63			

a. R Squared = .498 (Adjusted R Squared = .473)

C. Third Hypothesis Testing

There is an interaction between the use of models of learning and creativity toward student learning outcomes in subjects continental food processing and presentation at SMK Negeri 3 Bogor. Hypothesis testing is done by using statistical tests Anova 2 Line.

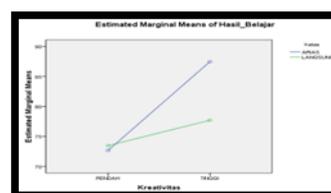
Table 7. Results of Tests on Average Value of Learning Outcomes Domains on Influence Cognitive Learning Model and Creativity

Dependent Variable: Hasil_Belajar Kognitif					
Kreativitas	Kelas	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
RENDAH	ARIAS	72.667	1.913	68.839	76.494
	LANGSUNG	73.467	1.913	69.639	77.294
TINGGI	ARIAS	87.471	1.797	83.875	91.066
	LANGSUNG	77.706	1.797	74.111	81.301

In Table 7 above it appears that the average value of the results of cognitive learning for students who have high creativity taught using learning model ARIAS amounted to 87.471 and the average value of the results of cognitive learning for students who have high creativity taught using direct instructional model amounted to 77.706. While the average value of cognitive learning outcomes for students who have a low creativity using model ARIAS amounted to 72.667 and the average value of cognitive learning outcomes for students who have low creativity that using direct learning model amounted to 73.467.\

To determine the pattern of interaction between the use of learning model ARIAS and direct instructional model as well as the creativity of students on the results of cognitive learning on the subjects of processing and presentation of continental food at SMK Negeri 3 Bogor can be seen in Figure 2 as follows:

Figure 2
Interaction
Patterns
(ARIAS
Model and
learning



Using
Line Graph
Learning
Direct
model) and

Creativity Against Cognitive Domain of Learning Outcomes

It dominates the distribution of the results of cognitive learning taught by learning model ARIAS and creativity, and student learning outcomes cognitive taught by direct instructional model and creativity, so as to see Figure 2 illustrated the existence of a significant interaction between the use (learning model ARIAS and learning models direct) and creativity of students' cognitive learning outcomes in subjects continental food processing and presentation at SMK Negeri 3 Bogor. Furthermore, consider Table 8 below.

Table 8

Results of Tests on Average Value of Learning Outcomes Affective Domains on Effect Model of Learning and Creativity

Dependent Variable: Learning Outcome					
Kreativitas	Kelas	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
RENDAH	ARIAS	77.600	.747	76.106	79.094
	LANGSUNG	78.133	.747	76.640	79.627
TINGGI	ARIAS	85.235	.701	83.832	86.638
	LANGSUNG	79.706	.701	78.303	81.109

In Table 8 above appears, that the average value of learning outcomes affective for students who have high creativity taught using learning model ARIAS amounted to 85.235 and the average value of learning outcomes affective for students who have high creativity taught by using direct learning model amounts to 79.706. While the average value of learning outcomes affective for students who have the creativity lower taught using learning model ARIAS amounted to 77.600 and the average value of learning outcomes affective for students who have the creativity lower taught using direct instructional model amounted to 78.133.

To determine the pattern of interaction between the use of learning model ARIAS and direct instructional model as well as the creativity of students to the learning outcomes in the affective domain subjects continental food processing and presentation at SMK Negeri 3 Bogor can be seen in Figure 3 as follows:

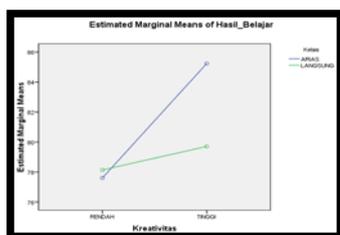


Figure 3.

It dominates the distribution of learning outcomes affective for students who are taught by learning model ARIAS and creativity, and student learning outcomes cognitive taught by direct instructional model and creativity, seemed illustrated the significant interaction between use (learning model ARIAS and direct instructional model) and creativity of students to the learning outcomes in the affective domain subjects continental food processing and presentation at SMK Negeri 3 Bogor. Furthermore, consider Table 9.

Table 9. Results of Tests on Average Value of Learning Outcomes Psychomotor domain on Influence Learning Model and Creativity

Dependent Variable: Learning Outcome					
Kreativitas	Kelas	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
RENDAH	ARIAS	77.000	.800	75.400	78.600
	LANGSUNG	77.867	.800	76.266	79.467
TINGGI	ARIAS	84.647	.752	83.144	86.150
	LANGSUNG	79.824	.752	78.320	81.327

In Table 9 it appears that the average value of learning outcomes psychomotor for students who have high creativity taught using learning model ARIAS amounted to 84.647 and the average value of learning outcomes psychomotor for students who have high creativity taught using learning model direct amounted to 79.824. While the average value of learning outcomes psychomotor for students who have the creativity lower taught using learning model ARIAS was 77.000 and the average value of learning outcomes psychomotor for students who have the creativity lower taught using direct instructional model amounted to 77.867.

To determine the pattern of interaction between the use of learning model ARIAS and direct instructional model as well as the creativity of students' learning outcomes psychomotor on the subjects of processing and presentation of continental food at SMK Negeri 3 Bogor can be seen in Figure 4.13 as follows: To determine the pattern of interaction between the use of models ARIAS learning and direct instructional model as well as the creativity of students to the learning outcomes on subjects psychomotor processing and presentation of continental food at SMK Negeri 3 Bogor can be seen in Figure 4.13 as follows:

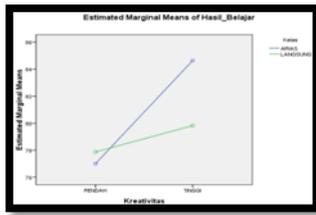


Figure 4

Interaction Using Patterns Line Graph (ARIAS Learning Model and Direct learning model) and Creativity Against Psychomotor Domain of Learning Outcomes

Shown in Figure 4, the line distribution of learning outcomes psychomotor for students who are taught by learning model ARIAS and creativity, and learning outcomes psychomotor for students who are taught by direct instructional model and creativity, so that portrayed their significant interaction between use (learning model ARIAS and direct instructional model) and the creativity of the students to the learning outcomes on subjects psychomotor processing and presentation of continental food at SMK Negeri 3 Bogor.

IV. RESULT AND DISCUSSION

In this section will be a discussion of the results of research associated with the theories and the results of relevant research on the influence of the learning model ARIAS and creativity to the learning outcomes on the subjects of processing and presentation of continental food. Results of the study are comprised of three domains, namely: (1) the results of cognitive learning; (2) the affective learning outcomes; and (3) psychomotor learning outcomes.

1) Results of learning for students using model ARIAS, significantly higher than students who learn using direct learning model in the subject of processing and presentation of continental food at SMK Negeri 3 Bogor.

The results of this study are consistent with the results of research Sopah [2] which found that the learning model ARIAS improve learning outcomes, better learning outcomes affective, cognitive and psychomotor. The findings of this study, similar to the findings Ning [3], that the learning model ARIAS positive effect on mastery of concepts students, on the subjects of biology.

The results are consistent with the study of the theory that learning model ARIAS is a learning model that seeks to instill a sense of confidence of students, trying to attract and maintain the interest and attention of students, which in turn foster a sense of pride in the students, so as to provide reinforcement in learning, On these conditions, it's normal cognitive learning outcomes for students taught using

learning model ARIAS, significantly higher than the cognitive learning outcomes for students taught using direct learning model.

This study found that the affective learning outcomes for students who are taught by learning model ARIAS, significantly higher than the results of cognitive learning for students who are taught by direct learning model on the subjects of food processing and presentation continental in SMK Negeri 3 Bogor.

The results are consistent with research findings Praptinasari, et al [4] that the learning model ARIAS significantly affect the results of study subjects biology for the students of class XI IPA SMA Al Islam 1 Surakarta, both in the cognitive, affective and psychomotor. Likewise, the results of this study are consistent with the results of White and Smerdon [5], which found that the attitude of collaboration can be developed through group discussions in ARIAS learning model. According to Muslim [6], that the group discussion requires an attitude of cooperation, sharing of tasks and responsibilities in the completion of the task.

This study found that psychomotor learning outcomes for students who are taught by learning model ARIAS, significantly higher than the results of cognitive learning for students who are taught by direct learning model on the subjects of food processing and presentation continental in SMK Negeri 3 Bogor.

The results of this study are consistent with the results of association studies [7], which found that the learning model ARIAS support students to be more active in learning, so the better psychomotor ability. Related to the research findings Yasa [8], the results of this study are also consistent, that learning ARIAS has proven to be better than the application of conventional learning.

2) Student learning outcomes that have high creativity, significantly higher than the students who have low creativity, on the subjects of processing and presentation of continental food at SMK Negeri 3 Bogor

Creativity is a condition, attitude, ability, and the process of changing a person's behavior to produce products or ideas, find solutions to problems that are more efficient and unique in the learning process [9]. This study found that the results of cognitive learning, affective, and psychomotor for students who have high creativity, significantly higher compared with the results of cognitive learning for students who have the creativity lower in subjects processing and presentation of continental food at SMK Negeri 3 Bogor.

The success rate is a reflection of the personality of students who have the creativity, the initiative fosters curiosity, believe in yourself and have high imagination.

Personality is proven to be significant in achieving success in learning. The importance of knowing the effect of creativity on learning outcomes is how an applied learning strategies can improve student learning outcomes that have low creativity, also increases the success rate or form a successful personality. Therefore creativity as a mirror of the personality of a successful needs to be fostered, both in the family and in the school environment. With the application of appropriate learning, the teacher is easy to upgrade creativity in students.

3. There was a significant interaction between the use of learning model ARIAS and direct learning model as well as the creativity of the learning outcomes in subjects continental food processing and presentation at SMK Negeri 3 Bogor

This study found that the average cognitive learning outcomes for students who have high creativity taught using learning model ARIAS, higher than the cognitive learning outcomes for students who have high creativity taught using direct learning model. Instead, cognitive learning outcomes for students who have low creativity taught using learning model ARIAS lower than cognitive learning outcomes for students who have low creativity taught using direct learning model. Both of these conditions describes the interaction interplay between models of learning and creativity on the results of cognitive learning. Thus, it can be concluded that there is an interaction between the use of learning model ARIAS and creativity on the results of cognitive learning on the subjects of processing and presentation of continental food at SMK Negeri 3 Bogor.

The study also found that an average of affective learning outcomes for students who have high creativity taught using learning model ARIAS, higher than the affective learning outcomes for students who have high creativity taught using direct learning model. Instead, affective learning outcomes for students who have low creativity taught using learning model ARIAS lower than affective learning outcomes for students who have low creativity taught using direct learning model. Both of these conditions describe their interaction interplay between models of learning and creativity to the learning outcomes affective domain. Thus it can be concluded that there is an interaction between the use of models of learning and creativity to the learning outcomes in the affective domain subjects continental food processing and presentation at SMK Negeri 3 Bogor.

The study also found that the average value of learning outcomes psychomotor for students who have high creativity taught using learning model ARIAS, higher than the average value of learning outcomes psychomotor for

students who have high creativity taught using learning model directly. Instead, psychomotor learning outcomes for students who have low creativity taught using learning model ARIAS, lower than the psychomotor learning outcomes for students who have low creativity taught using direct learning model. From both, the above conditions describe their interaction interplay between models of learning and creativity on psychomotor learning outcomes. It can be concluded, that there is an interaction between the use of models of learning and creativity to the learning outcomes on subjects psychomotor processing and presentation of continental food at SMK Negeri 3 Bogor.

The interaction between the learning model ARIAS, and creativity, the learning outcomes in learning and serving continental food processing shows that the model of learning and creativity should be a reference to the improvement of learning outcomes cognitive, affective and psychomotor. Because the learning process ARIAS have to learn steps as follows: (1) the stage of assurance (confidence); (2) the stage of relevance (relevance); (3) the stage of interest (interest); (4) the stage of assessment (evaluation); and (5) the stage of satisfaction (reinforcement), where such measures are superior to direct learning model with step - learning steps as follows: (1) prepare and motivate students; (2) explain or demonstrate; (3) guided exercises; (4) feedback; and (5) further training. In the direct learning model, the teacher's role is more dominant than the role of the student, so for students who have high creativity taught by ARIAS learning models, learning results significantly higher than students taught by direct learning model. However, for students who have low creativity taught by ARIAS learning models, learning results lower than students taught by direct learning model.

Interaction is important as a sign that there is a two-way relationship that is going to determine anything of interest or causal. The interaction between the learning model and the creativity of the learning outcomes describe the relationship between the model of learning and creativity as factors that influence each other in the achievement of learning outcomes. The main effect is the effect that is directly caused by the independent variable without taking into account the presence of other independent variables. While the interaction effect is the effect caused by the interaction between the independent variable and the other independent variables. The interaction effects in this study is an effect, because of the variable model of learning by taking into account the variables of creativity. This suggests that the learning model ARIAS can help facilitate students to understand the teaching materials, as well as to evoke the creativity of students in the learning process. It can be concluded, there is a significant positive interaction between the use of models of learning and creativity to the learning

outcomes on the subjects of processing and presentation of continental food.

V. CONCLUSIONS

A. Conclusions

- a. Learning outcomes for students taught using learning model ARIAS, significantly higher than the results of learning for students who learn by direct learning model in the subject of processing and presentation of continental food at SMK Negeri 3 Bogor;
- b. Learning outcomes for students who have high creativity, significantly higher than the learning outcomes of students who have low creativity, on the subjects of processing and presentation of continental food at SMK Negeri 3 Bogor; and
- c. There was a significant interaction between the learning model and the creativity of the student learning outcomes in subjects continental food processing and presentation at SMK Negeri 3 Bogor.

B. Recommendations

Based on the above conclusion can be suggested:

- a. Material processing and presentation of continental food can be taught using learning model ARIAS.
- b. Teachers should be able to master the learning model ARIAS strategy that each lesson, students can be controlled; and
- c. The availability of facilities and infrastructure have an important influence in the learning process. Schools should strive to provide infrastructure

services needed students for the learning process can proceed smoothly.

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