THE EFFECT OF THE PROJECT BASED LEARNING MODEL BASED ON THE LOCAL WISDOM OF BALI MENYAMA BRAYA ON SCIENCE LEARNING OUTCOMES AS SEEN IN THE FACULTY OF STUDENTS' ACHIEVEMENT MOTIVATION IN GRADE V OF ELEMENTARY SCHOOL GUGUS 2 TAMPAKSIRING

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Abstract

This study aims to examine the effect of the *project based learning model* based on Balinese local wisdom *Menyama Braya* on the learning outcomes of science in terms of the achievement motivation of fifth grade students of Elementary School Cluster 2 Tampaksiring, Tampaksiring District in the 2025/2026 academic year . This type of research is a quasi-experimental study using *a posttest only control group design with a 2×2 factorial design* . The population of this study was fifth grade in Cluster 2 Tampaksiring, Tampaksiring District in the 2025/2026 academic year, totaling 184 people . Data were collected using a questionnaire method to measure achievement motivation and a test to measure learning outcomes. The collected data were analyzed using two-way ANOVA. Based on the results of the data analysis, it was obtained: 1) there was a significant influence on the learning outcomes of students who followed the *PjBL* learning model based on Balinese local wisdom *Menyama Braya* , this was evidenced by the value (sign = 0.045, $p < 0.05$). 2) There is an interaction between the learning model and motivation on the results of learning science, this is evidenced by the value (sign = 0.000, $p < 0.05$). 3) In the group of students who have high achievement motivation, there is an influence of the *Project Based Learning learning model* based on Balinese local wisdom *Menyama Braya* on the results of learning science of grade V students of Elementary School Cluster 2 Tampaksiring, this is evidenced by the value (sign = 0.000, $p < 0.05$). 4) In the group of students who have low achievement motivation, there is an influence of the *Project Based Learning learning model* based on Balinese local wisdom *Menyama Braya* on the results of learning science of grade V students of Elementary School Cluster 2 Tampaksiring, this is evidenced by the value (sign = 0.028 , $p < 0.05$).

Keywords: *PjBL* Model , *Menyama Braya* , achievement motivation, and science learning outcomes

INTRODUCTION

Humans are essentially individual and social beings. As individual beings, humans have their own characteristics that distinguish one human from another . In the current era of globalization, education plays a crucial role in ensuring survival. Education is a vehicle for improving and developing the quality of human resources. Based on Article 20 of the 2003 Law, national education functions to develop abilities and shape the character and civilization of the nation with the aim of developing the potential of students to become quality human beings with the characteristics of faith and devotion to God Almighty, noble character, health, faith, capability, creativity, independence, and becoming democratic and responsible citizens. Lasmawan (2010:2) argues that to face an increasingly challenging future, the younger generation needs to be well-prepared. This preparation can be achieved through providing knowledge and various skills. Furthermore, young people at the school level need to be equipped with social knowledge, social values, and social skills so they can struggle to survive and develop their potential. They also need to be educated to be sensitive to social issues in everyday life. This is where the strategic role of a scientific study is needed that can balance the progress of science and technology with human values, so that the position of Natural and Social Sciences (IPAS) education becomes strategic in improving human values which have tended to be influenced by the progress of science and technology.

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Science education comprises two interrelated elements or concepts: natural science education and social science education. Literally, education has two meanings: education as a discipline and education as an effort undertaken by a state, society, family, or individual to achieve a goal. Good educational quality is characterized by strong student learning outcomes in a specific field, including cognitive, affective, and psychomotor skills. The government, along with educational experts, has strived to further improve the quality of education. This includes seminars and training sessions to strengthen subject matter and teaching methods. Furthermore, the government has also strived to improve student achievement, both academically and in terms of attitudes. However, ironically, the desired educational quality is still far from being achieved. For example, in 2022, *the Programme for International Student Assessment* (PISA) results showed that Indonesia's ranking in science literacy improved, but its score declined compared to the previous cycle. In line with the results of observations that have been carried out, based on document records at SD Gugus 2 Tampaksiring, student learning outcomes, especially the results of social studies learning of fifth grade students, have low learning outcomes. This can be seen from the results of the last social studies subject test which found that the majority of fifth grade students experienced learning failure. The low student learning outcomes indicate that there are still many fifth grade students whose learning outcomes have not reached the Learning Objective Achievement Criteria (KKTP) which is set at 70-85.

LITERATURE REVIEW
Project Based Learning Model Based on Balinese Local Wisdom *Menyama Braya*

Learning is the process of behavioral change through experience and practice. This means that the goal of learning is behavioral change, whether involving knowledge, skills, or attitudes, and even encompassing all aspects of the organism or personality. Teaching and learning activities such as organizing learning experiences, processing teaching and learning activities, and assessing the learning process and outcomes are all part of the teacher's responsibility (Wahab and Rosnawati, 2021). One of the learning theories underlying the Project-Based Learning model is Constructivism. "Construction" means constructive, and in the context of educational philosophy, Constructivism can be interpreted as an effort to build a modern, culturally structured way of life. Constructivism is the foundation of thinking (philosophy) of contextual learning, namely that knowledge is constructed by humans bit by bit, the results of which are expanded through limited contexts (Wahab and Rosnawati, 2021). Constructivism is a theory that is constructive in nature, meaning building in terms of ability and understanding in the learning process, in line with what Suparlan (2019) stated. Knowledge is not a set of facts, concepts, or rules that are ready to be learned and remembered. Humans must construct this knowledge and give it meaning through real experiences (Suparlan, 2019).

METHOD

This research is classified as a quasi-experimental study . It is called a quasi-experiment because not all variables (emerging symptoms) and experimental conditions in this study can be strictly regulated and controlled. The quasi-experimental research was conducted with intact *random selection* , in this case only the class was randomized, not each student, so that the class and students used were already formed as they were (Gading, 2014) . The research design used in this study was *a posttest only control group design* with a 2×2 factorial design. In *the posttest only control group design* , there were 4 groups selected, two classes as experimental classes and two other classes as control classes. The design and design of the experimental research are shown in Table 3.1 and Table 3.2.

Table 3.1 *Posttest Only Control Group Design*

E	X	O$_1$
K	-	O2

(Maolani in Andhika, 2025)

Information:
E = experimental group
K = control group
X = Group given treatment
- = Group that was not given treatment
O$_1$ = *Posttest* of experimental group
O2 = *Posttest* control group

The location of this research was at Tampaksiring Elementary School Cluster 2. This research was conducted during the odd semester of the 2025/2026 academic year. The data that needed to be collected in this research were achievement motivation data and student learning outcomes data. Achievement motivation data were obtained by administering a questionnaire to students, and learning outcomes data were obtained through a test method. To obtain achievement motivation variable data, a questionnaire was used as the instrument. The questionnaire used was a Likert scale with alternative answers ranging from 1 to 5. The alternative answers included: strongly agree (SS), agree (S), disagree (KS), doubt (R), disagree (TS), and strongly disagree (STS). In Koyan (2011:53) if the SS option is considered good, then the item is a positive item. Conversely, if the STS option is considered good, then the item is a negative item. A test is a list of questions, exercises, or other tools used to measure the intelligence/knowledge, skills, abilities, talents, or interests of an individual or group. In this study, data was collected by administering tests to each student. The measurement was based on cognitive competency achievement, which follows Bloom's taxonomy, encompassing aspects ranging from knowledge (C2) to synthesis (C5).

RESULTS AND DISCUSSION
Prerequisite Analysis Test

In this study, hypothesis testing was conducted using a two-way analysis of variance (ANOVA). For this purpose, ANOVA requirements were tested, namely the normality of data distribution and homogeneity of variance.

Data Distribution Normality Test

A normality test is essential to ensure that the statistical tests used in hypothesis testing can be carried out effectively. This study used the *Kolmogorov-Smirnov normality test.*

Table 4.17 Recapitulation of the Results of the Normality Test for the Distribution of Science Learning Outcomes Data.

	Normality Test			
	Learning model	Kolmogorov-Smirnov [a]		
		Statistics	df	Sig.
Results Study	PjBL Learning Model	0.097	44	0.200 [*]
	Conventional Learning Model	0.132	44	0.053
	Achievement Motivation			
	1 (high)	0.127	44	0.071
	2 (Low)	0.117	44	0.148

Table 4.17 shows that *the Kolmogorov-Smirnov statistical value* is 0.097 (p=0.200) in the experimental group, 0.132 (p=0.053) in the control group, 0.127 (p=0.071) in the high-achievement-motivated group, and 0.117 (p=0.148) in the low-achievement-motivated group. The results show that the posttest learning outcome data *is* greater than 0.05. The learning outcomes of all groups are normally distributed. The normality test for each group using *SPSS 26.0 for Windows* can be seen in Appendix 33.

Homogeneity of Variance Test

The homogeneity test of variance between groups was conducted using *Levene's Test of Equality of Error Variance* . A snapshot of the results of the homogeneity test of variance of learning outcome data is shown in Table 4.18.

Student Learning Outcomes Data

Levene's Test of Equality of Error Variances [a,b]					
		Levene Statistics	df1	df2	Sig.
Learning outcomes	Based on Average	0.733	3	84	0.535
	Based on Median	0.653	3	84	0.583
	Based on Median and with df adjustment	0.653	3	76,491	0.583
	Based on the trimmed mean	0.750	3	84	0.525
Tests the null hypothesis that the error variance of the dependent variable is the same across groups.					
a. Dependent Variable: Learning Outcomes					
b. Design: Intercept + Learning Model + Achievement Motivation + Learning Model * Achievement Motivation					

Table 4.18 shows that the results of the homogeneity of variance test on the data obtained show a significance level greater than 0.05. This indicates that the variance of the learning outcome data is homogeneous. The homogeneity test for learning outcomes was calculated using *the SPSS 26.0 for Windows program.* Details can be seen in Appendix 34. Based on the results of the normality and homogeneity tests for the science learning outcomes as calculated above, it can be concluded that the prerequisite analysis requirements for hypothesis testing using two-way ANOVA have been met. Therefore, the analysis using two-way ANOVA can be continued.

Hypothesis Testing

Hypothesis testing in this study was conducted using two-way ANOVA with the help of SPSS version 26.0. The first and second hypotheses were tested using the results of *Univariate Tests,* if the second hypothesis found an interaction between the learning model and achievement motivation, further testing was carried out on the third and fourth hypotheses using the results of *the Independent Samples T-test .*

First Hypothesis Test Results
The results of students' science learning who follow *the Menyama Braya* -based *PjBL learning model* are higher than those of students who follow the conventional learning model.

The data analysis technique used for the first hypothesis test was a two-way analysis of variance (ANOVA). The results of the first hypothesis test (two-way ANOVA) using *SPSS 26.0 for Windows,* as well as the results of the second hypothesis test, *are* presented in Table 4.19.

Table 4.19 Two-Way ANOVA Test Results

Intersubject Effect Test					
Dependent Variable: Learning Outcomes					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2244,500 [a]	3	748,167	12,816	0,000
Intercept	545107,682	1	545107,682	9337,427	0,000
Learning model	242,227	1	242,227	4,149	0.045
Achievement Motivation	344,045	1	344,045	5,893	0.017
Learning Model * Achievement Motivation	1658,227	1	1658,227	28,405	0,000
Error	4903,818	84	58,379		
Amount	552256,000	88			
Number of Corrections	7148,318	87			
a. R Square = .314 (Adjusted R Square = .298)					

Table 4.19 shows (see *source* : Learning Model) that the results of the two-way ANOVA test obtained an F value for the second hypothesis of 4.149 (p = 0.045). It can be seen that the significance value (*sig* .) 0.045 <0.05. Thus, H_0 is rejected and H_1 is accepted. Thus, there is an influence of the learning outcomes of the *PjBL* learning model based on Balinese local wisdom *Menyama Braya* on fifth-grade students at SD Gugus 2 Tampaksiring. The two-way ANOVA test of learning outcome data with the help of *the SPSS 26.0 for Windows program* can be seen in full in appendix 35.

Results of the Second Hypothesis Test
There is an interaction effect between the learning model and achievement motivation on the science learning outcomes of fifth grade students at SD Gugus 2 Tampaksiring.

The data analysis technique used for the second hypothesis test was a two-way analysis of variance (ANOVA). The results of the second hypothesis test (ANOVA) were calculated using *SPSS 26.0 for Windows.*

Pointing to Table 4.19 (see *source* : Learning_Model* Achievement_Motivation) that the results of the two-way ANOVA test obtained an F value for the second hypothesis of 28.405 (p = 0.000). It can be seen that the significance value (*sig* .) 0.000 <0.05. Thus, H0 is rejected and H1 is accepted. So, there is an interaction effect between the learning model and achievement motivation on the learning outcomes of science in grade V students at SD Gugus 2 Tampaksiring. To more easily digest the test results, they can be visualized graphically in Figure 4.1 as follows.
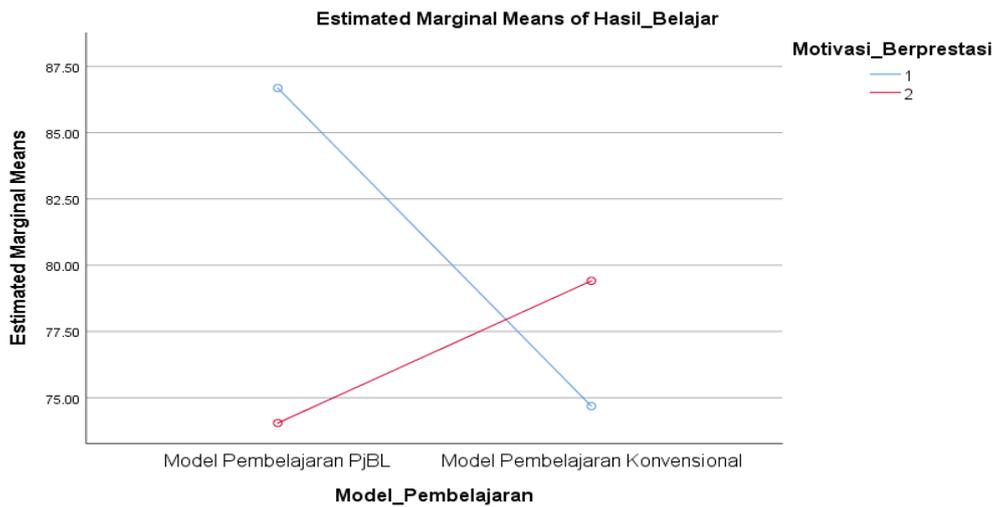
Figure 4.1 Interaction of Learning Models with Achievement Motivation on Science Learning Outcomes

Based on the figure above, it can be seen that there is a configuration of the average score of the results of learning science for each level of achievement motivation. In the high achievement motivation level, the average score of the results of the learning science of students who follow the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* is better than the results of the learning science of students who follow the conventional learning model. While at the low achievement motivation level, the average score of the learning science of students who follow the learning model does not get the project based learning model based on Balinese local wisdom Menyama Braya is better than the results of the learning science of students who follow the *PjBL learning model* based on Balinese local wisdom *Menyama Braya.* Because the second hypothesis test was significant, it was continued with the *Tuckey test* to find differences in learning outcomes after treatment, namely in the third and fourth hypotheses.

Third Hypothesis Test Results

For students who have high achievement motivation, the results of science learning of students who follow the *PjBL learning model* based Balinese local wisdom *Menyama Braya* are higher than students who follow the learning process without receiving the project based learning model based on Balinese local wisdom Menyama Braya for fifth grade students at SD Gugus 2 Tampaksiring. The data analysis technique used for further testing of the third hypothesis was the *Tuckey test* with the help of *SPSS 26.0 for Windows.* The following are the results of the further testing of the third hypothesis, as shown in Table 4.20 below.

Table 4.20 Results of Further Tests from the Group of Students Who Followed the *PjBL Learning Model* Based on Balinese Local Wisdom, *Menyama Braya* with a Group of Students Following the Conventional Learning Model, on Students with High Achievement Motivation

Independent Sample Test								
	Levene's Test for Equality of Variances		t-Test for Equality of Means					
					Sig. (2-tails)	Average Difference	Standard Error Difference	95% Confidence Interval of the Difference	
	F	Sig.	t	Df				Lower	On

Res ults	Variances are assumed to be the same	0.8 65	0.3 58	5,3 30	4 2	0,0 00	12,00 000	2.2512 8	7.45 672	16,543 28
	Equal variances are not assumed			5,3 30	4 0, 7 8 6	0,0 00	12,00 000	2.2512 8	7.45 271	16,547 29

Table 4.20 shows that the results of *the Tuckey test* from the group of students who followed the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* with high achievement motivation and the group of students who followed the learning model did not receive the project based learning model based on Balinese local wisdom Menyama Braya with high achievement motivation obtained a t-value of 5.330 (p = 0.000). It can be seen that the significance (*sig, 2-tailed*) 0.000 <0.05. Thus, H0 $_{is}$ rejected and H1 $_{is}$ accepted. This means that there is a difference in the results of learning science in the group of students who have high achievement motivation, between the group of students who followed the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* and the group of students who followed the learning model did not receive the project based learning model based on Balinese local wisdom Menyama Braya at SD Gugus 2 Tampaksiring. The results of *the Tuckey* test data on learning outcomes The third hypothesis with the help of *the SPSS 26.0 for Windows program* can be seen in full in appendix 36.

Results of the Fourth Hypothesis Test
For students who have low achievement motivation, the results of the science learning of students who follow the learning model do not receive the project based learning model based on Balinese local wisdom Menyama Braya are higher than students who follow the *PjBL learning* based on Balinese local wisdom *Menyama Braya.* in fifth grade students at Elementary School Gugus 2 Tampaksiring.

Similar to the third hypothesis test, the data analysis technique used for the fourth hypothesis follow-up test was *the Tuckey test* using *SPSS 26.0 for Windows.* The results of the follow-up test for hypothesis 4 are shown in Table 4.21 below.

Table 4.21 Results of Further Tests from the Group of Students Who Participated in the *PjBL Learning Model* Based on Balinese Local Wisdom, *Menyama Braya* with a Group of Students Who Follow the Conventional Learning Model, in Students Who Have Low Achievement Motivation

		Levene's Test for Equality of Variances		t-Test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig .	t	df	Sig. (2- tails)	Avera ge Differ ence	Stand ard Error Differ ence	Low er	On
Re sul ts	Variance s are assumed to be equal	1,2 14	0.2 77	2,2 78	42	0.0 28	5.363 64	2,355 00	0.61 105	10, 116 23

Equal variances are not assumed			2,278	38,468	0.028	5.363 64	2,355 00	0.59 808	10,129 19

Table 4.21 shows that the results of *the Tuckey test* from the group of students who followed the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* with low achievement motivation and the group of students who followed the learning model did not receive the project based learning model based on Balinese local wisdom Menyama Braya with low achievement motivation obtained a t value of 2.278 (p = 0.028). It can be seen that the significance (*sig. 2-tailed)* 0.028 <0.05. Thus, H0 is rejected and H1 is accepted. This means that there is a difference in the results of learning science in the group of students who have low achievement motivation, between the group of students who followed the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* and the group of students who followed the learning model did not receive the project based learning model based on Balinese local wisdom Menyama Braya at SD Gugus 2 Tampaksiring. The results of *the Tuckey* test data on learning outcomes The third hypothesis with the help of *the SPSS 26.0 for Windows program can be seen* in full in appendix 36.

Discussion of Research Results

This section further discusses the research results that have been obtained. The research results discussed include the results of data description analysis and hypothesis testing on the independent variables, namely the learning model (*PjBL* learning model based on Balinese local wisdom *Menyama Braya* and conventional learning model) and achievement motivation as a moderator variable whose influence on students' science learning outcomes as the dependent variable is studied. The results of the description of the data on the results of the science learning after the treatment showed that the highest average was in the group of students who followed the *PjBL learning model* based on Balinese local wisdom " *Menyama Braya* (experiment) with high achievement motivation. The discussion of the results of the test of the four hypotheses proposed in this study will be presented in more detail as follows.

The influence of *the Project Based* Learning model based on Balinese local wisdom *Menyama Braya* on the science learning outcomes of fifth grade students at Elementary School Cluster 2 Tampaksiring

Based on the results of data analysis, it has been proven that there is a difference in the results of learning science between students who follow the *PjBL learning model* based on Balinese local wisdom " *Menyama Braya"* and students who follow the conventional learning model. This is shown by obtaining an F value of 4.149 (p = 0.045) which is significant. Furthermore, it is proven that the results of learning science students who follow the *PjBL learning model* based on Balinese local wisdom " *Menyama Braya"* with an average value of 80.54, which is higher than the results of students' science learning. following the learning model did not receive the project based learning model based on local Balinese wisdom Menyama Braya with an average value of 76.98. The results of the hypothesis test show that learning with *the project based learning model* based on Balinese local wisdom " *Menyama Braya* excels in improving students' science learning outcomes compared to learning with conventional learning models. This learning model is interesting because in the learning process students can develop the ability to prove their thoughts well and without fear, this learning model provides space for students to express their opinions and other students actively respond, Students' science abilities depend greatly on how students can directly apply what they learn so that the development of preparedness in dealing with disasters is carried out, with this automatically students will concentrate and hone their analytical skills and focus on goals in order to complete projects well. The *project based learning model* was developed based on theories and real experiences of instructors so that it can optimally arouse students' enthusiasm for learning, with optimal students' enthusiasm for learning, of course, it increases the spirit of collaboration and cooperation in completing projects presented by teachers, with the element of Balinese local wisdom, namely *Menyama Braya* , student learning activities become more collaborative and innovative.

The *PjBL model* based on Balinese local wisdom, *Menyama Braya,* has several advantages such as: (1) providing active space and giving direction on what students should do, (2) the way of presenting material with the model *PjBL* based on Balinese local wisdom *Menyama Braya* is carried out in an interesting way, (3) a motivational model that is strengthened by a student-centered learning design, (4) application of the model *PjBL* based on Balinese local wisdom *Menyama Braya* increases motivation to repeat other materials that are essentially less interesting. In

the learning process, the implementation of the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* students' attention will be focused through learning materials that are related to everyday life. In learning the *PjBL learning model* based on Balinese local wisdom *Menyama Braya,* the themes of life around students are more quickly understood because students' language skills are explored in depth through various enjoyable learning experiences. In addition, students appear active in participating in the learning process. Students feel confident in their learning process, one of which is in conveying their ideas, students' speaking skills can be maximized well. Students will be motivated to complete their tasks. This advantage was also expressed by Lamer & Mergendoller (in Halimah & Marwati, 2022) who stated that through *Project Based Learning* students learn many things about important subject matter, *Project Based Learning* provides learning with open questions that open up opportunities for students to learn more deeply about the material, gives students freedom to express their opinions, teachers who always prioritize problem-solving skills, critical thinking, collaboration, communication, and creativity, as well as being innovative individuals and the many processes of discovery and feedback carried out. So with that, it is natural that the learning outcomes of students who follow the *PjBL learning model* based on Balinese local wisdom " *Menyama Braya "* get high learning outcomes. The learning process does not receive the project-based learning model based on Balinese local wisdom. Menyama Braya emphasizes the process of delivering material verbally from teacher to student with the intention that students can master the subject matter optimally. Learning does not receive the project-based learning model based on Balinese local wisdom. Menyama Braya is teacher-oriented, so that students only receive material from the teacher without any learning process that can activate students in their learning. Learning only occurs in one direction, namely the teacher only gives lectures to students and students become good listeners. Based on the description above, it can be seen that there is a match between the results of learning science and the *PjBL learning model based* on Balinese local wisdom " *Menyama Braya" .* On the one hand, the process of learning science must be able to connect abstract material and memorization in science with real-world situations that have been experienced or thought of by students and raise issues around students as basic learning materials. In addition, the *PjBL learning model* based on Balinese local wisdom " *Menyama Braya"* is a learning model that can motivate students to be more active and collaborative in their learning and feel confident in participating in each learning activity.

The results of this study are in line with Bell's opinion (in Harmansya 2024) that the *PjBL model* based on Balinese local wisdom, *Menyama Braya,* is an effective learning model in developing 21st-century skills, such as critical thinking, collaboration, communication, and creativity. This is relevant to the needs of education in the digital era, where students are expected to be able to face complex global challenges. The learning model combined with the local wisdom of Balinese students, namely *Menyama Braya,* provides opportunities for students to learn from real experiences, collaborate more intensely and foster a sense of mutual assistance with more sincerity, which will ultimately improve their skills in dealing with situations in society. The concept of Menyama Braya is in line with the concept of Gotong Royong, which is hard work and voluntary cooperation in communal life. In communal life, the community works hard to face various problems together (Panjaitan, 2013: 80). From this opinion, it is natural that the collaboration realized in this learning looks very close.

Andhika (2025) also found the influence of the *Project Based Learning model* on the Indonesian language learning outcomes of fifth grade students in Tampaksiring. The results of his research stated (1) in the experimental class using the *project based learning model* with the help of menyama braya for *the posttest* of the experimental class, the average value was 85.84, while the *posttest results* of the control class had an average of 76.92. This means that the learning outcomes of students in the class using the *Project Based Learning learning model* based on menyama braya had a better level of KKTP achievement than the class using conventional learning. Iszur Fahrezi, Mohammad Taufiq, Akhwani, Nafia'ah (2020), researched the Effect of *Project Based Learning Model* on Student Learning Outcomes in Elementary School Science Subjects. The results of their research show that learning using the *Project Based Learning model* can improve student learning outcomes with an average value before being given the *Project Based Learning model* of 63.29 can increase by 16.85 to 80.15. *Project Based Learning* has a positive impact on learning, increasing student interaction so that the learning atmosphere becomes enjoyable.

In addition to the previously implemented learning models, Semaranata, Sukadi, and Maryati (2024) developed a teaching module based on the local wisdom *of Menyama Braya* in Saren village to improve students' learning achievement and social awareness values. The results of the *Menyama Braya -based teaching module* that was developed effectively improved students' Sociology learning outcomes. This is evident from the probability value of 0.000, which is lower than 0.05. The average value of Sociology learning outcomes for students who studied with the teaching module was 87.66, which is greater than the average value of Sociology learning for students who

did not study with the teaching module, which was only 82.16. With the suitability between the nature of science learning and the *PjBL learning model* based on Balinese local wisdom *"Menyama Braya" ,* it is natural that there is an influence of the application of the *PjBL learning model* based on Balinese local wisdom " *Menyama Braya"* on the science learning outcomes of students in grade V at SD Cluster 2 Tampaksiring .

The effect of interaction between the *Project Based Learning model* based on Balinese local wisdom *Menyama Braya* and achievement motivation on the science learning outcomes of fifth grade students at Elementary School Cluster 2 Tampaksiring

Based on the data analysis, it has been proven that there is an interaction effect between the learning model and achievement motivation on students' science learning outcomes . This is indicated by the F value of 28.405 (p = 0.000), which is significant. *PjBL* learning model based on Balinese local wisdom, *Menyama Braya,* is a learning model that emphasizes student motivation in learning activities. Teachers will focus students' attention to continue following the learning well. Learning using the *PjBL learning model* based on Balinese local wisdom, *Menyama Braya* , students will be encouraged to follow their learning well. Students will be more motivated in every learning process carried out. The connection of the subject matter to students' daily lives will increase students' enthusiasm in following their learning so they can improve their achievements. Students will feel that the material they are learning has benefits for their lives. Therefore, students will have confidence and a sense of certainty in following their learning process and will always want to achieve more than their other friends.

Achievement motivation is one factor that can influence student learning outcomes. Achievement motivation is the desire/drive to achieve success in learning, which is essential for achieving desired learning goals. Students with high achievement motivation are more likely to achieve success. They will complete assignments well and on time, thus achieving the highest achievement in the class. The results of the first hypothesis test show that the results of students' science learning who follow the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* are better than the results of students' science learning who follow the conventional learning model. In science learning, the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* is generally proven to be better and more effective than the conventional learning model. This occurs because there is a match between science learning and *the PjBL learning model* based on Balinese local wisdom *Menyama Braya.* On the one hand, the science learning process must be able to connect practical science materials with real-world situations that students have experienced or thought about. The *PjBL learning model* based on Balinese local wisdom *Menyama Braya* is one of the innovative learning models. This model is a learning model that can focus students' attention in learning and increase students' confidence in participating in learning activities.

The third hypothesis test also shows that the results of science learning of students who have high achievement motivation and follow the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* are better than students who have high achievement motivation but follow the conventional learning model. For students who have high achievement motivation, it turns out that the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* also has advantages compared to conventional learning models. This happens because the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* provides opportunities for students to participate actively, collaboratively and obtain information in learning according to their needs that are appropriate to their daily lives. In activities using the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* , students are both objects and subjects in learning.

The fourth hypothesis test shows that the results of learning science students who have low achievement motivation and follow the learning model that does not receive the project based learning model based on Balinese local wisdom Menyama Braya is better than students who have low achievement motivation but follow the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* . It turns out that the advantages of *the PjBL learning model* based on Balinese local wisdom *Menyama Braya* over the learning model that does not receive the project based learning model based on Balinese local wisdom Menyama Braya does not apply to students who have low achievement motivation. This happens because students who have low achievement motivation tend to be less responsible and less confident, minimal contribution in groups and in completing the tasks assigned to them, causing them to have difficulty determining the direction of learning activities, therefore in their learning activities they prefer to maintain existing habits and are less interested in renewal so that the role of teachers is needed more to direct the learning material during the learning process. Learning that prioritizes the role of teachers in the teaching and learning process is a conventional learning model.

Based on the explanation above, it shows that the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* is more suitable to be applied to students who have high achievement motivation, while the learning

model does not get the project based learning model based on Balinese local wisdom Menyama Braya is more suitable to be applied to students who have low achievement motivation, where its influence on the results of learning science. Thus, the assumption that states that there is an influence of interaction between the application of learning models and achievement motivation has been proven empirically in this study. Strengthened by the third and fourth hypothesis tests indicate an interaction between the learning model and students' achievement motivation in its influence on the results of learning science.

The influence of *the Project Based* Learning learning model based on Balinese local wisdom *Menyama Braya* on the learning outcomes of science students in grade V of Elementary School Cluster 2 Tampaksiring, on students who have high achievement motivation.

Based on the results of statistical testing, it is proven that for students who have high achievement motivation, there is a difference in the results of learning science between students who follow the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* and students who follow the conventional learning model. Students who have high achievement motivation and follow the *PjBL learning model* based on Balinese local wisdom *Menyama Braya* have an average learning result of 86.68 higher than the average learning result of students who have high achievement motivation but follow the learning model do not get the project based learning model based on Balinese local wisdom Menyama Braya of 74.68. The results of the *Tuckey test* get a t value of 5,330 (p = 0.000). It can be seen that the significance (sig, 2- *tailed*) is 0.000 <0.05 which states that it is significant.

Balinese local wisdom-based *PjBL* learning model *, Menyama Braya,* in science learning provides sufficient space for students to build and develop collaborative skills confidently and focus their attention on participating in learning activities. The Balinese local wisdom-based *PjBL learning model , Menyama Braya,* is a learning model that focuses learning activities on students . *center). In the PjBL* learning model based on Balinese local wisdom *Menyama Braya,* students are given the widest opportunity to express their ideas or ideas in conveying an opinion with confidence. In the *PjBL learning model* based on Balinese local wisdom *Menyama Braya, Menyama Braya* Values that emphasize cooperation, tolerance, and solidarity make students with high achievement motivation increasingly able to lead, contribute, and learn from their friends. This has an impact on a deeper mastery of science and science concepts. In conventional learning, interaction tends to be limited so that students with high motivation can only channel their enthusiasm for learning through individual tasks, not meaningful collaboration. Students are objects and subjects in learning, so that the PjBL learning model Based on local Balinese wisdom, *Menyama Braya* has a close relationship with students' achievement motivation.

Each individual exhibits learning behavior characterized by the emergence of new, changing (more advanced and straightforward) tendencies toward an object, value system, event, and so on. In this case, new tendencies toward school assignments, a willingness to work diligently, a commitment to completing assignments, and a desire to achieve success in learning are some of the distinguishing characteristics of students. Student differences are important factors that must be considered and taken into consideration. One of these differences is student motivation in learning science. This achievement motivation consists of high achievement motivation and low achievement motivation. *PjBL* learning model based on Balinese local wisdom *Menyama Braya* will be able to encourage students to learn with confidence, a collaborative spirit, and the courage to express their ideas. Students with high achievement motivation generally have an internal drive to achieve maximum results. In the *Menyama Braya -based PjBL model* , this motivation is well facilitated because students are given the freedom to design, work on, and complete projects according to their creativity. This situation differs from learning without the Menyama Braya Balinese local wisdom-based project-based learning model, which provides less space for exploration, so that even though students have high motivation, they cannot fully channel it in the learning process.

In addition, by connecting the material to everyday life, it can foster student motivation and enthusiasm in learning. Students' courage in expressing their ideas and their drive to learn can certainly improve their learning outcomes. Therefore, *the Menyama Braya* Balinese local wisdom-based *PjBL learning model* provides a greater opportunity for success to individuals who have high achievement motivation. Based on the description above, it can be seen that there is a suitability between the *PjBL learning model* based on Balinese local wisdom Menyama *Braya* and high achievement motivation, so it is natural that for students who have high achievement motivation, there is a difference in the results of learning science between students who follow the learning model but do not get the project based learning model based on Balinese local wisdom Menyama Braya and students who follow the conventional learning model.

The influence of *the Project Based* Learning learning model based on Balinese local wisdom *Menyama Braya* on the learning outcomes of science students in grade V of Elementary School Cluster 2 Tampaksiring, on students who have low achievement motivation.

Based on the results of statistical testing, it is proven that for students who have low achievement motivation, there is a difference in the results of learning science between students who follow the learning model did not get the learning model project based learning model based on Balinese local wisdom Menyama Braya and students who follow the learning model *PjBL* based on Balinese local wisdom *Menyama Braya.* Students who have low achievement motivation and follow the learning model did not get the learning model project based learning model based on Balinese local wisdom Menyama Braya have an average learning result of 79.41 higher than the average learning result of students who have low achievement motivation but follow the learning model *PjBL* based on Balinese local wisdom *Menyama Braya* of 74.23. The results of *the Tuckey test* obtained a t value of 2,278 (p = 0.028). It can be seen that the significance (*sig* , 2- *tailed)* 0.028 <0.05 which states that it is significant. The learning model that does not include the project-based learning model based on Balinese local wisdom, Menyama Braya, is a learning method commonly used by teachers in the teaching and learning process in the classroom. This learning is based on the *stimulus - response theory.* In conventional learning models, the teaching and learning process is more often directed at the "flow of information" or "transfer" of knowledge from teacher to student. The emphasis of learning is on acquiring the ability to remember (*memorizing*) in the form of facts, so that students' abilities are factual rather than conceptual. The learning model that does not include the project-based learning model based on Balinese local wisdom, Menyama Braya, does not support students with high achievement motivation, resulting in suboptimal student learning outcomes. For students with high achievement motivation, they will quickly become bored. However, it should be noted that although PjBL based on *Menyama Braya* has a positive impact, students with low achievement motivation still face obstacles, for example in terms of learning independence and consistency in completing projects, this makes them more comfortable if learning with traditional methods that are still dominated by teachers. Teacher and peer support remains an important factor in maintaining the continuity of their participation.

CONCLUSION

Based on the results of the research and discussion that has been carried out, the following conclusions can be drawn.

1. There is a significant influence of the implementation of the *Project Based Learning learning model* based on Balinese wisdom *Menyama Braya* at Elementary School Gugus 2 Tampaksiring (F= 4.149 ; p<0.05). From the average learning outcomes of science and technology, it is known that students who followed the *Project Based Learning learning model* based on Balinese wisdom *Menyama Braya* higher (M = 80.54) than students who followed the learning model did not receive the project based learning model based on Balinese local wisdom Menyama Braya (M = 76.97).
2. There is a significant interaction effect between the learning model and achievement motivation on the learning outcomes of class V science subjects at SD Gugus 2 Tampaksiring (F=28.405; p<0.05).
3. In students who have high achievement motivation, there is a difference in the results of learning science between students who follow the learning model *Project Based Learning* based on Balinese wisdom *Menyama Braya* with students who follow the learning model did not get the learning model project based learning based on Balinese local wisdom Menyama Braya in SD Gugus 2 Tampaksiring (t = 5.330; p <0.05). From the average learning results of science, it is known that in students who have high achievement motivation, following the learning model *Project Based Learning* based on Balinese wisdom *Menyama Braya* is higher (M = 86.86) than students who have high achievement motivation but follow the learning model did not get the learning model project based learning based on Balinese local wisdom Menyama Braya (M = 74.23).
4. In students who have low achievement motivation, there is a difference in the results of learning science between students who follow the *Project Based Learning learning model* based on Balinese wisdom *Menyama Braya.* with students who follow the learning model do not receive the project based learning model based on Balinese local wisdom Menyama Braya at SD Gugus 2 Tampaksiring (t=2.278, p<0.005). From the average learning outcomes of science, it is known that in students who have low achievement motivation, following the learning model do not receive the project based learning model based on Balinese local wisdom Menyama Braya higher (M = 74.54) than students who have low achievement motivation but follow the *Project Based Learning learning model* based on Balinese wisdom *Menyama Braya* (M = 79.41) .

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