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Research Article

The Effect of Bugis Local Culture-Based Project-Based Learning (PjBL) on the Learning Motivation and Learning Outcomes of Fifth-Grade Students in Cluster III, Lalabata District, Soppeng Regency

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Abstract. This study aims to examine the effect of the Bugis local culture-based Project-Based Learning (PjBL) model on the learning motivation and learning outcomes of fifth-grade students in Cluster III, Lalabata District, Soppeng Regency, both partially and simultaneously. This study employed a quantitative approach using a quasi-experimental method with a non-equivalent pretest-posttest control group design. The research subjects consisted of fifth-grade students who were divided into an experimental group and a control group. The experimental group received Bugis local culture-based PjBL instruction by integrating the cultural values of Sipakatau, Sipakalebbi, and Sipakainge, while the control group received conventional instruction. Data were collected through a learning motivation questionnaire and a learning outcomes test, and subsequently analyzed using descriptive statistics, the

Independent Samples t-Test, the Paired Samples t-Test, and MANOVA. The results showed that the experimental group obtained a higher mean posttest score for learning motivation (92.87) than the control group (67.57), while the mean posttest scores for learning outcomes were 91.33 and 77.87, respectively. The MANOVA results indicated a statistically significant simultaneous effect, with a significance value of <0.001 . Therefore, Bugis local culture-based PjBL has a positive and significant effect on students' learning motivation and learning outcomes and can serve as an alternative instructional approach that promotes active, contextual, and meaningful learning.

Keywords: Project-Based Learning, Bugis Local Culture, Sipakatau, Learning Motivation, Learning Outcomes.

INTRODUCTION

Indonesia, as an archipelagic country characterized by considerable ethnic, linguistic, and cultural diversity, possesses a wide range of local wisdom values that can be utilized as learning resources in education. Local wisdom serves not only as a form of community identity but also plays a relevant role in developing students' character through the introduction of social and cultural values embedded in their surrounding environment (Nasution et al., 2024; Yurni Ulfa et al., 2025). One form of local wisdom developed within the Bugis community is reflected in the values of *Sipakatau*, *Sipakainge*, and *Sipakalebbi*, which embody the principles of treating others humanely, reminding one another, and respecting one another. These values function not only as cultural identities of the Bugis community but are also relevant to educational objectives aimed at developing students' character, social attitudes, and collaborative skills (Nooviar et al., 2024; Rahmawati & Arsyad, 2025). Local wisdom-based education is also considered important as an effort to connect the learning process with students' social and cultural lives, thereby making learning more contextual and meaningful (Amir et al., 2025; Nawir et al., 2025).

At the elementary school level, learning should ideally not be oriented solely toward mastery of subject matter but should also provide active, meaningful, contextual, and environmentally relevant learning experiences. However, classroom practices continue to reveal learning processes that tend to be teacher-centered, limited use of contextual learning experiences, and suboptimal student engagement. Such conditions may contribute to low levels of learning motivation and less-than-optimal learning outcomes. Learning motivation plays an important role because highly motivated students tend to demonstrate greater attention, persistence, participation, and interest in the learning process (Harahap et al., 2021; Izzuddin, 2025). Therefore, a learning model is needed that positions students as active participants in the learning process while providing learning experiences closely connected to their everyday lives. One relevant alternative is Project-Based Learning (PjBL), a learning model that provides students with opportunities to learn through project activities, explore, collaborate, solve problems, and produce tangible products or works. The implementation of PjBL provides opportunities for students to become actively engaged in learning and can support the development of creativity and learning motivation (Fitria et al., 2025; Lestari & Ilhami, 2022). Other studies have also demonstrated that PjBL can have a positive effect on elementary school students' learning outcomes (Handayani et al., 2025; Khasanah et al., 2025).

The implementation of PjBL becomes increasingly meaningful when it is connected to the local culture surrounding students' lives. Integrating local culture into learning can enhance the relevance of instruction by providing students with opportunities to connect learning materials with familiar social and cultural experiences (Nasution et al., 2024; Nawir et al., 2025). Integrating Bugis culture into learning projects can make learning materials more contextual, as students not only learn concepts abstractly but also connect them with the values, traditions, and social life of the communities in which they live. Accordingly, Bugis local culture-based PjBL has the potential to serve as an approach that not only enhances student engagement in the learning process but also provides relevant learning experiences while fostering appreciation for local culture (Nooviar et al., 2024; Rahmawati & Arsyad, 2025).

Previous studies have demonstrated that the implementation of the Project-Based Learning model has positive effects on students' motivation and learning outcomes because it provides opportunities for students to participate actively, collaborate, explore problems, and gain learning experiences through project completion. Fitria et al. (2025) found that the implementation of PjBL influenced students' creative thinking skills and learning motivation, while Handayani et al. (2025) reported an effect of PjBL on students' cognitive learning outcomes. These findings are further supported by Khasanah et al. (2025), who found that PjBL influenced the learning outcomes of elementary school students in Indonesian language subjects. In addition, Mariati and Mustaji (2025) demonstrated that PjBL integrated with local wisdom can be employed to improve students' learning outcomes. Hakim et al. (2025) also found that implementing PjBL in combination with a culturally responsive approach can enhance students' active engagement in learning.

These findings indicate that PjBL has considerable potential as a learning model capable of enhancing student engagement and learning achievement. Research on local culture-based learning has likewise demonstrated that the use of cultural contexts closely connected to students' lives can contribute to increased engagement, understanding, and meaningful learning experiences (Nasution et al., 2024; Nawir et al., 2025). For example, Aen et al. (2025) demonstrated that local culture-oriented learning can be associated with students' motivation and learning outcomes at the elementary school level. Meanwhile, Nooviar et al. (2024) specifically emphasized the importance of integrating Bugis ethnic local wisdom into education as part of character formation and the development of student leadership.

Nevertheless, these studies have generally examined the effectiveness of PjBL and local culture-based learning separately or have focused on local culture in general without specifically integrating Bugis cultural values into the syntax and activities of learning projects. Research integrating PjBL with local cultural contexts has been conducted in several regions, including studies involving Sasak and Dayak cultures (Aen et al., 2025; Mariati & Mustaji, 2025). However, studies that specifically employ Bugis cultural values as a context for PjBL implementation remain limited. Furthermore, research simultaneously examining the effect of Bugis local culture-based PjBL on two important aspects, namely students' learning motivation and learning outcomes at the elementary school level, remains relatively limited,

particularly within the context of elementary education in Soppeng Regency, South Sulawesi.

This limitation indicates an important research gap that warrants further investigation, as the success of a learning model should not be assessed solely based on improvements in learning outcomes but also on changes in students' motivation and engagement throughout the learning process. The present study addresses this gap by empirically examining the effect of Bugis local culture-based Project-Based Learning on the learning motivation and learning outcomes of fifth-grade elementary school students in Cluster III, Lalabata District, Soppeng Regency. The integration of Bugis local culture into learning is expected to provide a context that is more closely connected to students' everyday lives, while the characteristics of PjBL provide opportunities for students to engage actively in learning through experiential activities and project completion.

Accordingly, this study contributes not only to the development of innovative learning models in elementary education but also to strengthening the utilization of local culture as a learning resource and context. Practically, the findings are expected to provide teachers with considerations for designing learning that is more contextual, participatory, and responsive to students' sociocultural characteristics, while also contributing to efforts to improve learning motivation and outcomes and to instill Bugis cultural values among students (Nooviar et al., 2024; Yurni Ulfa et al., 2025).

RESEARCH METHODS

This study employed a quantitative approach using a quasi-experimental design, which aims to examine the effect of a particular treatment on specific variables under conditions in which the researcher cannot fully control all external factors that may influence the research outcomes. The study adopted a non-equivalent pretest-posttest control group design involving two groups: an experimental group and a control group. The experimental group received instruction using the Bugis local culture-based Project-Based Learning (PjBL) model, while the control group received conventional instruction. Both groups were administered a pretest and a posttest to identify changes in students' learning motivation and learning outcomes following the instructional intervention.

The research subjects were fifth-grade elementary school students in Cluster III, Lalabata District, Soppeng Regency, with the selected classes assigned as the experimental and control groups. The groups were selected based on the available classes, allowing the research to be conducted under natural classroom conditions. The treatment in the experimental group was implemented by integrating Bugis cultural values, particularly *Sipakatau*, *Sipakalebbi*, and *Sipakainge*, into the learning project activities. This integration was intended to ensure that the project activities were not solely oriented toward achieving academic competencies but also provided contextual learning experiences closely connected to the students' sociocultural environment. The research framework positioned Bugis local culture-based PjBL as

the independent variable (X), while learning motivation (Y₁) and learning outcomes (Y₂) served as the dependent variables measured after the intervention.

The data sources consisted of primary data obtained from fifth-grade students as the research subjects, as well as supporting data obtained from school documents and information related to the implementation of the learning process. Data were collected through a questionnaire to measure students' learning motivation and a test to measure students' learning outcomes. The learning motivation instrument was developed based on the learning motivation indicators established in the study, while the learning outcomes instrument was administered in the form of pretest and posttest assessments to quantitatively determine changes in students' learning achievement. In addition to these instruments, documentation was used to obtain supporting data concerning the implementation of the study, classroom conditions, the number of students, and learning activities conducted during the research.

The collected data were subsequently analyzed quantitatively using descriptive and inferential statistical analyses. Descriptive analysis was employed to describe the levels of students' learning motivation and learning outcomes in the experimental and control groups, whereas inferential analysis was used to test the research hypotheses concerning the effect of Bugis local culture-based PjBL on learning motivation, learning outcomes, and both variables simultaneously. Prior to hypothesis testing, the data were subjected to prerequisite tests as required by the statistical analyses, including tests of normality and homogeneity. Hypothesis testing was then conducted using statistical techniques appropriate to the characteristics of the data and the objectives of the study, with a significance level of 0.05. Through these procedures, the study was expected to provide empirical evidence regarding the effect of implementing Bugis local culture-based PjBL on the learning motivation and learning outcomes of fifth-grade students in Cluster III, Lalabata District, Soppeng Regency.

RESULTS AND DISCUSSION

The Effect of Bugis Local Culture-Based Project-Based Learning (PjBL) on Students' Learning Motivation

Learning motivation is one of the important factors that determines students' engagement in the learning process. Motivation is not merely related to students' desire to obtain good grades but is also reflected in their attention, persistence, interest, participation, responsibility, and self-confidence throughout learning activities. Learning motivation plays an important role in determining the intensity of students' efforts in participating in learning activities. Students with strong learning motivation tend to be more active, persistent, and willing to complete the tasks assigned by teachers (Harahap et al., 2021; Izzuddin, 2025). Therefore, increasing learning motivation is an important indicator for assessing the effectiveness of a learning model.

In this study, students' learning motivation was measured using a questionnaire based on a 1–4 Likert scale. The measurement was conducted before and after the learning process to identify changes in motivation in the experimental and control groups. The experimental group received instruction using the Bugis local culture-

based Project-Based Learning (PjBL) model, whereas the control group received conventional instruction. The selection of PjBL as the treatment was based on the characteristics of the model, which positions students at the center of learning through activities involving project planning, implementation, monitoring, and presentation. Project-based learning provides students with opportunities to engage directly in the learning process through exploration, problem solving, collaboration, and the completion of specific products. Previous studies on the implementation of PjBL have demonstrated that this model provides greater opportunities for students to develop thinking skills, creativity, responsibility, and engagement in learning (Lestari & Ilhami, 2022; Handayani et al., 2025).

Meanwhile, the integration of Bugis local culture provides a learning context that is closely connected to students' social and cultural experiences. In this study, the values of *Sipakatau*, *Sipakalebbi*, and *Sipakainge* were incorporated into the context of project activities. Consequently, students were not only encouraged to complete academic tasks but also to learn how to collaborate, respect group members, remind one another, and take responsibility for the tasks assigned to them. The integration of local cultural values into education is relevant to character formation and the development of students' social competencies (Nooviar et al., 2024; Amir et al., 2025). Thus, the incorporation of Bugis culture into PjBL serves not merely as a contextual framework for learning materials but also as a foundation for social interaction throughout the project activities.

The results revealed a substantial difference in students' learning motivation between the experimental and control groups following the learning process. The mean posttest score for learning motivation in the control group was 67.57, whereas the experimental group achieved a mean score of 92.87. Thus, there was a mean difference of 25.30 points between the two groups. In addition to the difference in mean scores, the control group had a standard deviation of 4.883, while the experimental group had a standard deviation of 3.619. These findings indicate that students in the experimental group not only achieved a higher mean level of motivation but also demonstrated less variability in their scores. This suggests that the increase in motivation was not limited to certain students but tended to be experienced more consistently across members of the experimental group.

Based on the motivation score categories used in this study, scores ranging from 78–96 were classified as very high, 60–77 as high, 42–59 as moderate, and 24–41 as low. Accordingly, the experimental group's mean motivation score of 92.87 fell within the very high category, whereas the control group's mean score of 67.57 was classified as high. These findings indicate that Bugis local culture-based PjBL was able to elevate students' motivation from a high level to a very high level. Conceptually, this finding is consistent with previous research that positions motivation as an important component of successful learning, as students' engagement and persistence are strongly influenced by both internal drives and the learning conditions provided (Harahap et al., 2021).

Table 1. Comparison of Mean Posttest Scores for Learning Motivation

Group	N	Mean	Standard Deviation	Category
Control Group	14	67.57	4.883	High
Experimental Group	15	92.87	3.619	Very High
Difference	–	25.30	–	–

Source: Research data, processed by the researcher.

The observed difference was further supported statistically through hypothesis testing. The results of the *Independent Samples t-Test* showed that the significance value was lower than 0.05; therefore, the null hypothesis was rejected and the alternative hypothesis was accepted. This indicates a statistically significant difference in learning motivation between students who received Bugis local culture-based PjBL instruction and those who received conventional instruction. These findings provide evidence that the observed increase in learning motivation was not merely attributable to differences in students' individual characteristics but was associated with the instructional treatment provided. In other words, Bugis local culture-based PjBL contributed to changes in the learning motivation of fifth-grade students.

This finding was further strengthened by the results of the *Paired Samples t-Test* conducted in the experimental group. The research data demonstrated a statistically significant increase in motivation scores between the pre-intervention and post-intervention measurements. Thus, the change in learning motivation occurred among students who received the treatment and emerged following the implementation of Bugis local culture-based PjBL. This finding reinforces previous research indicating that learning models that provide students with opportunities for active participation can contribute to increased learning motivation (Aziz, 2025). Therefore, the differences identified in this study are consistent with the findings of previous studies concerning the relationship between active learning and student motivation.

From a pedagogical perspective, the increase in learning motivation can be explained by the characteristics of PjBL, which provide students with opportunities to engage directly in learning activities. In conventional instruction, students tend to receive information prepared by the teacher, whereas in PjBL, students are given responsibility for completing projects. This responsibility provides students with more concrete learning objectives. Rather than merely completing exercises, students work toward a specific target in the form of a product or project outcome that must be completed and presented. Such conditions can foster a sense of ownership of the learning process.

During project activities, students also have opportunities to explore information, engage in discussions, make decisions, divide tasks, and solve problems collaboratively. These characteristics position students as active participants and primary agents in the learning process. Lestari and Ilhami (2022) demonstrated that PjBL provides students with opportunities to engage in activities that develop creative thinking skills through more active learning experiences. Meanwhile, Handayani et al. (2025) found that PjBL has an effect on students' learning outcomes. These findings

indicate that PjBL has the potential to create a more active learning process than instructional approaches that primarily emphasize the transmission of information.

The integration of Bugis local culture provides an additional dimension to the increase in learning motivation. Learning activities that are based on contexts familiar to students tend to be easier to understand and relate to their everyday experiences. Bugis culture in this study was not merely presented as supplementary information but served as a contextual framework within which students carried out their projects. The value of *Sipakatau* provided a foundation for developing mutually respectful relationships; *Sipakalebbi* encouraged students to respect their peers and group members; while *Sipakainge* encouraged students to remind one another and maintain shared responsibility. These values play an important role in fostering harmonious social relationships and can be incorporated into character education (Rahmawati & Arsyad, 2025; Nooviar et al., 2024).

Within the context of project activities, the application of these values enabled learning to extend beyond the production of a final product and to encompass meaningful social experiences throughout the project process. Consequently, learning became more closely connected to students' social identities, potentially fostering a stronger sense of ownership, interest, and engagement in the learning process. Studies on local wisdom-based education in South Sulawesi have also demonstrated that local culture has considerable potential to be incorporated into educational processes and the development of students' character (Yurni Ulfa et al., 2025). In this context, local culture-based learning can serve as a bridge between students' experiences within their communities and their experiences at school.

The findings of this study are consistent with previous research demonstrating that PjBL can increase students' engagement in the learning process. Aziz (2025) found that PjBL has an effect on creative thinking skills and learning motivation among elementary school students. This finding is consistent with the present study, particularly with regard to learning motivation. PjBL provides opportunities for students to engage directly in learning activities, allowing them to move beyond the role of information recipients and become actively involved in constructing knowledge and producing learning products.

Handayani et al. (2025) also reported that PjBL has an effect on students' learning outcomes. Meanwhile, a systematic review conducted by Lestari and Ilhami (2022) demonstrated that PjBL has the potential to develop students' creative thinking skills. The similarity between these studies and the present study lies in the use of PjBL as an active learning model. However, the present study differs in its research context by integrating Bugis cultural values into project activities. Thus, this study extends the application of PjBL by demonstrating that local cultural contexts can strengthen students' learning experiences.

The findings can also be compared with studies employing local wisdom-based learning. Aen et al. (2025), in their study of learning oriented toward the local Sasak culture of "Banjar," found an effect on students' motivation and learning outcomes at the elementary school level. This finding strengthens the argument that integrating local culture into learning models can contribute to both students' motivational and academic dimensions. Mariati and Mustaji (2025) likewise demonstrated that PjBL

integrated with local wisdom-based gamification can be used to improve students' learning outcomes.

The similarity between these studies and the present study lies in the effort to combine an active learning model with a local cultural context. However, the present study has a distinctive feature in that it incorporates Bugis local culture, particularly the values of *Sipakatau*, *Sipakalebbi*, and *Sipakainge*, into the learning process of fifth-grade elementary school students in Soppeng Regency. Therefore, this study provides a new context for research on local culture-based learning in South Sulawesi.

Accordingly, the effect of Bugis local culture-based PjBL on learning motivation can be understood through two mutually reinforcing mechanisms. First, PjBL enhances motivation through project-based activities that provide students with responsibility, direct learning experiences, collaborative work, problem-solving opportunities, and opportunities to present their results. Second, Bugis local culture provides a context that is closely connected to students' everyday lives, making project activities more socially and emotionally relevant. The combination of these two elements results in learning that extends beyond the delivery of instructional content and fosters meaningful learning experiences.

This interpretation is consistent with studies on the integration of local wisdom into education, which position culture as an important source for character development and the formation of meaningful learning experiences (Nooviar et al., 2024; Yurni Ulfa et al., 2025). Therefore, the finding that the experimental group achieved a mean motivation score of 92.87 can be regarded as empirical evidence that combining an active learning model with a local cultural context can enhance students' learning motivation more strongly than conventional instruction.

The Effect of Bugis Local Culture-Based Project-Based Learning (PjBL) on Students' Learning Outcomes

Learning outcomes are an important indicator for determining the success of the learning process because they reflect changes in students' abilities after they have undergone learning experiences. In this study, learning outcomes were measured using tests administered before and after the treatment. The *pretest* was intended to assess students' initial abilities, while the *posttest* was used to determine students' achievement after the learning process. The learning outcomes instrument consisted of multiple-choice questions designed to measure students' mastery of the learning materials in the cognitive domain.

Using a *Nonequivalent Control Group* design, comparisons of learning outcomes were not based solely on final scores but also considered changes in students' abilities following the treatment. The research design involved an experimental group that received Bugis local culture-based PjBL instruction and a control group that received conventional instruction. The selection of PjBL as the treatment was supported by previous studies showing that project-based learning can have an effect on elementary school students' learning outcomes (Handayani et al., 2025; Khasanah et al., 2025). PjBL provides students with opportunities to gain direct learning experiences, enabling them to understand learning materials not only through teacher explanations but also through project completion activities.

The analysis results revealed a substantial difference in students' *posttest* learning outcomes. The control group, consisting of 14 students, obtained a mean score of 77.87 with a standard deviation of 4.127, whereas the experimental group, consisting of 15 students, obtained a mean score of 91.33 with a standard deviation of 4.169. The difference in mean scores between the two groups was 13.46 points. Based on the categories used in this study, the experimental group's mean score of 91.33 was classified as very high, whereas the control group's mean score of 77.87 was classified as high.

This difference indicates that students who received Bugis local culture-based PjBL instruction achieved higher academic outcomes than those who received conventional instruction. Notably, the standard deviations of the two groups were relatively similar, namely 4.127 and 4.169, respectively. This suggests that the difference in mean scores was not attributable solely to a small number of students achieving exceptionally high scores; rather, the higher performance was relatively consistent among students in the experimental group.

Table 2. Comparison of Mean Posttest Scores for Learning Outcomes

Group	N	Mean	Standard Deviation	Category
Control Group	14	77.87	4.127	High
Experimental Group	15	91.33	4.169	Very High
Difference	–	13.46	–	–

Source: Research data, processed by the researcher.

Before testing the differences between the groups, the learning outcomes data were subjected to prerequisite tests. The homogeneity test showed that the *Levene's* significance value for the learning outcomes *pretest* was 0.759, while the significance values obtained from several other approaches ranged from 0.759 to 0.824. All values were greater than 0.05, indicating that the variances of the initial abilities of the experimental and control groups were homogeneous. For the *posttest*, the *Levene's* significance value was 0.811, which was also greater than 0.05. Therefore, the two groups could be compared using parametric analysis because the assumption of homogeneity was satisfied.

The results of the *Independent Samples t-Test* further confirmed the difference between the two groups. The *Levene's* significance value of 0.811 indicated that the variances of the two groups were homogeneous. Furthermore, the *two-tailed* significance value obtained from the t-test was 0.000, which was lower than 0.05. Therefore, H_0 was rejected and H_1 was accepted. The t-value of -7.845 indicated a statistically significant difference between the learning outcomes of the experimental and control groups. Since the experimental group obtained a higher mean score of 91.33 than the control group, which obtained 77.87, the difference indicates superior learning outcomes among students who received Bugis local culture-based PjBL instruction. This finding is consistent with Handayani et al. (2025), who reported an effect of PjBL on elementary school students' learning outcomes. Khasanah et al. (2025) likewise found that PjBL had an effect on elementary school students' Indonesian language learning outcomes. The consistency of these findings indicates

that the characteristics of project-based learning can support improvements in students' academic achievement.

Changes in learning outcomes were also clearly observed when comparing the conditions before and after the treatment in the experimental group. The results of the *Paired Samples t-Test* showed a significance value of 0.000, which was lower than 0.05. The mean change in scores reached 46.667 points, while the *t*-value was -13.178. These results indicate a highly significant increase in learning outcomes after students received Bugis local culture-based PjBL instruction. Thus, the improvement can be observed not only through the comparison between the experimental and control groups but also through the internal changes within the experimental group before and after the treatment. This finding further supports previous research concerning the effectiveness of PjBL in improving students' learning outcomes. Khasanah et al. (2025) demonstrated that PjBL can provide learning experiences that actively involve students in completing projects. Such involvement enables students to apply knowledge more concretely, so that learning does not merely occur at the level of receiving information.

The improvement can be explained by the characteristics of project activities. PjBL provides students with opportunities to learn through authentic experiences. Students do not merely listen to the teacher's explanations but become involved in searching for information, discussing problems, planning activities, completing tasks, and producing products. These activities enable students to apply their knowledge in more concrete situations. This process is particularly important at the elementary school level because students need learning experiences that connect concepts with their real-world environment. When students are required to produce a particular product, the knowledge they acquire does not remain at the level of memorization but is used to understand, apply, and solve problems related to the project. Therefore, the improvement in learning outcomes observed in this study can be understood as a consequence of students' more active involvement throughout the learning process. This finding is consistent with Lestari and Ilhami (2022), who demonstrated that PjBL can provide learning experiences that encourage student activity and the development of students' abilities.

Bugis local culture further strengthens this process by providing a relevant learning context. Learning materials are not studied as knowledge that is separate from students' lives but are connected to the sociocultural environment with which they are familiar. The values of *Sipakatau*, *Sipakalebbi*, and *Sipakainge* provide concrete examples that can be observed, discussed, and applied during group activities. A study on the integration of Bugis local wisdom into education demonstrated that cultural values can be used to develop students' character and leadership skills (Nooviar et al., 2024). Meanwhile, research on character education based on the local wisdom of South Sulawesi indicates that local culture has considerable potential to be incorporated into the educational process (Yurni Ulfa et al., 2025). Thus, Bugis local culture in the present study functions as a contextual framework that helps students connect their learning experiences with their social lives.

The findings of this study are consistent with previous research on PjBL, which has demonstrated differences in learning outcomes before and after the implementation of the treatment. Khasanah et al. (2025) found that PjBL had an effect on elementary school students' Indonesian language learning outcomes. Handayani et al. (2025) likewise reported an effect of PjBL on students' learning outcomes in the topic of animal reproduction. In addition, Rosfiani et al. (2025) demonstrated that project-based learning can be used to improve the learning outcomes of fifth-grade students. The similarity between these studies and the present study lies in the use of project activities as a means of increasing students' engagement in learning. However, the present study incorporates Bugis cultural contexts into project activities, so that learning is not solely oriented toward cognitive achievement but also connects learning materials with local cultural values.

Research on local wisdom-based learning also provides support for these findings. Aen et al. (2025) demonstrated that learning oriented toward the local Sasak culture of "Banjar" can have an effect on elementary school students' learning outcomes. Mariati and Mustaji (2025) likewise found that PjBL integrated with local wisdom can be used to improve students' learning outcomes. The similarity between these studies and the present study lies in the use of local culture as a learning context. However, the present study incorporates Bugis culture, particularly the values of *Sipakatau*, *Sipakalebbi*, and *Sipakainge*, into the learning process of fifth-grade elementary school students in Soppeng Regency. This difference in cultural context is important because each region has distinctive cultural values and practices; therefore, the implementation of local wisdom-based learning needs to be adapted to the students' sociocultural environment.

Overall, the findings demonstrate that Bugis local culture-based PjBL has a positive and significant effect on students' learning outcomes. This improvement is indicated not only by the 13.46-point difference in mean *posttest* scores between the experimental and control groups but also by the 46.667-point increase in the experimental group from the *pretest* to the *posttest*. These findings demonstrate that Bugis local culture-based PjBL can serve as an instructional strategy that integrates cognitive activities, direct learning experiences, collaboration, and cultural context within a single learning process. This advantage makes the model relevant for implementation in elementary education, particularly in areas with rich local cultural traditions such as Soppeng Regency.

The Simultaneous Effect of Bugis Local Culture-Based Project-Based Learning (PjBL) on Learning Motivation and Learning Outcomes

The third research question does not treat learning motivation and learning outcomes as two independent variables but examines their effects simultaneously. This approach is important because motivation and learning outcomes are two interrelated aspects of the learning process. Motivation determines students' readiness, attention, persistence, and effort in participating in learning activities, whereas learning outcomes indicate the level of students' abilities achieved after participating in the learning process (Harahap et al., 2021). Therefore, simultaneously

testing both variables provides a more comprehensive picture of the effectiveness of Bugis local culture-based PjBL than analyzing the two variables separately.

The results of the multivariate analysis using MANOVA demonstrated a highly significant simultaneous effect. For *Pillai's Trace*, the value was 0.847, with an F-value of 68.254 and a significance value of <0.001 . For *Wilks' Lambda*, the value was 0.0153, with an F-value of 68.254 and a significance value of <0.001 . Similar results were obtained for *Hotelling's Trace* and *Roy's Largest Root*, both of which showed significance values of <0.001 . Since the significance values were lower than 0.05, H_0 was rejected and H_1 was accepted. Therefore, Bugis local culture-based PjBL had a simultaneous effect on the learning motivation and learning outcomes of fifth-grade students in Cluster III, Lalabata District, Soppeng Regency.

Table 3. MANOVA Results for Learning Motivation and Learning Outcomes

Statistic	Value	F	Hypothesis df	Error df	Sig.
<i>Pillai's Trace</i>	0.847	68.254	2	26	<0.001
<i>Wilks' Lambda</i>	0.0153	68.254	2	26	<0.001
<i>Hotelling's Trace</i>	5.250	68.254	2	26	<0.001
<i>Roy's Largest Root</i>	5.250	68.254	2	26	<0.001

Source: Research data, processed by the researcher.

The *Wilks' Lambda* value of 0.0153 indicates that the combined variation in the two dependent variables differed substantially between the experimental and control groups. Based on the calculations in this study, the learning model was able to explain approximately 98.47% of the combined variation in learning motivation and learning outcomes. This finding indicates a large multivariate difference following the treatment. However, this figure should be interpreted within the context of the quasi-experimental design employed in the study. Other factors may still have contributed to students' learning motivation and learning outcomes, including student characteristics, the learning environment, initial abilities, teacher-student interactions, and previous learning experiences. Therefore, the MANOVA results indicate a very strong effect within the context of the groups and research design used in this study.

When the simultaneous results are considered together with the analyses of each dependent variable, a consistent pattern can be observed. For learning motivation, the experimental group achieved a mean score of 92.87, whereas the control group obtained 67.57, resulting in a difference of 25.30 points. For learning outcomes, the experimental group obtained a mean score of 91.33, compared with 77.87 in the control group, resulting in a difference of 13.46 points. Both variables demonstrated higher outcomes in the experimental group. This consistency is important because it indicates that the treatment was not effective in only one aspect of learning. Bugis local culture-based PjBL influenced both the motivational and cognitive aspects of students' learning. This finding is consistent with Aen et al. (2025), who demonstrated that local culture-oriented learning can be associated with improvements in students' learning motivation and learning outcomes. Thus, the present findings provide additional support for the argument that integrating cultural contexts into active learning can influence more than one learning outcome.

Theoretically, the relationship between learning motivation and learning outcomes can be explained through the mechanism of student engagement. PjBL requires students to participate actively in project activities. To complete a project, students need to pay attention, communicate with group members, seek information, complete tasks, and take responsibility for the results of their work. These activities require motivation. When students are motivated, their level of effort and persistence tends to increase. Increased effort subsequently provides students with greater opportunities to understand and apply learning materials. Thus, motivation is not merely one of the outcomes of learning but may also function as a mechanism that supports the achievement of learning outcomes. The findings of Harahap et al. (2021) regarding the function of learning motivation further emphasize the importance of motivation in directing students' activities during the learning process.

Bugis cultural values provide additional support for this mechanism. *Sipakatau* encourages students to treat group members humanely and appreciate the presence of others. *Sipakalebbi* instills the habit of respecting peers, teachers, and the opinions of others. Meanwhile, *Sipakainge* teaches students to remind one another in carrying out their responsibilities. When these values are integrated into project activities, group work becomes more structured and purposeful. Students are not only required to complete a product but also learn to manage social relationships within the group. This finding is consistent with Nooviar et al. (2024), who positioned the integration of Bugis local wisdom into education as an approach to character development and leadership development. Rahmawati and Arsyad (2025) likewise emphasized the importance of *Sipakatau* in developing social relationships and preserving the local values of the Bugis-Makassar community. Therefore, Bugis cultural values provide a social foundation that supports collaboration within PjBL.

The findings of this study are relevant to previous research that combines project- or problem-based learning with local wisdom. Aen et al. (2025), in their study of Sasak local culture-oriented PBL based on "Banjar," found an effect on students' learning motivation and learning outcomes. The similarity in findings indicates that the use of local cultural contexts in active learning models has the potential to improve more than one aspect of student achievement. Mariati and Mustaji (2025) also demonstrated that PjBL integrated with local wisdom can be used to improve students' learning outcomes. However, the present study has a distinctive feature because it uses Bugis culture in Soppeng Regency and specifically integrates the values of *Sipakatau*, *Sipakalebbi*, and *Sipakainge* into PjBL activities. Thus, this study provides a different cultural context while extending research on local wisdom-based learning.

Other studies reviewed in this research also demonstrate that local wisdom-based learning can have positive effects on students' character and engagement. Research on character education based on the local wisdom of South Sulawesi indicates that local cultural values have the potential to support students' character development (Yurni Ulfa et al., 2025). Meanwhile, Amir et al. (2025) emphasized the importance of local wisdom-based character education in addressing social issues among adolescents. These findings further support the results of the present study because project activities require social and collaborative skills. Therefore, the

advantages of local culture-based PjBL should not be viewed solely in terms of test scores but also in terms of the quality of learning experiences provided to students.

Based on the overall findings, Bugis local culture-based PjBL can be understood as operating through a combination of an active learning approach and a relevant cultural context. PjBL provides a structured project-based activity that requires student engagement, while Bugis culture provides social meaning and a connection to students' everyday lives. This combination results in learning that is more closely connected to students' experiences, enhances motivation, and simultaneously provides opportunities for students to apply knowledge in real-life situations. The MANOVA result, with a significance value of <0.001 , indicates that this effect was not limited to a single dependent variable but occurred across the combined dimensions of learning motivation and learning outcomes.

Analysis of the Findings in Relation to the Learning Context of Soppeng Regency

One of the main contributions of this study lies in the local context in which the research was conducted. Soppeng Regency is part of South Sulawesi, a region with strong connections to Bugis culture. Therefore, the use of Bugis culture in elementary education is not merely a strategy for providing variation in learning activities but also an effort to make students' sociocultural environment part of the learning resources. The use of local culture in education can help students understand their social environment while developing character and cultural literacy (Nasution et al., 2024; Nawir et al., 2025). The integration of Bugis local wisdom into education has also been examined as an approach to character development and leadership development among students (Nooviar et al., 2024).

From an educational perspective, the use of local culture is also important because learning that is too distant from students' environment may make learning materials seem abstract. Conversely, when learning experiences are connected to something familiar, students have a meaningful starting point for understanding new concepts. PjBL provides opportunities to develop this principle because projects can be designed around real-life problems or situations. In this study, the Bugis cultural context served as a bridge between learning concepts and students' social lives. Consequently, learning became more contextual while also providing opportunities for students to develop collaboration and problem-solving skills. Nasution et al. (2024) highlighted the importance of local culture-based learning in improving students' cultural literacy, while Nawir et al. (2025) positioned cultural literacy as an important life skill for elementary school students.

This issue becomes increasingly relevant because previous studies indicate that much of the existing research on PjBL and local wisdom has been conducted in contexts that differ from the present study. Some studies have developed local wisdom-based PjBL, while others have employed Sasak culture or local cultural contexts in character education (Aen et al., 2025; Mariati & Mustaji, 2025; Yurni Ulfa et al., 2025). However, studies that specifically examine the effect of PjBL based on the Bugis cultural values of *Sipakatau*, *Sipakalebbi*, and *Sipakainge* on students' learning motivation and learning outcomes in fifth-grade elementary schools in

Soppeng Regency remain limited. This limitation indicates an opportunity to empirically examine the implementation of PjBL within a Bugis cultural context.

The limitations of previous studies indicate that the present research has a clear position in the development of local culture-based learning studies. This study does not merely replicate research on the effectiveness of PjBL but develops the PjBL context by incorporating Bugis cultural values as an integral part of students' learning experiences. In addition, the study examines two outcomes simultaneously, namely learning motivation and learning outcomes. Therefore, the contribution of this research can be identified in three aspects. First, the contextual contribution involves the application of Bugis culture in elementary school learning in Soppeng Regency. Second, the pedagogical contribution involves integrating local cultural values into the PjBL model. Third, the empirical contribution consists of statistical evidence regarding the effect of the treatment on learning motivation and learning outcomes, both partially and simultaneously. These contributions further strengthen previous research emphasizing the importance of local culture as an integral part of the educational process (Nooviar et al., 2024; Rahmawati & Arsyad, 2025).

Synthesis of the Discussion

Overall, the findings of this study demonstrate a consistent pattern across the three hypothesis tests. First, Bugis local culture-based Project-Based Learning (PjBL) had a significant effect on students' learning motivation. Second, it had a significant effect on students' learning outcomes. Third, it had a highly significant simultaneous effect on both learning motivation and learning outcomes. This pattern is further supported by the differences in the mean *posttest* scores. The experimental group obtained a mean motivation score of 92.87, compared with 67.57 in the control group, while the mean learning outcomes scores were 91.33 and 77.87, respectively. Thus, the experimental group demonstrated higher achievement on both variables examined. These findings are consistent with previous studies showing that PjBL can have positive effects on students' learning motivation and learning outcomes (Aziz, 2025; Handayani et al., 2025; Khasanah et al., 2025).

These findings indicate that effective learning cannot be achieved merely by selecting an active learning model. The learning context must also be taken into consideration. PjBL provides a learning structure that encourages student activity, while local culture gives meaning to those activities. When these two elements are integrated, students have opportunities to learn through projects while simultaneously learning from their sociocultural environment. In the context of Bugis culture, the values of *Sipakatau*, *Sipakalebbi*, and *Sipakainge* provide a foundation for interaction throughout project activities. Therefore, learning is not oriented solely toward the final product but also toward the social process and the development of students' attitudes. This finding is consistent with Nooviar et al. (2024) and Rahmawati and Arsyad (2025), who demonstrated the relevance of Bugis cultural values to character development and social relationships.

Accordingly, the findings of this study provide an argument that integrating local culture into PjBL is not merely a decorative addition to the learning process. Local culture can function as a context that makes project activities more meaningful,

while PjBL serves as a pedagogical means of actualizing these cultural values within learning activities. The observed improvements in learning motivation and learning outcomes, together with the highly significant simultaneous effect, provide empirical support for this approach. These findings further strengthen the position of local culture as a learning resource that can address the needs of elementary education for learning that is active, contextual, collaborative, and meaningful. This is consistent with research on cultural literacy and local wisdom-based education, which emphasizes the importance of connecting education with students' sociocultural environments (Nasution et al., 2024; Nawir et al., 2025).

Ultimately, this study demonstrates that project-based learning integrated with Bugis local culture has considerable potential to create learning experiences that are more relevant to students' lives. Students not only acquire academic knowledge but also have opportunities to apply the values of *Sipakatau*, *Sipakalebhi*, and *Sipakainge* throughout the processes of collaboration and project completion. Therefore, Bugis local culture-based PjBL can be viewed as an approach that connects the cognitive, motivational, social, and cultural dimensions of elementary education. These findings also address the research problem by demonstrating that the use of an active and contextual learning model can produce better outcomes than conventional instruction, particularly in improving the learning motivation and learning outcomes of fifth-grade students in Cluster III, Lalabata District, Soppeng Regency.

CONCLUSION

Based on the research findings and data analysis concerning the effect of the Bugis local culture-based Project-Based Learning (PjBL) model on the learning motivation and learning outcomes of fifth-grade students in Cluster III, Lalabata District, Soppeng Regency, it can be concluded that the implementation of Bugis local culture-based PjBL has a positive and significant effect on students' learning motivation. This is indicated by the mean *posttest* motivation score of 92.87 in the experimental group, which was higher than the control group's mean score of 67.57, as well as by the hypothesis testing results showing a significance value below 0.05. The implementation of Bugis local culture-based PjBL also has a positive and significant effect on students' learning outcomes. The mean *posttest* learning outcomes score of the experimental group reached 91.33, compared with 77.87 in the control group, with the hypothesis testing results showing a significance value of $0.000 < 0.05$.

Furthermore, the MANOVA results demonstrated that the Bugis local culture-based PjBL model had a simultaneous effect on students' learning motivation and learning outcomes, with a significance value of < 0.001 . Therefore, the implementation of PjBL integrated with Bugis cultural values, particularly *Sipakatau*, *Sipakalebhi*, and *Sipakainge*, can serve as an alternative instructional model capable of increasing students' engagement, learning motivation, and learning outcomes while providing contextual learning experiences that are closely connected to students' sociocultural lives. These findings demonstrate that local culture should not merely be positioned as supplementary content in the learning process but can be utilized as a pedagogical

context for creating learning that is active, meaningful, collaborative, and relevant to students' environmental characteristics.

BIBLIOGRAPHY

- Aen, Z., Arnyana, I. B. P., & Suma, K. (2025). Pengaruh model pembelajaran *Problem Based Learning* (PBL) berorientasi budaya lokal Sasak “Banjar” terhadap motivasi dan hasil belajar IPAS siswa sekolah dasar. *PENDASI: Jurnal Pendidikan Dasar Indonesia*, 9(1), 101–112. https://doi.org/10.23887/jurnal_pendas.v9i1.5195
- Akhir, M. (2025). Model pembelajaran berbasis kearifan lokal Sulawesi Selatan untuk meningkatkan pengembangan keterampilan berbicara anak melalui kelong, sastra tutur, dan mantra. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(4), 1–10.
- Amir, J., Abdal, N. M., Fatimah, S., Dalle, A., & Burhamzah, R. (2025). Pendidikan karakter berbasis kearifan lokal sebagai solusi permasalahan sosial di kalangan remaja. *Jurnal Pengabdian Masyarakat*, 3(1), 123–130. <https://doi.org/10.59562/abdimas.v3i1.8504>
- Aziz, A. (2025). Pengaruh model *Project Based Learning* terhadap kemampuan berpikir kreatif dan motivasi belajar Pendidikan Pancasila kelas IV SD Gugus I Kecamatan Pallangga Kabupaten Gowa. *Jurnal Studi Guru dan Pembelajaran*, 8(1), 322–337. <https://doi.org/10.30605/jsgp.8.1.2025.5607>
- Hakim, L., Azizah, & Erviniati, N. M. (2025). Penerapan model *Project Based Learning* berbasis *Culturally Responsive Teaching* dan *Technological Pedagogical Content* untuk meningkatkan keaktifan belajar peserta didik kelas IV SD Inpres 1 Tatura. *Didaktik: Jurnal Ilmiah PGSD FKIP Universitas Mandiri*, 11(4), 245–254.
- Handayani, S., Danil, M., & Aldyza, N. (2025). Pengaruh model *Project Based Learning* terhadap hasil belajar siswa pada materi perkembangbiakan hewan. *Jurnal Ilmiah Pendidikan Dasar (JIPDAS)*, 5(1), 338–349.
- Harahap, N. F., Anjani, D., & Sabrina, N. (2021). Analisis artikel metode motivasi dan fungsi motivasi belajar siswa. *Indonesian Journal of Intellectual Publication*, 1(3), 198–203.
- Izzuddin, A. (2025). Strategi guru dalam meningkatkan motivasi belajar siswa berkemampuan rendah di kelas III MI Birrul Walidain NW 2 Rensing. *Al-Gafari: Jurnal Manajemen dan Pendidikan*, 3(1), 30–49.
- Khoirunnisa, I., & Dianti, P. (2025). Penggunaan media Wordwall terhadap motivasi belajar pada mata pelajaran Pendidikan Pancasila di SMAN 1 Indralaya Utara. *Jurnal Pendidikan dan Pembelajaran Indonesia (JPPI)*, 5(3), 1136–1144. <https://doi.org/10.53299/jppi.v5i3.1564>
- Khasanah, R. N., Rahmawati, A. D., & Utami, N. R. R. (2025). Pengaruh model *Project Based Learning* (PjBL) terhadap hasil belajar Bahasa Indonesia siswa sekolah dasar. *Jurnal Onoma: Pendidikan, Bahasa, dan Sastra*, 11(3), 2738–2745. <https://doi.org/10.30605/onoma.v11i3.6003>
- Lestari, I., & Ilhami, A. (2022). Penerapan model *Project Based Learning* untuk meningkatkan keterampilan berpikir kreatif siswa SMP: Systematic review.

- LENSA (*Lentera Sains*): *Jurnal Pendidikan IPA*, 12(2), 135–144. <https://doi.org/10.24929/lensa.v12i2.238>
- Mariati, M., & Mustaji, M. (2025). Peningkatan hasil belajar PPKn melalui model *Project Based Learning* (PjBL) terintegrasi gamifikasi berbasis kearifan lokal suku Dayak di kelas VI A SD Negeri 001 Bunyu. *CJPE: Cokroaminoto Journal of Primary Education*, 8(4), 1916–1930.
- Nasution, A., Nurhayati, Rahim, R., Hamzani, I., Rizqi, N. R., Azis, Z., & Universitas. (2024). Peningkatan literasi berbasis budaya lokal melalui pembelajaran bagi siswa SMK Negeri 5 Medan. *Jurnal Abdimas Kartika Wijayakusuma*, 5(3), 800–810. <https://doi.org/10.26874/jakw.v5i3.534>
- Nawir, M., Zakina, F. N., Ramadhani, I., & Azizah, N. (2025). Literasi budaya sebagai kecakapan hidup bagi siswa di tingkat sekolah dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(2), 213–223.
- Nooviar, M. S., Munir, N. S., Daud, S., & Satriady, A. F. (2024). Integrasi kearifan lokal suku Bugis dalam pendidikan: Membentuk karakter dan pengembangan kepemimpinan berkelanjutan di sekolah. *Jurnal Riset dan Inovasi Pembelajaran*, 4(3), 2029–2040. <https://doi.org/10.51574/jrip.v4i3.2143>
- Nurhidayati, R., & Thaufani, A. (2025). Mendorong literasi digital guru melalui manajemen pendidikan: Tinjauan literatur. *Jurnal Manajemen Pendidikan*, 10(3), 1705–1713.
- Nurjannah, T., Pamessangi, A. A., & Al Hamdany, M. Z. (2025). Pengaruh media sosial terhadap perilaku dan motivasi belajar siswa pada pembelajaran Sejarah Kebudayaan Islam di MTs Al-Khaeriyah Murante Kecamatan Suli Kabupaten Luwu. *Indonesian Journal of Islamic Educational Review*, 2(1), 19–26. <https://doi.org/10.58230/ijier.v2i1.219>
- Rafikah, S., & Nurdiana, N. (2025). Pengaruh penggunaan media audio visual dan motivasi terhadap hasil belajar pada mata pelajaran komunikasi bisnis. *PESHUM: Jurnal Pendidikan, Sosial dan Humaniora*, 4(3), 4123–4129. <https://doi.org/10.56799/peshum.v4i3.8548>
- Rahmawati, R., & Arsyad, Y. (2025). Sinergi budaya 5R dan nilai *Sipakatau* sebagai upaya pelestarian nilai lokal masyarakat Bugis-Makassar. *Al-Ihtiram: Multidisciplinary Journal of Counseling and Social Research*, 4(2), 527–540.
- Rosfiani, O., Safitri, F. S., Aqiylah, N., Alamsyah, P., & Suparjo, K. F. (2025). Efektivitas hasil belajar ilmu pengetahuan alam dengan pembelajaran proyek di kelas V. *Innovative: Journal of Social Science Research*, 5(1), 6592–6605.
- Trikesumawati, D., Ishamy, M. W., & Rizqullah, M. R. (2025). Peran media dalam mendukung pengembangan motivasi belajar siswa di era modern. *Jurnal Ilmiah Research Student*, 2(1), 531–539. <https://doi.org/10.61722/jirs.v2i1.3749>
- Ulfa, Y. A., Syam, N. I., Room, F., & Asra, A. A. (2025). Literatur review: Pendidikan karakter berbasis kearifan lokal budaya Sulawesi Selatan. *Jurnal PTI (Pendidikan dan Teknologi Informasi) Fakultas Keguruan Ilmu Pendidikan Universitas Putra Indonesia "YPTK" Padang*, 12(1), 37–44. <https://doi.org/10.35134/jpti.v12i1.225>