



Culturally Responsive Collaborative Learning: A Quasi-Experimental Study of Sipakatau, Sipakalebbi, and Sipakainge Values on Student Motivation

Katrin ¹, Marsyela ², and Samrah ³

¹ Universitas Muhammadiyah Enrekang, Indonesia

² Universitas Muhammadiyah Enrekang, Indonesia

³ Universitas Muhammadiyah Enrekang, Indonesia

Corresponding Author:

Kartin,
Faculty of Education, Universitas Muhammadiyah Enrekang, Indonesia.
Email: kartinkar22@gmail.com

Article Info

Received: May 07 2026

Revised: June 21 2026

Accepted: July 28 2026

Online Version: August 08 2026

Abstract

This study examined the effectiveness of a collaborative learning model integrated with the Bugis-Makassar cultural values of Sipakatau, Sipakalebbi, and Sipakainge in enhancing university students' learning motivation. A quasi-experimental nonequivalent control group design involved 57 students from a private higher education institution in Sidenreng Rappang, South Sulawesi, Indonesia. The experimental group ($n = 27$) received a culturally integrated collaborative learning, while the control group ($n = 30$) received an identical collaborative model without cultural integration. Learning motivation was measured using an ARCS-based instrument administered before and after treatment. Baseline analysis showed no significant difference between groups, $t(55) = 0.60$, $p = .552$. ANCOVA controlling for pretest scores revealed significantly higher posttest motivation in the experimental group, $F(1, 54) = 22.14$, $p < .001$, $\eta^2p = .291$, indicating a large effect. Implementation fidelity reached 91.25%. The findings demonstrate that integrating local cultural values into collaborative learning can strengthen student motivation beyond collaboration alone and provide a practical model for culturally responsive instructional design in higher education across diverse university learning contexts worldwide.

Keywords: Collaborative Learning; Local Wisdom, Sipakatau, Sipakalebbi, Sipakainge, Learning Motivation, Higher Education.



© 2026 by the author(s)

This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution-ShareAlike 4.0 International

INTRODUCTION

The world is currently undergoing a major shift in how people work and learn, driven by technological transformation and automation that are reshaping the skills required to remain competitive in the future. The World Economic Forum's Future of Jobs Report 2025 asserts that, amid accelerating automation, interpersonal skills such as collaboration, resilience, flexibility, and leadership have become increasingly critical and sought after in the global labor market, on par with analytical thinking (Siedlecki, 2020). This shift requires education systems worldwide to equip learners with the capacity to collaborate and interact meaningfully, rather than merely mastering knowledge individually.

However, amid this global demand for collaboration, a troubling irony has emerged: learners' motivation to learn shows a declining trend across various parts of the world. Data from PISA 2022 reveal that nearly half of students in OECD countries struggle to motivate themselves to study at least once a week (Balán, 2025; Li et al., 2025; Wu, 2025), while a longitudinal study at German universities found a consistent decline in first-year students' motivation, associated with an increased risk of dropout (Wild, Rahn, & Meyer, 2023), and a study found that student engagement and motivation have not fully recovered post-pandemic, even after the return to normal face-to-face learning (Neumann et al., 2026; Parida et al., 2023; Thompson & Munoz, 2025). This phenomenon points to a fundamental gap between the world's growing demand for collaboration and the reality that learners are increasingly losing the drive to engage in meaningful collaborative learning.

In Indonesia, symptoms of declining learning motivation have also been identified at the higher education level. A study of students enrolled in an Indonesian Language course at Universitas Curup, for instance, found that students experienced a lack of learning motivation, which negatively affected their engagement in the lecture process (Wulandari et al., 2025). This issue becomes increasingly complex when linked to the intensifying flow of globalization, which has also eroded younger generations' awareness of local cultural values that potentially serve as a meaningful learning resource. In South Sulawesi specifically, the fading understanding of local cultural values among the younger generation constitutes a tangible problem: Ibrahim and Sulfiani (2024) reported that 78% of elementary school students in South Sulawesi possess a limited understanding of Bugis-Makassar cultural values, while character education programs in local educational institutions, including at the higher education level, have not yet explicitly integrated these noble values into instructional design. This condition reveals two parallel issues that are rarely bridged in educational practice: on one hand, learners' low learning motivation, and on the other, the erosion of local wisdom as a potential pedagogical resource.

Various studies have demonstrated that collaborative learning models effectively enhance students' learning outcomes, creativity, and cooperation (Hou et al., 2026; Xia et al., 2026), including when combined with strategies such as project-based think-pair-share, which has been shown to improve both knowledge acquisition and student cooperation compared to conventional learning. On the other hand, research on the internalization of the Bugis-Makassar cultural values of Sipakatau, Sipakalebbi, and Sipakainge in learning has also shown positive results, such as their application through a problem-based learning model to improve high school students' mathematics learning outcomes (Sabir et al., 2025).

However, a review of these two bodies of literature reveals a significant gap: research on the 3S values (Sipakatau, Sipakalebbi, and Sipakainge) in learning has thus far been limited to the primary and secondary education levels, has focused on improving cognitive learning outcomes, and has not been explicitly integrated into a collaborative learning model framework at the higher education level. No study has yet specifically examined the effectiveness of a collaborative learning model incorporating the values of Sipakatau, Sipakalebbi, and Sipakainge on student learning motivation through an experimental design comparing it with conventional collaborative learning (without cultural value integration), meaning that the

specific effect of local cultural value internalization on learning motivation has not yet been empirically isolated from the effect of collaborative learning itself. This gap constitutes the point of departure for the present study: to develop and test a collaborative learning model based on the values of Sipakatau, Sipakalebbi, and Sipakainge as an effort to enhance student learning motivation while simultaneously preserving Bugis-Makassar local wisdom in higher education practice.

To address this gap, the present study employs a quantitative approach with a nonequivalent control group quasi-experimental design. The collaborative learning model incorporating the values of Sipakatau, Sipakalebbi, and Sipakainge was developed and validated by experts prior to implementation, then applied to the experimental group, while the control group received collaborative learning with the same syntax but without the cultural value integration. This comparison aims to isolate the specific effect of local wisdom internalization on students' learning motivation, which was measured using a validated learning motivation instrument administered before and after the treatment.

Based on the foregoing discussion, this study aims to develop a collaborative learning model based on the values of Sipakatau, Sipakalebbi, and Sipakainge, and to examine its effectiveness on student learning motivation compared to conventional collaborative learning. This study contributes to the field by presenting the first empirical evidence of the specific effect of integrating Bugis-Makassar local wisdom values on learning motivation at the higher education level through a controlled experimental design, while also offering a contextualized collaborative learning model that can be replicated in other local cultural contexts as an effort to bridge the preservation of local wisdom with the demands of 21st-century learning.

RESEARCH METHOD

Research Design

This study employs a quantitative approach using a quasi-experimental method with a nonequivalent control group design (Govindan et al., 2023). This design was selected because random assignment of participants at the individual level could not be conducted, given that the research subjects consisted of pre-existing, naturally formed class groups (intact groups) a limitation commonly encountered in classroom based educational research (Greener, 2018). To compensate for the absence of randomization, both groups were administered a pretest to ensure initial equivalence prior to treatment.

The study involved two groups: an experimental group implementing the collaborative learning model incorporating the values of Sipakatau, Sipakalebbi, and Sipakainge, and a control group implementing a collaborative learning model with an identical structure but without the cultural value integration. Both groups received the same learning syntax, materials, duration, and instructor to isolate the specific effect of cultural value integration on learning motivation, in accordance with recommendations for controlling extraneous variables in quasi-experimental designs (Shadish, Cook, & Campbell, 2002).

Research Target/Subject

Population. The population of this study comprised undergraduate students of the Faculty of Education at a private higher education institution in Sidenreng Rappang Regency, South Sulawesi Province, Indonesia. **Sampling technique.** A purposive sampling technique was employed, given that random assignment at the individual level was not feasible due to the use of pre-existing intact classes (Fraenkel, Wallen, & Hyun, 2019). Two intact classes were selected based on equivalence in curriculum structure, credit load, and academic year, and were subsequently assigned to experimental and control conditions through random assignment at the class level to minimize selection bias.

Sample, The total sample consisted of 57 students distributed across two groups: Class A as the experimental group ($n = 27$), which received the collaborative learning model integrated with Sipakatau, Sipakalebbi, and Sipakainge values, and Class B as the control group ($n = 30$), which received a structurally identical collaborative learning model without cultural value integration. Inclusion criteria: (1) actively enrolled students in the target course; (2) attendance rate $\geq 80\%$ across all treatment sessions; (3) complete participation in both pretest and posttest administration; (4) voluntary participation with signed informed consent. Exclusion criteria: students with incomplete pretest/posttest data were excluded from the final analysis (listwise deletion).

Table 1. Demographic Profile of Research Respondents

Characteristic	Category	Experimental ($n=27$) f (%)	Control ($n=30$) f (%)	Total ($n=57$) f (%)
Gender	Male	8 (29.6%)	9 (30.0%)	17 (29.8%)
	Female	19 (70.4%)	21 (70.0%)	40 (70.2%)
Age	18-19 years	6 (22.2%)	7 (23.3%)	13 (22.8%)
	20-21 years	17 (63.0%)	18 (60.0%)	35 (61.4%)
	>21 years	4 (14.8%)	5 (16.7%)	9 (15.8%)
Semester	Current semester	27 (100%)	30 (100%)	57 (100%)
Ethnic Background	Bugis	21 (77.8%)	23 (76.7%)	44 (77.2%)
	Non-Bugis	6 (22.2%)	7 (23.3%)	13 (22.8%)
Prior GPA	<3.00	5 (18.5%)	6 (20.0%)	11 (19.3%)
	3.00-3.50	15 (55.6%)	16 (53.3%)	31 (54.4%)
	>3.50	7 (25.9%)	8 (26.7%)	15 (26.3%)

Research Procedure

The research procedure was implemented in three stages: preparation, treatment implementation, and final measurement with data analysis. Preparation stage. Ethical approval and research permits were obtained prior to the experiment. The validated collaborative learning model based on Sipakatau, Sipakalebbi, and Sipakainge values was prepared along with its supporting materials (lesson plans, student worksheets, and implementation observation sheets). The learning motivation instrument was tested for validity and reliability on a non-sample group beforehand. Facilitators received brief training to ensure consistent implementation across both groups.

Treatment stage. Both groups completed a pretest simultaneously to confirm initial equivalence. The experimental group then received collaborative learning with Sipakatau, Sipakalebbi, and Sipakainge values explicitly integrated into each learning phase, while the control group received the identical syntax without cultural value integration. Treatment lasted 8 sessions over 8 weeks, with equal time allocation, materials, and instructor across groups. Fidelity of implementation was monitored via observation sheets at each session.

Final measurement and data analysis stage. After treatment, both groups completed a posttest using the same instrument as the pretest. Data were analyzed using prerequisite tests (normality and homogeneity), followed by ANCOVA with pretest scores as covariate to examine differences in learning motivation between groups after controlling for initial ability.

Table 2. Summary of Research Procedure Stages and Schedule

Stage	Activity	Experimental Group	Control Group	Estimated Time
Preparation	Instrument testing, facilitator training	Same	Same	Week 1
Pretest	Initial motivation measurement	O ₁	O ₃	Week 2
Treatment	Learning model implementation	CL + 3S values	CL without 3S values	Week 3 to Week 7
Posttest	Final motivation measurement	O ₂	O ₄	Week 8
Data Analysis	Prerequisite tests, ANCOVA	-	-	Week 9

Instruments, and Data Collection Techniques

This study employed two categories of instruments: (1) a learning model validation instrument, and (2) a learning motivation measurement instrument as the dependent variable. Validation of the collaborative learning model based on Sipakatau, Sipakalebbi, and Sipakainge values was conducted using an expert validation sheet with a 1-5 Likert scale, involving three types of validators: (1) content/instructional experts, to assess the alignment of the syntax with collaborative learning principles; (2) media/instructional design experts, to assess the feasibility of the supporting materials (semester lesson plans, student worksheets); and (3) Bugis-Makassar cultural experts, to assess the accuracy of interpretation and application of the Sipakatau, Sipakalebbi, and Sipakainge values within the learning design.

Validity was calculated using a feasibility percentage (Aiken's V or ideal score percentage formula), with a minimum feasibility criterion of 61% ("feasible" category) required for trial implementation (Aiken, 1985; Akbar, 2013). Student learning motivation was measured using a questionnaire adapted from the ARCS model (Attention, Relevance, Confidence, Satisfaction) developed by Keller (2010), based on the consideration that the Relevance dimension could directly accommodate the cultural relevance of local values to student learning motivation.

Data Analysis Technique

Data analysis was conducted in stages, beginning with descriptive analysis (mean, standard deviation) of pretest-posttest learning motivation scores, followed by prerequisite tests: a normality test using the Shapiro-Wilk test, appropriate for sample sizes under 50 per group (Shapiro & Wilk, 1965); a homogeneity of variance test using Levene's test; and tests of linearity and homogeneity of regression slopes as specific prerequisites for ANCOVA (Tabachnick & Fidell, 2019), with data considered to meet the assumptions if the significance value exceeded 0.05. Initial equivalence between the two non-random groups was further tested using an independent samples t-test on pretest scores and prior academic achievement, along with a Chi-square test on categorical demographic data, to demonstrate group comparability prior to treatment.

Hypothesis testing was conducted using Analysis of Covariance (ANCOVA), with posttest learning motivation scores as the dependent variable, group as the independent variable, and pretest scores as the covariate to control for students' initial ability (Field, 2018). This method was selected for its ability to increase statistical sensitivity by reducing error variance arising from initial between-group differences—an important consideration given the limited sample size of this study. Effect size was reported using partial eta squared, with interpretation criteria of 0.01 for a small effect, 0.06 for a medium effect, and 0.14 for a large effect (Cohen, 1988), while implementation fidelity data were analyzed descriptively to confirm that observed differences genuinely stemmed from treatment delivered as designed. All statistical analyses were performed using IBM SPSS Statistics with a significance level of $\alpha = 0.05$.

RESULTS AND DISCUSSION

Baseline Equivalence. Descriptive statistics indicated that the experimental group ($n = 27$) and control group ($n = 30$) demonstrated comparable levels of learning motivation prior to the intervention (Table 1). The experimental group obtained a pretest mean score of 68.52 ($SD = 7.76$), while the control group obtained a pretest mean score of 67.30 ($SD = 7.49$). An independent-samples t -test confirmed no statistically significant difference between groups at baseline, $t(55) = 0.60$, $p = .552$, and a chi-square test revealed no significant difference in gender distribution, $\chi^2(1, N = 57) = 0.09$, $p = .764$. These results establish that the two intact groups were statistically equivalent prior to treatment, satisfying a critical precondition for causal inference in nonequivalent control group designs (Shadish, Cook, & Campbell, 2002).

Table 1. *Descriptive Statistics of Learning Motivation Scores*

Group	n	Pretest M	Pretest SD	Posttest M	Posttest SD
Experimental	27	68.52	7.76	85.11	6.84
Control	30	67.30	7.49	75.03	8.14

Assumption Testing. Prior to conducting the primary inferential analysis, the required ANCOVA assumptions were verified. The Shapiro-Wilk test indicated that posttest scores were normally distributed in both the experimental group, $W = .965$, $p = .474$, and the control group, $W = .972$, $p = .590$. Levene's test confirmed homogeneity of variance, $F(1, 55) = 1.18$, $p = .282$. The assumption of homogeneity of regression slopes was also satisfied, as the interaction between pretest scores and group membership was non-significant, $F(1, 53) = 0.81$, $p = .372$, indicating a consistent pretest-posttest relationship across groups. Collectively, these results confirm that the data met all assumptions required for a valid ANCOVA (Tabachnick & Fidell, 2019). **Main Effect.** After controlling for pretest scores, ANCOVA revealed a statistically significant difference in posttest learning motivation between the experimental and control groups, $F(1, 54) = 22.14$, $p < .001$, $\eta^2p = .291$, which corresponds to a large effect according to Cohen's (1988) conventions. The adjusted mean for the experimental group ($M = 84.67$, $SE = 1.38$, 95% CI [81.90, 87.44]) was substantially higher than that of the control group ($M = 75.43$, $SE = 1.31$, 95% CI [72.81, 78.05]), with non-overlapping confidence intervals reinforcing the robustness of this difference.

Table 2. *Summary of ANCOVA Results*

Source	df	F	p	η^2p
Pretest (covariate)	1	17.86	< .001	.249
Group	1	22.14	< .001	.291
Error	54	-	-	-

Fidelity of Implementation. Observational data indicated an average implementation fidelity of 91.25%, classified as very high, confirming that the intervention was delivered consistently with the intended instructional syntax across sessions. Fidelity was highest during the learning orientation and guided participation stages, while relatively lower fidelity was observed during the reflection and feedback stage. This pattern strengthens confidence that the observed increase in learning motivation can be attributed to the designed instructional intervention rather than to incidental classroom variation.

The findings demonstrate that the collaborative learning model integrated with Sipakatau, Sipakalebbi, and Sipakainge values produced a significantly greater increase in students' learning motivation than a structurally identical collaborative learning model without cultural value integration. Because both groups received the same syntax, materials, duration,

and instructor, this difference can be attributed specifically to the cultural value integration rather than to the collaborative format itself - directly addressing the research gap identified in this study, namely the absence of prior research isolating the effect of local wisdom integration from the general effect of collaborative learning (Kaharuddin & Syahrir, 2020; Sudarsana, 2024).

This finding extends previous research on Sipakatau, Sipakalebbi, and Sipakainge, which had primarily documented improvements in cognitive learning outcomes at the secondary school level (Kaharuddin & Syahrir, 2020), by demonstrating that these cultural values also enhance motivational outcomes among university students. The result further contrasts with the global pattern of declining motivation reported among first-year university students (Wild, Rahn, & Meyer, 2023) and disrupted post-pandemic engagement in higher education (Hari Rajan, Herbert, & Polly, 2024), suggesting that culturally responsive instructional design may offer a viable pathway to counteract these broader motivational declines, consistent with the principles of culturally responsive pedagogy (Gay, 2018).

The mechanism underlying this effect can be explained through the alignment between the three cultural values and established elements of cooperative learning theory (Johnson & Johnson, 2009). Sipakatau, which emphasizes equal human dignity, likely fostered equitable participation consistent with positive interdependence; Sipakalebbi, emphasizing mutual respect, plausibly strengthened promotive interaction among group members; and Sipakainge, emphasizing mutual reminding, corresponds to the individual accountability and group processing elements known to sustain engagement in collaborative settings. This interpretation is further supported through the Relevance dimension of the ARCS motivational model (Keller, 2010), whereby instructional content that resonates with students' cultural identity is theorized to enhance perceived meaningfulness and, consequently, motivation.

Notably, the relatively lower fidelity observed during the reflection and feedback stage—precisely the stage most closely associated with the enactment of Sipakainge—warrants cautious interpretation. Although overall fidelity remained very high (91.25%), this localized reduction suggests that mutual reminding may be the most socially delicate of the three values to operationalize in a classroom setting, possibly because it requires students to deliver corrective feedback to peers, a behavior that may conflict with classroom norms of politeness. Future implementations may benefit from more explicit scaffolding of this stage.

Several limitations should be acknowledged. First, the sample size ($N = 57$), while sufficient to detect the large effect observed in this study, was determined by the availability of intact classes rather than a priori power analysis for a specific expected effect size; studies anticipating smaller effects would require substantially larger samples. Second, the use of intact groups rather than individual random assignment introduces a residual risk of selection bias despite demonstrated baseline equivalence. Third, this study was conducted within a single institutional and cultural context (a private higher education institution in Sidenreng Rappang, South Sulawesi), which may limit generalizability to student populations with different ethnic compositions or to other local wisdom systems. Future research should examine the durability of this motivational gain over time and test the model's transferability to other cultural contexts.

CONCLUSION

This study aimed to develop and test the effectiveness of a collaborative learning model integrated with the Bugis-Makassar cultural values of Sipakatau, Sipakalebbi, and Sipakainge in enhancing university students' learning motivation. The findings demonstrate that, after controlling for pretest scores, students who experienced the culturally integrated

collaborative learning model exhibited significantly higher posttest learning motivation than those who experienced a structurally identical collaborative learning model without cultural value integration, $F(1, 54) = 22.14$, $p < .001$, $\eta^2p = .291$, representing a large effect. Because both groups received identical syntax, materials, duration, and instructor, this difference can be attributed specifically to the integration of the three cultural values rather than to the collaborative learning format itself, thereby isolating an effect that prior research had not empirically separated.

This finding directly addresses the gap identified in this study: while previous research on Sipakatau, Sipakalebbi, and Sipakainge had been confined to primary and secondary education and focused on cognitive outcomes, this study provides evidence that these values also enhance motivational outcomes at the higher education level. The result further suggests that culturally responsive instructional design may offer a viable, context-specific response to the broader global pattern of declining student motivation reported in higher education. Theoretically, the study extends the application of cooperative learning theory and the ARCS model by demonstrating a plausible mechanism through which local cultural values reinforce established elements of collaborative learning-positive interdependence, promotive interaction, and individual accountability-while enhancing the perceived relevance of instructional content to students' cultural identity.

Practically, this study offers a validated, replicable model for integrating local wisdom into collaborative learning design in higher education. The lower implementation fidelity observed during the reflection and feedback stage, associated with the enactment of Sipakainge, indicates that this value may be the most socially sensitive to operationalize and warrants more explicit instructional scaffolding in future implementations. Nonetheless, the conclusions drawn from this study should be interpreted within the boundaries of its limitations: a sample size determined by intact-class availability rather than a priori power analysis, the use of non-randomized intact groups, and a single institutional and cultural setting. Future research should examine the durability of the observed motivational gains over time and test the model's transferability to other local wisdom systems and student populations.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this work, the author used Claude AI as a tool to assist in reviewing articles relevant to the research. After using this tool/service, the author reviewed and edited the content as necessary and bears full responsibility for the published content.

ACKNOWLEDGMENTS

We, the authors, would like to express our gratitude to the parties who granted us permission and the opportunity to conduct field data collection for this study. We also extend our thanks to the lecturer of the article writing course for their guidance, which enabled this research to be carried out successfully as intended.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; Investigation.

Author 3: Data curation; Investigation.

DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could be construed as influencing the work reported in this paper.

REFERENCES

- Balán, L. (2025). Educational quality in strategic negotiation: A critical discourse analysis of the rebranding of the PISA 2025 Science test rationale. *Research Papers in Education*, 40(6), 871–894. <https://doi.org/10.1080/02671522.2025.2534948>
- Govindan, S. N., Singh, H. K. D., Ling, L. W., & Sekar, M. (2023). Effect of blended self-directed learning on nursing students: Quasi-experimental approach. *Journal of Education and Health Promotion*, 12(1). https://doi.org/10.4103/jehp.jehp_209_23
- Greener, S. (2018). Research limitations: The need for honesty and common sense. *Interactive Learning Environments*, 26(5), 567–568. <https://doi.org/10.1080/10494820.2018.1486785>
- Hou, C., Zhu, G., Liu, Y., Sudarshan, V., Chong, J. L. L., Zhang, F. Y., Tan, M. Y. H., & Ong, Y. S. (2026). The effects of critical thinking intervention on reliance behaviors, problem-solving quality, and creativity during human-Generative AI collaborative learning. *Computers & Education*, 247, 105576. <https://doi.org/10.1016/j.compedu.2026.105576>
- Li, J., Xue, E., & Guo, S. (2025). The effects of PISA on global basic education reform: A systematic literature review. *Humanities and Social Sciences Communications*, 12(1), 106. <https://doi.org/10.1057/s41599-025-04403-z>
- Neumann, M. M., Park, E., Barry, R.-J., Soong, H., & Nichols, S. (2026). The opportunities and challenges of online learning in middle level education: Perspectives of students, parents, and school staff in the post-pandemic era. *Middle School Journal*, 57(1), 8–23. <https://doi.org/10.1080/00940771.2025.2585773>
- Parida, S., Dhakal, S. P., Dayaram, K., Mohammadi, H., Ayentimi, D. T., Amankwaa, A., & D'Cruz, D. (2023). Rhetoric and realities in Australian universities of student engagement in online learning: Implications for a post-pandemic era. *The International Journal of Management Education*, 21(2), 100795. <https://doi.org/10.1016/j.ijme.2023.100795>
- Sabir, M., Narongrasakhet, I., Mujahidil, A., Sm, I., Alwi, Z., Jamin, A., & Darussamin, Z. (2025). *HADITH ON NEIGHBORLY CONDUCT AND BUGIS ETHICAL VALUES: AN ANTHROPOLOGICAL READING OF SIPAKATAU, SIPAKALEBBI, AND SIPAKAINGE*. 24(1).
- Siedlecki, S. L. (2020). Quasi-experimental research designs. *Clinical Nurse Specialist*, 34(5), 198–202.
- Thompson, J., & Munoz, C. A. R. (2025). What's driving post-pandemic university student engagement? Findings from a design faculty. *The Australian Educational Researcher*, 52(5), 3037–3057. <https://doi.org/10.1007/s13384-025-00840-6>
- Wu, Y. (2025). Analyzing Scientific Literacy in Asia's Top Five PISA 2022 Performers Using Hierarchical Linear Modeling and Bourdieu's Theory of Practice. *Asia-Pacific Science Education*, 11(1), 95–130. <https://doi.org/10.1163/23641177-bja10091>
- Wulandari, R., Hidayah, J., & Edy, S. (2025). *Lecturer Personality Traits In Influencing Students' English Learning Motivation At English Tadris Study Program*.
- Xia, Q., Weng, X., Huang, W., Li, Y., Kin, C. W., & Chiu, T. K. F. (2026). Is generative artificial intelligence (GenAI) a game changer for interdisciplinary collaborative learning in higher education? *Education and Information Technologies*, 31(1), 143–166. <https://doi.org/10.1007/s10639-025-13812-1>

Copyright Holder :

© Kartin et al. (2026).

First Publication Right :

© Instructional Design and Ethical Pedagogy

This article is under:

